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UCRL-50163 Part IV

**PREDICTION OF THE MAXIMUM DOSAGE TO MAN
FROM THE FALLOUT OF NUCLEAR DEVICES
IV. HANDBOOK FOR ESTIMATING THE
MAXIMUM INTERNAL DOSE FROM RADIONUCLIDES
RELEASED TO THE BIOSPHERE**

Bio-Medical Division

Yook C. Ng, C. Ann Burton,

Stanley E. Thompson, Robert K. Tandy,

Helen K. Kretner, and Michael W. Pratt

May 14, 1968

UNIVERSITY of CALIFORNIA
— L I V E R M O R E —

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Lawrence Radiation Laboratory
UNIVERSITY OF CALIFORNIA
LIVERMORE

UCRL-50163 Part IV

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Preface

The extensive coverage given to I^{131} and infant thyroid dosages subsequent to nuclear device testing at the Nevada Test Site is sufficient evidence to indicate that both preshot prediction and postshot documentation of the dosage to humans from internal emitters were inadequate. So far as I^{131} is concerned, the postshot documentation was partially corrected in 1957. However, this documentation capability was not integrated with preshot prediction and as a result "surprises" occurred following the July 1962 tests.

Whether or not such "surprises" could have been anticipated in July 1962 is at this time academic. It is important to point out, however, that there is every reason to believe that these "surprises" need not occur in future events if an adequate program of preshot prediction is integrated with an adequate program of postshot documentation. Off-site radiological safety programs should and can be conducted with the same degree of planning and precision as laboratory experiments. Thus preshot prediction should not serve the sole purpose of preshot rad-safe analysis. Rather, it should also have the function of guiding the postshot documentation by suggesting what to measure, where to measure it, and the precision required in the measurement. Furthermore, the preshot prediction program should feed on the postshot documentation results in order to improve subsequent predictions.

There are two other points that appear to be obvious conclusions from previous test results: (1) no radionuclide that is produced should be ignored until a critical analysis demonstrates that it is insignificant, and (2) preshot predictions and postshot documentation must encompass distances extending 2000 to 3000 miles from the site of detonation.

The Information Integration Group of the Bio-Medical Division of this laboratory has accepted the responsibility for developing this preshot predictive capability. UCRL-50163 (Parts I, II, III and IV) presents our approach to predicting the dosage from each and every radionuclide that is released to the atmosphere and deposited on agricultural lands remote from the site of detonation. Our group is also investigating the aquatic transport of nuclear debris by surface and ground water into fresh water and marine ecosystems. This predictive approach will be presented in subsequent reports in this series.

Part I of this report presents the approach we use to estimate the fallout levels as a function of cloud travel time for periods up to 50 hr post-detonation. Part II shows how these fallout estimates can be combined with radionuclide production estimates and biological uptake relationships to arrive at estimates of burden and dosage for man. Part III shows how this predictive approach can supply guidelines for the design of nuclear devices for peaceful purposes. Part IV is a handbook which lists the input parameters required for the estimation of dosage.

There are three questions that could be asked about the outcome of the detonation of a nuclear device. It is essential that the reader recognize which of the three we are trying to answer and why we feel it to be the most appropriate. The three possible questions are:

1. What is the worst situation that could develop?
2. What is the most likely situation that will develop?
3. What would be the situation if everything went off perfectly?

We choose to answer the first question and to direct our efforts to predicting the worst case. However, in the process of answering the first question we can generally answer the second. Quite obviously, the answer to the third question has no meaning with respect to public health and safety.

We choose to answer the first question because we feel that only the worst case should be compared with prescribed tolerances in a preshot rad-safe analysis. Furthermore, only when we know the worst case can we establish an adequate system of postshot monitoring to document the actual case and to insure that appropriate countermeasures are instituted when and if needed. In other words, it is only by this approach that uncertainties concerning dosimetry, such as presently exist for I^{131} , can be eliminated.

Furthermore, we are attempting a thorough analysis and are considering each and every radionuclide on the chart of the nuclides. In this respect, our estimates may indicate that a particular radionuclide is a hazard for one of two reasons: either (1) it will be a hazard because of what we know about it, or (2) it will be a hazard because of what we don't know about it. If a pertinent relationship is not known for a particular radionuclide, we make worst-case estimates of the relationship and hence maximize our estimates of hazard. Nevertheless, despite its conservative nature, this approach still allows us to eliminate most of the radionuclides from consideration and to indicate those that are potentially the most hazardous. Obviously, it also allows us to estimate the upper limit of the potential burden and dosage; but due to the perversity of nature, the precise dosage can only be determined by postshot documentation in the affected areas.

It is obvious that had I^{131} been measured in milk during the early period of testing, its dosimetry would not now be a problem. Thus, we wish to be able through our predictive approach to indicate what should be measured, where it should be measured, and with what precision it should be measured. There appears to be no other way to insure unambiguous dosimetry for future events and to assure that the need for countermeasures is recognized in time so that they can be planned for and instituted when and if needed. The most appropriate countermeasures lie in device design, and Part III of this report shows how this predictive approach can supply guidelines for the design of nuclear devices that might be used in the construction of a sea-level canal.

Thus, this predictive approach is meant to serve three purposes:

1. In preshot rad-safe analysis, to determine whether or not a particular event can be conducted without exceeding existing tolerances.
2. In guidance for postshot documentation, to indicate what should be measured, where it should be measured, and with what precision it should be measured.
3. In guidance for device design, to indicate the maximum amount of a radio-nuclide that can be produced and subsequently released to the environment without exceeding prescribed tolerances.

Acknowledgments

Many individuals contributed to the preparation of this Handbook. The authors are grateful to Mary Tamplin, Thelma Smith and Yvonne Ricker for documentation, and to Marguerite Longmate for data handling; and they are grateful to June Ellingson and Judith Fudala, who prepared the manuscript.

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Abstract

Part IV of this series is a special-purpose Handbook for estimating the maximum internal dose to man from radionuclides released to the biosphere. This Handbook, which is to be continuously updated and is to be expandable, lists the pertinent data for all isotopes whose half-lives are greater than 12

hours. The first issue and first addition are devoted to estimation of the dosage resulting from contamination of agricultural lands as described in UCRL-50163, Part II, and the dosage resulting from contamination of aquatic environments as described in UCRL-50163, Part V.

Introduction

This document is a Handbook for estimating the maximum internal dose from the deposition of radionuclides released to the biosphere. The Handbook, which is to be continuously updated, lists the pertinent data for all isotopes whose half-lives are greater than 12 hours. At this time the Handbook contains only the unit-rad depositions for the radionuclides and the input parameters used for their calculation. The unit-rad deposition F_1 is required for estimation of the maximum internal dose from the contamination of agricultural land as described in the other parts of the UCRL-50163 series (5573, 5574).^{*} In subsequent updateings the pertinent data for estimating the dosage from contamination of aquatic environments will be included.

This document serves a very special purpose, that of estimating the maximum dosage from radionuclides released to the biosphere. A value is assigned to the parameters of each element. The values include conservative worst-case estimates and maximum or near maximum values. The Handbook, therefore, is not to be considered as representative of the average or mean for the biosphere. A Handbook of the Biological Exchangeable Pool will subsequently be issued which will list means and ranges of well-documented values and values derivable with confidence from collateral data.

Input parameters were estimated following general procedures designated in the tables by code numbers. When data were

not available, conservative worst-case estimates were made. When this procedure led to the identification of potentially hazardous nuclides, that is, nuclides whose m^2 -rad values were within the first three orders of magnitude, more reasonable values based on collateral data were obtained where possible. The use of collateral data for the re-evaluation of parameters used in UCRL-50163, Part II (5574), is described in detail in the Appendix under the heading of the appropriate element.

It is intended that this Handbook be updated as more data become available. Furthermore we intend to reevaluate the parameters for additional elements beyond those represented in the first three orders of m^2 -rad values. We are publishing the Handbook at this time for two important reasons:

- (1) To solicit any additional data that may be pertinent to the various aspects to the problem.
- (2) To solicit useful criticism that will permit the analysis to be more precise.

In this respect it should be pointed out that much of the information in the Handbook is necessarily based on animal data. We would be grateful for the receipt of any pertinent human data.

At this time, we are not certain of the frequency with which this Handbook will be updated. The revisions will be in the form of new tables or pages for replacement or addition to this existing document. The final two pages of this report contain address and change-of-address forms that the reader may use to keep us informed of his address so that revisions can be sent to him.

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^{*}The numbers 5573 and 5574 are accession numbers by which we designate specific documents in our Information File and in the bibliography of this report.

LIST OF SYMBOLS

Listed below are the symbols which appear throughout this Handbook, together with the quantities they represent:

- C^* = ratio of aquatic diet concentration to terrestrial diet concentration.
- C_A = concentration in water.
- C_B = concentration in organ or tissue (wet wt).
- C_B^{TB} = concentration in total body (wet wt).
- C_M = concentration in milk.
- C_P = concentration in plant (dry wt).
- C_S = concentration in soil (dry wt).
- d = depth of plow layer.
- f = fraction of the isotope ingested daily by the cow that is deposited in man's tissue per gram.
- f_B = fraction of the ingested isotope that is taken up in an organ or tissue.
 $f_B \equiv f_W$ of the ICRP tables.[†]
- f_B^{TB} = the f_B to the total body. $f_B^{TB} \equiv f_1$.
- f_M = fraction of isotope ingested daily that is secreted in milk per liter.
- f_1 = fraction absorbed in GI tract.
- F_A = unit-rad contamination in water.
- F_1 = unit-rad deposition.
- f_2 = fraction of total body contents present in an organ (ICRP symbol).
- f_2' = fraction from blood to an organ (ICRP symbol).
- I = daily intake of an isotope or element (ICRP symbol).
- m = mass of organ (ICRP symbol).
- m^{TB} = mass of total body.
- Q = energy absorbed in organ or tissue per disintegration.
- T_B = biological half-life in organ or tissue.
- T_B^{TB} = biological half-life in the total body.
- T_E = effective half-life.

[†]Reference is made throughout this document to the tables of Report of ICRP Committee II on Permissible Dose for Internal Radiation (5592, 5593).

T_P = effective half-life on forage.

T_R = half-life for radioactive decay.

(UAF) = "utilized area factor," the effective area of pasture grazed daily by the cow.

ρ = density of the medium.

Handbook Tables: Estimates of Input Parameters and Unit-Rad Depositions

These tables list the required input parameters for calculation of unit-rad depositions, together with their reference sources, and the calculated unit-rad depositions of the elements in selected human organs. The organs listed are limited to those that have so far been considered in our predictive model for estimation of the maximum internal dose from fallout (5573, 5574).

The tables are in twelve sections:

1. Mass of organs in standard man and the one-year child.
2. Maximum available energy from the decay of radionuclides.
3. Fraction of the daily intake secreted in milk.
4. Average concentration in soil.
5. Uptake and distribution in organs.
  - A. Fraction of ingested isotope deposited.
  - B. Biological half-life.
  - C. Concentration.
6. Unit-rad deposition.
  - A. Via milk.
  - B. Via typical agricultural soil.
7. Concentration in water
  - A. Seawater
  - B. Freshwater
8. Ratio of aquatic diet to terrestrial diet
  - A. Seawater
  - B. Freshwater
9. Unit-rad contamination
  - A. Via seawater
  - B. Via freshwater
10. Concentration in terrestrial food-stuffs
  - A. Plants
  - B. Meat
11. Concentration in seawater food-stuffs
  - A. Plants
  - B. Invertebrates
  - C. Fish
12. Concentration in freshwater food-stuffs
  - A. Plants
  - B. Invertebrates
  - C. Fish

The numerical values in the tables are expressed in E-format. Thus

2.40-03 signifies 2.40×10^{-3} .

1. MASS OF ORGANS IN STANDARD MAN AND THE ONE-YEAR CHILD

The mass of organs in standard man and the one-year child are listed in Table 1 together with reference sources. The masses for the adult are for the most part the revised standard man values of Snyder et al. (5307). The masses for the

one-year child are based on handbook values from a number of sources.

The mass listed for the gastrointestinal (GI) tract is the mass of the GI tract contents, which is used to estimate the unit-rad deposition to the GI tract via milk. The value listed for the child assumes that the mass ratios of GI tract to total body are equal in the child and the adult.

TABLE 1. MASS OF ORGANS IN STANDARD MAN AND THE ONE-YEAR CHILD.

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ORGAN	STANDARD MAN		CHILD			RATIO CHILD/MAN
	MASS(G)	REFERENCE(S)	MASS(G)	REFERENCE(S)		
BONE	6.40E+03	5307	9.15E+02	5595		1.43E-01
KIDNEYS	3.10E+02	5307	6.01E+01	5596	5597	1.94E-01
LIVER	1.80E+03	5307	2.90E+02	5596	5597	1.61E-01
OVARIES	8.00E+00	5593	7.52E-01	5596	5597	9.40E-02
SPLEEN	1.75E+02	5307	2.70E+01	5596	5597	1.54E-01
TESTES	6.00E+01	5307	1.38E+00	5596	5597	2.30E-02
WHOLE BODY	7.00E+04	5307	1.00E+04	5594		1.43E-01
GI TRACT	1.00E+03	5307	1.43E+02			1.43E-01

Table 1. Mass of organs in standard man and the one-year child.

2. Q: MAXIMUM AVAILABLE ENERGY
FROM THE DECAY OF RADIONUCLIDES

The values listed in Table 2 for Q are the estimates of Burton and Maxwell of the total available disintegration energy

in MeV for every nuclide ($Z = 1$ to $Z = 100$) whose half-life is greater than 12 hours (5572). Each nuclide is identified by its atomic number Z , its mass A , and its radiological half-life T_R in days.

TABLE 2. MAXIMUM AVAILABLE ENERGY FROM THE DISINTEGRATION OF RADIONUCLIDES

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	HALF-LIFE T _R (DAY)	MAX. AVAILABLE ENERGY Q (MEV)	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	HALF-LIFE T _R (DAY)	MAX. AVAILABLE ENERGY Q (MEV)
H	1	3	4.47E+03	6.29E-03	CU	29	67	2.54E+00	2.97E-01
BE	4	7	5.36E+01	4.93E-02	ZN	30	65	2.45E+02	5.22E-01
BE	4	10	9.85E+08	2.90E-01	ZN	30	69M	5.83E-01	8.66E-01
C	6	14	2.09E+06	6.09E-02	ZN	30	72	1.94E+00	4.52E+00
NA	11	22	9.42E+02	2.37E+00	GA	31	67	3.25E+00	2.04E-01
NA	11	24	6.25E-01	4.98E+00	GA	31	72	5.88E-01	3.14E+00
MG	12	28	8.88E-01	5.55E+00	GE	32	68	2.80E+02	1.64E+00
AL	13	26	2.70E+08	3.16E+00	GE	32	69	1.67E+00	1.87E+00
SI	14	32	2.55E+05	1.11E+00	GE	32	71	1.10E+01	1.04E-02
P	15	32	1.43E+01	1.08E+00	AS	33	71	2.58E+00	6.67E-01
P	15	33	2.50E+01	9.52E-02	AS	33	72	1.08E+00	3.11E+00
S	16	35	8.67E+01	5.92E-02	AS	33	73	7.60E+01	1.10E-02
CL	17	36	1.10E+08	3.33E-01	AS	33	74	1.80E+01	1.82E+00
AR	18	37	3.51E+01	2.82E-03	AS	33	76	1.10E+00	2.23E+00
AR	18	39	9.85E+04	2.55E-01	AS	33	77	1.63E+00	2.94E-01
AR	18	42	1.20E+04	3.06E+00	SE	34	72	8.40E+00	3.17E+00
K	19	40	4.74E+11	8.24E-01	SE	34	75	1.20E+02	5.92E-01
K	19	42	5.17E-01	2.79E+00	SE	34	79	2.55E+07	4.67E-02
K	19	43	9.33E-01	1.44E+00	BR	35	76	6.88E-01	2.14E+00
CA	20	41	2.81E+07	3.61E-03	BR	35	77	2.42E+00	1.02E+00
CA	20	45	1.65E+02	9.07E-02	BR	35	82	1.47E+00	2.81E+00
CA	20	47	4.70E+00	1.90E+00	KR	36	76	6.17E-01	2.56E+00
CA	20	48	7.30E+18	3.67E+00	KR	36	79	1.44E+00	8.65E-01
SC	21	44M	2.40E+00	2.97E+00	KR	36	81	7.30E+07	2.50E-02
SC	21	46	8.40E+01	2.15E+00	KR	36	85	3.93E+03	2.88E-01
SC	21	47	3.40E+00	3.19E-01	RB	37	83	8.30E+01	5.80E-01
SC	21	48	1.83E+00	3.63E+00	RB	37	84	3.30E+01	1.88E+00
TI	22	44	1.72E+04	2.85E+00	RB	37	86	1.88E+01	1.04E+00
V	23	48	1.61E+01	3.05E+00	RB	37	87	1.72E+13	8.64E-02
V	23	49	3.30E+02	5.00E-03	SR	38	82	2.55E+01	3.45E+00
V	23	50	2.19E+18	1.25E+00	SR	38	83	1.38E+00	1.12E+00
CR	24	48	9.58E-01	3.47E+00	SR	38	85	6.40E+01	5.28E-01
CR	24	51	2.78E+01	3.45E-02	SR	38	89	5.04E+01	7.69E-01
MN	25	52	5.70E+00	3.57E+00	SR	38	90	1.02E+04	1.57E+00
MN	25	53	7.30E+08	6.00E-03	Y	39	86	6.08E-01	4.31E+00
MN	25	54	3.03E+02	8.41E-01	Y	39	87	3.33E+00	8.87E-01
FE	26	55	9.85E+02	6.54E-03	Y	39	87M	5.83E-01	1.27E+00
FE	26	59	4.50E+01	1.32E+00	Y	39	88	1.08E+02	2.75E+00
FE	26	60	3.65E+07	2.70E+00	Y	39	90	2.67E+00	1.36E+00
CO	27	55	7.50E-01	2.45E+00	Y	39	91	5.90E+01	8.18E-01
CO	27	56	7.73E+01	2.09E+00	ZR	40	86	7.08E-01	4.57E+00
CO	27	57	2.67E+02	1.43E-01	ZR	40	88	8.50E+01	3.16E+00
CO	27	58	7.10E+01	1.01E+00	ZR	40	89	3.27E+00	1.86E+00
CO	27	60	1.92E+03	2.62E+00	ZR	40	93	3.47E+08	2.01E-02
NI	28	56	6.10E+00	3.85E+00	ZR	40	95	6.50E+01	1.67E+00
NI	28	57	1.50E+00	2.01E+00	ZR	40	97	7.08E-01	3.11E+00
NI	28	59	2.92E+07	7.70E-03	NB	41	90	6.08E-01	5.27E+00
NI	28	63	3.36E+04	1.78E-02	NB	41	91	7.30E+11	1.80E-02
NI	28	66	2.29E+00	1.84E+00	NB	41	91M	6.20E+01	2.34E-01
CU	29	64	5.38E-01	3.50E-01	NB	41	92	1.01E+01	9.75E-01

Table 2. Maximum available energy from the decay of radionuclides.

TABLE 2. MAXIMUM AVAILABLE ENERGY FROM THE DISINTEGRATION OF RADIONUCLIDES

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	HALF-LIFE T _R (DAY)	MAX. AVAILABLE ENERGY Q (MEV)	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	HALF-LIFE T _R (DAY)	MAX. AVAILABLE ENERGY Q (MEV)
NB	41	93M	1.35E+03	2.90E-02	SB	51	122	2.80E+00	1.14E+00
NB	41	94	7.30E+06	1.78E+00	SB	51	124	6.02E+01	2.40E+00
NB	41	95	3.50E+01	8.10E-01	SB	51	125	9.85E+02	5.37E-01
NB	41	95M	3.75E+00	1.04E+00	SB	51	126	1.25E+01	2.79E+00
NB	41	96	9.73E-01	2.69E+00	SB	51	127	3.90E+00	1.26E+00
MO	42	93	3.65E+06	1.90E-02	TE	52	118	6.00E+00	1.39E+00
MO	42	99	2.75E+00	8.72E-01	TE	52	119	6.67E-01	1.92E+00
TC	43	95	8.33E-01	8.11E-01	TE	52	119M	4.70E+00	2.18E+00
TC	43	95M	6.00E+01	1.07E+00	TE	52	121	1.70E+01	5.96E-01
TC	43	96	4.30E+00	2.50E+00	TE	52	121M	1.50E+02	8.91E-01
TC	43	97	9.49E+08	2.00E-02	TE	52	123	4.38E+15	3.05E-02
TC	43	97M	9.10E+01	1.16E-01	TE	52	123M	1.04E+02	2.78E-01
TC	43	98	5.47E+08	1.49E+00	TE	52	125M	5.80E+01	1.45E-01
TC	43	99	7.67E+07	9.02E-02	TE	52	127M	1.05E+02	3.47E-01
RU	44	97	2.90E+00	6.08E-01	TE	52	129M	3.30E+01	9.41E-01
RU	44	103	4.00E+01	5.95E-01	TE	52	131M	1.20E+00	2.51E+00
RU	44	106	3.65E+02	2.49E+00	TE	52	132	3.25E+00	3.12E+00
RH	45	99	1.60E+01	4.84E-01	I	53	123	5.42E-01	2.22E-01
RH	45	100	8.75E-01	1.56E+00	I	53	124	4.20E+00	2.25E+00
RH	45	101	1.83E+03	3.34E-01	I	53	125	6.02E+01	6.70E-02
RH	45	101M	4.50E+00	3.39E-01	I	53	126	1.32E+01	5.17E-01
RH	45	102	2.06E+02	1.71E+00	I	53	129	5.84E+09	7.69E-02
RH	45	105	1.50E+00	2.43E-01	I	53	130	5.21E-01	2.48E+00
PD	46	100	3.70E+00	1.66E+00	I	53	131	8.05E+00	6.01E-01
PD	46	103	1.70E+01	6.85E-02	I	53	133	8.75E-01	1.25E+00
PD	46	107	2.55E+09	1.23E-03	XE	54	122	7.92E-01	2.78E+00
PD	46	109	5.63E-01	5.48E-01	XE	54	125	7.50E-01	5.60E-01
PD	46	112	8.75E-01	3.15E+00	XE	54	127	3.64E+01	2.36E-01
AG	47	105	4.00E+01	1.12E+00	XE	54	129M	8.00E+00	2.36E-01
AG	47	106M	8.30E+00	2.65E+00	XE	54	131M	1.20E+01	1.64E-01
AG	47	108M	1.83E+03	2.56E+00	XE	54	133	5.27E+00	1.86E-01
AG	47	110M	2.60E+02	2.80E+00	XE	54	133M	2.30E+00	4.19E-01
AG	47	111	7.50E+00	4.69E-01	CS	55	129	1.29E+00	6.20E-01
CD	48	109	4.74E+02	1.13E-01	CS	55	131	9.70E+00	3.50E-02
CD	48	113M	5.11E+03	2.11E-01	CS	55	132	6.58E+00	6.91E-01
CD	48	115	2.30E+00	1.27E+00	CS	55	134	7.67E+02	1.93E+00
CD	48	115M	4.30E+01	1.06E+00	CS	55	135	7.30E+08	5.50E-02
IN	49	111	2.81E+00	4.47E-01	CS	55	136	1.30E+01	2.33E+00
IN	49	114M	5.00E+01	1.27E+00	CS	55	137	1.10E+04	8.10E-01
IN	49	115	1.83E+17	2.19E-01	BA	56	128	2.40E+00	2.56E+00
SN	50	113	1.18E+02	4.20E-01	BA	56	131	1.16E+01	1.11E+00
SN	50	117M	1.40E+01	3.20E-01	BA	56	133	2.63E+03	3.94E-01
SN	50	119M	2.50E+02	8.90E-02	BA	56	133M	1.63E+00	6.82E-01
SN	50	121	1.13E+00	1.21E-01	BA	56	135M	1.21E+00	2.68E-01
SN	50	121M	9.13E+03	1.37E-01	BA	56	140	1.28E+01	3.72E+00
SN	50	123M	1.25E+02	6.96E-01	LA	57	135	8.08E-01	8.99E-01
SN	50	125	9.40E+00	1.90E+00	LA	57	137	2.19E+07	3.74E-02
SN	50	126	3.65E+07	3.31E+00	LA	57	138	4.02E+13	1.29E+00
SB	51	119	1.58E+00	5.30E-02	LA	57	140	1.67E+00	3.15E+00
SB	51	120M	5.80E+00	2.54E+00	CE	58	134	3.00E+00	1.39E+00

Table 2. Maximum available energy from the decay of radionuclides (contd).

TABLE 2. MAXIMUM AVAILABLE ENERGY FROM THE DISINTEGRATION OF RADIONUCLIDES

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	HALF-LIFE T _R (DAY)	MAX. AVAILABLE ENERGY Q (MEV)	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	HALF-LIFE T _R (DAY)	MAX. AVAILABLE ENERGY Q (MEV)
CE	58	135	7.50E-01	9.51E-01	GD	64	159	7.50E-01	4.10E-01
CE	58	137M	1.44E+00	3.60E-01	GD	64	162	3.65E+02	1.50E+00
CE	58	139	1.40E+02	2.06E-01	TB	65	151	7.50E-01	1.02E+00
CE	58	141	3.25E+01	2.58E-01	TB	65	152	7.50E-01	3.52E+00
CE	58	142	1.83E+18	1.15E+00	TB	65	153	2.58E+00	4.52E-01
CE	58	143	1.38E+00	1.21E+00	TB	65	154	8.75E-01	7.00E-01
CE	58	144	2.85E+02	3.75E+00	TB	65	155	5.60E+00	4.20E-01
PR	59	142	8.00E-01	1.18E+00	TB	65	156	5.40E+00	1.47E+00
PR	59	143	1.37E+01	3.70E-01	TB	65	157	5.47E+04	5.00E-02
ND	60	140	3.30E+00	1.24E+00	TB	65	158	5.47E+04	1.15E+00
ND	60	144	8.76E+17	1.80E+00	TB	65	160	7.20E+01	1.37E+00
ND	60	147	1.11E+01	2.75E+00	TB	65	161	6.90E+00	1.95E-01
PM	61	143	2.65E+02	3.78E-01	TB	65	164	1.00E+00	3.95E-01
PM	61	144	3.65E+02	2.81E+00	DY	66	154	3.65E+08	8.10E+00
PM	61	145	6.57E+03	5.78E-02	DY	66	154M	5.42E-01	3.35E+00
PM	61	146	1.60E+03	8.79E-01	DY	66	156	7.30E+16	5.15E+00
PM	61	147	9.85E+02	2.30E+00	DY	66	159	1.44E+02	6.65E-02
PM	61	148	5.39E+00	1.57E+00	DY	66	166	3.42E+00	1.12E+00
PM	61	148M	4.06E+01	5.86E+00	HO	67	163	3.65E+05	5.40E-02
PM	61	149	2.21E+00	4.44E-01	HO	67	166	1.13E+00	9.25E-01
PM	61	151	1.18E+00	1.09E+00	HO	67	166M	4.38E+05	1.21E+00
SM	62	141	2.00E+01	4.10E+00	ER	68	160	1.21E+00	2.87E+00
SM	62	145	3.40E+02	1.59E-01	ER	68	169	9.40E+00	9.47E-02
SM	62	146	4.38E+10	2.55E+00	ER	68	172	2.04E+00	1.27E+00
SM	62	147	4.02E+13	2.24E+00	TM	69	165	1.21E+00	2.59E+00
SM	62	148	4.38E+15	3.94E+00	TM	69	167	9.60E+00	5.87E-01
SM	62	149	1.46E+17	1.84E+00	TM	69	168	8.60E+01	1.52E+00
SM	62	151	3.28E+04	1.52E-02	TM	69	170	1.25E+02	3.72E-01
SM	62	153	1.96E+00	3.53E-01	TM	69	171	6.94E+02	1.99E-02
EU	63	145	5.90E+00	8.11E-01	TM	69	172	2.67E+00	9.34E-01
EU	63	146	4.60E+00	5.12E+00	YB	70	166	2.42E+00	5.21E-01
EU	63	146M	1.58E+00	3.49E+00	YB	70	169	3.20E+01	3.67E-01
EU	63	147	2.40E+01	3.29E+00	YB	70	175	4.20E+00	1.75E-01
EU	63	148	5.40E+01	6.07E-01	LU	71	169	1.50E+00	1.82E+00
EU	63	149	1.06E+02	6.27E-01	LU	71	170	2.00E+00	3.02E+00
EU	63	150	1.83E+03	1.12E+00	LU	71	171	8.20E+00	1.37E-01
EU	63	150M	5.33E-01	4.70E+00	LU	71	172	6.70E+00	9.61E-01
EU	63	152	4.53E+03	1.38E+00	LU	71	173	5.11E+02	6.98E-01
EU	63	154	5.84E+03	1.57E+00	LU	71	174	1.30E+03	1.26E+00
EU	63	155	6.57E+02	1.20E-01	LU	71	174M	1.65E+02	5.36E-01
EU	63	156	1.52E+01	1.82E+00	LU	71	176	8.03E+12	7.20E-01
EU	63	157	6.33E-01	1.23E+00	LU	71	177	6.80E+00	1.67E-01
GD	64	146	4.80E+01	5.56E+00	LU	71	177M	1.55E+02	2.01E-01
GD	64	147	1.04E+00	4.67E+00	HF	72	170	5.00E-01	4.26E+00
GD	64	148	3.10E+04	3.20E+00	HF	72	171	5.83E-01	1.60E+00
GD	64	149	9.00E+00	1.21E+00	HF	72	172	1.83E+03	1.15E+00
GD	64	150	4.38E+07	5.25E+00	HF	72	173	1.00E+00	1.78E+00
GD	64	151	1.20E+02	3.53E-01	HF	72	174	1.57E+18	2.50E+00
GD	64	152	4.02E+16	2.15E+00	HF	72	175	7.00E+01	4.96E-01
GD	64	153	2.40E+02	1.52E-01	HF	72	181	4.46E+01	7.23E-01

Table 2. Maximum available energy from the decay of radionuclides (cont'd).

TABLE 2. MAXIMUM AVAILABLE ENERGY FROM THE DISINTEGRATION OF RADIONUCLIDES

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	HALF-LIFE T _R (DAY)	MAX. AVAILABLE ENERGY Q (MEV)	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	HALF-LIFE T _R (DAY)	MAX. AVAILABLE ENERGY Q (MEV)
HF	72	182	3.28E+09	1.64E+00	AU	79	198	2.70E+00	7.50E-01
TA	73	177	2.30E+00	1.14E+00	AU	79	199	3.15E+00	2.33E-01
TA	73	179	5.84E+02	6.50E-02	HG	80	194	1.46E+02	2.17E+00
TA	73	182	1.15E+02	1.49E+00	HG	80	195M	1.67E+00	1.66E+00
TA	73	183	5.00E+00	6.41E-01	HG	80	197	2.71E+00	3.50E-01
W	74	178	2.20E+01	1.71E+00	HG	80	197M	1.00E+00	6.41E-01
W	74	181	1.30E+02	6.92E-02	HG	80	203	4.70E+01	3.25E-01
W	74	185	7.40E+01	1.22E-01	TL	81	200	1.08E+00	1.43E+00
W	74	187	1.00E+00	8.37E-01	TL	81	201	3.04E+00	2.50E-01
W	74	188	6.90E-01	1.34E+00	TL	81	202	1.20E+01	5.05E-01
RE	75	180	8.33E-01	1.84E+00	TL	81	204	1.39E+03	3.05E-01
RE	75	181	8.33E-01	1.68E+00	PB	82	200	8.75E-01	1.79E+00
RE	75	182	2.67E+00	1.51E+00	PB	82	202	1.10E+08	5.91E-01
RE	75	182M	5.42E-01	1.51E+00	PB	82	203	2.17E+00	7.64E-01
RE	75	183	7.00E+01	3.31E-01	PB	82	204	5.11E+19	2.60E+00
RE	75	184	3.80E+01	9.74E-01	PB	82	205	1.10E+10	8.60E-02
RE	75	184M	1.70E+02	1.23E+00	PB	82	210	8.03E+03	5.78E+00
RE	75	186	3.75E+00	4.44E-01	BI	83	205	1.53E+01	1.95E+00
RE	75	187	1.46E+13	1.29E-04	BI	83	206	6.24E+00	1.81E+00
RE	75	188	7.08E-01	1.07E+00	BI	83	207	1.10E+04	1.85E+00
RE	75	189	9.58E-01	4.96E-01	BI	83	208	1.35E+08	2.70E+00
OS	76	182	9.17E-01	2.09E+00	BI	83	210	5.00E+00	5.74E+00
OS	76	183	5.00E-01	8.99E-01	BI	83	210M	9.49E+08	5.57E+00
OS	76	185	9.40E+01	7.61E-01	PD	84	206	8.80E+00	3.08E+00
OS	76	191	1.50E+01	2.00E-01	PD	84	208	1.06E+03	7.71E+00
OS	76	191M	5.83E-01	2.74E-01	PD	84	209	3.76E+04	4.97E+00
OS	76	193	1.33E+00	4.80E-01	PD	84	210	1.38E+02	5.30E+00
OS	76	194	2.12E+03	2.24E+00	RN	86	211	6.67E-01	9.57E+00
IR	77	185	6.25E-01	1.09E+00	RN	86	222	3.82E+00	2.63E+01
IR	77	186	6.25E-01	1.85E+00	RA	88	223	1.17E+01	2.79E+01
IR	77	187	5.00E-01	1.06E+00	RA	88	224	3.64E+00	2.90E+01
IR	77	188	1.71E+00	2.27E+00	RA	88	225	1.48E+01	2.83E+01
IR	77	189	1.33E+01	3.50E-01	RA	88	226	5.91E+05	3.11E+01
IR	77	190	1.20E+01	1.40E+00	RA	88	228	2.08E+03	3.58E+01
IR	77	192	7.40E+01	1.04E+00	AC	89	225	1.00E+01	2.83E+01
IR	77	192M	2.19E+05	1.20E+00	AC	89	227	7.74E+03	3.39E+01
IR	77	193M	1.20E+01	8.00E-02	TH	90	227	1.82E+01	3.40E+01
IR	77	194	7.92E-01	1.26E+00	TH	90	228	6.97E+02	3.45E+01
PT	78	188	1.00E+01	2.82E+00	TH	90	229	2.66E+06	3.34E+01
PT	78	190	2.19E+14	3.11E+00	TH	90	230	2.77E+07	3.57E+01
PT	78	191	3.00E+00	5.36E-01	TH	90	231	1.07E+00	3.91E+01
PT	78	192	3.65E+17	2.60E+00	TH	90	232	5.11E+12	3.98E+01
PT	78	193	1.83E+05	7.60E-02	TH	90	234	2.41E+01	4.20E+01
PT	78	193M	4.40E+00	2.24E-01	PA	91	228	9.17E-01	3.64E+01
PT	78	195M	4.10E+00	2.59E-01	PA	91	229	1.50E+00	3.35E+01
PT	78	197	8.33E-01	2.96E-01	PA	91	230	1.70E+01	3.73E+01
AU	79	193	7.50E-01	5.94E-01	PA	91	231	1.19E+07	3.90E+01
AU	79	194	1.63E+00	2.09E+00	PA	91	232	1.32E+00	4.03E+01
AU	79	195	1.83E+02	2.07E-01	PA	91	233	2.74E+01	3.86E+01
AU	79	196	6.20E+00	7.28E-01	U	92	230	2.08E+01	3.94E+01

Table 2. Maximum available energy from the decay of radionuclides (contd).

TABLE 2. MAXIMUM AVAILABLE ENERGY FROM THE DISINTEGRATION OF RADIONUCLIDES

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	HALF-LIFE T _R (DAY)	MAX. AVAILABLE ENERGY Q (MEV)	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	HALF-LIFE T _R (DAY)	MAX. AVAILABLE ENERGY Q (MEV)
U	92	231	4.20E+00	3.92E+01	CM	96	240	2.68E+01	5.18E+01
U	92	232	2.63E+04	3.98E+01	CM	96	241	3.50E+01	4.98E+01
U	92	233	5.91E+07	3.82E+01	CM	96	242	1.63E+02	5.21E+01
U	92	234	9.05E+07	4.05E+01	CM	96	243	1.17E+04	5.49E+01
U	92	235	2.60E+11	4.37E+01	CM	96	244	6.61E+03	5.53E+01
U	92	236	8.72E+09	4.43E+01	CM	96	245	3.40E+06	5.44E+01
U	92	237	6.75E+00	4.37E+01	CM	96	246	2.00E+06	5.65E+01
U	92	238	1.65E+12	4.62E+01	CM	96	247	6.10E+09	6.05E+01
U	92	240	5.88E-01	5.12E+01	CM	96	248	1.72E+08	6.22E+01
NP	93	234	4.40E+00	4.22E+01	BK	97	245	4.95E+00	5.50E+01
NP	93	235	4.10E+02	4.39E+01	BK	97	246	1.80E+00	5.77E+01
NP	93	236	1.83E+06	4.59E+01	BK	97	247	3.65E+06	6.00E+01
NP	93	236M	9.17E-01	4.52E+01	BK	97	248	9.58E-01	6.19E+01
NP	93	237	7.81E+08	4.34E+01	BK	97	249	3.14E+02	6.06E+01
NP	93	238	2.10E+00	4.68E+01	CF	98	246	1.49E+00	5.89E+01
NP	93	239	2.35E+00	4.91E+01	CF	98	248	3.50E+02	6.15E+01
PU	94	236	1.04E+03	4.55E+01	CF	98	249	1.31E+05	6.06E+01
PU	94	237	4.56E+01	4.36E+01	CF	98	250	3.65E+03	6.25E+01
PU	94	238	3.25E+04	4.60E+01	CF	98	251	2.92E+05	6.63E+01
PU	94	239	8.89E+06	4.88E+01	CF	98	252	9.31E+02	6.83E+01
PU	94	240	2.47E+06	4.95E+01	CF	98	253	1.90E+01	6.73E+01
PU	94	241	4.74E+03	4.89E+01	ES	99	251	1.50E+00	6.65E+01
PU	94	242	1.38E+08	5.11E+01	ES	99	252	1.40E+02	6.85E+01
PU	94	244	2.77E+10	5.72E+01	ES	99	253	2.00E+01	6.72E+01
PU	94	246	1.08E+01	5.82E+01	ES	99	254	4.80E+02	7.03E+01
AM	95	239	5.00E-01	4.92E+01	ES	99	254M	1.63E+00	7.01E+01
AM	95	240	2.13E+00	5.10E+01	ES	99	255	2.40E+01	7.36E+01
AM	95	241	1.67E+05	4.89E+01	FM	100	252	9.58E-01	6.86E+01
AM	95	242	6.67E-01	5.22E+01	FM	100	253	4.50E+00	6.74E+01
AM	95	242M	5.55E+04	5.22E+01	FM	100	255	8.33E-01	7.35E+01
AM	95	243	2.79E+06	5.43E+01	FM	100	257	7.90E+01	7.38E+01

Table 2. Maximum available energy from the decay of radionuclides (contd).

3. f_M : FRACTION OF THE DAILY INTAKE SECRETED IN MILK

The values adopted for f_M , the fraction of the isotope ingested daily by the cow that is secreted in milk per liter, are shown in Table 3. The f_M values listed in Table 3 purposely include greater than average values with maximum and near maximum values. Thus, the f_M listed for I is 2×10^{-2} /liter rather than the average value of 1×10^{-2} /liter (1794). The values were assigned according to the procedures and code numbers shown below.

Rules for estimating f_M

Code

- 1 The f_M was estimated from tracer data. Maximum or near maximum values were assumed.
- 2 The f_M was estimated from concentrations in milk and in the diet from which the milk was derived.

3 The f_M was estimated from concentrations in milk and forage as summarized below. Maximum or near maximum concentrations in milk, and average concentrations in forage were assumed.

- 4 The f_M of H and O was estimated assuming daily consumption of 50 liters of water and daily secretion of 10 liters of milk, i. e.,

$f_M = 0.02$ /liter. The f_M of the inert gases arbitrarily was also assumed to be 0.02/liter to facilitate programming.

- 5 The f_M was assumed to be 0.05 times the fraction absorbed per liter. The f_B to the whole body (f_B^{TB} or f_1) was assumed as the fraction absorbed.
- 6 The f_M was conservatively estimated from unpublished tracer data of G. D. Potter, Bio-Medical Division, Lawrence Radiation Laboratory, Livermore, California.

Estimation of f_M from concentrations in milk and forage by Rule 3.

Estimation of f_M from concentrations in milk and forage by Rule 3.

Element	C_M (mg/liter)	Ref.	C_P (mg/kg)	Ref.	f_M (per liter)
^5B	8×10^{-1}	2539	3×10^1	2579	2.7×10^{-3}
^6C	6.5×10^4	5387	4.5×10^5	5306	1.5×10^{-2}
^7N	5.4×10^3	2554	2.5×10^4	5306	2.2×10^{-2}
^9F	2.8×10^{-1}	2596	2	5306	1.4×10^{-2}
^{13}Al	9.7×10^{-1}	2549	2×10^2	2899	5×10^{-4}
^{14}Si	7.2	2597	7×10^3	5373	10^{-4}
^{16}S	4.34×10^2	2751	2.5×10^3	4162	1.75×10^{-2}
^{17}Cl	2.25×10^3	2543	4.5×10^3	4162	5×10^{-2}
^{19}K	2×10^3	2544	2×10^4	4162	10^{-2}
^{24}Cr	1.5×10^{-2}	5387	7×10^{-1}	2218	2.15×10^{-3}
^{25}Mn	1.1×10^{-1}	2543	4.4×10^1	4162	2.5×10^{-4}
^{26}Fe	1.85	2536	1.6×10^2	4162	1.2×10^{-3}
^{28}Ni	10^{-1}	2597	1.5	2620	6.7×10^{-3}
^{29}Cu	1.26	2793	9.0	4162	1.4×10^{-2}
^{30}Zn	6.6	2544	1.7×10^1	4162	3.9×10^{-2}
^{33}As	6×10^{-2}	2596	1.0	2877	6×10^{-3}
^{37}Rb	3.0	2597	10^1	5306	3×10^{-2}
^{82}Pb	4.3×10^{-2}	2543	7	2877	6.2×10^{-4}

TABLE 3. FRACTION OF THE DAILY INTAKE SECRETED IN MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	FRACTION F _M (1/L)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	FRACTION F _M (1/L)	CODE	REFERENCE(S)
H	1	2.00E-02	4		SB	51	1.50E-03	5	
HE	2	2.00E-02	4		TE	52	1.00E-03	1	268 883
LI	3	5.00E-02	5		I	53	2.00E-02	1	1794
BE	4	1.00E-04	5		XE	54	2.00E-02	4	
B	5	2.70E-03	3		CS	55	1.40E-02	1	4761
C	6	1.50E-02	3		BA	56	6.00E-04	1	2568
N	7	2.20E-02	3		LA	57	5.00E-06	5	
O	8	2.00E-02	4		CE	58	2.00E-05	1	2569
F	9	1.40E-02	3		PR	59	5.00E-06	5	
NE	10	2.00E-02	4		ND	60	5.00E-06	5	
NA	11	5.00E-02	1	4351	PM	61	5.00E-06	5	
MG	12	1.00E-02	2		SM	62	5.00E-06	5	
AL	13	5.00E-04	3		EU	63	5.00E-06	5	
SI	14	1.00E-04	3		GD	64	5.00E-06	5	
P	15	2.50E-02	1	2422	TB	65	5.00E-06	5	
S	16	1.75E-02	3		DY	66	5.00E-06	5	
CL	17	5.00E-02	3		HO	67	5.00E-06	5	
AR	18	2.00E-02	4		ER	68	5.00E-06	5	
K	19	1.00E-02	3		TM	69	5.00E-06	5	
CA	20	1.60E-02	1	2824	YB	70	5.00E-06	5	
SC	21	5.00E-06	5		LU	71	5.00E-06	5	
TI	22	5.00E-06	5		HF	72	5.00E-06	5	
V	23	1.00E-03	5		TA	73	2.50E-02	5	
CR	24	2.15E-03	3		W	74	5.00E-04	6	
MN	25	2.50E-04	3		RE	75	2.50E-02	5	
FE	26	1.20E-03	3		OS	76	5.00E-03	5	
CO	27	1.00E-03	2		IR	77	5.00E-03	5	
NI	28	6.70E-03	3		PT	78	5.00E-03	5	
CU	29	1.40E-02	3		AU	79	5.00E-03	5	
ZN	30	3.90E-02	3		HG	80	3.75E-02	5	
GA	31	5.00E-05	5		TL	81	2.25E-02	5	
GE	32	5.00E-04	5		PB	82	6.20E-04	3	
AS	33	6.00E-03	3		BI	83	5.00E-04	5	
SE	34	4.50E-02	5		PD	84	3.00E-03	5	
BR	35	5.00E-02	2		AT	85	5.00E-02	5	
KR	36	2.00E-02	4		RN	86	2.00E-02	4	
RB	37	3.00E-02	3		FR	87	5.00E-02	5	
SR	38	2.00E-03	1	2824	RA	88	1.50E-02	5	
Y	39	1.00E-05	1	2590	AC	89	5.00E-06	5	
ZR	40	5.00E-06	5		TH	90	5.00E-06	5	
NB	41	2.50E-03	5		PA	91	5.00E-06	5	
MO	42	7.50E-03	6		U	92	5.00E-04	5	
TC	43	2.50E-02	5		NP	93	5.00E-06	5	
RU	44	1.00E-06	1	883	PU	94	1.50E-06	5	
RH	45	1.00E-02	5		AM	95	5.00E-06	5	
PD	46	1.00E-02	5		CM	96	5.00E-06	5	
AG	47	5.00E-02	5		BK	97	1.50E-06	5	
CD	48	1.25E-04	5		CF	98	1.50E-06	5	
IN	49	1.00E-04	5		ES	99	1.50E-06	5	
SN	50	2.50E-03	5		FM	100	1.50E-06	5	

Table 3. Fraction of the daily intake secreted in milk.

4. C_S : AVERAGE CONCENTRATION IN SOIL

The values adopted for C_S were the average concentrations in typical agricultural soil and are shown in Table 4. The C_S values were assigned according to the procedures and code numbers shown below.

Rules for estimating C_S

Code

- 1 The C_S was assumed to be the average concentration in soil reported by Vinogradov (2532).
- 2 The C_S was assumed to be the minimum value found in the literature.

- 3 The C_S was assigned to give $C_B/C_S = 100$ when C_B was known and C_S was not. (A C_B/C_S of 100 appears to be a maximum or near maximum ratio based on the observed C_B/C_S for I in the thyroid and Cd in the kidneys.)
- 5 The C_S (of inert gases) was assumed to be that attributable to the soil atmosphere. The calculations are summarized under 2 He in the Appendix.
- 6 The C_S was assumed to be $10^{-30} \mu\text{g/g}$ for all transplutonium elements.
- 99 The C_S was estimated from collateral data as described in the Appendix.

ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _s (PPM)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _s (PPM)	CODE	REFERENCE(S)
H	1	2.00E+04	99		SB	51	2.30E+00	1	2532
HE	2	1.00E-04	5		TE	52	1.00E-03	99	
LI	3	3.00E+01	1	2532	I	53	5.00E+00	1	2532
BE	4	6.00E+00	1	2532	XE	54	1.00E-05	5	
B	5	2.00E+01	1	2532	CS	55	5.00E+00	1	2532
C	6	2.00E+04	1	2532	BA	56	5.00E+02	1	2532
N	7	1.00E+03	1	2532	LA	57	4.00E+01	1	2532
O	8	4.90E+05	1	2532	CE	58	5.30E+01	1	2532
F	9	2.00E+02	1	2532	PR	59	6.70E+00	1	2532
NE	10	1.00E-03	5		ND	60	2.50E+01	1	2532
NA	11	6.30E+03	1	2532	PM	61	1.00E-18	99	
MG	12	6.30E+03	1	2532	SM	62	6.40E+00	1	2532
AL	13	7.14E+04	1	2532	EU	63	1.00E+00	1	2532
SI	14	3.30E+05	1	2532	GD	64	4.20E+00	1	2532
P	15	8.00E+02	1	2532	TB	65	7.00E-01	1	2532
S	16	8.50E+02	1	2532	DY	66	3.00E+00	1	2532
CL	17	1.00E+02	1	2532	HO	67	7.00E-01	1	2532
AR	18	1.00E+00	5		ER	68	8.00E-01	1	2532
K	19	1.36E+04	1	2532	TM	69	7.00E-01	1	2532
CA	20	1.37E+04	1	2532	YB	70	8.00E-01	1	2532
SC	21	7.00E+00	1	2532	LU	71	7.00E-01	1	2532
TI	22	4.60E+03	1	2532	HF	72	6.00E+00	1	2532
V	23	1.00E+02	1	2532	TA	73	1.00E+00	99	
CR	24	2.00E+02	1	2532	W	74	1.00E+00	2	5213
MN	25	8.50E+02	1	2532	RE	75	1.00E-03	99	
FE	26	3.80E+04	1	2532	OS	76	1.00E-03	99	
CO	27	8.00E+00	1	2532	IR	77	1.00E-05	2	5786 5799
NI	28	4.00E+01	1	2532	PT	78	1.00E-02	2	5782 5799 5803
CU	29	2.00E+01	1	2532	AU	79	1.00E-01	2	2531
ZN	30	5.00E+01	1	2532	HG	80	1.00E-02	1	2532
GA	31	3.00E+01	1	2532	TL	81	1.00E-01	99	
GE	32	1.00E+00	1	2532	PB	82	1.00E+01	1	2532
AS	33	5.00E+00	1	2532	BI	83	1.00E-01	99	
SE	34	1.00E-01	2	2531	PO	84	1.00E-11	99	
BR	35	5.00E+00	1	2532	AT	85	1.00E-19	99	
KR	36	1.00E-04	5		RN	86	1.00E-13	5	
RB	37	1.00E+02	1	2532	FR	87	1.00E-18	99	
SR	38	3.00E+02	1	2532	RA	88	8.00E-07	1	2532
Y	39	5.00E+01	1	2532	AC	89	1.00E-10	99	
ZR	40	3.00E+02	1	2532	TH	90	6.00E+00	1	2532
NB	41	5.30E+00	2	2219	PA	91	1.00E-07	99	
MO	42	2.00E+00	1	2532	U	92	1.00E+00	1	2532
TC	43	1.00E-13	99		NP	93	1.00E-12	99	
RU	44	1.00E-03	99		PU	94	1.00E-13	99	
RH	45	1.00E-03	99		AM	95	1.00E-30	6	
PD	46	1.00E-03	99		CM	96	1.00E-30	6	
AG	47	1.00E-01	1	2532	BK	97	1.00E-30	6	
CD	48	5.00E-01	1	2532	CF	98	1.00E-30	6	
IN	49	1.00E-01	99		ES	99	1.00E-30	6	
SN	50	1.00E+01	1	2532	FM	100	1.00E-30	6	

Table 4. Elemental composition of typical agricultural soil.

5. UPTAKE AND DISTRIBUTION IN ORGANS

f_B : Fractional Uptake

The values adopted for f_B , the fraction that is taken up by an organ following ingestion, are shown in Table 5A. The values were assigned according to the procedures and code numbers shown below.

Rules for estimating f_B

Code

- 1 The f_B was assumed to be the ICRP estimate of " f_w , fraction reaching the organ by ingestion."
- 2 The f_B was assumed to be the fraction absorbed times the fraction from blood to the tissue. The fraction absorbed was assumed to be the ICRP value of " f_1 , fraction from GI tract to blood." The fraction from blood to the tissue was based on the values of " f_2' fraction from blood to tissue" listed in the ICRP tables. The tissue was assumed to take up from blood all the isotope that is not taken up by the other tissues. The f_2' for the tissue was assumed to be 0.1 if the fraction not taken up by the other tissues is less than 0.1; the f_2' was assumed to be 1 if the fraction not taken up by the other tissues is equal to or greater than 0.1.
- 3 The f_B was obtained from data on uptake in humans.
- 5 The f_B (of H, C, N, O, Na, Cl, K, Br, Rb, Cs and the inert gases) was assumed to be the ratio of organ mass to total body mass. The organ and total body masses were those shown in Table 1.
- 6 The f_B in the GI tract (contents) was assumed to be $1 - f_B^{TB}$ or 0.1, whichever is greater.
- 99 The f_B was estimated from collateral data as described in the Appendix.

TABLE 5A. FRACTION OF INGESTED ISOTOPE DEPOSITED IN BONE

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ELEMENT SYMBOL	ATOMIC NO. (Z)	FRACTION F _B	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO. (Z)	FRACTION F _B	CODE	REFERENCE(S)
H	1	9.10E-02	5		SB	51	3.00E-03	1	
HE	2	9.10E-02	5		TE	52	2.30E-02	1	
LI	3	1.00E+00	2		I	53	7.00E-02	1	
BE	4	6.40E-04	1		XE	54	9.10E-02	5	
B	5	9.00E-01	2		CS	55	9.10E-02	5	
C	6	2.50E-02	1		BA	56	3.50E-02	1	
N	7	9.10E-02	5		LA	57	4.00E-05	1	
O	8	9.10E-02	5		CE	58	3.00E-05	1	
F	9	5.30E-01	1		PR	59	4.00E-05	1	
NE	10	9.10E-02	5		ND	60	3.50E-05	1	
NA	11	9.10E-02	5		PM	61	3.50E-05	1	
MG	12	5.00E-02	1		SM	62	3.50E-05	1	
AL	13	1.00E-01	2		EU	63	3.60E-05	1	
SI	14	8.50E-01	2		GD	64	4.50E-05	1	
P	15	3.75E-01	1		TB	65	6.00E-05	1	
S	16	3.00E-02	1		DY	66	6.00E-05	1	
CL	17	9.10E-02	5		HO	67	6.40E-05	1	
AR	18	9.10E-02	5		ER	68	6.00E-05	1	
K	19	9.10E-02	5		TM	69	6.50E-05	1	
CA	20	5.40E-01	1		YB	70	5.80E-05	1	
SC	21	2.00E-05	1		LU	71	6.80E-05	1	
TI	22	1.00E-04	2		HF	72	1.50E-05	1	
V	23	2.80E-03	1		TA	73	1.00E-02	99	
CR	24	5.00E-03	2		W	74	7.00E-03	1	
MN	25	8.50E-03	99		RE	75	5.00E-03	1	
FE	26	1.00E-02	1		OS	76	1.00E-01	2	
CO	27	2.00E-02	99		IR	77	1.00E-01	2	
NI	28	1.50E-01	1		PT	78	1.00E-01	2	
CU	29	2.40E-01	99		AU	79	1.00E-01	2	
ZN	30	1.50E-02	1		HG	80	7.50E-01	2	
GA	31	3.00E-04	1		TL	81	2.50E-02	1	
GE	32	1.00E-02	2		PB	82	2.00E-02	1	
AS	33	3.00E-02	2		BI	83	3.00E-04	1	
SE	34	9.00E-01	2		PQ	84	6.00E-03	1	
BR	35	9.10E-02	5		AT	85	1.00E+00	2	
KR	36	9.10E-02	5		RN	86	1.00E-01	2	
RB	37	9.10E-02	5		FR	87	1.00E+00	2	
SR	38	2.10E-01	1		RA	88	1.50E-01	1	
Y	39	7.50E-05	1		AC	89	3.00E-05	1	
ZR	40	3.60E-05	1		TH	90	7.00E-05	1	
NB	41	1.90E-02	99		PA	91	4.50E-05	1	
MO	42	1.00E-01	99		U	92	1.10E-03	1	
TC	43	2.00E-03	99		NP	93	5.40E-05	1	
RU	44	3.30E-02	99		PJ	94	2.40E-05	1	
RH	45	1.00E-02	1		AM	95	2.50E-05	1	
PD	46	4.00E-03	99		CM	96	3.00E-05	1	
AG	47	5.00E-02	99		BK	97	2.40E-05	1	
CD	48	9.00E-05	99		CF	98	2.40E-05	1	
IN	49	3.40E-04	1		ES	99	2.40E-05	1	
SN	50	2.00E-02	1		FM	100	2.40E-05	1	

Table 5A. Fraction of ingested isotope deposited in selected organs.
(1) Bone

TABLE 5A. FRACTION OF INGESTED ISOTOPE DEPOSITED IN KIDNEYS

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ELEMENT SYMBOL	ATOMIC NO. (Z)	FRACTION F _B	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO. (Z)	FRACTION F _B	CODE	REFERENCE(S)
H	1	4.40E-03	5		SB	51	5.00E-05	99	
HE	2	4.40E-03	5		TE	52	2.00E-02	1	
LI	3	1.00E+00	2		I	53	4.00E-02	1	
BE	4	6.00E-05	1		XE	54	4.40E-03	5	
B	5	9.00E-01	2		CS	55	4.40E-03	5	
C	6	4.40E-03	5		BA	56	5.00E-06	1	
N	7	4.40E-03	5		LA	57	1.00E-04	2	
O	8	4.40E-03	5		CE	58	2.00E-06	1	
F	9	1.00E+00	2		PR	59	2.00E-06	1	
NE	10	4.40E-03	5		ND	60	5.00E-06	1	
NA	11	4.40E-03	5		PM	61	2.00E-06	1	
MG	12	1.00E-01	2		SM	62	2.00E-06	1	
AL	13	1.00E-01	2		EU	63	3.00E-06	1	
SI	14	8.50E-01	2		GD	64	2.00E-06	99	
P	15	2.00E-02	99		TB	65	3.00E-06	1	
S	16	2.50E-03	99		DY	66	1.00E-04	2	
CL	17	4.40E-03	5		HO	67	2.00E-06	1	
AR	18	4.40E-03	5		ER	68	2.00E-06	1	
K	19	4.40E-03	5		TM	69	2.00E-06	1	
CA	20	3.00E-03	99		YB	70	5.00E-06	1	
SC	21	2.00E-06	1		LU	71	1.00E-06	1	
TI	22	1.00E-04	2		HF	72	2.00E-06	1	
V	23	8.00E-04	1		TA	73	1.50E-03	99	
CR	24	1.30E-05	1		W	74	1.00E-01	2	
MN	25	5.00E-03	1		RE	75	5.00E-01	2	
FE	26	3.00E-03	99		OS	76	5.00E-03	1	
CO	27	3.00E-01	2		IR	77	4.50E-03	1	
NI	28	3.00E-01	2		PT	78	1.00E-02	1	
CU	29	1.00E-02	1		AU	79	3.00E-03	1	
ZN	30	4.00E-03	1		HG	80	2.60E-01	1	
GA	31	2.00E-05	1		TL	81	2.30E-02	1	
GE	32	3.00E-04	1		PB	82	1.00E-02	1	
AS	33	3.00E-04	1		BI	83	3.00E-03	1	
SE	34	4.00E-02	1		PO	84	4.00E-03	1	
BR	35	4.40E-03	5		AT	85	1.00E+00	2	
KR	36	4.40E-03	5		RN	86	4.40E-03	5	
RB	37	4.40E-03	5		FR	87	1.00E+00	5	
SR	38	1.30E-03	99		RA	88	6.00E-04	1	
Y	39	3.00E-06	99		AC	89	1.00E-06	1	
ZR	40	2.00E-06	1		TH	90	5.00E-06	1	
NB	41	1.00E-03	99		PA	91	4.00E-06	1	
MO	42	4.80E-02	99		U	92	1.10E-03	1	
TC	43	1.00E-02	99		NP	93	3.00E-06	1	
RU	44	1.80E-02	99		PU	94	6.00E-07	1	
RH	45	6.00E-03	1		AM	95	3.00E-06	1	
PD	46	2.00E-02	1		CM	96	2.00E-06	1	
AG	47	2.00E-02	99		BK	97	3.00E-05	2	
CD	48	2.50E-04	1		CF	98	3.00E-05	2	
IN	49	8.00E-05	1		ES	99	3.00E-05	2	
SN	50	1.50E-03	99		FM	100	3.00E-05	2	

Table 5A. Fraction of ingested isotope deposited in selected organs (contd).
(2) Kidneys

TABLE 5A. FRACTION OF INGESTED ISOTOPE DEPOSITED IN LIVER

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ELEMENT SYMBOL	ATOMIC NO.(Z)	FRACTION F _B	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	FRACTION F _B	CODE	REFERENCE(S)
H	1	2.60E-02	5		SB	51	6.00E-05	1	
HE	2	2.60E-02	5		TE	52	1.00E-02	1	
LI	3	1.00E+00	2		I	53	1.20E-01	1	
BE	4	2.00E-04	1		XE	54	2.60E-02	5	
B	5	1.20E-01	1		CS	55	2.60E-02	5	
C	6	2.60E-02	5		BA	56	3.00E-05	1	
N	7	2.60E-02	5		LA	57	1.50E-05	1	
O	8	2.60E-02	5		CE	58	2.50E-05	1	
F	9	1.00E+00	2		PR	59	2.00E-05	1	
NE	10	2.60E-02	5		ND	60	5.00E-05	1	
NA	11	2.60E-02	5		PM	61	6.00E-06	1	
MG	12	1.00E-01	2		SM	62	3.50E-05	1	
AL	13	1.00E-01	2		EU	63	2.50E-05	1	
SI	14	8.50E-01	2		GD	64	1.20E-05	1	
P	15	1.00E-01	99		TB	65	2.00E-05	99	
S	16	5.00E-03	99		DY	66	6.00E-06	1	
CL	17	2.60E-02	5		HO	67	6.00E-06	1	
AR	18	2.60E-02	5		ER	68	3.00E-06	1	
K	19	2.60E-02	5		TM	69	9.00E-06	99	
CA	20	2.00E-02	99		YB	70	6.00E-06	99	
SC	21	1.50E-05	1		LU	71	1.00E-04	2	
TI	22	1.00E-04	2		HF	72	4.50E-05	1	
V	23	1.20E-03	1		TA	73	1.50E-02	99	
CR	24	5.00E-03	2		W	74	6.00E-03	1	
MN	25	2.00E-02	1		RE	75	5.00E-03	1	
FE	26	1.30E-02	1		OS	76	4.00E-03	1	
CO	27	7.00E-03	1		IR	77	2.30E-02	1	
NI	28	2.00E-02	1		PT	78	8.00E-04	1	
CU	29	2.00E-02	1		AU	79	4.00E-03	1	
ZN	30	3.50E-02	1		HG	80	1.10E-01	1	
GA	31	2.50E-04	1		TL	81	2.00E-02	1	
GE	32	2.00E-04	1		PB	82	6.40E-03	1	
AS	33	9.00E-04	1		BI	83	1.50E-03	1	
SE	34	6.00E-02	1		PO	84	1.00E-02	1	
BR	35	2.60E-02	5		AT	85	1.00E+00	2	
KR	36	2.60E-02	5		RN	86	2.60E-02	5	
RB	37	2.60E-02	5		FR	87	1.00E+00	2	
SR	38	7.80E-03	99		RA	88	1.20E-04	1	
Y	39	1.70E-05	99		AC	89	5.00E-05	1	
ZR	40	7.00E-06	1		TH	90	5.00E-06	1	
NB	41	4.50E-03	99		PA	91	5.00E-06	1	
MO	42	2.40E-01	99		U	92	1.00E-02	2	
TC	43	3.00E-03	99		NP	93	5.00E-06	1	
RU	44	6.30E-02	99		PU	94	4.50E-06	1	
RH	45	8.00E-03	1		AM	95	3.50E-05	1	
PD	46	2.00E-02	1		CM	96	4.00E-05	1	
AG	47	3.00E-02	99		BK	97	3.00E-05	2	
CD	48	1.90E-03	1		CF	98	3.00E-05	2	
IN	49	2.80E-04	1		ES	99	3.00E-05	2	
SN	50	5.00E-04	1		FM	100	3.00E-05	2	

Table 5A. Fraction of ingested isotope deposited in selected organs (contd).
(3) Liver

TABLE 5A. FRACTION OF INGESTED ISOTOPE DEPOSITED IN OVARIES

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ELEMENT SYMBOL	ATOMIC NO.(Z)	FRACTION F _B	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	FRACTION F _B	CODE	REFERENCE(S)
H	1	1.10E-04	5		SB	51	8.00E-06	99	
HE	2	1.10E-04	5		TE	52	2.00E-04	99	
LI	3	1.00E-04	1		I	53	1.00E+00	2	
BE	4	2.00E-03	2		XE	54	1.10E-04	5	
B	5	9.00E-01	2		CS	55	1.10E-04	5	
C	6	1.10E-04	5		BA	56	2.00E-05	1	
N	7	1.10E-04	5		LA	57	1.00E-04	2	
O	8	1.10E-04	5		CE	58	2.00E-07	99	
F	9	1.00E+00	2		PR	59	1.00E-04	2	
NE	10	1.10E-04	5		ND	60	1.00E-05	2	
NA	11	1.10E-04	5		PM	61	9.00E-07	99	
MG	12	1.00E-01	2		SM	6	1.00E-07	99	
AL	13	1.00E-01	2		EU	63	5.00E-07	99	
SI	14	5.00E-05	1		GD	64	1.00E-06	99	
P	15	5.00E-04	99		TB	65	1.00E-06	99	
S	16	2.00E-04	99		DY	66	1.00E-04	2	
CL	17	1.10E-04	5		HO	67	1.00E-04	2	
AR	18	1.10E-04	5		ER	68	1.00E-04	2	
K	19	1.10E-04	5		TM	69	7.50E-07	99	
CA	20	7.00E-05	99		YB	70	1.50E-06	99	
SC	21	2.70E-06	99		LU	71	1.00E-04	2	
TI	22	1.00E-04	2		HF	72	1.00E-05	99	
V	23	2.00E-02	2		TA	73	2.50E-03	99	
CR	24	5.00E-03	2		W	74	1.00E-01	2	
MN	25	1.00E-03	99		RE	75	5.00E-01	2	
FE	26	1.00E-04	99		OS	76	1.00E-01	2	
CO	27	3.00E-05	99		IR	77	1.00E-01	2	
NI	28	3.00E-01	2		PT	78	1.00E-01	2	
CU	29	9.00E-04	99		AU	79	1.00E-01	2	
ZN	30	4.00E-05	1		HG	80	7.50E-01	2	
GA	31	1.00E-03	2		TL	81	1.40E-03	99	
GE	32	1.00E-02	2		PB	82	8.00E-02	2	
AS	33	3.00E-02	2		BI	83	1.00E-02	2	
SE	34	9.00E-01	2		PO	84	6.00E-02	2	
BR	35	1.10E-04	5		AT	85	2.00E-03	1	
KR	36	1.10E-04	5		RN	86	1.10E-04	5	
RB	37	1.10E-04	5		FR	87	1.00E+00	2	
SR	38	3.50E-05	99		RA	88	3.00E-01	2	
Y	39	1.00E-07	99		AC	89	1.00E-04	2	
ZR	40	1.00E-04	2		TH	90	1.00E-04	2	
NB	41	1.00E-04	2		PA	91	1.00E-02	2	
MO	42	1.30E-04	99		U	92	1.00E-04	2	
TC	43	5.00E-01	2		NP	93	1.00E-04	2	
RU	44	9.00E-05	99		PU	94	3.00E-06	2	
RH	45	6.00E-03	99		AM	95	1.00E-04	2	
PD	46	6.00E-04	99		CM	96	1.00E-04	2	
AG	47	6.00E-04	99		BK	97	3.00E-05	2	
CD	48	1.90E-06	99		CF	98	3.00E-05	2	
IN	49	2.00E-03	2		ES	99	3.00E-05	2	
SN	50	2.00E-04	99		FM	100	3.00E-05	2	

Table 5A. Fraction of ingested isotope deposited in selected organs (contd).
(4) Ovaries

ELEMENT SYMBOL	ATOMIC NO.(Z)	FRACTION F _B	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	FRACTION F _B	CODE	REFERENCE(S)
H	1	2.50E-03	5		SB	51	8.50E-06	99	
HE	2	2.50E-03	5		TE	52	2.50E-03	1	
LI	3	1.00E+00	2		I	53	5.00E-03	1	
BE	4	4.00E-06	1		XE	54	2.50E-03	5	
B	5	9.00E-01	2		CS	55	2.50E-03	5	
C	6	2.50E-03	5		BA	56	2.50E-06	1	
N	7	2.50E-03	5		LA	57	1.00E-04	2	
O	8	2.50E-03	5		CE	58	3.60E-06	99	
F	9	1.00E+00	2		PR	59	1.00E-04	2	
NE	10	2.50E-03	5		ND	60	1.00E-05	2	
NA	11	2.50E-03	5		PM	61	1.00E-07	99	
MG	12	1.00E-01	2		SM	62	3.00E-07	99	
AL	13	2.00E-04	1		EU	63	3.00E-07	99	
SI	14	8.50E-01	2		GD	64	1.50E-07	99	
P	15	1.00E-02	99		TB	65	3.00E-07	99	
S	16	3.00E-04	99		DY	66	1.00E-04	2	
CL	17	2.50E-03	5		HO	67	1.00E-04	2	
AR	18	2.50E-03	5		ER	68	1.00E-04	2	
K	19	2.50E-03	5		TM	69	9.00E-07	99	
CA	20	2.00E-03	99		YB	70	6.00E-07	99	
SC	21	5.30E-06	99		LU	71	1.00E-04	2	
TI	22	1.00E-06	1		HF	72	1.30E-05	1	
V	23	2.00E-04	1		TA	73	5.00E-04	99	
CR	24	5.00E-03	2		W	74	1.00E-01	2	
MN	25	6.00E-04	99		RE	75	5.00E-01	2	
FE	26	2.00E-03	1		OS	76	1.00E-01	2	
CO	27	4.20E-04	1		IR	77	2.00E-03	1	
NI	28	3.00E-01	2		PT	78	8.00E-04	1	
CU	29	2.00E-02	1		AU	79	5.00E-04	1	
ZN	30	1.00E-02	2		HG	80	2.00E-02	1	
GA	31	1.00E-05	1		TL	81	2.00E-03	99	
GE	32	1.00E-02	2		PB	82	8.00E-02	2	
AS	33	3.00E-02	2		BI	83	1.00E-04	1	
SE	34	4.50E-03	1		PO	84	2.00E-03	1	
BR	35	2.50E-03	5		AT	85	3.00E-02	1	
KR	36	2.50E-03	5		RN	86	2.50E-03	5	
RB	37	2.50E-03	5		FR	87	1.00E+00	2	
SR	38	7.50E-04	99		RA	88	3.00E-01	2	
Y	39	3.50E-07	99		AC	89	1.00E-04	2	
ZR	40	6.00E-07	1		TH	90	1.00E-04	2	
NB	41	4.00E-04	99		PA	91	1.00E-04	2	
MO	42	8.00E-03	99		U	92	1.00E-02	2	
TC	43	5.00E-01	2		NP	93	1.00E-04	2	
RU	44	3.90E-03	99		PU	94	3.00E-06	2	
RH	45	2.00E-03	1		AM	95	1.00E-04	2	
PD	46	2.00E-03	1		CM	96	1.00E-04	2	
AG	47	1.10E-03	99		BK	97	3.00E-05	2	
CD	48	9.30E-06	99		CF	98	3.00E-05	2	
IN	49	4.00E-05	1		ES	99	3.00E-05	2	
SN	50	4.50E-05	99		FM	100	3.00E-05	2	

Table 5A. Fraction of ingested isotope deposited in selected organs (contd).
(5) Spleen

TABLE 5A. FRACTION OF INGESTED ISOTOPE DEPOSITED IN TESTES

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ELEMENT SYMBOL	ATOMIC NO.(Z)	FRACTION F _B	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	FRACTION F _B	CODE	REFERENCE(S)
H	1	8.60E-04	5		SB	51	8.00E-06	99	
HE	2	8.60E-04	5		TE	52	7.50E-04	1	
LI	3	4.20E-04	1		I	53	5.00E-03	1	
BE	4	2.00E-03	2		XE	54	8.60E-04	5	
B	5	9.00E-01	2		CS	55	8.60E-04	5	
C	6	8.60E-04	5		BA	56	5.00E-05	1	
N	7	8.60E-04	5		LA	57	1.00E-04	2	
O	8	8.60E-04	5		CE	58	2.00E-07	99	
F	9	1.00E+00	2		PR	59	1.00E-04	2	
NE	10	8.60E-04	5		ND	60	1.00E-05	2	
NA	11	8.60E-04	5		PM	61	9.00E-07	99	
MG	12	1.00E-01	2		SM	62	1.00E-07	99	
AL	13	1.00E-01	2		EU	63	5.00E-07	99	
SI	14	4.30E-04	2		GD	64	1.00E-06	99	
P	15	4.00E-03	99		TB	65	1.00E-06	99	
S	16	1.30E-03	1		DY	66	1.00E-04	2	
CL	17	8.60E-04	5		HO	67	1.00E-04	2	
AR	18	8.60E-04	5		ER	68	1.00E-04	2	
K	19	8.60E-04	5		TM	69	7.50E-07	99	
CA	20	5.00E-04	99		YB	70	1.50E-06	99	
SC	21	2.70E-06	99		LU	71	1.00E-04	2	
TI	22	1.00E-04	2		HF	72	2.70E-08	99	
V	23	2.00E-02	2		TA	73	2.50E-03	99	
CR	24	5.00E-03	2		W	74	1.00E-01	2	
MN	25	1.00E-03	99		RE	75	5.00E-01	2	
FE	26	7.50E-04	99		OS	76	1.00E-01	2	
CO	27	2.00E-04	99		IR	77	1.00E-01	2	
NI	28	3.00E-01	2		PT	78	1.00E-01	2	
CU	29	7.00E-03	99		AU	79	1.00E-01	2	
ZN	30	9.00E-05	1		HG	80	7.50E-01	2	
GA	31	1.00E-03	2		TL	81	1.40E-03	99	
GE	32	1.00E-02	2		PB	82	8.00E-02	2	
AS	33	3.00E-02	2		BI	83	1.00E-02	2	
SE	34	9.00E-01	2		PO	84	6.00E-02	2	
BR	35	8.60E-04	5		AT	85	1.00E+00	2	
KR	36	8.60E-04	5		RN	86	8.60E-04	5	
RB	37	8.60E-04	5		FR	87	1.00E+00	2	
SR	38	2.60E-04	99		RA	88	3.00E-01	2	
Y	39	1.40E-07	99		AC	89	1.00E-04	2	
ZR	40	2.00E-06	99		TH	90	1.00E-04	2	
NB	41	1.00E-04	2		PA	91	1.00E-04	2	
MO	42	1.00E-03	99		U	92	1.00E-04	2	
TC	43	5.00E-01	2		NP	93	1.00E-04	2	
RU	44	2.60E-03	99		PU	94	3.00E-06	2	
RH	45	6.00E-03	99		AM	95	1.00E-04	2	
PD	46	6.00E-04	99		CM	96	1.00E-04	2	
AG	47	1.00E-03	99		BK	97	3.00E-05	2	
CD	48	6.30E-05	99		CF	98	3.00E-05	2	
IN	49	2.00E-03	2		ES	99	3.00E-05	2	
SN	50	2.00E-04	99		FM	100	3.00E-05	2	

Table 5A. Fraction of ingested isotope deposited in selected organs (contd).
(6) Testes

ELEMENT SYMBOL	ATOMIC NO. (Z)	FRACTION F _B	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO. (Z)	FRACTION F _B	CODE	REFERENCE(S)
H	1	1.00E+00	1		SB	51	3.00E-02	1	
HE	2	1.00E+00	1		TE	52	2.50E-01	1	
LI	3	1.00E+00	1		I	53	1.00E+00	1	
BE	4	2.00E-03	1		XE	54	1.00E+00	1	
B	5	9.00E-01	1		CS	55	1.00E+00	1	
C	6	1.00E+00	1		BA	56	5.00E-02	1	
N	7	1.00E+00	1		LA	57	1.00E-04	1	
O	8	1.00E+00	1		CE	58	1.00E-04	1	
F	9	1.00E+00	1		PR	59	1.00E-04	1	
NE	10	1.00E+00	1		ND	60	1.00E-04	1	
NA	11	1.00E+00	1		PM	61	1.00E-04	1	
MG	12	1.00E-01	1		SM	62	1.00E-04	1	
AL	13	1.00E-01	1		EU	63	1.00E-04	1	
SI	14	8.50E-01	1		GD	64	1.00E-04	1	
P	15	7.50E-01	1		TB	65	1.00E-04	1	
S	16	1.00E+00	1		DY	66	1.00E-04	1	
CL	17	1.00E+00	1		HO	67	1.00E-04	1	
AR	18	1.00E+00	1		ER	68	1.00E-04	1	
K	19	1.00E+00	1		TM	69	1.00E-04	1	
CA	20	6.00E-01	1		YB	70	1.00E-04	1	
SC	21	1.00E-04	1		LU	71	1.00E-04	1	
TI	22	1.00E-04	1		HF	72	1.00E-04	1	
V	23	2.00E-02	1		TA	73	5.00E-02	99	
CR	24	5.00E-03	1		W	74	1.00E-01	1	
MN	25	1.00E-01	1		RE	75	5.00E-01	1	
FE	26	1.00E-01	1		OS	76	1.00E-01	1	
CO	27	3.00E-01	1		IR	77	1.00E-01	1	
NI	28	3.00E-01	1		PT	78	1.00E-01	1	
CU	29	2.80E-01	1		AU	79	1.00E-01	1	
ZN	30	1.00E-01	1		HG	80	7.50E-01	1	
GA	31	1.00E-03	1		TL	81	4.50E-01	1	
GE	32	1.00E-02	1		PB	82	8.00E-02	1	
AS	33	3.00E-02	1		BI	83	1.00E-02	1	
SE	34	9.00E-01	1		PQ	84	6.00E-02	1	
BR	35	1.00E+00	1		AT	85	1.00E+00	1	
KR	36	1.00E+00	1		RN	86	1.00E+00	1	
RB	37	1.00E+00	1		FR	87	1.00E+00	1	
SR	38	3.00E-01	1		RA	88	3.00E-01	1	
Y	39	1.00E-04	1		AC	89	1.00E-04	1	
ZR	40	1.00E-04	1		TH	90	1.00E-04	1	
NB	41	5.00E-02	99		PA	91	1.00E-04	1	
MO	42	8.00E-01	1		U	92	1.00E-04	1	
TC	43	1.00E+00	99		NP	93	1.00E-04	1	
RU	44	3.00E-01	99		PU	94	3.00E-05	1	
RH	45	2.00E-01	1		AM	95	1.00E-04	1	
PD	46	2.00E-01	1		CM	96	1.00E-04	1	
AG	47	1.00E+00	99		BK	97	3.00E-05	1	
CD	48	2.50E-03	1		CF	98	3.00E-05	1	
IN	49	2.00E-03	1		ES	99	3.00E-05	1	
SN	50	5.00E-02	1		FM	100	3.00E-05	1	

Table 5A. Fraction of ingested isotope deposited in selected organs (contd).
(7) Whole body

TABLE 5A. FRACTION OF INGESTED ISOTOPE DEPOSITED IN GI TRACT

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10/22/28: Insert after p. 24.

Table 5A. Fraction of ingested isotope deposited in selected organs (cont'd).
(8) GI tract

ELEMENT SYMBOL	ATOMIC NO.(Z)	FRACTION F _B	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	FRACTION F _B	CODE	REFERENCE(S)
H	1	1.00E-01	6		SB	51	1.00E+00	6	
HE	2	1.00E-01	6		TE	52	7.50E-01	6	
LI	3	1.00E-01	6		I	53	1.00E-01	6	
BE	4	1.00E+00	6		XE	54	1.00E-01	6	
B	5	1.00E-01	6		CS	55	1.00E-01	6	
C	6	1.00E-01	6		BA	56	1.00E+00	6	
N	7	1.00E-01	6		LA	57	1.00E+00	6	
O	8	1.00E-01	6		CE	58	1.00E+00	6	
F	9	1.00E-01	6		PR	59	1.00E+00	6	
NE	10	1.00E-01	6		ND	60	1.00E+00	6	
NA	11	1.00E-01	6		PM	61	1.00E+00	6	
MG	12	9.00E-01	6		SM	62	1.00E+00	6	
AL	13	9.00E-01	6		EU	63	1.00E+00	6	
SI	14	1.50E-01	6		GD	64	1.00E+00	6	
P	15	2.50E-01	6		TB	65	1.00E+00	6	
S	16	1.00E-01	6		DY	66	1.00E+00	6	
CL	17	1.00E-01	6		HO	67	1.00E+00	6	
AR	18	1.00E-01	6		ER	68	1.00E+00	6	
K	19	1.00E-01	6		TM	69	1.00E+00	6	
CA	20	4.00E-01	6		YB	70	1.00E+00	6	
SC	21	1.00E+00	6		LJ	71	1.00E+00	6	
TI	22	1.00E+00	6		HF	72	1.00E+00	6	
V	23	1.00E+00	6		TA	73	1.00E+00	6	
CR	24	1.00E+00	6		W	74	2.00E-01	6	
MN	25	9.00E-01	6		RE	75	5.00E-01	6	
FE	26	9.00E-01	6		OS	76	9.00E-01	6	
CO	27	7.00E-01	6		IR	77	9.00E-01	6	
NI	28	7.00E-01	6		PT	78	9.00E-01	6	
CU	29	7.20E-01	6		AU	79	9.00E-01	6	
ZN	30	9.00E-01	6		HG	80	2.50E-01	6	
GA	31	1.00E+00	6		TL	81	5.50E-01	6	
GE	32	1.00E+00	6		PB	82	9.20E-01	6	
AS	33	1.00E+00	6		BI	83	1.00E+00	6	
SE	34	1.00E-01	6		PO	84	9.40E-01	6	
BR	35	1.00E-01	6		AT	85	1.00E-01	6	
KR	36	1.00E-01	6		RN	86	1.00E-01	6	
RB	37	1.00E-01	6		FR	87	1.00E-01	6	
SR	38	7.00E-01	6		RA	88	7.00E-01	6	
Y	39	1.00E+00	6		AC	89	1.00E+00	6	
ZR	40	1.00E+00	6		TH	90	1.00E+00	6	
NB	41	1.00E+00	6		PA	91	1.00E+00	6	
MO	42	2.00E-01	6		U	92	1.00E+00	6	
TC	43	1.00E-01	6		NP	93	1.00E+00	6	
RU	44	7.00E-01	6		PU	94	1.00E+00	6	
RH	45	8.00E-01	6		AM	95	1.00E+00	6	
PD	46	8.00E-01	6		CM	96	1.00E+00	6	
AG	47	1.00E-01	6		BK	97	1.00E+00	6	
CD	48	1.00E+00	6		CF	98	1.00E+00	6	
IN	49	1.00E+00	6		ES	99	1.00E+00	6	
SN	50	1.00E+00	6		FM	100	1.00E+00	6	

5. UPTAKE AND DISTRIBUTION IN ORGANS (Continued)

T_B: Biological Half-Life

The biological half-life T_B is required in the estimation of the effective half-life T_E. The effective half-life is equal to the product of the biological and radiological half-lives divided by the sum, i. e., $T_E = T_B T_R / (T_B + T_R)$. The values adopted for T_B are shown in Table 5B. These values were assigned according to the procedures and code numbers shown below.

Rules for estimating T_B

Code

- 1 The T_B was assumed to be the ICRP estimate of T_B.
- 3 The T_B was assumed to be 3.65×10^5 days via milk and zero

via soil (so that F₁ is minimized by both routes).

- 4 The T_B (of H, C, N, O, Na, Cl, K, Br, Rb, Cs and the inert gases) was assumed to be the T_B for total body.
- 5 The T_B was obtained from human retention data.
- 6 The T_B in the GI tract is the same for all elements. This value, 1.5 days, corresponds to a mean life of about 2 days, which approximates the transit time of material in the GI tract following ingestion (2839).
- 99 The T_B was estimated from collateral data as described in the Appendix.

TABLE 5B. BIOLOGICAL HALF-LIFE IN BONE

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ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)
H	1	1.20E+01	4	
HE	2	3.65E+05	3	
LI	3	3.65E+05	3	
BE	4	4.50E+02	1	
B	5	3.65E+05	3	
C	6	4.00E+01	1	
N	7	9.00E+01	4	
O	8	1.40E+01	4	
F	9	1.45E+03	1	
NE	10	3.65E+05	3	
NA	11	1.10E+01	4	
MG	12	1.80E+02	1	
AL	13	3.65E+05	3	
SI	14	3.65E+05	3	
P	15	1.15E+03	1	
S	16	6.00E+02	1	
CL	17	2.90E+01	4	
AR	18	3.65E+05	3	
K	19	5.80E+01	4	
CA	20	1.80E+04	1	
SC	21	1.60E+03	99	
TI	22	3.65E+05	3	
V	23	1.35E+02	1	
CR	24	3.65E+05	3	
MN	25	3.60E+02	99	
FE	26	1.68E+03	1	
CO	27	2.40E+01	99	
NI	28	8.00E+02	1	
CU	29	1.85E+02	99	
ZN	30	1.30E+03	1	
GA	31	1.20E+01	1	
GE	32	3.65E+05	3	
AS	33	3.65E+05	3	
SE	34	3.65E+05	3	
BR	35	8.00E+00	4	
KR	36	3.65E+05	3	
RB	37	8.00E+01	4	
SR	38	1.80E+04	1	
Y	39	1.80E+04	1	
ZR	40	1.00E+03	1	
NB	41	1.00E+03	1	
MO	42	2.10E+02	99	
TC	43	2.50E+01	3	
RU	44	4.50E+02	99	
RH	45	1.66E+01	1	
PD	46	6.50E+00	99	
AG	47	2.50E+02	99	
CD	48	1.20E+02	99	
IN	49	5.70E+01	1	
SN	50	7.10E+02	99	

ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)
SB	51	1.00E+02	1	
TE	52	3.00E+01	1	
I	53	1.40E+01	1	
XE	54	3.65E+05	3	
CS	55	1.10E+02	4	
BA	56	6.50E+01	1	
LA	57	1.00E+03	1	
CE	58	1.50E+03	1	
PR	59	1.50E+03	1	
ND	60	1.50E+03	1	
PM	61	1.50E+03	1	
SM	62	1.50E+03	1	
EU	63	1.50E+03	1	
GD	64	1.00E+03	1	
TB	65	1.00E+03	1	
DY	66	1.00E+03	1	
HO	67	1.00E+03	1	
ER	68	1.00E+03	1	
TM	69	1.00E+03	1	
YB	70	1.00E+03	1	
LU	71	1.00E+03	1	
HF	72	6.00E+02	1	
TA	73	3.00E+02	1	
W	74	9.00E+00	1	
RE	75	3.50E+00	1	
OS	76	3.65E+05	3	
IR	77	3.65E+05	3	
PT	78	3.65E+05	3	
AU	79	3.65E+05	3	
HG	80	3.65E+05	3	
TL	81	3.60E+01	99	
PB	82	3.65E+03	1	
BI	83	1.33E+01	1	
PO	84	2.40E+01	1	
AT	85	3.65E+05	3	
RN	86	3.65E+05	3	
FR	87	3.65E+05	3	
RA	88	1.64E+04	1	
AC	89	7.30E+04	1	
TH	90	7.30E+04	1	
PA	91	7.30E+04	1	
U	92	3.00E+02	1	
NP	93	7.30E+04	1	
PU	94	7.30E+04	1	
AM	95	7.30E+04	1	
CM	96	7.30E+04	1	
BK	97	7.30E+04	1	
CF	98	7.30E+04	1	
ES	99	7.30E+04	1	
FM	100	7.30E+04	1	

Table 5B. Biological half-life in selected organs.
(1) Bone

TABLE 5B. BIOLOGICAL HALF-LIFE IN KIDNEYS

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ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)
H	1	1.20E+01	4	
HE	2	3.65E+05	3	
LI	3	3.65E+05	3	
BE	4	1.20E+02	1	
B	5	3.65E+05	3	
C	6	1.00E+01	4	
N	7	9.00E+01	4	
O	8	1.40E+01	4	
F	9	3.65E+05	3	
NE	10	3.65E+05	3	
NA	11	1.10E+01	4	
MG	12	3.65E+05	3	
AL	13	3.65E+05	3	
SI	14	3.65E+05	3	
P	15	1.80E+01	99	
S	16	3.65E+05	3	
CL	17	2.90E+01	4	
AR	18	3.65E+05	3	
K	19	5.80E+01	4	
CA	20	1.70E+01	99	
SC	21	1.60E+03	99	
TI	22	3.65E+05	3	
V	23	7.40E+01	1	
CR	24	6.16E+02	1	
MN	25	2.50E+01	99	
FE	26	7.20E+02	99	
CO	27	2.40E+01	99	
NI	28	3.65E+05	3	
CU	29	9.00E+01	99	
ZN	30	1.49E+02	1	
GA	31	9.00E+00	1	
GE	32	1.20E+01	1	
AS	33	5.50E+02	1	
SE	34	1.10E+01	1	
BR	35	8.00E+00	4	
KR	36	3.65E+05	3	
RB	37	8.00E+01	4	
SR	38	1.60E+01	99	
Y	39	4.20E+03	99	
ZR	40	9.00E+02	1	
NB	41	7.60E+02	1	
MO	42	2.40E+01	99	
TC	43	2.00E+01	1	
RU	44	1.80E+02	99	
RH	45	2.80E+01	1	
PD	46	3.00E+01	1	
AG	47	4.00E+00	99	
CD	48	3.00E+02	1	
IN	49	6.00E+01	1	
SN	50	6.60E+02	99	

ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)
SB	51	3.65E+05	3	
TE	52	3.00E+01	1	
I	53	7.00E+00	1	
XE	54	3.65E+05	3	
CS	55	1.10E+02	4	
BA	56	8.50E+00	1	
LA	57	3.65E+05	3	
CE	58	5.63E+02	1	
PR	59	7.50E+02	1	
ND	60	6.56E+02	1	
PM	61	6.56E+02	1	
SM	62	6.56E+02	1	
EU	63	1.48E+03	1	
GD	64	1.30E+03	99	
TB	65	7.00E+02	1	
DY	66	3.65E+05	3	
HO	67	8.00E+02	1	
ER	68	6.50E+02	1	
TM	69	3.35E+02	1	
YB	70	6.85E+02	1	
LU	71	7.50E+02	1	
HF	72	5.63E+02	1	
TA	73	4.00E+02	1	
W	74	3.65E+05	3	
RE	75	3.65E+05	3	
OS	76	5.00E+00	1	
IR	77	5.00E+01	1	
PT	78	6.00E+01	1	
AU	79	2.80E+02	1	
HG	80	1.45E+01	1	
TL	81	3.50E+01	99	
PB	82	5.31E+02	1	
BI	83	6.00E+00	1	
PO	84	7.00E+01	1	
AT	85	3.65E+05	3	
RN	86	3.65E+05	3	
FR	87	3.65E+05	3	
RA	88	1.00E+01	1	
AC	89	2.40E+04	1	
TH	90	2.20E+04	1	
PA	91	5.10E+04	1	
U	92	1.50E+01	1	
NP	93	6.40E+04	1	
PU	94	3.20E+04	1	
AM	95	2.70E+04	1	
CM	96	2.40E+04	1	
BK	97	3.65E+05	3	
CF	98	3.65E+05	3	
ES	99	3.65E+05	3	
FM	100	3.65E+05	3	

Table 5B. Biological half-life in selected organs (contd).
(2) Kidneys

ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)
H	1	1.20E+01	4		SB	51	3.80E+01	1	
HE	2	3.65E+05	3		TE	52	3.00E+01	1	
LI	3	3.65E+05	3		I	53	7.00E+00	1	
BE	4	2.70E+02	1		XE	54	3.65E+05	3	
B	5	5.00E-01	1		CS	55	1.10E+02	4	
C	6	1.00E+01	4		BA	56	9.75E+02	1	
N	7	9.00E+01	4		LA	57	4.00E+02	1	
O	8	1.40E+01	4		CE	58	2.93E+02	1	
F	9	3.65E+05	3		PR	59	3.75E+02	1	
NE	10	3.65E+05	3		ND	60	1.31E+02	1	
NA	11	1.10E+01	4		PM	61	6.56E+02	1	
MG	12	3.65E+05	3		SM	62	1.87E+02	1	
AL	13	3.65E+05	3		EU	63	1.27E+02	1	
SI	14	3.65E+05	3		GD	64	4.60E+02	1	
P	15	3.40E+01	99		TB	65	6.70E+01	99	
S	16	3.65E+05	3		DY	66	5.00E+02	1	
CL	17	2.90E+01	4		HO	67	8.75E+02	1	
AR	18	3.65E+05	3		ER	68	4.33E+02	1	
K	19	5.80E+01	1		TM	69	7.00E+01	99	
CA	20	8.00E+00	99		YB	70	7.00E+01	99	
SC	21	1.70E+03	99		LU	71	3.65E+05	3	
TI	22	3.65E+05	3		HF	72	6.25E+02	1	
V	23	7.00E+01	1		TA	73	4.00E+02	1	
CR	24	3.65E+05	3		W	74	4.00E+00	1	
MN	25	7.10E+01	99		RE	75	1.40E+01	1	
FE	26	5.54E+02	1		OS	76	5.50E+00	1	
CO	27	2.40E+01	99		IR	77	2.70E+01	1	
NI	28	5.00E+02	1		PT	78	2.00E+01	1	
CU	29	1.20E+03	99		AU	79	3.00E+02	1	
ZN	30	9.10E+01	1		HG	80	1.35E+01	1	
GA	31	4.80E+00	1		TL	81	2.50E+01	99	
GE	32	7.50E+00	1		PB	82	1.95E+03	1	
AS	33	5.50E+02	1		BI	83	1.50E+01	1	
SE	34	2.40E+01	1		PO	84	4.10E+01	1	
BR	35	8.00E+00	4		AT	85	3.65E+05	3	
KR	36	3.65E+05	3		RN	86	3.65E+05	3	
RB	37	8.00E+01	4		FR	87	3.65E+05	3	
SR	38	6.00E+00	99		RA	88	1.00E+01	1	
Y	39	1.40E+03	99		AC	89	2.40E+03	1	
ZR	40	3.20E+02	1		TH	90	5.70E+04	1	
NB	41	8.45E+02	1		PA	91	5.80E+04	1	
MO	42	9.50E+01	99		U	92	3.65E+05	3	
TC	43	3.00E+01	1		NP	93	5.40E+04	1	
RU	44	7.00E+01	99		PU	94	3.00E+04	1	
RH	45	1.82E+01	1		AM	95	3.48E+03	1	
PD	46	1.90E+01	1		CM	96	3.00E+03	1	
AG	47	5.20E+01	5	2932	BK	97	3.65E+05	3	
CD	48	2.00E+02	1		CF	98	3.65E+05	3	
IN	49	5.80E+01	1		ES	99	3.65E+05	3	
SN	50	1.60E+03	99		FM	100	3.65E+05	3	

Table 5B. Biological half-life in selected organs (contd).
(3) Liver

TABLE 5B. BIOLOGICAL HALF-LIFE IN OVARIES

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ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)
H	1	1.20E+01	4		SB	51	3.65E+05	3	
HE	2	3.65E+05	3		TE	52	3.00E+01	99	
LI	3	2.00E+00	1		I	53	3.65E+05	3	
BE	4	3.65E+05	3		XE	54	3.65E+05	3	
B	5	3.65E+05	3		CS	55	1.10E+02	4	
C	6	1.00E+01	4		BA	56	4.90E+00	1	
N	7	9.00E+01	4		LA	57	3.65E+05	3	
O	8	1.40E+01	4		CE	58	3.65E+05	3	
F	9	3.65E+05	3		PR	59	3.65E+05	3	
NE	10	3.65E+05	3		ND	60	3.65E+05	3	
NA	11	1.10E+01	4		PM	61	3.65E+05	3	
MG	12	3.65E+05	3		SM	62	3.65E+05	3	
AL	13	3.65E+05	3		EU	63	3.65E+05	3	
SI	14	6.00E+01	1		GD	64	3.65E+05	3	
P	15	1.20E+01	99		TB	65	3.65E+05	3	
S	16	3.65E+05	3		DY	66	3.65E+05	3	
CL	17	2.90E+01	4		HO	67	3.65E+05	3	
AR	18	3.65E+05	3		ER	68	3.65E+05	3	
K	19	5.80E+01	4		TM	69	3.65E+05	3	
CA	20	3.70E+01	99		YB	70	3.65E+05	3	
SC	21	3.65E+05	3		LU	71	3.65E+05	3	
TI	22	3.65E+05	3		HF	72	5.63E+02	99	
V	23	3.65E+05	3		TA	73	4.60E+02	99	
CR	24	3.65E+05	3		W	74	3.65E+05	3	
MN	25	1.00E+00	99		RE	75	3.65E+05	3	
FE	26	4.50E+02	99		OS	76	3.65E+05	3	
CO	27	2.40E+01	99		IR	77	3.65E+05	3	
NI	28	3.65E+05	3		PT	78	3.65E+05	3	
CU	29	1.50E+01	99		AU	79	3.65E+05	3	
ZN	30	1.07E+02	1		HG	80	3.65E+05	3	
GA	31	3.65E+05	3		TL	81	3.65E+05	3	
GE	32	3.65E+05	3		PB	82	3.65E+05	3	
AS	33	3.65E+05	3		BI	83	3.65E+05	3	
SE	34	3.65E+05	3		PD	84	3.65E+05	3	
BR	35	8.00E+00	4		AT	85	1.35E+01	1	
KR	36	3.65E+05	3		RN	86	3.65E+05	3	
RB	37	8.00E+01	4		FR	87	3.65E+05	3	
SR	38	4.50E+01	99		RA	88	3.65E+05	3	
Y	39	3.65E+05	3		AC	89	3.65E+05	3	
ZR	40	3.65E+05	3		TH	90	3.65E+05	3	
NB	41	3.65E+05	3		PA	91	3.65E+05	3	
MO	42	1.70E+01	99		U	92	3.65E+05	3	
TC	43	3.65E+05	3		NP	93	3.65E+05	3	
RU	44	7.00E+01	99		PU	94	3.65E+05	3	
RH	45	3.65E+05	3		AM	95	3.65E+05	3	
PD	46	3.65E+05	3		CM	96	3.65E+05	3	
AG	47	3.00E+00	99		BK	97	3.65E+05	3	
CD	48	6.50E+01	99		CF	98	3.65E+05	3	
IN	49	3.65E+05	3		ES	99	3.65E+05	3	
SN	50	4.50E+01	99		FM	100	3.65E+05	3	

Table 5B. Biological half-life in selected organs (contd).
(4) Ovaries

ELEMENT SYMBOL	ATOMIC NO. (Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO. (Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)
H	1	1.20E+01	4		SB	51	3.65E+05	3	
HE	2	3.65E+05	3		TE	52	3.00E+01	1	
LI	3	3.65E+05	3		I	53	7.00E+00	1	
BE	4	5.40E+02	1		XE	54	3.65E+05	3	
B	5	3.65E+05	3		CS	55	1.10E+02	4	
C	6	1.00E+01	4		BA	56	1.30E+01	1	
N	7	9.00E+01	4		LA	57	3.65E+05	3	
O	8	1.40E+01	4		CE	58	8.45E+02	99	
F	9	3.65E+05	3		PR	59	3.65E+05	3	
NE	10	3.65E+05	3		ND	60	3.65E+05	3	
NA	11	1.10E+01	4		PM	61	7.30E+02	99	
MG	12	3.65E+05	3		SM	62	7.20E+02	99	
AL	13	5.00E+02	1		EU	63	4.45E+02	99	
SI	14	3.65E+05	3		GD	64	3.85E+02	99	
P	15	2.50E+01	99		TB	65	3.40E+02	99	
S	16	3.65E+05	3		DY	66	3.65E+05	3	
CL	17	2.90E+01	4		HO	67	3.65E+05	3	
AR	18	3.65E+05	3		ER	68	3.65E+05	3	
K	19	5.80E+01	1		TM	69	4.00E+02	99	
CA	20	9.00E+00	99		YB	70	4.10E+02	99	
SC	21	1.43E+03	99		LU	71	3.65E+05	3	
TI	22	3.20E+02	1		HF	72	3.50E+02	1	
V	23	9.00E+01	1		TA	73	2.40E+02	1	
CR	24	3.65E+05	3		W	74	3.65E+05	3	
MN	25	1.60E+01	99		RE	75	3.65E+05	3	
FE	26	6.00E+02	1		OS	76	3.65E+05	3	
CO	27	2.40E+01	99		IR	77	5.00E+01	1	
NI	28	3.65E+05	3		PT	78	6.00E+01	1	
CU	29	1.20E+01	99		AU	79	2.40E+02	1	
ZN	30	3.65E+05	3		HG	80	1.00E+01	1	
GA	31	6.00E+00	1		TL	81	2.50E+01	99	
GE	32	3.65E+05	3		PB	82	3.65E+05	3	
AS	33	3.65E+05	3		BI	83	1.00E+01	1	
SE	34	1.80E+01	1		PO	84	6.00E+01	1	
BR	35	8.00E+00	4		AT	85	2.70E+01	1	
KR	36	3.65E+05	3		RN	86	3.65E+05	3	
RB	37	8.00E+01	4		FR	87	3.65E+05	3	
SR	38	1.20E+01	99		RA	88	3.65E+05	3	
Y	39	1.00E+04	99		AC	89	3.65E+05	3	
ZR	40	9.00E+02	1		TH	90	3.65E+05	3	
NB	41	9.50E+02	1		PA	91	3.65E+05	3	
MO	42	8.00E+00	99		U	92	3.65E+05	3	
TC	43	3.65E+05	3		NP	93	3.65E+05	3	
RU	44	1.60E+02	99		PU	94	3.65E+05	3	
RH	45	2.08E+01	1		AM	95	3.65E+05	3	
PD	46	1.50E+01	1		CM	96	3.65E+05	3	
AG	47	2.20E+01	99		BK	97	3.65E+05	3	
CD	48	2.20E+02	99		CF	98	3.65E+05	3	
IN	49	4.80E+01	1		ES	99	3.65E+05	3	
SN	50	8.80E+02	99		FM	100	3.65E+05	3	

Table 5B. Biological half-life in selected organs (cont'd).
(5) Spleen

TABLE 5B. BIOLOGICAL HALF-LIFE IN TESTES

05/09/68

PAGE 5

ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)
H	1	1.20E+01	4		SB	51	3.65E+05	3	
HE	2	3.65E+05	3		TE	52	3.00E+01	1	
LI	3	2.00E+00	1		I	53	7.00E+00	1	
BE	4	3.65E+05	3		XE	54	3.65E+05	3	
B	5	3.65E+05	3		CS	55	1.10E+02	4	
C	6	1.00E+01	4		BA	56	6.20E+00	1	
N	7	9.00E+01	4		LA	57	3.65E+05	3	
O	8	1.40E+01	4		CE	58	3.40E+02	99	
F	9	3.65E+05	3		PR	59	3.65E+05	3	
NE	10	3.65E+05	3		ND	60	3.65E+05	3	
NA	11	1.10E+01	4		PM	61	3.95E+02	99	
MG	12	3.65E+05	3		SM	62	3.95E+02	99	
AL	13	3.65E+05	3		EU	63	3.80E+02	99	
SI	14	6.00E+01	1		GD	64	3.30E+02	99	
P	15	1.80E+01	99		TB	65	4.00E+02	99	
S	16	6.23E+02	1		DY	66	3.65E+05	3	
CL	17	2.90E+01	4		HO	67	3.65E+05	3	
AR	18	3.65E+05	3		ER	68	3.65E+05	3	
K	19	5.80E+01	4		TM	69	4.00E+02	99	
CA	20	1.70E+01	99		YB	70	4.10E+02	99	
SC	21	3.65E+05	3		LU	71	3.65E+05	3	
TI	22	3.65E+05	3		HF	72	5.63E+02	99	
V	23	3.65E+05	3		TA	73	4.60E+02	99	
CR	24	3.65E+05	3		W	74	3.65E+05	3	
MN	25	2.60E+01	99		RE	75	3.65E+05	3	
FE	26	2.40E+02	99		OS	76	3.65E+05	3	
CO	27	2.40E+01	99		IR	77	3.65E+05	3	
NI	28	3.65E+05	3		PT	78	3.65E+05	3	
CU	29	1.00E+01	99		AU	79	3.65E+05	3	
ZN	30	2.70E+02	1		HG	80	3.65E+05	3	
GA	31	3.65E+05	3		TL	81	3.65E+05	3	
GE	32	3.65E+05	3		PB	82	3.65E+05	3	
AS	33	3.65E+05	3		BI	83	3.65E+05	3	
SE	34	3.65E+05	3		PO	84	3.65E+05	3	
BR	35	8.00E+00	4		AT	85	3.65E+05	3	
KR	36	3.65E+05	3		RN	86	3.65E+05	3	
RB	37	8.00E+01	4		FR	87	3.65E+05	3	
SR	38	2.00E+01	99		RA	88	3.65E+05	3	
Y	39	8.40E+03	99		AC	89	3.65E+05	3	
ZR	40	8.00E+02	99		TH	90	3.65E+05	3	
NB	41	3.65E+05	3		PA	91	3.65E+05	3	
MO	42	1.80E+01	99		U	92	3.65E+05	3	
TC	43	3.65E+05	3		NP	93	3.65E+05	3	
RU	44	1.80E+02	99		PU	94	3.65E+05	3	
RH	45	3.65E+05	3		AM	95	3.65E+05	3	
PD	46	3.65E+05	3		CM	96	3.65E+05	3	
AG	47	7.00E+00	99		BK	97	3.65E+05	3	
CD	48	3.65E+05	3		CF	98	3.65E+05	3	
IN	49	3.65E+05	3		ES	99	3.65E+05	3	
SN	50	6.00E+01	99		FM	100	3.65E+05	3	

Table 5B. Biological half-life in selected organs (contd).
(6) Testes

TABLE 5B. BIOLOGICAL HALF-LIFE IN WHOLE BODY

05/09/68

PAGE 7

ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)
H	1	1.20E+01	1		SB	51	3.80E+01	1	
HE	2	3.65E+05	3		TE	52	1.50E+01	1	
LI	3	2.00E+00	1		I	53	1.38E+02	1	
BE	4	1.80E+02	1		XE	54	3.65E+05	3	
B	5	5.00E-01	1		CS	55	1.10E+02	5	2931 4419
C	6	1.00E+01	1		BA	56	6.50E+01	1	
N	7	9.00E+01	1		LA	57	5.00E+02	1	
O	8	1.40E+01	1		CE	58	5.63E+02	1	
F	9	8.08E+02	1		PR	59	7.50E+02	1	
NE	10	3.65E+05	3		ND	60	6.56E+02	1	
NA	11	1.10E+01	5	4419 5417	PM	61	6.56E+02	1	
MG	12	1.80E+02	1		SM	62	6.56E+02	1	
AL	13	5.50E+02	1		EU	63	6.35E+02	1	
SI	14	6.00E+01	1		GD	64	5.50E+02	1	
P	15	2.57E+02	1		TB	65	6.70E+02	1	
S	16	9.00E+01	1		DY	66	7.00E+02	1	
CL	17	2.90E+01	1		HO	67	7.50E+02	1	
AR	18	3.65E+05	3		ER	68	6.50E+02	1	
K	19	5.80E+01	1		TM	69	6.75E+02	1	
CA	20	1.64E+04	1		YB	70	6.85E+02	1	
SC	21	1.43E+03	5	2669	LU	71	7.50E+02	1	
TI	22	3.20E+02	1		HF	72	5.63E+02	1	
V	23	4.20E+01	1		TA	73	2.40E+02	1	
CR	24	6.16E+02	1		W	74	1.00E+00	1	
MN	25	3.60E+01	5	5427	RE	75	7.00E+00	1	
FE	26	8.00E+02	1		OS	76	2.00E+00	1	
CO	27	2.40E+01	99		IR	77	2.00E+01	1	
NI	28	6.67E+02	1		PT	78	2.40E+01	1	
CU	29	2.50E+02	99		AU	79	1.20E+02	1	
ZN	30	9.33E+02	1		HG	80	1.00E+01	1	
GA	31	6.00E+00	1		TL	81	2.50E+01	99	
GE	32	1.00E+00	1		PB	82	1.46E+03	1	
AS	33	2.80E+02	1		BI	83	5.00E+00	1	
SE	34	1.10E+01	1		PO	84	3.00E+01	1	
BR	35	8.00E+00	1		AT	85	2.70E+01	1	
KR	36	3.65E+05	3		RN	86	3.65E+05	3	
RB	37	8.00E+01	5	4419	FR	87	7.00E+01	1	
SR	38	1.30E+04	1		RA	88	8.10E+03	1	
Y	39	1.40E+04	1		AC	89	2.40E+04	1	
ZR	40	4.50E+02	1		TH	90	5.70E+04	1	
NB	41	7.60E+02	1		PA	91	4.10E+04	1	
MO	42	1.00E+02	99		U	92	1.00E+02	1	
TC	43	3.00E+00	99		NP	93	3.90E+04	1	
RU	44	1.30E+02	99		PU	94	6.50E+04	1	
RH	45	1.04E+01	1		AM	95	2.00E+04	1	
PD	46	5.00E+00	1		CM	96	2.40E+04	1	
AG	47	5.20E+01	5	2932	BK	97	6.50E+04	1	
CD	48	2.00E+02	1		CF	98	6.50E+04	1	
IN	49	4.80E+01	1		ES	99	6.50E+04	1	
SN	50	2.00E+02	99		FM	100	6.50E+04	1	

Table 5B. Biological half-life in selected organs (contd).
(7) Whole body

TABLE 5B. BIOLOGICAL HALF-LIFE IN GI TRACT

10/09/68

PAGE 8

ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)
H	1	1.50E+00	6	
HE	2	1.50E+00	6	
LI	3	1.50E+00	6	
BE	4	1.50E+00	6	
B	5	1.50E+00	6	
C	6	1.50E+00	6	
N	7	1.50E+00	6	
O	8	1.50E+00	6	
F	9	1.50E+00	6	
NE	10	1.50E+00	6	
NA	11	1.50E+00	6	
MG	12	1.50E+00	6	
AL	13	1.50E+00	6	
SI	14	1.50E+00	6	
P	15	1.50E+00	6	
S	16	1.50E+00	6	
CL	17	1.50E+00	6	
AR	18	1.50E+00	6	
K	19	1.50E+00	6	
CA	20	1.50E+00	6	
SC	21	1.50E+00	6	
TI	22	1.50E+00	6	
V	23	1.50E+00	6	
CR	24	1.50E+00	6	
MN	25	1.50E+00	6	
FE	26	1.50E+00	6	
CO	27	1.50E+00	6	
NI	28	1.50E+00	6	
CU	29	1.50E+00	6	
ZN	30	1.50E+00	6	
GA	31	1.50E+00	6	
GE	32	1.50E+00	6	
AS	33	1.50E+00	6	
SE	34	1.50E+00	6	
BR	35	1.50E+00	6	
KR	36	1.50E+00	6	
RB	37	1.50E+00	6	
SR	38	1.50E+00	6	
Y	39	1.50E+00	6	
ZR	40	1.50E+00	6	
NB	41	1.50E+00	6	
MO	42	1.50E+00	6	
TC	43	1.50E+00	6	
RU	44	1.50E+00	6	
RH	45	1.50E+00	6	
PD	46	1.50E+00	6	
AG	47	1.50E+00	6	
CD	48	1.50E+00	6	
IN	49	1.50E+00	6	
SN	50	1.50E+00	6	

ELEMENT SYMBOL	ATOMIC NO.(Z)	HALF-LIFE T _B (DAY)	CODE	REFERENCE(S)
SB	51	1.50E+00	6	
TE	52	1.50E+00	6	
I	53	1.50E+00	6	
XE	54	1.50E+00	6	
CS	55	1.50E+00	6	
BA	56	1.50E+00	6	
LA	57	1.50E+00	6	
CE	58	1.50E+00	6	
PR	59	1.50E+00	6	
ND	60	1.50E+00	6	
PM	61	1.50E+00	6	
SM	62	1.50E+00	6	
EU	63	1.50E+00	6	
GD	64	1.50E+00	6	
TB	65	1.50E+00	6	
DY	66	1.50E+00	6	
HO	67	1.50E+00	6	
ER	68	1.50E+00	6	
TM	69	1.50E+00	6	
YB	70	1.50E+00	6	
LU	71	1.50E+00	6	
HF	72	1.50E+00	6	
TA	73	1.50E+00	6	
W	74	1.50E+00	6	
RE	75	1.50E+00	6	
OS	76	1.50E+00	6	
IR	77	1.50E+00	6	
PT	78	1.50E+00	6	
AU	79	1.50E+00	6	
HG	80	1.50E+00	6	
TL	81	1.50E+00	6	
PB	82	1.50E+00	6	
BI	83	1.50E+00	6	
PD	84	1.50E+00	6	
AT	85	1.50E+00	6	
RN	86	1.50E+00	6	
FR	87	1.50E+00	6	
RA	88	1.50E+00	6	
AC	89	1.50E+00	6	
TH	90	1.50E+00	6	
PA	91	1.50E+00	6	
U	92	1.50E+00	6	
NP	93	1.50E+00	6	
PU	94	1.50E+00	6	
AM	95	1.50E+00	6	
CM	96	1.50E+00	6	
BK	97	1.50E+00	6	
CF	98	1.50E+00	6	
ES	99	1.50E+00	6	
FM	100	1.50E+00	6	

Table 5B. Biological half-life in selected organs (contd).
(8) GI tract

10/22/68: Insert after p. 32.

5. UPTAKE AND DISTRIBUTION IN ORGANS (Continued)

 C_B : Concentration

The values adopted for C_B , the concentration in an organ or tissue, are shown in Table 5C. The C_B in the GI tract was estimated as the concentration in a predominantly terrestrial diet. This value is meant to approximate the concentration in the GI tract contents and is used to estimate the unit-rad deposition to the GI tract via soil. It is also used to estimate the unit-rad contamination via aquatic environments as outlined in Section 9 (6354). The values were assigned according to the procedures and code numbers shown below.

Rules for estimating C_B Code #

- 1 The C_B was assumed to be the 90th percentile value of U. S. subjects (1798).
- 2 The C_B was assumed to be greatest of the maxima in the literature.
- 3 The C_B was assumed to be the maximum of the mean or median values in the literature.
- 4 The C_B was assumed to be the ICRP value.
- 5 The C_B was assumed to be 100 times the average soil concentration C_S .
- 6 The C_B of C, N, H and O was assumed to be the C_B^{TB} .
- 7 The C_B was assumed to be C_B^{TB} times the ratio of total body to organ mass. (The total body con-

tent was assumed to be concentrated in the organ.)

- 8 The C_B^{TB} was estimated from data on "Elemental Composition of Total Body of Standard Man" (5280).
- 9 The C_B in the daily diet was estimated from the daily intake I assuming an intake of 1.3 kg/day. The daily intake I was calculated by Eq. (12) in the Appendix using the C_P from Table 10A and the C_{meat} from Table 10B.
- 10 The C_B in the daily diet was estimated from the daily intake I assuming a total intake of 1.3 kg/day. The daily intake I was assumed to be the ICRP estimate.
- 11 The C_B in the daily diet was estimated from the daily intake I assuming a total intake of 1.3 kg/day. The daily intake I was estimated from values reported in the literature.
- 12 The C_B in the daily diet was estimated from the daily intake I assuming a total intake of 1.3 kg/day. The daily intake I was based on values measured or estimated by H. A. Schroeder as referenced in the table.
- 13 The C_B (of inert gases) was assumed to be C_A for freshwater (Table 7B).
- 99 The C_B was estimated from collateral data as described in the Appendix.

It may be noted that the C_B values adopted for Table 5C include maximum and near-maximum values, in accordance with our stated objectives.

TABLE 5C. CONCENTRATION IN BONE

05/09/83

PAGE 1

ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)
H	1	1.00E+05	6		SB	51	2.00E-01	4	
HE	2	1.00E-02	5		TE	52	5.00E-03	99	
LI	3	3.00E-03	4		I	53	3.00E-01	4	
BE	4	6.00E+02	5		XE	54	1.00E-03	5	
B	5	3.00E+00	4		CS	55	6.00E+00	4	
C	6	1.30E+05	6		BA	56	1.60E+00	4	
N	7	2.90E+04	6		LA	57	4.00E+03	5	
O	8	6.00E+05	6		CE	58	5.00E-01	99	
F	9	2.00E+02	4		PR	59	6.70E+02	5	
NE	10	1.00E-01	5		ND	60	2.50E+03	5	
NA	11	1.06E+04	2	3868	PM	61	5.00E-21	99	
MG	12	1.42E+03	2	3868	SM	62	5.00E-02	99	
AL	13	2.60E+01	2	3868	EU	63	5.00E-03	99	
SI	14	3.30E+02	7		GD	64	5.00E-02	99	
P	15	8.00E+04	4		TR	65	5.00E-03	99	
S	16	2.40E+03	4		DY	66	3.00E+02	5	
CL	17	1.70E+03	4		HO	67	7.00E+01	5	
AR	18	1.00E+02	5		ER	68	8.00E+01	5	
K	19	6.24E+03	2	3868	TM	69	5.00E-03	99	
CA	20	9.36E+04	2	3868	YB	70	5.00E-03	99	
SC	21	5.00E-02	99		LU	71	7.00E+01	5	
TI	22	1.00E+00	4		HF	72	5.00E-01	99	
V	23	1.50E+00	4		TA	73	1.00E+00	99	
CR	24	4.80E+00	2	3868	W	74	1.00E+02	5	
MN	25	2.40E+00	2	3868	RE	75	1.00E-01	5	
FE	26	6.00E+02	2	3868	OS	76	1.00E-01	5	
CO	27	5.00E+00	2	3868	IR	77	1.00E-03	5	
NI	28	1.66E+01	2	3868	PT	78	1.00E+00	5	
CU	29	8.40E+00	2	3868	AU	79	2.50E+00	4	
ZN	30	1.08E+02	2	3868	HG	80	1.00E+00	5	
GA	31	1.00E+00	4		TL	81	1.00E-01	99	
GE	32	1.00E+02	5		PB	82	3.36E+01	2	3868
AS	33	1.00E-02	4		BI	83	1.00E+01	5	
SE	34	1.00E+01	5		PU	84	1.00E-09	5	
BR	35	3.00E-01	4		AT	85	1.00E-17	5	
KR	36	1.00E-02	5		RN	86	1.00E-11	5	
RB	37	1.00E+01	4		FR	87	1.00E-16	5	
SR	38	8.60E+01	2	3868	RA	88	1.70E-08	4	
Y	39	5.00E+00	99		AC	89	1.00E-08	5	
ZR	40	1.00E+00	99		TH	90	6.00E+02	5	
NB	41	5.30E+02	5		PA	91	1.00E-05	5	
MO	42	4.80E-01	2	3868	U	92	1.00E-03	4	
TC	43	1.00E-11	5		NP	93	1.00E-10	5	
RU	44	5.00E-03	99		PU	94	1.00E-11	5	
RH	45	1.00E-01	5		AM	95	1.00E-28	5	
PD	46	1.00E-01	5		CM	96	1.00E-28	5	
AG	47	1.00E-01	4		BK	97	1.00E-28	5	
CD	48	5.00E-01	99		CF	98	1.00E-28	5	
IN	49	1.00E+01	5		ES	99	1.00E-28	5	
SN	50	4.80E+00	2	3868	FM	100	1.00E-28	5	

Table 5C. Concentration in selected organs.
(1) Bone

TABLE 5C. CONCENTRATION IN KIDNEYS

05/09/68 PAGE 2

ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)
H	1	1.00E+05	6		SB	51	7.00E-03	3	893
HE	2	1.00E-02	5		TE	52	1.00E-01	99	
LI	3	8.00E-03	4		I	53	2.00E-01	4	
BE	4	3.00E-02	4		XE	54	1.00E-03	5	
B	5	1.10E-01	1	1798	CS	55	1.80E-02	3	893
C	6	2.40E+05	6		BA	56	4.40E-02	1	1798
N	7	2.90E+04	6		LA	57	7.00E-05	3	893
O	8	6.00E+05	6		CE	58	1.00E-01	99	
F	9	8.00E-01	4		PR	59	6.70E+02	5	
NE	10	1.00E-01	5		ND	60	2.50E+03	5	
NA	11	2.20E+03	4		PM	61	5.00E-21	99	
MG	12	1.90E+02	1	1798	SM	62	1.00E-02	99	
AL	13	9.00E-01	1	1798	EU	63	1.00E-02	99	
SI	14	2.10E+01	4		GD	64	5.00E-02	99	
P	15	2.00E+03	1	1798	TB	65	5.00E-03	99	
S	16	1.00E+04	99		DY	66	3.00E+02	5	
CL	17	2.10E+03	4		HO	67	7.00E+01	5	
AR	18	1.00E+02	5		ER	68	8.00E+01	5	
K	19	2.30E+03	1	1798	TM	69	1.00E-03	99	
CA	20	1.80E+02	1	1798	YB	70	5.00E-03	99	
SC	21	1.00E-01	99		LU	71	7.00E+01	5	
TI	22	5.50E-02	1	1798	HF	72	5.00E-01	99	
V	23	8.00E-02	2	1774	TA	73	5.00E+00	99	
CR	24	5.00E-02	1	1798	W	74	1.00E+02	5	
MN	25	1.70E+00	1	1798	RE	75	1.00E-01	5	
FE	26	1.20E+02	1	1798	OS	76	1.00E-01	5	
CO	27	2.20E-02	1	1798	IR	77	1.00E-03	5	
NI	28	1.20E-01	1	1798	PT	78	1.00E+00	5	
CU	29	3.74E+00	1	1798	AU	79	1.10E-01	1	1798
ZN	30	8.10E+01	1	1798	HG	80	4.00E-02	3	893
GA	31	1.00E-02	4		TL	81	1.00E-01	4	
GE	32	1.00E+02	5		PB	82	2.40E+00	1	1798
AS	33	1.00E-02	3	893	BI	83	4.70E-01	1	1798
SE	34	1.80E-01	3	893	PO	84	1.00E-09	5	
BR	35	3.00E+00	3	893	AT	85	1.00E-17	5	
KR	36	1.00E-02	5		RN	86	1.00E-11	5	
RB	37	1.40E+00	3	893	FR	87	1.00E-16	5	
SR	38	1.20E-01	1	1798	RA	88	8.00E-05	5	
Y	39	5.00E+00	99		AC	89	1.00E-08	5	
ZR	40	1.00E+00	4		TH	90	6.00E+02	5	
NB	41	1.00E+00	4		PA	91	1.00E-05	5	
MO	42	5.30E-01	1	1798	U	92	1.00E+02	5	
TC	43	1.00E-11	5		NP	93	1.00E-10	5	
RU	44	5.00E-02	99		PU	94	1.00E-11	5	
RH	45	1.00E-01	5		AM	95	1.00E-28	5	
PD	46	1.00E-01	5		CM	96	1.00E-28	5	
AG	47	1.10E-02	1	1798	BK	97	1.00E-28	5	
CD	48	5.60E+01	1	1798	CF	98	1.00E-28	5	
IN	49	1.00E+01	5		ES	99	1.00E-28	5	
SN	50	5.70E-01	1	1798	FM	100	1.00E-28	5	

Table 5C. Concentration in selected organs (contd)
(2) Kidneys

ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)
H	1	1.00E+05	6		SB	51	1.80E-02	2	893
HE	2	1.00E-02	5		TE	52	1.00E-02	99	
LI	3	6.00E-03	4		I	53	1.10E+00	4	
BE	4	3.00E-02	4		XE	54	1.00E-03	5	
B	5	1.30E-01	1	1798	CS	55	1.20E-02	2	893
C	6	2.40E+05	6		BA	56	2.70E-02	1	1798
N	7	2.90E+04	6		LA	57	1.50E-03	2	893
O	8	6.00E+05	6		CE	58	1.00E-01	99	
F	9	2.00E+04	5		PR	59	6.70E+02	5	
NE	10	1.00E-01	5		ND	60	2.50E+03	5	
NA	11	1.40E+03	4		PM	61	1.00E-21	99	
MG	12	2.30E+02	1	1798	SM	62	1.00E-02	99	
AL	13	1.60E+00	1	1798	EU	63	1.00E-03	99	
SI	14	2.40E+01	4		GD	64	1.00E-02	99	
P	15	3.30E+03	1	1798	TB	65	5.00E-04	99	
S	16	1.00E+04	99		DY	66	3.00E+02	5	
CL	17	1.25E+03	4		HO	67	7.00E+01	5	
AR	18	1.00E+02	5		ER	68	8.00E+01	5	
K	19	3.30E+03	1	1798	TM	69	5.00E-05	99	
CA	20	9.10E+01	1	1798	YB	70	1.00E-04	99	
SC	21	5.00E-02	99		LU	71	7.00E+01	5	
TI	22	2.10E-01	1	1798	HF	72	5.00E+00	99	
V	23	7.00E-02	2	1774	TA	73	1.00E+01	99	
CR	24	4.80E-02	1	1798	W	74	1.00E+02	5	
MN	25	2.90E+00	1	1798	RE	75	1.00E-01	5	
FE	26	3.10E+02	1	1798	OS	76	1.00E-01	5	
CO	27	1.30E-01	1	1798	IR	77	1.00E-03	5	
NI	28	1.40E-01	1	1798	PT	78	1.00E+00	5	
CU	29	1.69E+01	1	1798	AU	79	1.70E-01	2	1774
ZN	30	7.70E+01	1	1798	HG	80	3.00E-02	2	893
GA	31	1.10E-02	4		TL	81	1.10E-01	4	
GE	32	1.00E+02	5		PB	82	3.30E+00	1	1798
AS	33	1.60E-02	2	893	BI	83	9.10E-02	1	1798
SE	34	3.10E-01	2	893	PO	84	1.00E-09	5	
BR	35	4.40E+00	2	893	AT	85	1.00E-17	5	
KR	36	1.00E-02	5		RN	86	1.00E-11	5	
RB	37	3.70E+01	2	2805	FR	87	1.00E-16	5	
SR	38	4.60E-02	1	1798	RA	88	8.00E-05	5	
Y	39	1.00E+00	99		AC	89	1.00E-08	5	
ZR	40	1.00E+00	4		TH	90	6.00E+02	5	
NB	41	1.10E+00	4		PA	91	1.00E-05	5	
MO	42	1.82E+01	1	1798	U	92	1.00E+02	5	
TC	43	1.00E-11	5		NP	93	1.00E-10	5	
RU	44	5.00E-03	99		PU	94	1.00E-11	5	
RH	45	1.00E-01	5		AM	95	1.00E-28	5	
PD	46	1.00E-01	5		CM	96	1.00E-28	5	
AG	47	4.20E-02	1	1798	BK	97	1.00E-28	5	
CD	48	4.40E+00	1	1798	CF	98	1.00E-28	5	
IN	49	1.00E+01	5		ES	99	1.00E-28	5	
SN	50	9.60E-01	1	1798	FM	100	1.00E-28	5	

Table 5C. Concentration in selected organs (contd)
(3) Liver

TABLE 5C. CONCENTRATION IN OVARIES

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Table 5C. Concentration in selected organs (cont'd)
(4) Ovaries

ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)
H	1	1.00E+05	6		SB	51	3.00E-02	4	
HE	2	1.00E-02	5		TE	52	5.00E-02	99	
LI	3	1.10E-02	4		I	53	9.00E-01	4	
BE	4	3.00E-02	4		XE	54	1.00E-03	5	
B	5	1.60E-01	1	1798	CS	55	1.30E-01	4	
C	6	2.40E+05	6		BA	56	8.70E-02	1	1798
N	7	2.90E+04	6		LA	57	9.00E-01	4	
O	8	6.00E+05	6		CE	58	5.00E+00	99	
F	9	2.00E+04	5		PR	59	6.70E+02	5	
NE	10	1.00E-01	5		ND	60	2.50E+03	5	
NA	11	2.00E+03	6		PM	61	5.00E-20	99	
MG	12	1.20E+02	1	1798	SM	62	5.00E-02	99	
AL	13	1.50E+00	1	1798	EU	63	5.00E-03	99	
SI	14	1.70E+01	4		GD	64	5.00E-01	99	
P	15	1.20E+03	1	1798	TB	65	5.00E-02	99	
S	16	1.00E+04	99		DY	66	3.00E+02	5	
CL	17	2.00E+03	6		HO	67	7.00E+01	5	
AR	18	1.00E+02	5		ER	68	8.00E+01	5	
K	19	1.70E+03	1	1798	TM	69	5.00E-02	99	
CA	20	3.50E+02	1	1798	YB	70	5.00E-02	99	
SC	21	5.00E+00	99		LU	71	7.00E+01	5	
TI	22	1.30E-01	1	1798	HF	72	1.00E+02	99	
V	23	1.00E-02	1	1798	TA	73	1.00E+02	99	
CR	24	1.50E+00	1	1798	W	74	1.00E+02	5	
MN	25	3.20E-01	1	1798	RE	75	1.00E-01	5	
FE	26	9.40E+01	1	1798	OS	76	1.00E-01	5	
CO	27	4.00E-02	2	2805	IR	77	1.00E-03	5	
NI	28	1.70E-01	1	1798	PT	78	1.00E+00	5	
CU	29	1.80E+00	1	1798	AU	79	2.30E-01	1	1798
ZN	30	2.70E+01	1	1798	HG	80	1.00E+00	5	
GA	31	9.00E-03	4		TL	81	9.00E-02	4	
GE	32	1.00E+02	5		PB	82	2.70E-01	1	1798
AS	33	1.00E-02	4		BI	83	2.00E-02	1	1798
SE	34	1.00E+01	5		PO	84	1.00E-09	5	
BR	35	3.30E-01	4		AT	85	1.00E-17	5	
KR	36	1.00E-02	5		RN	86	1.00E-11	5	
RB	37	4.70E-01	2	2805	FR	87	1.00E-16	5	
SR	38	3.30E-01	1	1798	RA	88	8.00E-05	5	
Y	39	5.00E+00	99		AC	89	1.00E-08	5	
ZR	40	9.00E-01	4		TH	90	6.00E+02	5	
NB	41	9.00E-01	4		PA	91	1.00E-05	5	
MO	42	4.00E-02	1	1798	U	92	1.00E+02	5	
TC	43	1.00E-11	5		NP	93	1.00E-10	5	
RU	44	5.00E-03	99		PU	94	1.00E-11	5	
RH	45	1.00E-01	5		AM	95	1.00E-28	5	
PD	46	1.00E-01	5		CM	96	1.00E-28	5	
AG	47	1.10E-02	1	1798	BK	97	1.00E-28	5	
CD	48	7.80E-01	1	1798	CF	98	1.00E-28	5	
IN	49	1.00E+01	5		ES	99	1.00E-28	5	
SN	50	2.10E+00	1	1798	FM	100	1.00E-28	5	

TABLE 5C. CONCENTRATION IN SPLEEN

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ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)
H	1	1.00E+05	6		SB	51	1.00E-01	4	
HE	2	1.00E-02	5		TE	52	5.00E-02	99	
LI	3	6.00E-03	4		I	53	5.00E+02	5	
BE	4	3.00E-02	4		XE	54	1.00E-03	5	
B	5	1.40E-01	1	1798	CS	55	6.00E-01	4	
C	6	2.40E+05	6		BA	56	4.60E-02	1	1798
N	7	2.90E+04	6		LA	57	1.10E+00	4	
O	8	6.00E+05	6		CE	58	1.00E-02	99	
F	9	3.00E-01	4		PR	59	6.70E+02	5	
NE	10	1.00E-01	5		ND	60	2.50E+03	5	
NA	11	1.20E+03	4		PM	61	5.00E-22	99	
MG	12	2.10E+02	1	1798	SM	62	5.00E-03	99	
AL	13	1.70E+00	1	1798	EU	63	5.00E-04	99	
SI	14	3.40E+01	4		GD	64	5.00E-03	99	
P	15	2.70E+03	1	1798	TB	65	5.00E-04	99	
S	16	1.00E+04	99		DY	66	3.00E+02	5	
CL	17	1.55E+03	4		HO	67	7.00E+01	5	
AR	18	1.00E+02	5		ER	68	8.00E+01	5	
K	19	3.90E+03	1	1798	TM	69	5.00E-03	99	
CA	20	1.10E+02	1	1798	YB	70	5.00E-04	99	
SC	21	1.00E-01	99		LU	71	7.00E+01	5	
TI	22	2.00E-01	1	1798	HF	72	5.00E+00	99	
V	23	1.30E-02	4		TA	73	5.00E+00	99	
CR	24	4.50E-02	1	1798	W	74	1.00E+02	5	
MN	25	2.70E-01	1	1798	RE	75	1.00E-01	5	
FE	26	5.90E+02	1	1798	OS	76	1.00E-01	5	
CO	27	1.00E-01	4		IR	77	1.00E-03	5	
NI	28	7.00E-02	1	1798	PT	78	1.00E+00	5	
CU	29	1.68E+00	1	1798	AU	79	1.00E-01	4	
ZN	30	2.70E+01	1	1798	HG	80	1.30E-01	4	
GA	31	1.00E-02	4		TL	81	1.10E-01	4	
GE	32	1.00E+02	5		PB	82	1.30E+00	1	1798
AS	33	2.00E-02	4		BI	83	5.20E-02	4	
SE	34	1.00E+01	5		PO	84	1.00E-09	5	
BR	35	4.20E+00	4		AT	85	1.00E-17	5	
KR	36	1.00E-02	5		RN	86	1.00E-11	5	
RB	37	4.30E+01	4		FR	87	1.00E-16	5	
SR	38	8.40E-02	1	1798	RA	88	8.00E-05	5	
Y	39	5.00E-01	99		AC	89	1.00E-08	5	
ZR	40	1.10E+00	4		TH	90	6.00E+02	5	
NB	41	1.10E+00	4		PA	91	1.00E-05	5	
MO	42	5.60E-02	1	1798	U	92	1.00E+02	5	
TC	43	1.00E-11	5		NP	93	1.00E-10	5	
RU	44	1.00E-02	99		PU	94	1.00E-11	5	
RH	45	1.00E-01	5		AM	95	1.00E-28	5	
PD	46	1.00E-01	5		CM	96	1.00E-28	5	
AG	47	7.00E-03	1	1798	BK	97	1.00E-28	5	
CD	48	7.00E-01	1	1798	CF	98	1.00E-28	5	
IN	49	1.00E+01	5		ES	99	1.00E-28	5	
SN	50	4.90E-01	1	1798	FM	100	1.00E-28	5	

Table 5C. Concentration in selected organs (contd)
(5) Spleen

TABLE 5C. CONCENTRATION IN TESTES

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Table 5C. Concentration in selected organs (contd)
(6) Testes

ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)
H	1	1.00E+05	6		SB	51	5.00E-02	4	
HE	2	1.00E-02	5		TE	52	5.00E-02	99	
LI	3	9.00E-03	4		I	53	5.00E+02	5	
BE	4	3.00E-02	4		XE	54	1.00E-03	5	
B	5	5.60E+00	2	1774	CS	55	3.00E-01	4	
C	6	2.40E+05	6		BA	56	4.00E-02	1	1798
N	7	2.90E+04	6		LA	57	9.00E-01	4	
O	8	6.00E+05	6		CE	58	5.00E-01	99	
F	9	2.00E+04	5		PR	59	6.70E+02	5	
NE	10	1.00E-01	5		ND	60	2.50E+03	5	
NA	11	2.10E+03	4		PM	61	5.00E-21	99	
MG	12	1.70E+02	1	1798	SM	62	5.00E-03	99	
AL	13	8.80E-01	1	1798	EU	63	5.00E-04	99	
SI	14	3.10E+01	4		GD	64	5.00E-02	99	
P	15	1.80E+03	1	1798	TB	65	5.00E-03	99	
S	16	1.00E+04	99		DY	66	3.00E+02	5	
CL	17	2.33E+03	4		HO	67	7.00E+01	5	
AR	18	1.00E+02	5		ER	68	8.00E+01	5	
K	19	2.60E+03	1	1798	TM	69	1.00E-02	99	
CA	20	1.50E+02	1	1798	YB	70	1.00E-02	99	
SC	21	5.00E-01	99		LU	71	7.00E+01	5	
TI	22	1.10E-01	1	1798	HF	72	5.00E-02	99	
V	23	4.00E-02	2	1774	TA	73	1.00E+01	99	
CR	24	6.90E-02	1	1798	W	74	1.00E+02	5	
MN	25	2.30E-01	1	1798	RE	75	1.00E-01	5	
FE	26	5.00E+01	1	1798	QS	76	1.00E-01	5	
CO	27	2.80E+00	2	1774	IR	77	1.00E-03	5	
NI	28	1.80E-01	1	1798	PT	78	1.00E+00	5	
CU	29	1.21E+00	1	1798	AU	79	1.10E-01	1	1798
ZN	30	2.40E+01	1	1798	HG	80	1.00E+00	5	
GA	31	9.00E-03	4		TL	81	8.00E-02	4	
GE	32	1.00E+02	5		PB	82	3.00E-01	1	1798
AS	33	4.00E-02	4		BI	83	2.00E-01	1	1798
SE	34	1.00E+01	5		PO	84	1.00E-09	5	
BR	35	3.30E-01	4		AT	85	1.00E-17	5	
KR	36	1.00E-02	5		RN	86	1.00E-11	5	
RB	37	1.20E+01	4		FR	87	1.00E-16	5	
SR	38	1.40E-01	1	1798	RA	88	8.00E-05	5	
Y	39	5.00E-01	99		AC	89	1.00E-08	5	
ZR	40	8.00E-01	4		TH	90	6.00E+02	5	
NB	41	9.00E-01	4		PA	91	1.00E-05	5	
MO	42	4.40E-02	1	1798	U	92	1.00E+02	5	
TC	43	1.00E-11	5		NP	93	1.00E-10	5	
RU	44	5.00E-03	99		PU	94	1.00E-11	5	
RH	45	1.00E-01	5		AM	95	1.00E-28	5	
PD	46	1.00E-01	5		CM	96	1.00E-28	5	
AG	47	5.50E-03	1	1798	BK	97	1.00E-28	5	
CD	48	5.50E-01	1	1798	CF	98	1.00E-28	5	
IN	49	1.00E+01	5		ES	99	1.00E-28	5	
SN	50	3.60E-01	1	1798	FM	100	1.00E-28	5	

TABLE 5C. CONCENTRATION IN WHOLE BODY

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ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)
H	1	1.00E+05	8	5280	SB	51	5.00E-02	99	
HE	2	1.00E-02	5		TE	52	5.00E-03	99	
LI	3	1.30E-02	4		I	53	5.20E-01	8	5280
BE	4	1.30E-04	8	5280	XE	54	1.00E-03	5	
B	5	2.90E-01	8	5280	CS	55	1.45E-02	8	5280
C	6	2.40E+05	8	5280	BA	56	7.20E-01	8	5280
N	7	2.90E+04	8	5280	LA	57	7.00E-01	4	
O	8	6.00E+05	8	5280	CE	58	5.00E-02	99	
F	9	2.00E+01	4		PR	59	6.70E+02	5	
NE	10	1.00E-01	5		ND	60	2.50E+03	5	
NA	11	2.00E+03	8	5280	PM	61	5.00E-22	99	
MG	12	2.90E+02	8	5280	SM	62	5.00E-03	99	
AL	13	1.00E+00	8	5280	EU	63	5.00E-04	99	
SI	14	3.00E+01	4		GD	64	5.00E-03	99	
P	15	1.15E+04	8	5280	TB	65	5.00E-04	99	
S	16	2.50E+03	8	5280	DY	66	3.00E+02	5	
CL	17	2.00E+03	8	5280	HO	67	5.00E-04	99	
AR	18	1.00E+02	5		ER	68	8.00E+01	5	
K	19	2.00E+03	8	5280	TM	69	5.00E-04	99	
CA	20	1.26E+04	8	5280	YB	70	5.00E-04	99	
SC	21	1.00E-02	99		LU	71	5.00E-04	99	
TI	22	3.90E-01	8	5280	HF	72	1.00E-01	99	
V	23	1.50E-02	8	5280	TA	73	5.00E-01	99	
CR	24	2.00E-01	8	5280	W	74	1.00E+02	5	
MN	25	3.75E-01	8	5280	RE	75	1.00E-01	5	
FE	26	6.75E+01	8	5280	OS	76	1.00E-01	5	
CO	27	2.45E-02	8	5280	IR	77	1.00E-05	99	
NI	28	2.00E-01	8	5280	PT	78	1.00E+00	5	
CU	29	1.30E+00	8	5280	AU	79	1.45E-01	8	5280
ZN	30	3.15E+01	8	5280	HG	80	5.00E-02	99	
GA	31	3.00E-05	4		TL	81	8.60E-02	4	
GE	32	1.00E+02	5		PB	82	1.75E+00	8	5280
AS	33	1.40E+00	4		BI	83	1.45E-02	8	5280
SE	34	5.00E-01	99		PO	84	1.00E-09	5	
BR	35	3.90E-01	8	5280	AT	85	1.00E-17	5	
KR	36	1.00E-02	5		RN	86	1.00E-11	5	
RB	37	4.75E+00	8	5280	FR	87	1.00E-16	5	
SR	38	4.00E+00	8	5280	RA	88	4.30E-10	8	5280
Y	39	5.00E-01	99		AC	89	1.00E-08	5	
ZR	40	8.60E-02	4		TH	90	6.00E+02	5	
NB	41	7.00E-01	4		PA	91	1.00E-05	5	
MO	42	1.75E-01	8	5280	U	92	2.90E-04	8	5280
TC	43	5.00E-13	99		NP	93	1.00E-10	5	
RU	44	1.00E-03	99		PU	94	1.00E-11	5	
RH	45	1.00E-01	5		AM	95	1.00E-28	5	
PD	46	1.00E-01	5		CM	96	1.00E-28	5	
AG	47	1.90E-02	8	5280	BK	97	1.00E-28	5	
CD	48	7.20E-01	8	5280	CF	98	1.00E-28	5	
IN	49	1.00E+01	5		ES	99	1.00E-28	5	
SN	50	2.90E-01	8	5280	FM	100	1.00E-28	5	

Table 5C. Concentration in selected organs (cont'd)
(7) Whole body

TABLE 5C. CONCENTRATION IN GI TRACT

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ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)	ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _B (PPM)	CODE	REFERENCE(S)
H	1	1.00E+05	9		SB	51	2.20E-02	9	
HE	2	5.00E-06	13		TE	52	2.20E-03	9	
LI	3	1.50E+00	10		I	53	7.70E-02	11	6111
BE	4	1.50E-02	99		XE	54	1.00E-04	13	
B	5	3.10E-01	11	3869	CS	55	7.70E-03	11	4254
C	6	3.10E+05	10		BA	56	1.30E+00	11	3869
N	7	1.20E+04	10		LA	57	7.70E-02	9	
O	8	7.20E+05	9		CE	58	1.00E-01	9	
F	9	7.70E-01	11	6093	PR	59	1.40E-02	9	
NE	10	1.40E-04	13		ND	60	5.10E-02	9	
NA	11	3.10E+03	10		PM	61	2.00E-21	9	
MG	12	2.30E+02	11	3869	SM	62	1.30E-02	9	
AL	13	1.50E+01	11	3869	EJ	63	2.10E-03	9	
SI	14	2.70E+00	12	1751	GD	64	8.50E-03	9	
P	15	1.20E+03	11	3869	TB	65	1.50E-03	9	
S	16	6.10E+02	11	6111	DY	66	6.20E-03	9	
CL	17	5.20E+03	10		HO	67	1.50E-03	9	
AR	18	6.00E-01	13		ER	68	1.60E-03	9	
K	19	2.30E+03	10		TM	69	1.50E-03	9	
CA	20	7.70E+02	11	3869	YB	70	1.60E-03	9	
SC	21	7.10E-03	9		LU	71	1.50E-03	9	
TI	22	3.10E-01	11	2215	HF	72	5.40E-03	9	
V	23	1.50E+00	12	2213	TA	73	2.20E-02	9	
CR	24	3.10E-01	11	2218	W	74	1.40E-02	9	
MN	25	3.10E+00	11	3869	RE	75	2.20E-04	9	
FE	26	1.20E+01	11	3869	OS	76	2.70E-04	9	
CO	27	1.50E-01	11	3869	IR	77	1.20E-04	9	
NI	28	2.30E-01	11	2214	PT	78	4.90E-03	9	
CU	29	7.70E-01	11	3869	AU	79	2.50E-04	9	
ZN	30	9.20E+00	12	5479	HG	80	1.50E-02	10	
GA	31	7.70E-02	99		TL	81	3.10E-02	9	
GE	32	1.20E+00	12	5480	PB	82	3.10E-01	10	
AS	33	6.90E-01	12	2928	BI	83	1.40E-02	9	
SE	34	2.90E-01	9		PO	84	1.00E-09	5	
BR	35	1.30E+01	10		AT	85	1.00E-17	5	
KR	36	3.00E-04	13		RN	86	3.50E-13	13	
RB	37	1.20E+00	11	4254	FR	87	1.00E-16	5	
SR	38	1.00E+00	11	3869	RA	88	1.50E-09	11	426
Y	39	1.00E-01	9		AC	89	1.00E-08	5	
ZR	40	6.00E-02	9		TH	90	6.00E+02	5	
NB	41	4.60E-01	12	2219	PA	91	1.00E-05	5	
MO	42	7.70E-02	11	3869	U	92	1.50E-03	10	
TC	43	1.50E-13	9		NP	93	1.00E-10	5	
RU	44	2.70E-04	9		PU	94	1.00E-11	5	
RH	45	1.40E-02	9		AM	95	1.00E-28	5	
PD	46	6.00E-03	9		CM	96	1.00E-28	5	
AG	47	3.10E-02	11	3869	BK	97	1.00E-28	5	
CD	48	1.50E-01	12	5479	CF	98	1.00E-28	5	
IN	49	2.20E-02	9		ES	99	1.00E-28	5	
SN	50	2.30E+00	11	2217	FM	100	1.00E-28	5	

Table 5C. Concentration in selected organs (cont'd).
(8) GI tract

10/22/28: Insert after p. 40.

6. F_1 : UNIT-RAD DEPOSITION

Unit-rad depositions (F_1) were calculated for the tissues of Table 1 and the isotopes of Table 2 (5574). The F_1 values via the forage-to-cow-to-milk pathway are listed in Table 6A; those via the soil-root pathway are listed in Table 6B. F_1 is the minimum deposition of each isotope in $\mu\text{Ci}/\text{m}^2$ that could result in a 30-year internal dose of 1 rad to the tissue in question. It is calculated as follows:

Forage-to-Cow-to-Milk Pathway

$$F_1 = \frac{(7.04 \times 10^{-8})}{(\text{UAF}) Q f T_P T_E} \times \frac{(1 - T_P/T_E)}{\left(1 - T_P/T_E - e^{-20.8/T_E}\right)}$$

The expression above yields F_1 via milk when (UAF) is expressed in m^2/day , Q is expressed in MeV, and T_P and T_E are expressed in yr. (UAF) was assumed to be $45 \text{ m}^2/\text{day}$ (1759), and the half-residence time on forage which determines T_P was assumed to be 14 days (1762). The f term is calculated as

$$f = f_M f_B / m.$$

The F_1 values are listed for the adult and the one-year child.

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
H	1	3	7.0E+02	1.0E+02	CU	29	67	2.5E+02	3.5E+01
BE	4	7	7.9E+05	1.1E+05	ZN	30	65	1.6E+00	2.3E-01
BE	4	10	1.1E+04	1.6E+03	ZN	30	69M	8.1E+03	1.2E+03
C	6	14	1.0E+02	1.5E+01	ZN	30	72	1.5E+02	2.2E+01
NA	11	22	8.2E-01	1.2E-01	GA	31	67	6.5E+07	9.2E+06
NA	11	24	1.7E+02	2.4E+01	GA	31	72	9.0E+07	1.3E+07
MG	12	28	6.5E+02	9.3E+01	GE	32	68	4.4E+01	6.2E+00
AL	13	26	8.0E-02	1.2E-02	GE	32	69	5.8E+04	8.2E+03
SI	14	32	1.4E-01	2.0E-02	GE	32	71	3.8E+05	5.4E+04
P	15	32	1.3E+00	1.9E-01	AS	33	71	2.0E+03	2.8E+02
P	15	33	6.8E+00	9.7E-01	AS	33	72	2.2E+03	3.1E+02
S	16	35	4.7E+01	6.7E+00	AS	33	73	7.5E+02	1.1E+02
CL	17	36	2.2E+00	3.1E-01	AS	33	74	2.9E+01	4.1E+00
AR	18	37	7.4E+02	1.1E+02	AS	33	76	2.9E+03	4.2E+02
AR	18	39	2.8E-02	4.1E-03	AS	33	77	1.1E+04	1.5E+03
AR	18	42	3.1E-03	4.4E-04	SE	34	72	2.4E-01	3.4E-02
K	19	40	2.2E+00	3.1E-01	SE	34	75	3.7E-02	5.3E-03
K	19	42	2.1E+03	2.9E+02	SE	34	79	6.7E-03	9.6E-04
K	19	43	1.3E+03	1.8E+02	BR	35	76	3.3E+02	4.7E+01
CA	20	41	4.9E-01	7.1E-02	BR	35	77	7.5E+01	1.1E+01
CA	20	45	8.1E-01	1.2E-01	BR	35	82	6.3E+01	9.0E+00
CA	20	47	4.9E+00	7.0E-01	KR	36	76	7.9E+02	1.1E+02
CA	20	48	4.9E-04	6.9E-05	KR	36	79	4.5E+02	6.5E+01
SC	21	44M	9.2E+08	1.3E+08	KR	36	81	2.8E-01	4.0E-02
SC	21	46	6.5E+06	9.3E+05	KR	36	85	5.5E-02	7.8E-03
SC	21	47	4.5E+09	6.5E+08	RB	37	83	1.7E+00	2.5E-01
SC	21	48	1.2E+09	1.8E+08	RB	37	84	1.1E+00	1.6E-01
TI	22	44	1.1E+04	1.6E+03	RB	37	86	3.8E+00	5.5E-01
V	23	48	1.5E+03	2.1E+02	RB	37	87	5.1E+00	7.2E-01
V	23	49	7.4E+04	1.1E+04	SR	38	82	4.0E+00	5.7E-01
V	23	50	2.0E+02	2.9E+01	SR	38	83	1.7E+03	2.4E+02
CR	24	48	4.2E+04	5.9E+03	SR	38	85	8.2E+00	1.2E+00
CR	24	51	1.4E+04	2.0E+03	SR	38	89	7.5E+00	1.1E+00
MN	25	52	7.7E+03	1.1E+03	SR	38	90	3.2E-02	4.6E-03
MN	25	53	2.1E+04	3.0E+03	Y	39	86	1.2E+09	1.7E+08
MN	25	54	3.4E+02	4.8E+01	Y	39	87	2.2E+08	3.2E+07
FE	26	55	2.0E+03	2.8E+02	Y	39	87M	4.3E+09	6.1E+08
FE	26	59	1.8E+02	2.6E+01	Y	39	88	4.9E+05	6.9E+04
FE	26	60	1.8E+00	2.5E-01	Y	39	90	2.2E+08	3.1E+07
CO	27	55	5.3E+04	7.5E+03	Y	39	91	3.3E+06	4.7E+05
CO	27	56	1.5E+02	2.1E+01	ZR	40	86	3.4E+09	4.9E+08
CO	27	57	1.6E+03	2.3E+02	ZR	40	88	2.5E+06	3.6E+05
CO	27	58	3.1E+02	4.5E+01	ZR	40	89	4.6E+08	6.6E+07
CO	27	60	7.7E+01	1.1E+01	ZR	40	93	2.6E+07	3.8E+05
NI	28	56	1.3E+01	1.9E+00	ZR	40	95	6.3E+06	9.0E+05
NI	28	57	3.3E+02	4.7E+01	ZR	40	97	5.0E+09	7.1E+08
NI	28	59	1.5E+01	2.2E+00	NB	41	90	1.5E+04	2.2E+03
NI	28	63	6.8E+00	9.8E-01	NB	41	91	1.1E+02	1.6E+01
NI	28	66	1.6E+02	2.3E+01	NB	41	91M	1.8E+02	2.6E+01
CU	29	64	4.1E+03	5.9E+02	NB	41	92	4.9E+02	7.0E+01

Table 6A. Unit-rad deposition for selected organs via milk.
(1) Bone

TABLE 6A. UNIT-RAD DEPOSITION FOR BONE

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
NB	41	93M	1.2E+02	1.7E+01	SB	51	122	4.1E+04	5.9E+03
NB	41	94	1.1E+00	1.6E-01	SB	51	124	2.9E+02	4.1E+01
NB	41	95	1.0E+02	1.5E+01	SB	51	125	4.4E+02	6.3E+01
NB	41	95M	2.4E+03	3.5E+02	SB	51	126	1.4E+03	2.1E+02
NB	41	96	1.2E+04	1.7E+03	SB	51	127	2.1E+04	2.9E+03
MO	42	93	3.2E+01	4.6E+00	TE	52	118	2.0E+03	2.8E+02
MO	42	99	3.3E+02	4.7E+01	TE	52	119	7.3E+04	1.0E+04
TC	43	95	5.2E+04	7.4E+03	TE	52	119M	1.9E+03	2.7E+02
TC	43	95M	1.2E+02	1.8E+01	TE	52	121	1.2E+03	1.7E+02
TC	43	96	8.8E+02	1.3E+02	TE	52	121M	2.0E+02	2.9E+01
TC	43	97	3.8E+03	5.4E+02	TE	52	123	4.5E+03	6.5E+02
TC	43	97M	9.7E+02	1.4E+02	TE	52	123M	7.2E+02	1.0E+02
TC	43	98	5.1E+01	7.3E+00	TE	52	125M	1.8E+03	2.6E+02
TC	43	99	8.5E+02	1.2E+02	TE	52	127M	5.8E+02	8.3E+01
RU	44	97	9.6E+06	1.4E+06	TE	52	129M	4.0E+02	5.7E+01
RU	44	103	1.8E+05	2.5E+04	TE	52	131M	1.8E+04	2.6E+03
RU	44	106	6.0E+03	8.5E+02	TE	52	132	2.4E+03	3.4E+02
RH	45	99	4.5E+02	6.5E+01	I	53	123	1.6E+04	2.2E+03
RH	45	100	1.3E+04	1.8E+03	I	53	124	4.0E+01	5.7E+00
RH	45	101	1.7E+02	2.5E+01	I	53	125	1.0E+02	1.5E+01
RH	45	101M	3.3E+03	4.7E+02	I	53	126	3.9E+01	5.5E+00
RH	45	102	3.9E+01	5.5E+00	I	53	129	5.9E+01	8.4E+00
RH	45	105	3.0E+04	4.2E+03	I	53	130	1.5E+03	2.2E+02
PD	46	100	2.9E+03	4.2E+02	I	53	131	5.9E+01	8.5E+00
PD	46	103	1.3E+04	1.9E+03	I	53	133	1.1E+03	1.6E+02
PD	46	107	3.0E+05	4.3E+04	XE	54	122	4.5E+02	6.4E+01
PD	46	109	2.2E+05	3.1E+04	XE	54	125	2.5E+03	3.5E+02
PD	46	112	1.7E+04	2.4E+03	XE	54	127	8.4E+00	1.2E+00
AG	47	105	1.3E+00	1.9E-01	XE	54	129M	7.6E+01	1.1E+01
AG	47	106M	4.8E+00	6.9E-01	XE	54	131M	5.8E+01	8.2E+00
AG	47	108M	6.8E-02	9.8E-03	XE	54	133	2.0E+02	2.8E+01
AG	47	110M	1.1E-01	1.6E-02	XE	54	133M	3.9E+02	5.5E+01
AG	47	111	3.2E+01	4.6E+00	CS	55	129	1.1E+03	1.6E+02
CD	48	109	8.1E+05	1.2E+05	CS	55	131	5.9E+02	8.4E+01
CD	48	113M	3.4E+05	4.9E+04	CS	55	132	5.5E+01	7.8E+00
CD	48	115	2.1E+07	3.0E+06	CS	55	134	4.1E-01	5.9E-02
CD	48	115M	3.3E+05	4.8E+04	CS	55	135	1.2E+01	1.8E+00
IN	49	111	1.4E+07	2.0E+06	CS	55	136	5.7E+00	8.2E-01
IN	49	114M	1.1E+05	1.5E+04	CS	55	137	8.5E-01	1.2E-01
IN	49	115	2.2E+05	3.2E+04	BA	56	128	5.2E+03	7.5E+02
SN	50	113	5.0E+01	7.2E+00	BA	56	131	9.2E+02	1.3E+02
SN	50	117M	8.7E+02	1.2E+02	BA	56	133	1.8E+02	2.6E+01
SN	50	119M	1.2E+02	1.7E+01	BA	56	133M	4.0E+04	5.8E+03
SN	50	121	1.9E+05	2.7E+04	BA	56	135M	1.8E+05	2.6E+04
SN	50	121M	2.1E+01	3.0E+00	BA	56	140	2.4E+02	3.4E+01
SN	50	123M	2.9E+01	4.1E+00	LA	57	135	1.2E+10	1.7E+09
SN	50	125	2.7E+02	3.9E+01	LA	57	137	1.3E+07	1.8E+06
SN	50	126	8.1E-01	1.2E-01	LA	57	138	3.7E+05	5.3E+04
SB	51	119	2.5E+06	3.6E+05	LA	57	140	8.5E+08	1.2E+08
SB	51	120M	5.2E+03	7.4E+02	CE	58	134	2.2E+08	3.1E+07

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(1) Bone

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
CE	58	135	4.4E+09	6.3E+08	GD	64	159	2.7E+10	3.9E+09
CE	58	137M	3.3E+09	4.7E+08	GD	64	162	1.1E+06	1.6E+05
CE	58	139	6.6E+06	9.5E+05	TB	65	151	8.2E+09	1.2E+09
CE	58	141	2.8E+07	4.0E+06	TB	65	152	2.4E+09	3.4E+08
CE	58	142	9.3E+04	1.3E+04	TB	65	153	1.8E+09	2.5E+08
CE	58	143	1.1E+09	1.5E+08	TB	65	154	8.8E+09	1.3E+09
CE	58	144	1.9E+05	2.7E+04	TB	65	155	4.8E+08	6.8E+07
PR	59	142	9.3E+09	1.3E+09	TB	65	156	1.4E+08	2.1E+07
PR	59	143	1.9E+08	2.7E+07	TB	65	157	6.5E+06	9.3E+05
ND	60	140	7.0E+08	1.0E+08	TB	65	158	2.8E+05	4.0E+04
ND	60	144	2.0E+05	2.9E+04	TB	65	160	4.1E+06	5.9E+05
ND	60	147	4.1E+07	5.8E+06	TB	65	161	7.2E+08	1.0E+08
PM	61	143	6.7E+06	9.6E+05	TB	65	164	1.2E+10	1.7E+09
PM	61	144	6.9E+05	9.8E+04	DY	66	154	3.9E+04	5.6E+03
PM	61	145	7.7E+06	1.1E+06	DY	66	154M	4.7E+09	6.7E+08
PM	61	146	8.1E+05	1.2E+05	DY	66	156	6.2E+04	8.8E+03
PM	61	147	4.0E+05	5.8E+04	DY	66	159	4.2E+07	6.0E+05
PM	61	148	2.3E+08	3.3E+07	DY	66	166	4.2E+08	6.0E+07
PM	61	148M	3.2E+06	4.5E+05	HO	67	163	5.5E+06	7.9E+05
PM	61	149	4.1E+09	5.8E+08	HO	67	166	3.8E+09	5.4E+08
PM	61	151	5.4E+09	7.7E+08	HO	67	166M	2.5E+05	3.5E+04
SM	62	141	1.1E+07	1.6E+06	ER	68	160	1.2E+09	1.7E+08
SM	62	145	1.3E+07	1.8E+06	ER	68	169	9.0E+08	1.3E+08
SM	62	146	1.4E+05	2.0E+04	ER	68	172	9.6E+08	1.4E+08
SM	62	147	1.6E+05	2.3E+04	TM	69	165	1.2E+09	1.7E+08
SM	62	148	9.3E+04	1.3E+04	TM	69	167	1.3E+08	1.8E+07
SM	62	149	2.0E+05	2.8E+04	TM	69	168	2.8E+06	4.0E+05
SM	62	151	2.5E+07	3.6E+06	TM	69	170	7.9E+06	1.1E+06
SM	62	153	6.4E+09	9.2E+08	TM	69	171	3.7E+07	5.2E+06
EU	63	145	3.7E+08	5.4E+07	TM	69	172	7.4E+08	1.1E+08
EU	63	146	9.1E+07	1.3E+07	YB	70	166	1.8E+09	2.5E+08
EU	63	146M	9.4E+08	1.4E+08	YB	70	169	4.2E+07	5.9E+06
EU	63	147	1.1E+07	1.5E+06	YB	70	175	1.9E+09	2.8E+08
EU	63	148	2.1E+07	3.0E+06	LU	71	169	1.1E+09	1.5E+08
EU	63	149	9.7E+06	1.4E+06	LU	71	170	3.7E+08	5.3E+07
EU	63	150	5.8E+05	8.3E+04	LU	71	171	6.8E+08	9.8E+07
EU	63	150M	5.8E+09	8.2E+08	LU	71	172	1.4E+08	1.9E+07
EU	63	152	3.4E+05	4.9E+04	LU	71	173	1.2E+06	1.7E+05
EU	63	154	2.8E+05	4.0E+04	LU	71	174	4.0E+05	5.7E+04
EU	63	155	9.9E+06	1.4E+06	LU	71	174M	4.0E+06	5.7E+05
EU	63	156	3.7E+07	5.3E+06	LU	71	176	3.9E+05	5.6E+04
EU	63	157	1.6E+10	2.2E+09	LU	71	177	7.6E+08	1.1E+08
GD	64	146	2.1E+06	3.1E+05	LU	71	177M	1.1E+07	1.6E+06
GD	64	147	1.3E+09	1.8E+08	HF	72	170	1.7E+10	2.5E+09
GD	64	148	1.4E+05	2.0E+04	HF	72	171	3.4E+10	4.9E+09
GD	64	149	1.0E+08	1.4E+07	HF	72	172	2.5E+06	3.5E+05
GD	64	150	8.1E+04	1.2E+04	HF	72	173	1.1E+10	1.5E+09
GD	64	151	1.2E+07	1.8E+06	HF	72	174	8.5E+05	1.2E+05
GD	64	152	2.0E+05	2.8E+04	HF	72	175	4.9E+07	7.0E+05
GD	64	153	1.5E+07	2.2E+06	HF	72	181	5.6E+07	8.0E+06

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(1) Bone

TABLE 6A. UNIT-RAD DEPOSITION FOR BONE

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
HF	72	182	1.3E+06	1.8E+05	AU	79	198	5.8E+02	8.3E+01
TA	73	177	1.0E+03	1.5E+02	AU	79	199	1.4E+03	2.0E+02
TA	73	179	3.0E+01	4.3E+00	HG	80	194	1.2E-02	1.7E-03
TA	73	182	3.4E+00	4.9E-01	HG	80	195M	1.2E+01	1.6E+00
TA	73	183	4.6E+02	6.6E+01	HG	80	197	2.2E+01	3.2E+00
W	74	178	4.1E+03	5.8E+02	HG	80	197M	7.9E+01	1.1E+01
W	74	181	5.2E+04	7.4E+03	HG	80	203	2.9E-01	4.1E-02
W	74	185	3.3E+04	4.7E+03	TL	81	200	1.6E+03	2.2E+02
W	74	187	5.4E+05	7.8E+04	TL	81	201	1.4E+03	1.9E+02
W	74	188	3.1E+03	4.4E+02	TL	81	202	8.1E+01	1.2E+01
RE	75	180	1.1E+04	1.6E+03	TL	81	204	1.6E+01	2.3E+00
RE	75	181	1.2E+04	1.7E+03	PB	82	200	8.4E+04	1.2E+04
RE	75	182	2.1E+03	3.0E+02	PB	82	202	4.1E+00	5.8E-01
RE	75	182M	2.9E+04	4.1E+03	PB	82	203	3.5E+04	5.0E+03
RE	75	183	8.3E+02	1.2E+02	PB	82	204	9.3E-01	1.3E-01
RE	75	184	3.3E+02	4.8E+01	PB	82	205	2.8E+01	4.0E+00
RE	75	184M	2.0E+02	2.8E+01	PB	82	210	5.6E-01	8.0E-02
RE	75	186	4.5E+03	6.4E+02	BI	83	205	8.8E+04	1.3E+04
RE	75	187	1.7E+06	2.4E+05	BI	83	206	2.7E+05	3.8E+04
RE	75	188	2.5E+04	3.6E+03	BI	83	207	2.6E+04	3.7E+03
RE	75	189	3.2E+04	4.6E+03	BI	83	208	1.8E+04	2.5E+03
OS	76	182	1.6E+03	2.3E+02	BI	83	210	1.2E+05	1.7E+04
OS	76	183	1.2E+04	1.8E+03	BI	83	210M	8.6E+03	1.2E+03
OS	76	185	3.1E+00	4.4E-01	PO	84	206	6.9E+02	9.9E+01
OS	76	191	1.2E+02	1.8E+01	PO	84	208	3.0E+01	4.2E+00
OS	76	191M	3.0E+04	4.3E+03	PO	84	209	4.4E+01	6.4E+00
OS	76	193	3.4E+03	4.9E+02	PO	84	210	5.4E+01	7.7E+00
OS	76	194	4.2E-02	6.0E-03	RN	86	211	1.6E+02	2.3E+01
IR	77	185	6.6E+03	9.4E+02	RN	86	222	2.2E+00	3.2E-01
IR	77	186	3.8E+03	5.5E+02	RA	88	223	2.9E-01	4.1E-02
IR	77	187	1.0E+04	1.5E+03	RA	88	224	1.9E+00	2.8E-01
IR	77	188	4.5E+02	6.5E+01	RA	88	225	2.0E-01	2.8E-02
IR	77	189	8.4E+01	1.2E+01	RA	88	226	2.3E-04	3.2E-05
IR	77	190	2.5E+01	3.5E+00	RA	88	228	6.6E-04	9.4E-05
IR	77	192	2.9E+00	4.2E-01	AC	89	225	5.4E+06	7.7E+05
IR	77	192M	2.2E-02	3.1E-03	AC	89	227	4.1E+03	5.8E+02
IR	77	193M	4.3E+02	6.2E+01	TH	90	227	7.8E+05	1.1E+05
IR	77	194	3.6E+03	5.1E+02	TH	90	228	1.2E+04	1.7E+03
PT	78	188	1.6E+01	2.3E+00	TH	90	229	1.1E+03	1.6E+02
PT	78	190	8.2E-03	1.2E-03	TH	90	230	1.1E+03	1.5E+02
PT	78	191	6.7E+02	9.6E+01	TH	90	231	9.2E+07	1.3E+07
PT	78	192	9.8E-03	1.4E-03	TH	90	232	9.5E+02	1.4E+02
PT	78	193	3.4E-01	4.9E-02	TH	90	234	4.2E+05	6.1E+04
PT	78	193M	8.1E+02	1.2E+02	PA	91	228	2.1E+08	3.0E+07
PT	78	195M	7.9E+02	1.1E+02	PA	91	229	8.7E+07	1.2E+07
PT	78	197	1.4E+04	2.0E+03	PA	91	230	1.2E+06	1.7E+05
AU	79	193	8.4E+03	1.2E+03	PA	91	231	1.5E+03	2.2E+02
AU	79	194	5.4E+02	7.7E+01	PA	91	232	9.2E+07	1.3E+07
AU	79	195	5.4E+00	7.7E-01	PA	91	233	6.1E+05	8.7E+04
AU	79	196	1.4E+02	2.0E+01	U	92	230	3.8E+02	5.4E+01

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(1) Bone

TABLE 6A. UNIT-RAD DEPOSITION FOR BONE

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2
U	92	231	4.6E+03	6.6E+02	CM	96	240	7.0E+05	1.0E+05
U	92	232	1.5E+01	2.1E+00	CM	96	241	5.1E+05	7.3E+04
U	92	233	1.5E+01	2.2E+00	CM	96	242	8.1E+04	1.2E+04
U	92	234	1.4E+01	2.0E+00	CM	96	243	2.2E+03	3.1E+02
U	92	235	1.3E+01	1.9E+00	CM	96	244	2.7E+03	3.8E+02
U	92	236	1.3E+01	1.9E+00	CM	96	245	1.6E+03	2.3E+02
U	92	237	1.8E+03	2.6E+02	CM	96	246	1.6E+03	2.2E+02
U	92	238	1.2E+01	1.8E+00	CM	96	247	1.5E+03	2.1E+02
U	92	240	1.4E+05	2.1E+04	CM	96	248	1.4E+03	2.0E+02
NP	93	234	7.9E+06	1.1E+06	BK	97	245	3.7E+07	5.3E+06
NP	93	235	2.0E+04	2.9E+03	BK	97	246	2.2E+08	3.2E+07
NP	93	236	1.1E+03	1.5E+02	BK	97	247	6.1E+03	8.8E+02
NP	93	236M	1.4E+08	2.0E+07	BK	97	248	7.0E+08	1.0E+08
NP	93	237	1.1E+03	1.6E+02	BK	97	249	1.5E+05	2.1E+04
NP	93	238	2.8E+07	3.9E+06	CF	98	246	3.1E+08	4.5E+07
NP	93	239	2.1E+07	3.0E+06	CF	98	248	1.3E+05	1.8E+04
PU	94	236	5.7E+04	8.2E+03	CF	98	249	6.2E+03	8.9E+02
PU	94	237	1.7E+06	2.5E+05	CF	98	250	1.4E+04	2.0E+03
PU	94	238	8.9E+03	1.3E+03	CF	98	251	5.6E+03	8.0E+02
PU	94	239	7.5E+03	1.1E+03	CF	98	252	4.3E+04	6.1E+03
PU	94	240	7.4E+03	1.1E+03	CF	98	253	3.6E+06	5.1E+05
PU	94	241	1.5E+04	2.1E+03	ES	99	251	2.7E+08	3.9E+07
PU	94	242	7.2E+03	1.0E+03	ES	99	252	3.0E+05	4.3E+04
PU	94	244	6.4E+03	9.2E+02	ES	99	253	3.3E+06	4.8E+05
PU	94	246	9.6E+06	1.4E+06	ES	99	254	8.1E+04	1.2E+04
AM	95	239	9.0E+08	1.3E+08	ES	99	254M	2.2E+08	3.2E+07
AM	95	240	5.3E+07	7.6E+06	ES	99	255	2.4E+06	3.4E+05
AM	95	241	2.2E+03	3.2E+02	FM	100	252	6.3E+08	9.0E+07
AM	95	242	4.8E+08	6.9E+07	FM	100	253	3.6E+07	5.1E+06
AM	95	242M	2.2E+03	3.1E+02	FM	100	255	7.7E+08	1.1E+08
AM	95	243	2.0E+03	2.8E+02	FM	100	257	5.3E+05	7.6E+04

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(1) Bone

TABLE 6A. UNIT-RAD DEPOSITION FOR KIDNEYS VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2
H	1	3	7.0E+02	1.4E+02	CU	29	67	2.9E+02	5.7E+01
BE	4	7	5.3E+05	1.0E+05	ZN	30	65	6.5E-01	1.3E-01
BE	4	10	2.2E+04	4.3E+03	ZN	30	69M	1.5E+03	2.9E+02
C	6	14	1.1E+02	2.2E+01	ZN	30	72	2.8E+01	5.5E+00
NA	11	22	8.2E-01	1.6E-01	GA	31	67	5.0E+07	9.8E+06
NA	11	24	1.7E+02	3.2E+01	GA	31	72	6.6E+07	1.3E+07
MG	12	28	1.6E+01	3.0E+00	GE	32	68	1.7E+03	3.3E+02
AL	13	26	3.9E-03	7.6E-04	GE	32	69	1.1E+05	2.1E+04
SI	14	32	6.6E-03	1.3E-03	GE	32	71	1.2E+06	2.3E+05
P	15	32	2.1E+00	4.1E-01	AS	33	71	9.6E+03	1.9E+03
P	15	33	1.4E+01	2.8E+00	AS	33	72	1.1E+04	2.1E+03
S	16	35	2.4E+01	4.6E+00	AS	33	73	4.1E+03	8.0E+02
CL	17	36	2.2E+00	4.2E-01	AS	33	74	1.4E+02	2.8E+01
AR	18	37	7.4E+02	1.4E+02	AS	33	76	1.4E+04	2.8E+03
AR	18	39	2.8E-02	5.5E-03	AS	33	77	5.2E+04	1.0E+04
AR	18	42	3.1E-03	6.0E-04	SE	34	72	4.5E-01	8.8E-02
K	19	40	2.2E+00	4.3E-01	SE	34	75	4.8E-01	9.3E-02
K	19	42	2.1E+03	4.0E+02	SE	34	79	5.0E+00	9.7E-01
K	19	43	1.3E+03	2.5E+02	BR	35	76	3.3E+02	6.4E+01
CA	20	41	1.6E+03	3.0E+02	BR	35	77	7.6E+01	1.5E+01
CA	20	45	7.5E+01	1.4E+01	BR	35	82	6.3E+01	1.2E+01
CA	20	47	5.5E+01	1.1E+01	KR	36	76	7.9E+02	1.5E+02
CA	20	48	1.5E+00	3.0E-01	KR	36	79	4.5E+02	8.8E+01
SC	21	44M	4.4E+08	8.6E+07	KR	36	81	2.8E-01	5.4E-02
SC	21	46	3.1E+06	6.1E+05	KR	36	85	5.5E-02	1.1E-02
SC	21	47	2.2E+09	4.2E+08	RB	37	83	1.7E+00	3.4E-01
SC	21	48	6.0E+08	1.2E+08	RB	37	84	1.1E+00	2.2E-01
TI	22	44	5.3E+02	1.0E+02	RB	37	86	3.8E+00	7.5E-01
V	23	48	2.7E+02	5.2E+01	RB	37	87	5.1E+00	9.8E-01
V	23	49	2.0E+04	3.9E+03	SR	38	82	8.1E+01	1.6E+01
V	23	50	6.2E+01	1.2E+01	SR	38	83	1.4E+04	2.7E+03
CR	24	48	7.8E+05	1.5E+05	SR	38	85	3.2E+02	6.2E+01
CR	24	51	2.7E+05	5.2E+04	SR	38	89	2.4E+02	4.7E+01
MN	25	52	7.7E+02	1.5E+02	SR	38	90	7.1E+01	1.4E+01
MN	25	53	2.5E+04	4.8E+03	Y	39	86	1.4E+09	2.7E+08
MN	25	54	2.0E+02	3.9E+01	Y	39	87	2.7E+08	5.3E+07
FE	26	55	4.8E+02	9.3E+01	Y	39	87M	5.2E+09	1.0E+09
FE	26	59	3.0E+01	5.8E+00	Y	39	88	6.0E+05	1.2E+05
FE	26	60	6.6E-01	1.3E-01	Y	39	90	2.6E+08	5.1E+07
CO	27	55	1.7E+02	3.3E+01	Y	39	91	4.0E+06	7.8E+05
CO	27	56	4.7E-01	9.2E-02	ZR	40	86	3.0E+09	5.7E+08
CO	27	57	5.1E+00	1.0E+00	ZR	40	88	2.2E+06	4.3E+05
CO	27	58	1.0E+00	2.0E-01	ZR	40	89	4.0E+08	7.8E+07
CO	27	60	2.5E-01	4.8E-02	ZR	40	93	2.5E+07	4.9E+06
NI	28	56	3.2E-01	6.3E-02	ZR	40	95	5.5E+06	1.1E+06
NI	28	57	7.9E+00	1.5E+00	ZR	40	97	4.4E+09	8.5E+08
NI	28	59	4.0E-02	7.7E-03	NB	41	90	1.4E+04	2.7E+03
NI	28	63	1.9E-02	3.7E-03	NB	41	91	1.3E+02	2.6E+01
NI	28	66	3.9E+00	7.5E-01	NB	41	91M	1.7E+02	3.3E+01
CU	29	64	4.8E+03	9.3E+02	NB	41	92	4.5E+02	8.8E+01

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(2) Kidneys

TABLE 6A. UNIT-RAD DEPOSITION FOR KIDNEYS

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
NB	41	93M	1.3E+02	2.6E+01	SB	51	122	1.2E+05	2.3E+04
NB	41	94	1.4E+00	2.6E-01	SB	51	124	5.2E+02	1.0E+02
NB	41	95	9.5E+01	1.9E+01	SB	51	125	1.2E+02	2.3E+01
NB	41	95M	2.3E+03	4.4E+02	SB	51	126	3.7E+03	7.3E+02
NB	41	96	1.1E+04	2.1E+03	SB	51	127	5.8E+04	1.1E+04
MO	42	93	2.8E+01	5.5E+00	TE	52	118	1.1E+02	2.1E+01
MO	42	99	3.6E+01	7.0E+00	TE	52	119	4.0E+03	7.9E+02
TC	43	95	5.1E+02	9.8E+01	TE	52	119M	1.0E+02	2.0E+01
TC	43	95M	1.4E+00	2.7E-01	TE	52	121	6.5E+01	1.3E+01
TC	43	96	8.9E+00	1.7E+00	TE	52	121M	1.1E+01	2.2E+00
TC	43	97	4.6E+01	9.0E+00	TE	52	123	2.5E+02	4.9E+01
TC	43	97M	1.1E+01	2.2E+00	TE	52	123M	4.0E+01	7.8E+00
TC	43	98	6.2E-01	1.2E-01	TE	52	125M	1.0E+02	1.9E+01
TC	43	99	1.0E+01	2.0E+00	TE	52	127M	3.2E+01	6.3E+00
RU	44	97	8.6E+05	1.7E+05	TE	52	129M	2.2E+01	4.3E+00
RU	44	103	1.8E+04	3.4E+03	TE	52	131M	1.0E+03	2.0E+02
RU	44	106	8.9E+02	1.7E+02	TE	52	132	1.3E+02	2.6E+01
RH	45	99	2.9E+01	5.7E+00	I	53	123	1.4E+03	2.7E+02
RH	45	100	9.9E+02	1.9E+02	I	53	124	4.2E+00	8.2E-01
RH	45	101	8.4E+00	1.6E+00	I	53	125	1.7E+01	3.3E+00
RH	45	101M	2.4E+02	4.7E+01	I	53	126	5.0E+00	9.8E-01
RH	45	102	1.9E+00	3.8E-01	I	53	129	1.1E+01	2.1E+00
RH	45	105	2.3E+03	4.5E+02	I	53	130	1.3E+02	2.6E+01
PD	46	100	2.0E+01	3.9E+00	I	53	131	7.0E+00	1.4E+00
PD	46	103	5.7E+01	1.1E+01	I	53	133	1.0E+02	2.0E+01
PD	46	107	6.3E+02	1.2E+02	XE	54	122	4.5E+02	8.7E+01
PD	46	109	2.0E+03	3.8E+02	XE	54	125	2.5E+03	4.8E+02
PD	46	112	1.5E+02	2.8E+01	XE	54	127	8.4E+00	1.6E+00
AG	47	105	1.5E+00	3.0E-01	XE	54	129M	7.6E+01	1.5E+01
AG	47	106M	1.7E+00	3.4E-01	XE	54	131M	5.8E+01	1.1E+01
AG	47	108M	4.5E-01	8.8E-02	XE	54	133	2.0E+02	3.8E+01
AG	47	110M	4.4E-01	8.6E-02	XE	54	133M	3.9E+02	7.5E+01
AG	47	111	1.1E+01	2.1E+00	CS	55	129	1.1E+03	2.2E+02
CD	48	109	7.3E+03	1.4E+03	CS	55	131	5.9E+02	1.1E+02
CD	48	113M	2.5E+03	4.8E+02	CS	55	132	5.5E+01	1.1E+01
CD	48	115	3.6E+05	7.0E+04	CS	55	134	4.1E-01	8.0E-02
CD	48	115M	4.9E+03	9.5E+02	CS	55	135	1.2E+01	2.4E+00
IN	49	111	2.9E+06	5.6E+05	CS	55	136	5.7E+00	1.1E+00
IN	49	114M	2.1E+04	4.1E+03	CS	55	137	8.5E-01	1.6E-01
IN	49	115	4.4E+04	8.5E+03	BA	56	128	2.2E+06	4.3E+05
SN	50	113	3.3E+01	6.4E+00	BA	56	131	6.2E+05	1.2E+05
SN	50	117M	5.6E+02	1.1E+02	BA	56	133	4.6E+05	9.0E+04
SN	50	119M	8.1E+01	1.6E+01	BA	56	133M	1.6E+07	3.1E+06
SN	50	121	1.2E+05	2.4E+04	BA	56	135M	6.8E+07	1.3E+07
SN	50	121M	1.5E+01	2.8E+00	BA	56	140	1.7E+05	3.3E+04
SN	50	123M	1.9E+01	3.6E+00	LA	57	135	2.3E+08	4.5E+07
SN	50	125	1.7E+02	3.4E+01	LA	57	137	3.3E+04	6.4E+03
SN	50	126	5.6E-01	1.1E-01	LA	57	138	9.6E+02	1.9E+02
SB	51	119	7.2E+06	1.4E+06	LA	57	140	1.6E+07	3.2E+06
SB	51	120M	1.4E+04	2.8E+03	CE	58	134	1.6E+08	3.1E+07

Table 6A. Unit-rad deposition for selected organs via milk (cont'd).
(2) Kidneys

TABLE 6A. UNIT-RAD DEPOSITION FOR KIDNEYS VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
CE	58	135	3.2E+09	6.2E+08	GD	64	159	3.0E+10	5.7E+09
CE	58	137M	2.4E+09	4.7E+08	GD	64	162	1.1E+06	2.2E+05
CE	58	139	5.5E+06	1.1E+06	TB	65	151	7.9E+09	1.5E+09
CE	58	141	2.1E+07	4.0E+06	TB	65	152	2.3E+09	4.5E+08
CE	58	142	1.8E+05	3.5E+04	TB	65	153	1.7E+09	3.3E+08
CE	58	143	7.8E+08	1.5E+08	TB	65	154	8.6E+09	1.7E+09
CE	58	144	1.7E+05	3.3E+04	TB	65	155	4.6E+08	9.0E+07
PR	59	142	9.0E+09	1.7E+09	TB	65	156	1.4E+08	2.7E+07
PR	59	143	1.9E+08	3.6E+07	TB	65	157	8.9E+06	1.7E+06
ND	60	140	2.4E+08	4.6E+07	TB	65	158	3.9E+05	7.5E+04
ND	60	144	1.6E+05	3.0E+04	TB	65	160	4.1E+06	7.9E+05
ND	60	147	1.4E+07	2.7E+06	TB	65	161	7.0E+08	1.4E+08
PM	61	143	6.8E+06	1.3E+06	TB	65	164	1.2E+10	2.3E+09
PM	61	144	7.3E+05	1.4E+05	DY	66	154	1.5E+02	2.9E+01
PM	61	145	1.3E+07	2.6E+06	DY	66	154M	1.4E+08	2.6E+07
PM	61	146	1.1E+06	2.2E+05	DY	66	156	2.4E+02	4.6E+01
PM	61	147	5.2E+05	1.0E+05	DY	66	159	1.1E+06	2.1E+05
PM	61	148	2.0E+08	3.8E+07	DY	66	166	1.2E+07	2.4E+06
PM	61	148M	2.8E+06	5.4E+05	HO	67	163	1.1E+07	2.1E+06
PM	61	149	3.5E+09	6.7E+08	HO	67	166	5.9E+09	1.1E+09
PM	61	151	4.6E+09	8.9E+08	HO	67	166M	4.8E+05	9.2E+04
SM	62	141	9.9E+06	1.9E+06	ER	68	160	1.7E+09	3.3E+08
SM	62	145	1.3E+07	2.6E+06	ER	68	169	1.3E+09	2.5E+08
SM	62	146	2.8E+05	5.4E+04	ER	68	172	1.4E+09	2.7E+08
SM	62	147	3.1E+05	6.1E+04	TM	69	165	1.9E+09	3.6E+08
SM	62	148	1.8E+05	3.5E+04	TM	69	167	2.1E+08	4.0E+07
SM	62	149	3.8E+05	7.4E+04	TM	69	168	5.2E+06	1.0E+06
SM	62	151	4.7E+07	9.1E+06	TM	69	170	1.5E+07	2.9E+06
SM	62	153	5.4E+09	1.1E+09	TM	69	171	1.0E+08	2.0E+07
EU	63	145	2.2E+08	4.2E+07	TM	69	172	1.2E+09	2.3E+08
EU	63	146	5.3E+07	1.0E+07	YB	70	166	1.0E+09	1.9E+08
EU	63	146M	5.5E+08	1.1E+08	YB	70	169	2.4E+07	4.6E+06
EU	63	147	6.3E+06	1.2E+06	YB	70	175	1.1E+09	2.1E+08
EU	63	148	1.2E+07	2.4E+06	LU	71	169	3.5E+09	6.8E+08
EU	63	149	5.6E+06	1.1E+06	LU	71	170	1.2E+09	2.4E+08
EU	63	150	3.4E+05	6.6E+04	LU	71	171	2.3E+09	4.4E+08
EU	63	150M	3.3E+09	6.5E+08	LU	71	172	4.5E+08	8.7E+07
EU	63	152	2.0E+05	3.9E+04	LU	71	173	4.5E+06	8.7E+05
EU	63	154	1.7E+05	3.2E+04	LU	71	174	1.6E+06	3.0E+05
EU	63	155	5.8E+06	1.1E+06	LU	71	174M	1.4E+07	2.7E+06
EU	63	156	2.2E+07	4.2E+06	LU	71	176	1.7E+06	3.3E+05
EU	63	157	9.1E+09	1.8E+09	LU	71	177	2.5E+09	4.9E+08
GD	64	146	2.3E+06	4.5E+05	LU	71	177M	3.9E+07	7.6E+06
GD	64	147	1.4E+09	2.7E+08	HF	72	170	6.3E+09	1.2E+09
GD	64	148	1.2E+05	2.2E+04	HF	72	171	1.2E+10	2.4E+09
GD	64	149	1.1E+08	2.1E+07	HF	72	172	9.4E+05	1.8E+05
GD	64	150	6.8E+04	1.3E+04	HF	72	173	3.9E+09	7.6E+08
GD	64	151	1.3E+07	2.6E+06	HF	72	174	3.3E+05	6.4E+04
GD	64	152	1.7E+05	3.2E+04	HF	72	175	1.8E+07	3.5E+06
GD	64	153	1.6E+07	3.1E+06	HF	72	181	2.0E+07	3.9E+06

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(2) Kidneys

ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2
HF	72	182	5.0E+05	9.7E+04	AU	79	198	9.5E+02	1.8E+02
TA	73	177	3.4E+02	6.5E+01	AU	79	199	2.3E+03	4.5E+02
TA	73	179	8.2E+00	1.6E+00	HG	80	194	1.8E-02	3.5E-03
TA	73	182	1.0E+00	2.0E-01	HG	80	195M	1.8E+00	3.5E-01
TA	73	183	1.5E+02	2.9E+01	HG	80	197	3.7E+00	7.1E-01
W	74	178	4.0E+00	7.8E-01	HG	80	197M	1.2E+01	2.3E+00
W	74	181	1.1E+01	2.2E+00	HG	80	203	1.7E-01	3.3E-02
W	74	185	1.2E+01	2.4E+00	TL	81	200	8.2E+01	1.6E+01
W	74	187	1.7E+03	3.2E+02	TL	81	201	7.1E+01	1.4E+01
W	74	188	1.2E+00	2.3E-01	TL	81	202	4.3E+00	8.3E-01
RE	75	180	4.3E+00	8.3E-01	TL	81	204	8.6E-01	1.7E-01
RE	75	181	4.7E+00	9.1E-01	PB	82	200	8.1E+03	1.6E+03
RE	75	182	5.7E-01	1.1E-01	PB	82	202	2.4E+00	4.6E-01
RE	75	182M	1.2E+01	2.4E+00	PB	82	203	3.4E+03	6.5E+02
RE	75	183	1.9E-02	3.7E-03	PB	82	204	5.4E-01	1.0E-01
RE	75	184	1.4E-02	2.6E-03	PB	82	205	1.6E+01	3.2E+00
RE	75	184M	1.9E-03	3.7E-04	PB	82	210	2.6E-01	5.0E-02
RE	75	186	1.0E+00	2.0E-01	BI	83	205	7.0E+02	1.4E+02
RE	75	187	3.8E-01	7.4E-02	BI	83	206	1.8E+03	3.5E+02
RE	75	188	1.0E+01	2.0E+00	BI	83	207	2.8E+02	5.4E+01
RE	75	189	1.2E+01	2.4E+00	BI	83	208	1.9E+02	3.7E+01
OS	76	182	1.9E+03	3.6E+02	BI	83	210	7.5E+02	1.4E+02
OS	76	183	1.3E+04	2.5E+03	BI	83	210M	9.2E+01	1.8E+01
OS	76	185	5.9E+01	1.1E+01	PO	84	206	4.1E+01	8.0E+00
OS	76	191	4.8E+02	9.2E+01	PO	84	208	7.7E-01	1.5E-01
OS	76	191M	3.2E+04	6.3E+03	PO	84	209	1.1E+00	2.2E-01
OS	76	193	4.2E+03	8.2E+02	PO	84	210	1.7E+00	3.3E-01
OS	76	194	1.7E+01	3.2E+00	RN	86	211	1.8E+02	3.5E+01
IR	77	185	7.1E+03	1.4E+03	RN	86	222	2.4E+00	4.7E-01
IR	77	186	4.2E+03	8.1E+02	RA	88	223	7.5E+00	1.5E+00
IR	77	187	1.1E+04	2.2E+03	RA	88	224	3.2E+01	6.2E+00
IR	77	188	5.0E+02	9.7E+01	RA	88	225	5.9E+00	1.1E+00
IR	77	189	1.1E+02	2.2E+01	RA	88	226	1.7E+00	3.2E-01
IR	77	190	3.3E+01	6.3E+00	RA	88	228	1.4E+00	2.8E-01
IR	77	192	7.9E+00	1.5E+00	AC	89	225	7.8E+06	1.5E+06
IR	77	192M	3.4E+00	6.6E-01	AC	89	227	6.4E+03	1.2E+03
IR	77	193M	5.7E+02	1.1E+02	TH	90	227	5.3E+05	1.0E+05
IR	77	194	3.9E+03	7.6E+02	TH	90	228	8.1E+03	1.6E+03
PT	78	188	9.2E+00	1.8E+00	TH	90	229	8.6E+02	1.7E+02
PT	78	190	4.9E-01	9.6E-02	TH	90	230	8.1E+02	1.6E+02
PT	78	191	3.4E+02	6.6E+01	TH	90	231	6.2E+07	1.2E+07
PT	78	192	5.9E-01	1.1E-01	TH	90	232	7.2E+02	1.4E+02
PT	78	193	2.0E+01	3.9E+00	TH	90	234	2.9E+05	5.6E+04
PT	78	193M	4.2E+02	8.2E+01	PA	91	228	1.1E+08	2.2E+07
PT	78	195M	4.1E+02	8.0E+01	PA	91	229	4.7E+07	9.2E+06
PT	78	197	6.7E+03	1.3E+03	PA	91	230	6.6E+05	1.3E+05
AU	79	193	1.4E+04	2.6E+03	PA	91	231	8.4E+02	1.6E+02
AU	79	194	8.8E+02	1.7E+02	PA	91	232	5.0E+07	9.8E+06
AU	79	195	1.4E+01	2.8E+00	PA	91	233	3.3E+05	6.4E+04
AU	79	196	2.3E+02	4.4E+01	U	92	230	4.1E+01	7.9E+00

Table 6A. Unit-rad deposition for selected organs via milk (cont'd).
(2) Kidneys

TABLE 6A. UNIT-RAD DEPOSITION FOR KIDNEYS VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
U	92	231	2.8E+02	5.5E+01	CM	96	240	5.1E+05	9.8E+04
U	92	232	1.4E+01	2.7E+00	CM	96	241	3.7E+05	7.2E+04
U	92	233	1.5E+01	2.8E+00	CM	96	242	5.9E+04	1.2E+04
U	92	234	1.4E+01	2.7E+00	CM	96	243	1.7E+03	3.4E+02
U	92	235	1.3E+01	2.5E+00	CM	96	244	2.1E+03	4.1E+02
U	92	236	1.3E+01	2.4E+00	CM	96	245	1.3E+03	2.5E+02
U	92	237	1.3E+02	2.5E+01	CM	96	246	1.3E+03	2.4E+02
U	92	238	1.2E+01	2.3E+00	CM	96	247	1.2E+03	2.3E+02
U	92	240	7.2E+03	1.4E+03	CM	96	248	1.1E+03	2.2E+02
NP	93	234	6.9E+06	1.3E+06	BK	97	245	1.4E+06	2.8E+05
NP	93	235	1.8E+04	3.5E+03	BK	97	246	8.7E+06	1.7E+06
NP	93	236	9.4E+02	1.8E+02	BK	97	247	2.3E+02	4.4E+01
NP	93	236M	1.2E+08	2.3E+07	BK	97	248	2.7E+07	5.2E+06
NP	93	237	9.9E+02	1.9E+02	BK	97	249	5.6E+03	1.1E+03
NP	93	238	2.4E+07	4.7E+06	CF	98	246	1.2E+07	2.4E+06
NP	93	239	1.9E+07	3.6E+06	CF	98	248	5.0E+03	9.6E+02
PU	94	236	1.1E+05	2.2E+04	CF	98	249	2.3E+02	4.5E+01
PU	94	237	3.4E+06	6.5E+05	CF	98	250	5.2E+02	1.0E+02
PU	94	238	1.8E+04	3.6E+03	CF	98	251	2.1E+02	4.1E+01
PU	94	239	1.6E+04	3.0E+03	CF	98	252	1.6E+03	3.2E+02
PU	94	240	1.5E+04	3.0E+03	CF	98	253	1.4E+05	2.7E+04
PU	94	241	3.0E+04	5.9E+03	ES	99	251	1.1E+07	2.1E+06
PU	94	242	1.5E+04	2.9E+03	ES	99	252	1.2E+04	2.3E+03
PU	94	244	1.3E+04	2.6E+03	ES	99	253	1.3E+05	2.5E+04
PU	94	246	1.9E+07	3.6E+06	ES	99	254	3.1E+03	6.1E+02
AM	95	239	3.6E+08	7.0E+07	ES	99	254M	8.7E+06	1.7E+06
AM	95	240	2.2E+07	4.2E+06	ES	99	255	9.2E+04	1.8E+04
AM	95	241	9.7E+02	1.9E+02	FM	100	252	2.4E+07	4.7E+06
AM	95	242	1.9E+08	3.8E+07	FM	100	253	1.4E+06	2.7E+05
AM	95	242M	9.5E+02	1.8E+02	FM	100	255	3.0E+07	5.8E+06
AM	95	243	8.6E+02	1.7E+02	FM	100	257	2.1E+04	4.0E+03

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(2) Kidneys

TABLE 6A. UNIT-RAD DEPOSITION FOR LIVER

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
H	1	3	6.9E+02	1.1E+02	CU	29	67	8.3E+02	1.3E+02
BE	4	7	7.7E+05	1.2E+05	ZN	30	65	6.0E-01	9.6E-02
BE	4	10	1.7E+04	2.8E+03	ZN	30	69M	9.8E+02	1.6E+02
C	6	14	1.1E+02	1.8E+01	ZN	30	72	1.9E+01	3.0E+00
NA	11	22	8.1E-01	1.3E-01	GA	31	67	2.9E+07	4.6E+06
NA	11	24	1.6E+02	2.6E+01	GA	31	72	3.2E+07	5.2E+06
MG	12	28	9.1E+01	1.5E+01	GE	32	68	2.3E+04	3.8E+03
AL	13	26	2.3E-02	3.6E-03	GE	32	69	9.9E+05	1.6E+05
SI	14	32	3.8E-02	6.2E-03	GE	32	71	1.3E+07	2.1E+06
P	15	32	2.0E+00	3.1E-01	AS	33	71	1.9E+04	3.0E+03
P	15	33	1.2E+01	2.0E+00	AS	33	72	2.1E+04	3.3E+03
S	16	35	6.9E+01	1.1E+01	AS	33	73	8.0E+03	1.3E+03
CL	17	36	2.1E+00	3.4E-01	AS	33	74	2.8E+02	4.5E+01
AR	18	37	7.3E+02	1.2E+02	AS	33	76	2.8E+04	4.5E+03
AR	18	39	2.8E-02	4.5E-03	AS	33	77	1.0E+05	1.6E+04
AR	18	42	3.0E-03	4.9E-04	SE	34	72	1.3E+00	2.2E-01
K	19	40	2.2E+00	3.5E-01	SE	34	75	9.4E-01	1.5E-01
K	19	42	2.0E+03	3.3E+02	SE	34	79	8.8E+00	1.4E+00
K	19	43	1.3E+03	2.0E+02	BR	35	76	3.2E+02	5.2E+01
CA	20	41	2.9E+03	4.7E+02	BR	35	77	7.4E+01	1.2E+01
CA	20	45	1.3E+02	2.1E+01	BR	35	82	6.2E+01	1.0E+01
CA	20	47	5.9E+01	9.5E+00	KR	36	76	7.7E+02	1.2E+02
CA	20	48	2.9E+00	4.6E-01	KR	36	79	4.5E+02	7.2E+01
SC	21	44M	3.4E+08	5.5E+07	KR	36	81	2.7E-01	4.4E-02
SC	21	46	2.4E+06	3.9E+05	KR	36	85	5.4E-02	8.7E-03
SC	21	47	1.7E+09	2.7E+08	RB	37	83	1.7E+00	2.7E-01
SC	21	48	4.6E+08	7.5E+07	RB	37	84	1.1E+00	1.8E-01
TI	22	44	3.1E+03	5.0E+02	RB	37	86	3.8E+00	6.1E-01
V	23	48	1.0E+03	1.7E+02	RB	37	87	5.0E+00	8.0E-01
V	23	49	8.1E+04	1.3E+04	SR	38	82	1.6E+02	2.6E+01
V	23	50	2.6E+02	4.1E+01	SR	38	83	1.5E+04	2.5E+03
CR	24	48	1.2E+04	1.9E+03	SR	38	85	7.2E+02	1.2E+02
CR	24	51	3.9E+03	6.3E+02	SR	38	89	5.3E+02	8.6E+01
MN	25	52	9.8E+02	1.6E+02	SR	38	90	1.8E+02	2.9E+01
MN	25	53	1.3E+04	2.0E+03	Y	39	86	1.4E+09	2.3E+08
MN	25	54	1.2E+02	1.9E+01	Y	39	87	2.8E+08	4.5E+07
FE	26	55	7.5E+02	1.2E+02	Y	39	87M	5.3E+09	8.6E+08
FE	26	59	4.1E+01	6.6E+00	Y	39	88	6.5E+05	1.0E+05
FE	26	60	1.1E+00	1.8E-01	Y	39	90	2.7E+08	4.3E+07
CO	27	55	4.2E+04	6.8E+03	Y	39	91	4.2E+06	6.8E+05
CO	27	56	1.2E+02	1.9E+01	ZR	40	86	4.9E+09	7.9E+08
CO	27	57	1.3E+03	2.1E+02	ZR	40	88	4.2E+06	6.8E+05
CO	27	58	2.5E+02	4.1E+01	ZR	40	89	6.7E+08	1.1E+08
CO	27	60	6.2E+01	1.0E+01	ZR	40	93	1.2E+08	1.9E+07
NI	28	56	2.8E+01	4.6E+00	ZR	40	95	1.0E+07	1.7E+06
NI	28	57	6.9E+02	1.1E+02	ZR	40	97	7.2E+09	1.2E+09
NI	28	59	5.2E+01	8.4E+00	NB	41	90	1.8E+04	2.9E+03
NI	28	63	2.3E+01	3.7E+00	NB	41	91	1.6E+02	2.5E+01
NI	28	66	3.4E+02	5.4E+01	NB	41	91M	2.2E+02	3.5E+01
CU	29	64	1.4E+04	2.2E+03	NB	41	92	5.8E+02	9.4E+01

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(3) Liver

TABLE 6A. UNIT-RAD DEPOSITION FOR LIVER

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2
NB	41	93M	1.6E+02	2.6E+01	SB	51	122	6.0E+05	9.7E+04
NB	41	94	1.6E+00	2.5E-01	SB	51	124	6.6E+03	1.1E+03
NB	41	95	1.2E+02	2.0E+01	SB	51	125	1.5E+04	2.5E+03
NB	41	95M	2.9E+03	4.7E+02	SB	51	126	2.4E+04	3.9E+03
NB	41	96	1.4E+04	2.3E+03	SB	51	127	3.1E+05	5.0E+04
MO	42	93	8.2E+00	1.3E+00	TE	52	118	1.3E+03	2.1E+02
MO	42	99	3.9E+01	6.3E+00	TE	52	119	4.7E+04	7.6E+03
TC	43	95	9.7E+03	1.6E+03	TE	52	119M	1.2E+03	1.9E+02
TC	43	95M	2.1E+01	3.3E+00	TE	52	121	7.6E+02	1.2E+02
TC	43	96	1.6E+02	2.6E+01	TE	52	121M	1.3E+02	2.1E+01
TC	43	97	6.0E+02	9.6E+01	TE	52	123	2.9E+03	4.7E+02
TC	43	97M	1.6E+02	2.5E+01	TE	52	123M	4.7E+02	7.5E+01
TC	43	98	8.0E+00	1.3E+00	TE	52	125M	1.2E+03	1.9E+02
TC	43	99	1.3E+02	2.1E+01	TE	52	127M	3.7E+02	6.0E+01
RU	44	97	1.5E+06	2.4E+05	TE	52	129M	2.6E+02	4.2E+01
RU	44	103	3.8E+04	6.1E+03	TE	52	131M	1.2E+04	1.9E+03
RU	44	106	3.0E+03	4.9E+02	TE	52	132	1.6E+03	2.5E+02
RH	45	99	1.5E+02	2.5E+01	I	53	123	2.7E+03	4.3E+02
RH	45	100	4.4E+03	7.1E+02	I	53	124	8.2E+00	1.3E+00
RH	45	101	5.6E+01	9.0E+00	I	53	125	3.3E+01	5.3E+00
RH	45	101M	1.1E+03	1.8E+02	I	53	126	9.7E+00	1.6E+00
RH	45	102	1.2E+01	2.0E+00	I	53	129	2.1E+01	3.3E+00
RH	45	105	1.0E+04	1.7E+03	I	53	130	2.6E+02	4.2E+01
PD	46	100	1.2E+02	2.0E+01	I	53	131	1.4E+01	2.2E+00
PD	46	103	4.0E+02	6.4E+01	I	53	133	1.9E+02	3.1E+01
PD	46	107	5.8E+03	9.3E+02	XE	54	122	4.4E+02	7.1E+01
PD	46	109	1.2E+04	1.9E+03	XE	54	125	2.4E+03	3.9E+02
PD	46	112	8.6E+02	1.4E+02	XE	54	127	8.3E+00	1.3E+00
AG	47	105	9.5E-01	1.5E-01	XE	54	129M	7.5E+01	1.2E+01
AG	47	106M	2.5E+00	4.1E-01	XE	54	131M	5.7E+01	9.1E+00
AG	47	108M	1.4E-01	2.2E-02	XE	54	133	1.9E+02	3.1E+01
AG	47	110M	1.6E-01	2.5E-02	XE	54	133M	3.8E+02	6.1E+01
AG	47	111	1.7E+01	2.7E+00	CS	55	129	1.1E+03	1.8E+02
CD	48	109	7.3E+03	1.2E+03	CS	55	131	5.8E+02	9.3E+01
CD	48	113M	2.8E+03	4.5E+02	CS	55	132	5.4E+01	8.6E+00
CD	48	115	2.8E+05	4.5E+04	CS	55	134	4.0E-01	6.5E-02
CD	48	115M	4.0E+03	6.4E+02	CS	55	135	1.2E+01	2.0E+00
IN	49	111	4.8E+06	7.7E+05	CS	55	136	5.6E+00	9.1E-01
IN	49	114M	3.6E+04	5.8E+03	CS	55	137	8.4E-01	1.3E-01
IN	49	115	7.5E+04	1.2E+04	BA	56	128	1.7E+06	2.7E+05
SN	50	113	5.2E+02	8.4E+01	BA	56	131	2.6E+05	4.2E+04
SN	50	117M	9.7E+03	1.6E+03	BA	56	133	5.3E+03	8.6E+02
SN	50	119M	1.2E+03	1.9E+02	BA	56	133M	1.3E+07	2.1E+06
SN	50	121	2.1E+06	3.4E+05	BA	56	135M	5.8E+07	9.3E+06
SN	50	121M	1.2E+02	1.9E+01	BA	56	140	6.6E+04	1.1E+04
SN	50	123M	3.0E+02	4.8E+01	LA	57	135	9.0E+09	1.5E+09
SN	50	125	3.0E+03	4.8E+02	LA	57	137	2.4E+07	3.8E+06
SN	50	126	4.1E+00	6.6E-01	LA	57	138	6.9E+05	1.1E+05
SB	51	119	3.6E+07	5.9E+06	LA	57	140	6.4E+08	1.0E+08
SB	51	120M	8.0E+04	1.3E+04	CE	58	134	7.4E+07	1.2E+07

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(3) Liver

ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
CE	58	135	1.5E+09	2.4E+08	GD	64	159	2.9E+10	4.6E+09
CE	58	137M	1.1E+09	1.8E+08	GD	64	162	1.5E+06	2.5E+05
CE	58	139	3.0E+06	4.9E+05	TB	65	151	7.0E+09	1.1E+09
CE	58	141	1.0E+07	1.6E+06	TB	65	152	2.0E+09	3.2E+08
CE	58	142	1.6E+05	2.6E+04	TB	65	153	1.5E+09	2.5E+08
CE	58	143	3.6E+08	5.8E+07	TB	65	154	7.5E+09	1.2E+09
CE	58	144	1.0E+05	1.7E+04	TB	65	155	4.3E+08	7.0E+07
PR	59	142	5.2E+09	8.4E+08	TB	65	156	1.3E+08	2.1E+07
PR	59	143	1.1E+08	1.8E+07	TB	65	157	8.0E+07	1.3E+07
ND	60	140	1.4E+08	2.3E+07	TB	65	158	3.5E+06	5.6E+05
ND	60	144	4.5E+05	7.3E+04	TB	65	160	6.7E+06	1.1E+06
ND	60	147	8.6E+06	1.4E+06	TB	65	161	6.7E+08	1.1E+08
PM	61	143	1.3E+07	2.1E+06	TB	65	164	1.0E+10	1.7E+09
PM	61	144	1.4E+06	2.3E+05	DY	66	154	2.2E+05	3.6E+04
PM	61	145	2.6E+07	4.2E+06	DY	66	154M	1.3E+10	2.1E+09
PM	61	146	2.2E+06	3.5E+05	DY	66	156	3.5E+05	5.6E+04
PM	61	147	1.0E+06	1.6E+05	DY	66	159	1.3E+08	2.1E+07
PM	61	148	3.8E+08	6.2E+07	DY	66	166	1.2E+09	1.9E+08
PM	61	148M	5.4E+06	8.6E+05	HO	67	163	1.9E+07	3.1E+06
PM	61	149	6.7E+09	1.1E+09	HO	67	166	1.1E+10	1.8E+09
PM	61	151	8.9E+09	1.4E+09	HO	67	166M	8.4E+05	1.4E+05
SM	62	141	3.5E+06	5.7E+05	ER	68	160	6.5E+09	1.0E+09
SM	62	145	8.3E+06	1.3E+06	ER	68	169	5.1E+09	8.2E+08
SM	62	146	3.2E+05	5.2E+04	ER	68	172	5.4E+09	8.7E+08
SM	62	147	3.7E+05	5.9E+04	TM	69	165	2.4E+09	3.9E+08
SM	62	148	2.1E+05	3.3E+04	TM	69	167	3.0E+08	4.8E+07
SM	62	149	4.5E+05	7.2E+04	TM	69	168	1.2E+07	1.9E+06
SM	62	151	5.4E+07	8.7E+06	TM	69	170	4.0E+07	6.4E+06
SM	62	153	1.8E+09	2.9E+08	TM	69	171	4.8E+08	7.7E+07
EU	63	145	1.6E+08	2.5E+07	TM	69	172	1.6E+09	2.5E+08
EU	63	146	3.8E+07	6.1E+06	YB	70	166	5.0E+09	8.0E+08
EU	63	146M	3.9E+08	6.2E+07	YB	70	169	1.6E+08	2.6E+07
EU	63	147	5.1E+06	8.2E+05	YB	70	175	5.6E+09	9.0E+08
EU	63	148	1.2E+07	1.9E+06	LU	71	169	2.0E+08	3.3E+07
EU	63	149	6.7E+06	1.1E+06	LU	71	170	7.1E+07	1.1E+07
EU	63	150	1.6E+06	2.6E+05	LU	71	171	1.3E+08	2.1E+07
EU	63	150M	2.3E+09	3.8E+08	LU	71	172	2.6E+07	4.1E+06
EU	63	152	1.3E+06	2.0E+05	LU	71	173	1.5E+05	2.5E+04
EU	63	154	1.1E+06	1.8E+05	LU	71	174	3.3E+04	5.4E+03
EU	63	155	1.7E+07	2.8E+06	LU	71	174M	6.6E+05	1.1E+05
EU	63	156	1.7E+07	2.7E+06	LU	71	176	9.9E+03	1.6E+03
EU	63	157	6.4E+09	1.0E+09	LU	71	177	1.4E+08	2.3E+07
GD	64	146	2.4E+06	3.8E+05	LU	71	177M	1.9E+06	3.0E+05
GD	64	147	1.3E+09	2.1E+08	HF	72	170	1.6E+09	2.6E+08
GD	64	148	3.1E+05	5.0E+04	HF	72	171	3.2E+09	5.1E+08
GD	64	149	1.1E+08	1.7E+07	HF	72	172	2.2E+05	3.6E+04
GD	64	150	1.8E+05	3.0E+04	HF	72	173	1.0E+09	1.6E+08
GD	64	151	1.5E+07	2.4E+06	HF	72	174	7.6E+04	1.2E+04
GD	64	152	4.5E+05	7.3E+04	HF	72	175	4.6E+06	7.4E+05
GD	64	153	2.0E+07	3.2E+06	HF	72	181	5.2E+06	8.4E+05

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(3) Liver

TABLE 6A. UNIT-RAD DEPOSITION FOR LIVER

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
HF	72	182	1.2E+05	1.9E+04	AU	79	198	4.1E+03	6.7E+02
TA	73	177	2.0E+02	3.1E+01	AU	79	199	1.0E+04	1.6E+03
TA	73	179	4.7E+00	7.6E-01	HG	80	194	2.7E-01	4.3E-02
TA	73	182	6.0E-01	9.7E-02	HG	80	195M	2.5E+01	4.0E+03
TA	73	183	8.6E+01	1.4E+01	HG	80	197	5.1E+01	8.2E+03
W	74	178	2.5E+03	4.1E+02	HG	80	197M	1.6E+02	2.6E+01
W	74	181	3.7E+04	5.9E+03	HG	80	203	2.5E+00	4.0E-01
W	74	185	2.3E+04	3.7E+03	TL	81	200	5.6E+02	9.0E+01
W	74	187	2.0E+05	3.2E+04	TL	81	201	4.9E+02	7.9E+01
W	74	188	2.1E+03	3.4E+02	TL	81	202	3.1E+01	5.1E+00
RE	75	180	2.6E+03	4.2E+02	TL	81	204	8.0E+00	1.3E+00
RE	75	181	2.9E+03	4.6E+02	PB	82	200	7.3E+04	1.2E+04
RE	75	182	3.9E+02	6.3E+01	PB	82	202	6.0E+00	9.6E-01
RE	75	182M	7.3E+03	1.2E+03	PB	82	203	3.0E+04	4.9E+03
RE	75	183	6.3E+01	1.0E+01	PB	82	204	1.4E+00	2.2E-01
RE	75	184	2.8E+01	4.5E+00	PB	82	205	4.1E+01	6.6E+00
RE	75	184M	1.4E+01	2.2E+00	PB	82	210	7.5E-01	1.2E-01
RE	75	186	7.6E+02	1.2E+02	BI	83	205	4.6E+03	7.5E+02
RE	75	187	1.1E+05	1.8E+04	BI	83	206	1.5E+04	2.3E+03
RE	75	188	6.2E+03	9.9E+02	BI	83	207	1.3E+03	2.1E+02
RE	75	189	7.5E+03	1.2E+03	BI	83	208	8.8E+02	1.4E+02
OS	76	182	1.3E+04	2.1E+03	BI	83	210	6.3E+03	1.0E+03
OS	76	183	9.4E+04	1.5E+04	BI	83	210M	4.3E+02	6.9E+01
OS	76	185	3.9E+02	6.3E+01	PO	84	206	1.0E+02	1.7E+01
OS	76	191	3.2E+03	5.2E+02	PO	84	208	3.0E+00	4.8E-01
OS	76	191M	2.3E+05	3.7E+04	PO	84	209	4.4E+00	7.1E-01
OS	76	193	3.0E+04	4.8E+03	PO	84	210	5.9E+00	9.4E-01
OS	76	194	1.1E+02	1.8E+01	RN	86	211	1.8E+02	2.9E+01
IR	77	185	8.2E+03	1.3E+03	RN	86	222	2.4E+00	3.9E-01
IR	77	186	4.8E+03	7.8E+02	RA	88	223	2.2E+02	3.5E+01
IR	77	187	1.3E+04	2.1E+03	RA	88	224	9.3E+02	1.5E+02
IR	77	188	5.9E+02	9.4E+01	RA	88	225	1.7E+02	2.8E+01
IR	77	189	1.5E+02	2.5E+01	RA	88	226	4.8E+01	7.7E+00
IR	77	190	4.3E+01	7.0E+00	RA	88	228	4.2E+01	6.8E+00
IR	77	192	1.3E+01	2.2E+00	AC	89	225	9.1E+05	1.5E+05
IR	77	192M	7.2E+00	1.2E+00	AC	89	227	1.8E+03	2.8E+02
IR	77	193M	7.6E+02	1.2E+02	TH	90	227	3.1E+06	5.0E+05
IR	77	194	4.5E+03	7.2E+02	TH	90	228	4.6E+04	7.4E+03
PT	78	188	8.6E+02	1.4E+02	TH	90	229	4.5E+03	7.3E+02
PT	78	190	1.1E+02	1.7E+01	TH	90	230	4.2E+03	6.8E+02
PT	78	191	2.7E+04	4.4E+03	TH	90	231	3.6E+08	5.8E+07
PT	78	192	1.3E+02	2.1E+01	TH	90	232	3.8E+03	6.1E+02
PT	78	193	4.4E+03	7.1E+02	TH	90	234	1.7E+06	2.7E+05
PT	78	193M	3.5E+04	5.6E+03	PA	91	228	5.2E+08	8.4E+07
PT	78	195M	3.4E+04	5.4E+03	PA	91	229	2.2E+08	3.5E+07
PT	78	197	5.0E+05	8.1E+04	PA	91	230	3.1E+06	5.0E+05
AU	79	193	5.9E+04	9.5E+03	PA	91	231	3.9E+03	6.2E+02
AU	79	194	3.8E+03	6.1E+02	PA	91	232	2.3E+08	3.8E+07
AU	79	195	6.1E+01	9.9E+00	PA	91	233	1.5E+06	2.5E+05
AU	79	196	9.9E+02	1.6E+02	U	92	230	1.1E+01	1.8E+00

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(3) Liver

TABLE 6A. UNIT-RAD DEPOSITION FOR LIVER VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
U	92	231	1.4E+02	2.3E+01	CM	96	240	1.5E+05	2.4E+04
U	92	232	2.1E-02	3.3E-03	CM	96	241	1.1E+05	1.8E+04
U	92	233	1.9E-02	3.0E-03	CM	96	242	1.8E+04	2.9E+03
U	92	234	1.8E-02	2.8E-03	CM	96	243	1.1E+03	1.7E+02
U	92	235	1.6E-02	2.6E-03	CM	96	244	1.2E+03	1.9E+02
U	92	236	1.6E-02	2.6E-03	CM	96	245	8.9E+02	1.4E+02
U	92	237	5.6E+01	9.0E+00	CM	96	246	8.6E+02	1.4E+02
U	92	238	1.5E-02	2.5E-03	CM	96	247	8.0E+02	1.3E+02
U	92	240	4.4E+03	7.1E+02	CM	96	248	7.8E+02	1.3E+02
NP	93	234	2.4E+07	3.9E+06	BK	97	245	8.4E+06	1.3E+06
NP	93	235	6.2E+04	1.0E+04	BK	97	246	5.0E+07	8.1E+06
NP	93	236	3.3E+03	5.3E+02	BK	97	247	1.3E+03	2.1E+02
NP	93	236M	4.2E+08	6.8E+07	BK	97	248	1.6E+08	2.5E+07
NP	93	237	3.5E+03	5.6E+02	BK	97	249	3.3E+04	5.3E+03
NP	93	238	8.4E+07	1.3E+07	CF	98	246	7.1E+07	1.1E+07
NP	93	239	6.5E+07	1.0E+07	CF	98	248	2.9E+04	4.6E+03
PU	94	236	8.8E+04	1.4E+04	CF	98	249	1.3E+03	2.2E+02
PU	94	237	2.6E+06	4.2E+05	CF	98	250	3.0E+03	4.9E+02
PU	94	238	1.4E+04	2.3E+03	CF	98	251	1.2E+03	2.0E+02
PU	94	239	1.2E+04	2.0E+03	CF	98	252	9.5E+03	1.5E+03
PU	94	240	1.2E+04	1.9E+03	CF	98	253	8.1E+05	1.3E+05
PU	94	241	2.4E+04	3.8E+03	ES	99	251	6.2E+07	9.9E+05
PU	94	242	1.2E+04	1.9E+03	ES	99	252	6.8E+04	1.1E+04
PU	94	244	1.0E+04	1.7E+03	ES	99	253	7.5E+05	1.2E+05
PU	94	246	1.4E+07	2.3E+06	ES	99	254	1.8E+04	2.9E+03
AM	95	239	1.8E+08	2.9E+07	ES	99	254M	5.0E+07	8.1E+06
AM	95	240	1.1E+07	1.7E+06	ES	99	255	5.3E+05	8.6E+04
AM	95	241	1.0E+03	1.7E+02	FM	100	252	1.4E+08	2.3E+07
AM	95	242	9.7E+07	1.6E+07	FM	100	253	8.1E+06	1.3E+06
AM	95	242M	9.9E+02	1.6E+02	FM	100	255	1.7E+08	2.8E+07
AM	95	243	9.1E+02	1.5E+02	FM	100	257	1.2E+05	1.9E+04

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(3) Liver

TABLE 6A. UNIT-RAD DEPOSITION FOR OVARIES

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
H	1	3	7.2E+02	6.8E+01	CU	29	67	9.5E+01	8.9E+00
BE	4	7	2.8E+02	2.7E+01	ZN	30	65	2.1E+00	2.0E-01
BE	4	10	2.7E-01	2.6E-02	ZN	30	69M	3.8E+03	3.6E+02
C	6	14	1.2E+02	1.1E+01	ZN	30	72	7.3E+01	6.9E+00
NA	11	22	8.5E-01	8.0E-02	GA	31	67	1.9E+04	1.8E+03
NA	11	24	1.7E+02	1.6E+01	GA	31	72	3.2E+04	3.0E+03
MG	12	28	4.1E-01	3.8E-02	GE	32	68	5.4E-02	5.1E-03
AL	13	26	1.0E-04	9.5E-06	GE	32	69	7.2E+01	6.8E+00
SI	14	32	3.6E+02	3.4E+01	GE	32	71	4.7E+02	4.4E+01
P	15	32	2.7E+00	2.5E-01	AS	33	71	2.5E+00	2.3E-01
P	15	33	1.9E+01	1.8E+00	AS	33	72	2.7E+00	2.6E-01
S	16	35	7.7E+00	7.2E-01	AS	33	73	9.4E-01	8.8E-02
CL	17	36	2.2E+00	2.1E-01	AS	33	74	3.6E-02	3.4E-03
AR	18	37	7.7E+02	7.2E+01	AS	33	76	3.7E+00	3.5E-01
AR	18	39	2.9E-02	2.8E-03	AS	33	77	1.3E+01	1.3E+00
AR	18	42	3.2E-03	3.0E-04	SE	34	72	2.9E-04	2.8E-05
K	19	40	2.3E+00	2.1E-01	SE	34	75	4.6E-05	4.3E-06
K	19	42	2.1E+03	2.0E+02	SE	34	79	8.4E-06	7.9E-07
K	19	43	1.3E+03	1.2E+02	BR	35	76	3.4E+02	3.2E+01
CA	20	41	8.0E+02	7.5E+01	BR	35	77	7.8E+01	7.3E+00
CA	20	45	4.2E+01	4.0E+00	BR	35	82	6.5E+01	6.1E+00
CA	20	47	5.3E+01	5.0E+00	KR	36	76	8.1E+02	7.7E+01
CA	20	48	7.8E-01	7.4E-02	KR	36	79	4.7E+02	4.4E+01
SC	21	44M	8.5E+06	8.0E+05	KR	36	81	2.9E-01	2.7E-02
SC	21	46	5.7E+04	5.4E+03	KR	36	85	5.7E-02	5.3E-03
SC	21	47	4.2E+07	3.9E+06	RB	37	83	1.8E+00	1.7E-01
SC	21	48	1.1E+07	1.1E+06	RB	37	84	1.2E+00	1.1E-01
TI	22	44	1.4E+01	1.3E+00	RB	37	86	4.0E+00	3.7E-01
V	23	48	2.3E-01	2.1E-02	RB	37	87	5.2E+00	4.9E-01
V	23	49	3.8E+00	3.5E-01	SR	38	82	4.7E+01	4.4E+00
V	23	50	6.4E-04	6.0E-05	SR	38	83	1.3E+04	1.2E+03
CR	24	48	5.2E+01	4.9E+00	SR	38	85	1.5E+02	1.4E+01
CR	24	51	1.7E+01	1.6E+00	SR	38	89	1.2E+02	1.1E+01
MN	25	52	5.4E+02	5.1E+01	SR	38	90	2.4E+01	2.3E+00
MN	25	53	7.9E+04	7.5E+03	Y	39	86	1.1E+09	1.0E+08
MN	25	54	5.9E+02	5.6E+01	Y	39	87	2.1E+08	2.0E+07
FE	26	55	5.0E+02	4.7E+01	Y	39	87M	4.0E+09	3.8E+08
FE	26	59	2.4E+01	2.3E+00	Y	39	88	4.5E+05	4.3E+04
FE	26	60	8.2E-01	7.7E-02	Y	39	90	2.0E+08	1.9E+07
CO	27	55	4.4E+04	4.1E+03	Y	39	91	3.1E+06	2.9E+05
CO	27	56	1.2E+02	1.2E+01	ZR	40	86	1.5E+06	1.4E+05
CO	27	57	1.3E+03	1.2E+02	ZR	40	88	1.0E+03	9.7E+01
CO	27	58	2.6E+02	2.5E+01	ZR	40	89	2.1E+05	1.9E+04
CO	27	60	6.4E+01	6.1E+00	ZR	40	93	1.6E+03	1.5E+02
NI	28	56	8.3E-03	7.8E-04	ZR	40	95	2.7E+03	2.5E+02
NI	28	57	2.0E-01	1.9E-02	ZR	40	97	2.2E+06	2.1E+05
NI	28	59	1.0E-03	9.6E-05	NB	41	90	3.6E+03	3.4E+02
NI	28	63	5.0E-04	4.7E-05	NB	41	91	3.5E+00	3.3E-01
NI	28	66	1.0E-01	9.4E-03	NB	41	91M	4.0E+01	3.8E+00
CU	29	64	1.4E+03	1.3E+02	NB	41	92	1.2E+02	1.1E+01

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(4) Ovaries

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
NB	41	93M	1.2E+01	1.2E+00	SB	51	122	1.9E+04	1.8E+03
NB	41	94	3.6E-02	3.4E-03	SB	51	124	8.5E+01	8.0E+00
NB	41	95	2.4E+01	2.2E+00	SB	51	125	1.9E+01	1.8E+00
NB	41	95M	5.8E+02	5.4E+01	SB	51	126	6.0E+02	5.7E+01
NB	41	96	2.8E+03	2.6E+02	SB	51	127	9.3E+03	8.7E+02
MO	42	93	3.8E+02	3.6E+01	TE	52	118	2.9E+02	2.7E+01
MO	42	99	3.6E+02	3.4E+01	TE	52	119	1.0E+04	9.8E+02
TC	43	95	2.5E-01	2.4E-02	TE	52	119M	2.7E+02	2.5E+01
TC	43	95M	1.8E-04	1.7E-05	TE	52	121	1.7E+02	1.6E+01
TC	43	96	3.8E-03	3.5E-04	TE	52	121M	2.9E+01	2.7E+00
TC	43	97	6.4E-05	6.0E-06	TE	52	123	6.5E+02	6.1E+01
TC	43	97M	1.0E-03	9.8E-05	TE	52	123M	1.0E+02	9.8E+00
TC	43	98	8.5E-07	8.0E-08	TE	52	125M	2.6E+02	2.4E+01
TC	43	99	1.4E-05	1.3E-06	TE	52	127M	8.3E+01	7.8E+00
RU	44	97	4.6E+06	4.3E+05	TE	52	129M	5.7E+01	5.4E+00
RU	44	103	1.2E+05	1.1E+04	TE	52	131M	2.6E+03	2.4E+02
RU	44	106	9.4E+03	8.8E+02	TE	52	132	3.5E+02	3.3E+01
RH	45	99	4.8E-01	4.5E-02	I	53	123	1.3E+00	1.2E-01
RH	45	100	2.5E+01	2.3E+00	I	53	124	2.7E-03	2.6E-04
RH	45	101	3.3E-03	3.1E-04	I	53	125	1.8E-03	1.7E-04
RH	45	101M	5.4E+00	5.0E-01	I	53	126	1.8E-03	1.7E-04
RH	45	102	6.0E-03	5.6E-04	I	53	129	1.0E-05	9.7E-07
RH	45	105	5.6E+01	5.3E+00	I	53	130	1.3E-01	1.2E-02
PD	46	100	1.5E+01	1.5E+00	I	53	131	3.4E-03	3.2E-04
PD	46	103	3.1E+01	2.9E+00	I	53	133	9.2E-02	8.7E-03
PD	46	107	2.2E+00	2.0E-01	XE	54	122	4.6E+02	4.3E+01
PD	46	109	1.7E+03	1.6E+02	XE	54	125	2.5E+03	2.4E+02
PD	46	112	1.2E+02	1.1E+01	XE	54	127	8.7E+00	8.2E-01
AG	47	105	1.7E+00	1.6E-01	XE	54	129M	7.9E+01	7.4E+00
AG	47	106M	1.8E+00	1.7E-01	XE	54	131M	6.0E+01	5.6E+00
AG	47	108M	5.2E-01	4.9E-02	XE	54	133	2.0E+02	1.9E+01
AG	47	110M	5.0E-01	4.7E-02	XE	54	133M	4.0E+02	3.7E+01
AG	47	111	1.1E+01	1.1E+00	CS	55	129	1.2E+03	1.1E+02
CD	48	109	8.0E+04	7.5E+03	CS	55	131	6.1E+02	5.7E+01
CD	48	113M	3.7E+04	3.5E+03	CS	55	132	5.6E+01	5.3E+00
CD	48	115	1.3E+06	1.2E+05	CS	55	134	4.2E-01	4.0E-02
CD	48	115M	2.4E+04	2.3E+03	CS	55	135	1.3E+01	1.2E+00
IN	49	111	2.8E+03	2.7E+02	CS	55	136	5.9E+00	5.6E-01
IN	49	114M	1.2E+01	1.1E+00	CS	55	137	8.8E-01	8.3E-02
IN	49	115	3.6E-01	3.4E-02	BA	56	128	1.6E+04	1.5E+03
SN	50	113	1.9E+01	1.8E+00	BA	56	131	5.7E+03	5.4E+02
SN	50	117M	1.4E+02	1.3E+01	BA	56	133	5.2E+03	4.9E+02
SN	50	119M	7.4E+01	7.0E+00	BA	56	133M	1.1E+05	1.1E+04
SN	50	121	2.4E+04	2.3E+03	BA	56	135M	4.8E+05	4.5E+04
SN	50	121M	3.9E+01	3.6E+00	BA	56	140	1.6E+03	1.5E+02
SN	50	123M	1.1E+01	1.1E+00	LA	57	135	6.0E+06	5.6E+05
SN	50	125	4.0E+01	3.8E+00	LA	57	137	8.5E+02	8.0E+01
SN	50	126	1.6E+00	1.5E-01	LA	57	138	2.5E+01	2.3E+00
SB	51	119	1.2E+06	1.1E+05	LA	57	140	4.2E+05	4.0E+04
SB	51	120M	2.3E+03	2.2E+02	CE	58	134	4.0E+07	3.8E+06

Table 6A. Unit-rad deposition for selected organs via milk (cont'd).
(4) Ovaries

TABLE 6A. UNIT-RAD DEPOSITION FOR OVARIES

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
CE	58	135	8.2E+08	7.7E+07	GD	64	159	1.5E+09	1.4E+08
CE	58	137M	6.2E+08	5.8E+07	GD	64	162	4.5E+04	4.3E+03
CE	58	139	1.1E+06	1.1E+05	TB	65	151	6.1E+08	5.8E+07
CE	58	141	5.1E+06	4.8E+05	TB	65	152	1.8E+08	1.7E+07
CE	58	142	3.5E+03	3.2E+02	TB	65	153	1.3E+08	1.2E+07
CE	58	143	2.0E+08	1.9E+07	TB	65	154	6.6E+08	6.2E+07
CE	58	144	2.9E+04	2.7E+03	TB	65	155	3.5E+07	3.3E+06
PR	59	142	4.6E+06	4.4E+05	TB	65	156	1.1E+07	1.0E+06
PR	59	143	9.5E+04	8.9E+03	TB	65	157	6.8E+04	6.4E+03
ND	60	140	3.1E+06	2.9E+05	TB	65	158	3.0E+03	2.8E+02
ND	60	144	1.8E+02	1.7E+01	TB	65	160	2.9E+05	2.7E+04
ND	60	147	1.8E+05	1.7E+04	TB	65	161	5.4E+07	5.0E+06
PM	61	143	2.8E+05	2.6E+04	TB	65	164	9.0E+08	8.5E+07
PM	61	144	2.7E+04	2.5E+03	DY	66	154	3.9E+00	3.7E-01
PM	61	145	1.0E+05	9.7E+03	DY	66	154M	3.5E+06	3.3E+05
PM	61	146	1.9E+04	1.8E+03	DY	66	156	6.2E+00	5.8E-01
PM	61	147	1.2E+04	1.1E+03	DY	66	159	2.7E+04	2.6E+03
PM	61	148	1.1E+07	1.1E+06	DY	66	166	3.2E+05	3.0E+04
PM	61	148M	1.5E+05	1.4E+04	HO	67	163	5.9E+02	5.6E+01
PM	61	149	2.0E+08	1.9E+07	HO	67	166	3.0E+06	2.9E+05
PM	61	151	2.6E+08	2.5E+07	HO	67	166M	2.6E+01	2.5E+00
SM	62	141	4.9E+06	4.6E+05	ER	68	160	8.6E+05	8.1E+04
SM	62	145	4.6E+06	4.3E+05	ER	68	169	6.7E+05	6.3E+04
SM	62	146	1.2E+04	1.2E+03	ER	68	172	7.2E+05	6.8E+04
SM	62	147	1.4E+04	1.3E+03	TM	69	165	1.3E+08	1.2E+07
SM	62	148	8.1E+03	7.6E+02	TM	69	167	1.4E+07	1.3E+06
SM	62	149	1.7E+04	1.6E+03	TM	69	168	2.8E+05	2.7E+04
SM	62	151	2.3E+06	2.2E+05	TM	69	170	7.6E+05	7.2E+04
SM	62	153	2.8E+09	2.6E+08	TM	69	171	2.4E+06	2.2E+05
EU	63	145	3.4E+07	3.2E+06	TM	69	172	8.0E+07	7.5E+06
EU	63	146	8.2E+06	7.7E+05	YB	70	166	8.6E+07	8.1E+05
EU	63	146M	8.5E+07	8.0E+06	YB	70	169	1.9E+06	1.8E+05
EU	63	147	9.6E+05	9.0E+04	YB	70	175	9.4E+07	8.8E+06
EU	63	148	1.8E+06	1.7E+05	LU	71	169	9.0E+05	8.5E+04
EU	63	149	8.1E+05	7.6E+04	LU	71	170	3.2E+05	3.0E+04
EU	63	150	2.4E+04	2.3E+03	LU	71	171	5.7E+05	5.4E+04
EU	63	150M	5.2E+08	4.9E+07	LU	71	172	1.1E+05	1.1E+04
EU	63	152	9.5E+03	8.9E+02	LU	71	173	6.9E+02	6.5E+01
EU	63	154	7.2E+03	6.8E+02	LU	71	174	1.5E+02	1.4E+01
EU	63	155	6.2E+05	5.8E+04	LU	71	174M	2.9E+03	2.7E+02
EU	63	156	3.3E+06	3.1E+05	LU	71	176	4.4E+01	4.1E+00
EU	63	157	1.4E+09	1.3E+08	LU	71	177	6.4E+05	6.0E+04
GD	64	146	1.2E+05	1.1E+04	LU	71	177M	8.3E+03	7.8E+02
GD	64	147	7.1E+07	6.7E+06	HF	72	170	3.2E+07	3.1E+06
GD	64	148	1.1E+03	1.1E+02	HF	72	171	6.4E+07	6.0E+06
GD	64	149	5.6E+06	5.3E+05	HF	72	172	4.9E+03	4.6E+02
GD	64	150	6.1E+02	5.7E+01	HF	72	173	2.0E+07	1.9E+06
GD	64	151	6.3E+05	5.9E+04	HF	72	174	1.7E+03	1.6E+02
GD	64	152	1.5E+03	1.4E+02	HF	72	175	9.3E+04	8.7E+03
GD	64	153	6.9E+05	6.5E+04	HF	72	181	1.0E+05	9.8E+03

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(4) Ovaries

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
HF	72	182	2.6E+03	2.4E+02	AU	79	198	7.3E-01	6.8E-02
TA	73	177	5.2E+00	4.9E-01	AU	79	199	1.8E+00	1.7E-01
TA	73	179	1.2E-01	1.1E-02	HG	80	194	1.5E-05	1.4E-06
TA	73	182	1.6E-02	1.5E-03	HG	80	195M	1.4E-02	1.4E-03
TA	73	183	2.3E+00	2.1E-01	HG	80	197	2.8E-02	2.6E-03
W	74	178	1.0E-01	9.7E-03	HG	80	197M	9.9E-02	9.3E-03
W	74	181	2.9E-01	2.8E-02	HG	80	203	3.6E-04	3.4E-05
W	74	185	3.1E-01	3.0E-02	TL	81	200	3.4E+01	3.2E+00
W	74	187	4.3E+01	4.0E+00	TL	81	201	2.8E+01	2.6E+00
W	74	188	3.1E-02	2.9E-03	TL	81	202	1.4E+00	1.3E-01
RE	75	180	1.1E-01	1.0E-02	TL	81	204	9.1E-03	8.5E-04
RE	75	181	1.2E-01	1.1E-02	PB	82	200	2.6E+01	2.5E+00
RE	75	182	1.5E-02	1.4E-03	PB	82	202	5.4E-04	5.1E-05
RE	75	182M	3.1E-01	2.9E-02	PB	82	203	1.1E+01	1.0E+00
RE	75	183	4.9E-04	4.6E-05	PB	82	204	1.2E-04	1.2E-05
RE	75	184	3.5E-04	3.3E-05	PB	82	205	3.7E-03	3.5E-04
RE	75	184M	4.9E-05	4.6E-06	PB	82	210	8.6E-05	8.0E-06
RE	75	186	2.7E-02	2.5E-03	BI	83	205	1.5E+00	1.4E-01
RE	75	187	9.8E-03	9.3E-04	BI	83	206	6.8E+00	6.4E-01
RE	75	188	2.6E-01	2.5E-02	BI	83	207	2.4E-03	2.2E-04
RE	75	189	3.1E-01	2.9E-02	BI	83	208	1.2E-03	1.1E-04
OS	76	182	2.0E+00	1.9E-01	BI	83	210	3.2E+00	3.0E-01
OS	76	183	1.5E+01	1.4E+00	BI	83	210M	5.7E-04	5.4E-05
OS	76	185	3.8E-03	3.6E-04	PO	84	206	6.3E-02	6.0E-03
OS	76	191	1.5E-01	1.4E-02	PO	84	208	8.2E-05	7.8E-06
OS	76	191M	3.7E+01	3.5E+00	PO	84	209	2.0E-05	1.8E-06
OS	76	193	4.3E+00	4.0E-01	PO	84	210	9.9E-04	9.3E-05
OS	76	194	5.2E-05	4.9E-06	RN	86	211	1.9E+02	1.8E+01
IR	77	185	8.2E+00	7.7E-01	RN	86	222	2.5E+00	2.4E-01
IR	77	186	4.8E+00	4.5E-01	RA	88	223	1.8E-04	1.7E-05
IR	77	187	1.3E+01	1.2E+00	RA	88	224	1.2E-03	1.1E-04
IR	77	188	5.6E-01	5.3E-02	RA	88	225	1.2E-04	1.2E-05
IR	77	189	1.1E-01	9.9E-03	RA	88	226	1.1E-07	1.1E-08
IR	77	190	3.1E-02	2.9E-03	RA	88	228	3.7E-07	3.5E-08
IR	77	192	3.7E-03	3.5E-04	AC	89	225	2.0E+03	1.9E+02
IR	77	192M	2.7E-05	2.5E-06	AC	89	227	1.5E+00	1.4E-01
IR	77	193M	5.4E-01	5.1E-02	TH	90	227	6.8E+02	6.4E+01
IR	77	194	4.5E+00	4.2E-01	TH	90	228	1.0E+01	9.5E-01
PT	78	188	2.0E-02	1.9E-03	TH	90	229	9.5E-01	9.0E-02
PT	78	190	1.0E-05	9.6E-07	TH	90	230	8.9E-01	8.4E-02
PT	78	191	8.4E-01	7.9E-02	TH	90	231	8.1E+04	7.6E+03
PT	78	192	1.2E-05	1.1E-06	TH	90	232	8.0E-01	7.5E-02
PT	78	193	4.3E-04	4.0E-05	TH	90	234	3.7E+02	3.5E+01
PT	78	193M	1.0E+00	9.5E-02	PA	91	228	1.2E+03	1.1E+02
PT	78	195M	9.9E-01	9.3E-02	PA	91	229	4.9E+02	4.6E+01
PT	78	197	1.7E+01	1.6E+00	PA	91	230	6.9E+00	6.4E-01
AU	79	193	1.1E+01	9.9E-01	PA	91	231	8.2E-03	7.7E-04
AU	79	194	6.8E-01	6.3E-02	PA	91	232	5.2E+02	4.9E+01
AU	79	195	6.8E-03	6.4E-04	PA	91	233	3.4E+00	3.2E-01
AU	79	196	1.7E-01	1.6E-02	U	92	230	4.9E+00	4.6E-01

Table 6A. Unit-rad deposition for selected organs via milk (cont'd).
(4) Ovaries

TABLE 6A. UNIT-RAD DEPOSITION FOR OVARIES VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2
U	92	231	6.3E+01	5.9E+00	CM	96	240	2.6E+02	2.5E+01
U	92	232	9.2E-03	8.6E-04	CM	96	241	1.9E+02	1.8E+01
U	92	233	8.3E-03	7.8E-04	CM	96	242	3.0E+01	2.9E+00
U	92	234	7.8E-03	7.4E-04	CM	96	243	7.9E-01	7.4E-02
U	92	235	7.3E-03	6.8E-04	CM	96	244	9.7E-01	9.1E-02
U	92	236	7.2E-03	6.7E-04	CM	96	245	5.8E-01	5.5E-02
U	92	237	2.5E+01	2.3E+00	CM	96	246	5.6E-01	5.3E-02
U	92	238	6.9E-03	6.5E-04	CM	96	247	5.2E-01	4.9E-02
U	92	240	2.0E+03	1.9E+02	CM	96	248	5.1E-01	4.8E-02
NP	93	234	5.4E+03	5.0E+02	BK	97	245	3.7E+04	3.5E+03
NP	93	235	1.4E+01	1.3E+00	BK	97	246	2.2E+05	2.1E+04
NP	93	236	6.9E-01	6.5E-02	BK	97	247	5.9E+00	5.5E-01
NP	93	236M	9.4E+04	8.8E+03	BK	97	248	7.0E+05	6.5E+04
NP	93	237	7.3E-01	6.9E-02	BK	97	249	1.5E+02	1.4E+01
NP	93	238	1.9E+04	1.7E+03	CF	98	246	3.1E+05	3.0E+04
NP	93	239	1.4E+04	1.4E+03	CF	98	248	1.3E+02	1.2E+01
PU	94	236	5.7E+02	5.3E+01	CF	98	249	6.0E+00	5.6E-01
PU	94	237	1.7E+04	1.6E+03	CF	98	250	1.3E+01	1.3E+00
PU	94	238	8.6E+01	8.1E+00	CF	98	251	5.4E+00	5.1E-01
PU	94	239	7.2E+01	6.8E+00	CF	98	252	4.2E+01	4.0E+00
PU	94	240	7.1E+01	6.7E+00	CF	98	253	3.6E+03	3.4E+02
PU	94	241	1.4E+02	1.4E+01	ES	99	251	2.7E+05	2.6E+04
PU	94	242	6.9E+01	6.5E+00	ES	99	252	3.0E+02	2.9E+01
PU	94	244	6.2E+01	5.8E+00	ES	99	253	3.3E+03	3.1E+02
PU	94	246	9.6E+04	9.0E+03	ES	99	254	8.1E+01	7.6E+00
AM	95	239	2.8E+05	2.6E+04	ES	99	254M	2.2E+05	2.1E+04
AM	95	240	1.7E+04	1.6E+03	ES	99	255	2.4E+03	2.2E+02
AM	95	241	6.6E-01	6.2E-02	FM	100	252	6.3E+05	5.9E+04
AM	95	242	1.5E+05	1.4E+04	FM	100	253	3.6E+04	3.4E+03
AM	95	242M	6.5E-01	6.1E-02	FM	100	255	7.7E+05	7.2E+04
AM	95	243	5.9E-01	5.5E-02	FM	100	257	5.3E+02	5.0E+01

Table 6A. Unit-rad deposition for selected organs via milk (cont'd).
(4) Ovaries

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
H	1	3	6.9E+02	1.1E+02	CU	29	67	9.7E+01	1.5E+01
BE	4	7	3.4E+06	5.3E+05	ZN	30	65	5.5E-02	8.5E-03
BE	4	10	4.2E+04	6.4E+03	ZN	30	69M	3.3E+02	5.1E+01
C	6	14	1.1E+02	1.8E+01	ZN	30	72	6.3E+00	9.7E-01
NA	11	22	8.2E-01	1.3E-01	GA	31	67	6.4E+07	9.9E+06
NA	11	24	1.7E+02	2.6E+01	GA	31	72	7.7E+07	1.2E+07
MG	12	28	8.9E+00	1.4E+00	GE	32	68	1.2E+00	1.8E-01
AL	13	26	1.6E+01	2.5E+00	GE	32	69	1.6E+03	2.4E+02
SI	14	32	3.7E-03	5.8E-04	GE	32	71	1.0E+04	1.6E+03
P	15	32	2.1E+00	3.2E-01	AS	33	71	5.4E+01	8.3E+00
P	15	33	1.4E+01	2.1E+00	AS	33	72	6.0E+01	9.2E+00
S	16	35	1.1E+02	1.7E+01	AS	33	73	2.1E+01	3.2E+00
CL	17	36	2.2E+00	3.3E-01	AS	33	74	7.9E-01	1.2E-01
AR	18	37	7.4E+02	1.1E+02	AS	33	76	8.0E+01	1.2E+01
AR	18	39	2.8E-02	4.4E-03	AS	33	77	2.9E+02	4.5E+01
AR	18	42	3.1E-03	4.7E-04	SE	34	72	1.9E+00	2.9E-01
K	19	40	2.2E+00	3.4E-01	SE	34	75	1.6E+00	2.4E-01
K	19	42	2.1E+03	3.2E+02	SE	34	79	1.5E+01	2.4E+00
K	19	43	1.3E+03	1.9E+02	BR	35	76	3.3E+02	5.1E+01
CA	20	41	2.5E+03	3.9E+02	BR	35	77	7.5E+01	1.2E+01
CA	20	45	1.1E+02	1.8E+01	BR	35	82	6.3E+01	9.7E+00
CA	20	47	5.5E+01	8.5E+00	KR	36	76	7.8E+02	1.2E+02
CA	20	48	2.5E+00	3.8E-01	KR	36	79	4.5E+02	6.9E+01
SC	21	44M	9.5E+07	1.5E+07	KR	36	81	2.8E-01	4.3E-02
SC	21	46	6.7E+05	1.0E+05	KR	36	85	5.4E-02	8.4E-03
SC	21	47	4.7E+08	7.2E+07	RB	37	83	1.7E+00	2.6E-01
SC	21	48	1.3E+08	2.0E+07	RB	37	84	1.1E+00	1.7E-01
TI	22	44	5.8E+05	9.0E+04	RB	37	86	3.8E+00	5.9E-01
V	23	48	5.8E+02	9.0E+01	RB	37	87	5.0E+00	7.7E-01
V	23	49	3.8E+04	5.9E+03	SR	38	82	9.6E+01	1.5E+01
V	23	50	1.2E+02	1.8E+01	SR	38	83	1.4E+04	2.2E+03
CR	24	48	1.1E+03	1.7E+02	SR	38	85	4.0E+02	6.1E+01
CR	24	51	3.8E+02	5.8E+01	SR	38	89	3.0E+02	4.6E+01
MN	25	52	4.0E+03	6.2E+02	SR	38	90	9.2E+01	1.4E+01
MN	25	53	1.8E+05	2.8E+04	Y	39	86	6.8E+09	1.0E+09
MN	25	54	1.4E+03	2.2E+02	Y	39	87	1.3E+09	2.0E+08
FE	26	55	4.5E+02	7.0E+01	Y	39	87M	2.5E+10	3.9E+09
FE	26	59	2.6E+01	4.0E+00	Y	39	88	2.9E+06	4.4E+05
FE	26	60	6.7E-01	1.0E-01	Y	39	90	1.3E+09	2.0E+08
CO	27	55	6.8E+04	1.1E+04	Y	39	91	1.9E+07	3.0E+06
CO	27	56	1.9E+02	2.9E+01	ZR	40	86	5.6E+09	8.6E+08
CO	27	57	2.1E+03	3.2E+02	ZR	40	88	4.1E+06	6.4E+05
CO	27	58	4.1E+02	6.3E+01	ZR	40	89	7.6E+08	1.2E+08
CO	27	60	1.0E+02	1.5E+01	ZR	40	93	4.8E+07	7.4E+06
NI	28	56	1.8E-01	2.8E-02	ZR	40	95	1.0E+07	1.6E+06
NI	28	57	4.4E+00	6.8E-01	ZR	40	97	8.2E+09	1.3E+09
NI	28	59	2.2E-02	3.5E-03	NB	41	90	2.0E+04	3.0E+03
NI	28	63	1.1E-02	1.7E-03	NB	41	91	1.5E+02	2.3E+01
NI	28	66	2.2E+00	3.4E-01	NB	41	91M	2.3E+02	3.6E+01
CU	29	64	1.4E+03	2.2E+02	NB	41	92	6.4E+02	9.8E+01

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(5) Spleen

TABLE 6A. UNIT-RAD DEPOSITION FOR SPLEEN

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
NB	41	93M	1.6E+02	2.5E+01	SB	51	122	3.9E+05	5.9E+04
NB	41	94	1.5E+00	2.4E-01	SB	51	124	1.7E+03	2.7E+02
NB	41	95	1.3E+02	2.1E+01	SB	51	125	3.9E+02	6.0E+01
NB	41	95M	3.2E+03	4.9E+02	SB	51	126	1.2E+04	1.9E+03
NB	41	96	1.5E+04	2.4E+03	SB	51	127	1.9E+05	2.9E+04
MO	42	93	2.9E+02	4.4E+01	TE	52	118	5.0E+02	7.7E+01
MO	42	99	1.5E+02	2.3E+01	TE	52	119	1.8E+04	2.8E+03
TC	43	95	5.5E+00	8.5E-01	TE	52	119M	4.7E+02	7.2E+01
TC	43	95M	4.0E-03	6.2E-04	TE	52	121	2.9E+02	4.5E+01
TC	43	96	8.2E-02	1.3E-02	TE	52	121M	5.1E+01	7.9E+00
TC	43	97	1.4E-03	2.1E-04	TE	52	123	1.1E+03	1.8E+02
TC	43	97M	2.3E-02	3.5E-03	TE	52	123M	1.8E+02	2.8E+01
TC	43	98	1.9E-05	2.9E-06	TE	52	125M	4.5E+02	6.9E+01
TC	43	99	3.1E-04	4.7E-05	TE	52	127M	1.5E+02	2.2E+01
RU	44	97	2.2E+06	3.5E+05	TE	52	129M	1.0E+02	1.5E+01
RU	44	103	4.7E+04	7.3E+03	TE	52	131M	4.6E+03	7.0E+02
RU	44	106	2.5E+03	3.9E+02	TE	52	132	6.1E+02	9.3E+01
RH	45	99	5.6E+01	8.6E+00	I	53	123	6.3E+03	9.6E+02
RH	45	100	1.7E+03	2.6E+02	I	53	124	1.9E+01	2.9E+00
RH	45	101	1.9E+01	2.9E+00	I	53	125	7.6E+01	1.2E+01
RH	45	101M	4.3E+02	6.6E+01	I	53	126	2.3E+01	3.5E+00
RH	45	102	4.3E+00	6.6E-01	I	53	129	4.8E+01	7.5E+00
RH	45	105	4.0E+03	6.1E+02	I	53	130	6.0E+02	9.3E+01
PD	46	100	1.3E+02	1.9E+01	I	53	131	3.2E+01	4.9E+00
PD	46	103	4.4E+02	6.7E+01	I	53	133	4.5E+02	7.0E+01
PD	46	107	7.1E+03	1.1E+03	XE	54	122	4.4E+02	6.8E+01
PD	46	109	1.1E+04	1.7E+03	XE	54	125	2.4E+03	3.8E+02
PD	46	112	8.5E+02	1.3E+02	XE	54	127	8.4E+00	1.3E+00
AG	47	105	4.0E+00	6.2E-01	XE	54	129M	7.6E+01	1.2E+01
AG	47	106M	8.0E+00	1.2E+00	XE	54	131M	5.7E+01	8.8E+00
AG	47	108M	8.6E-01	1.3E-01	XE	54	133	1.9E+02	3.0E+01
AG	47	110M	8.8E-01	1.4E-01	XE	54	133M	3.8E+02	5.9E+01
AG	47	111	5.2E+01	8.0E+00	CS	55	129	1.1E+03	1.7E+02
CD	48	109	1.4E+05	2.1E+04	CS	55	131	5.8E+02	9.0E+01
CD	48	113M	5.0E+04	7.8E+03	CS	55	132	5.4E+01	8.4E+00
CD	48	115	5.5E+06	8.5E+05	CS	55	134	4.1E-01	6.3E-02
CD	48	115M	7.8E+04	1.2E+04	CS	55	135	1.2E+01	1.9E+00
IN	49	111	3.3E+06	5.1E+05	CS	55	136	5.7E+00	8.8E-01
IN	49	114M	2.7E+04	4.1E+03	CS	55	137	8.4E-01	1.3E-01
IN	49	115	6.2E+04	9.5E+03	BA	56	128	2.3E+06	3.5E+05
SN	50	113	5.9E+02	9.1E+01	BA	56	131	5.6E+05	8.7E+04
SN	50	117M	1.1E+04	1.6E+03	BA	56	133	3.4E+05	5.3E+04
SN	50	119M	1.4E+03	2.2E+02	BA	56	133M	1.7E+07	2.6E+06
SN	50	121	2.3E+06	3.5E+05	BA	56	135M	7.4E+07	1.1E+07
SN	50	121M	2.1E+02	3.2E+01	BA	56	140	1.5E+05	2.3E+04
SN	50	123M	3.4E+02	5.2E+01	LA	57	135	1.3E+08	2.0E+07
SN	50	125	3.3E+03	5.0E+02	LA	57	137	1.9E+04	2.9E+03
SN	50	126	8.0E+00	1.2E+00	LA	57	138	5.4E+02	8.3E+01
SB	51	119	2.4E+07	3.7E+06	LA	57	140	9.2E+06	1.4E+06
SB	51	120M	4.7E+04	7.3E+03	CE	58	134	4.9E+07	7.6E+06

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(5) Spleen

TABLE 6A. UNIT-RAD DEPOSITION FOR SPLEEN VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2
CE	58	135	1.0E+09	1.5E+08	GD	64	159	2.2E+11	3.4E+10
CE	58	137M	7.5E+08	1.2E+08	GD	64	162	1.3E+07	2.0E+06
CE	58	139	1.6E+06	2.5E+05	TB	65	151	4.5E+10	6.9E+09
CE	58	141	6.4E+06	9.9E+05	TB	65	152	1.3E+10	2.0E+09
CE	58	142	3.7E+04	5.7E+03	TB	65	153	9.6E+09	1.5E+09
CE	58	143	2.4E+08	3.8E+07	TB	65	154	4.8E+10	7.4E+09
CE	58	144	4.7E+04	7.3E+03	TB	65	155	2.6E+09	4.0E+08
PR	59	142	1.0E+08	1.6E+07	TB	65	156	8.0E+08	1.2E+08
PR	59	143	2.1E+06	3.2E+05	TB	65	157	1.0E+08	1.6E+07
ND	60	140	6.7E+07	1.0E+07	TB	65	158	4.5E+06	6.9E+05
ND	60	144	3.9E+03	5.9E+02	TB	65	160	2.5E+07	3.9E+05
ND	60	147	3.9E+06	5.9E+05	TB	65	161	4.0E+09	6.1E+08
PM	61	143	7.5E+07	1.1E+07	TB	65	164	6.6E+10	1.0E+10
PM	61	144	7.9E+06	1.2E+06	DY	66	154	8.6E+01	1.3E+01
PM	61	145	1.4E+08	2.1E+07	DY	66	154M	7.7E+07	1.2E+07
PM	61	146	1.2E+07	1.8E+06	DY	66	156	1.3E+02	2.1E+01
PM	61	147	5.5E+06	8.4E+05	DY	66	159	6.0E+05	9.2E+04
PM	61	148	2.2E+09	3.4E+08	DY	66	166	6.9E+06	1.1E+06
PM	61	148M	3.1E+07	4.8E+06	HO	67	163	1.3E+04	2.0E+03
PM	61	149	3.9E+10	6.0E+09	HO	67	166	6.6E+07	1.0E+07
PM	61	151	5.2E+10	8.0E+09	HO	67	166M	5.8E+02	8.9E+01
SM	62	141	3.7E+07	5.7E+06	ER	68	160	1.9E+07	2.9E+06
SM	62	145	4.9E+07	7.6E+06	ER	68	169	1.5E+07	2.2E+06
SM	62	146	9.5E+05	1.5E+05	ER	68	172	1.6E+07	2.4E+06
SM	62	147	1.1E+06	1.7E+05	TM	69	165	2.3E+09	3.6E+08
SM	62	148	6.1E+05	9.4E+04	TM	69	167	2.6E+08	4.0E+07
SM	62	149	1.3E+06	2.0E+05	TM	69	168	6.3E+06	9.6E+05
SM	62	151	1.6E+08	2.5E+07	TM	69	170	1.8E+07	2.8E+06
SM	62	153	2.0E+10	3.2E+09	TM	69	171	1.2E+08	1.8E+07
EU	63	145	1.2E+09	1.9E+08	TM	69	172	1.5E+09	2.3E+08
EU	63	146	3.0E+08	4.6E+07	YB	70	166	4.7E+09	7.3E+08
EU	63	146M	3.1E+09	4.8E+08	YB	70	169	1.1E+08	1.8E+07
EU	63	147	3.7E+07	5.7E+06	YB	70	175	5.2E+09	8.0E+08
EU	63	148	7.5E+07	1.2E+07	LU	71	169	2.0E+07	3.0E+06
EU	63	149	3.7E+07	5.6E+06	LU	71	170	6.9E+06	1.1E+06
EU	63	150	4.4E+06	6.7E+05	LU	71	171	1.3E+07	1.9E+06
EU	63	150M	1.9E+10	2.9E+09	LU	71	172	2.5E+06	3.9E+05
EU	63	152	3.1E+06	4.8E+05	LU	71	173	1.5E+04	2.3E+03
EU	63	154	2.7E+06	4.1E+05	LU	71	174	3.2E+03	5.0E+02
EU	63	155	5.6E+07	8.6E+06	LU	71	174M	6.4E+04	9.8E+03
EU	63	156	1.2E+08	1.9E+07	LU	71	176	9.7E+02	1.5E+02
EU	63	157	5.2E+10	7.9E+09	LU	71	177	1.4E+07	2.2E+06
GD	64	146	1.9E+07	2.9E+06	LU	71	177M	1.8E+05	2.8E+04
GD	64	147	1.0E+10	1.6E+09	HF	72	170	5.5E+08	8.4E+07
GD	64	148	2.9E+06	4.4E+05	HF	72	171	1.1E+09	1.7E+08
GD	64	149	8.3E+08	1.3E+08	HF	72	172	1.2E+05	1.8E+04
GD	64	150	1.7E+06	2.6E+05	HF	72	173	3.4E+08	5.2E+07
GD	64	151	1.2E+08	1.8E+07	HF	72	174	4.6E+04	7.1E+03
GD	64	152	4.2E+06	6.5E+05	HF	72	175	1.7E+06	2.6E+05
GD	64	153	1.6E+08	2.5E+07	HF	72	181	1.8E+06	2.8E+05

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(5) Spleen

TABLE 6A. UNIT-RAD DEPOSITION FOR SPLEEN

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2
HF	72	182	7.0E+04	1.1E+04	AU	79	198	3.2E+03	5.0E+02
TA	73	177	5.7E+02	8.8E+01	AU	79	199	7.8E+03	1.2E+03
TA	73	179	1.9E+01	3.0E+00	HG	80	194	1.9E-01	2.9E-02
TA	73	182	2.0E+00	3.1E-01	HG	80	195M	1.4E+01	2.1E+00
TA	73	183	2.5E+02	3.9E+01	HG	80	197	2.9E+01	4.4E+00
W	74	178	2.3E+00	3.5E-01	HG	80	197M	8.9E+01	1.4E+01
W	74	181	6.4E+00	9.9E-01	HG	80	203	1.7E+00	2.6E-01
W	74	185	6.9E+00	1.1E+00	TL	81	200	5.4E+02	8.3E+01
W	74	187	9.3E+02	1.4E+02	TL	81	201	4.8E+02	7.4E+01
W	74	188	6.8E-01	1.0E-01	TL	81	202	3.1E+01	4.7E+00
RE	75	180	2.4E+00	3.7E-01	TL	81	204	7.8E+00	1.2E+00
RE	75	181	2.7E+00	4.1E-01	PB	82	200	5.7E+02	8.8E+01
RE	75	182	3.2E-01	5.0E-02	PB	82	202	1.2E-02	1.8E-03
RE	75	182M	6.8E+00	1.1E+00	PB	82	203	2.4E+02	3.6E+01
RE	75	183	1.1E-02	1.7E-03	PB	82	204	2.7E-03	4.1E-04
RE	75	184	7.7E-03	1.2E-03	PB	82	205	8.1E-02	1.3E-02
RE	75	184M	1.1E-03	1.7E-04	PB	82	210	1.9E-03	2.9E-04
RE	75	186	5.9E-01	9.1E-02	BI	83	205	8.5E+03	1.3E+03
RE	75	187	2.2E-01	3.3E-02	BI	83	206	2.4E+04	3.7E+03
RE	75	188	5.7E+00	8.8E-01	BI	83	207	2.8E+03	4.3E+02
RE	75	189	6.8E+00	1.1E+00	BI	83	208	1.9E+03	3.0E+02
OS	76	182	4.4E+01	6.8E+00	BI	83	210	1.0E+04	1.6E+03
OS	76	183	3.4E+02	5.2E+01	BI	83	210M	9.3E+02	1.4E+02
OS	76	185	8.4E-02	1.3E-02	PO	84	206	4.8E+01	7.3E+00
OS	76	191	3.4E+00	5.2E-01	PO	84	208	1.0E+00	1.5E-01
OS	76	191M	8.2E+02	1.3E+02	PO	84	209	1.5E+00	2.2E-01
OS	76	193	9.4E+01	1.4E+01	PO	84	210	2.2E+00	3.3E-01
OS	76	194	1.1E-03	1.8E-04	RN	86	211	1.8E+02	2.8E+01
IR	77	185	9.1E+03	1.4E+03	RN	86	222	2.4E+00	3.7E-01
IR	77	186	5.3E+03	8.2E+02	RA	88	223	3.9E-03	6.0E-04
IR	77	187	1.4E+04	2.2E+03	RA	88	224	2.7E-02	4.1E-03
IR	77	188	6.4E+02	9.8E+01	RA	88	225	2.7E-03	4.1E-04
IR	77	189	1.5E+02	2.2E+01	RA	88	226	2.5E-06	3.9E-07
IR	77	190	4.2E+01	6.4E+00	RA	88	228	8.1E-06	1.2E-06
IR	77	192	1.0E+01	1.5E+00	AC	89	225	4.4E+04	6.8E+03
IR	77	192M	4.3E+00	6.7E-01	AC	89	227	3.2E+01	4.9E+00
IR	77	193M	7.3E+02	1.1E+02	TH	90	227	1.5E+04	2.3E+03
IR	77	194	5.0E+03	7.6E+02	TH	90	228	2.2E+02	3.4E+01
PT	78	188	6.5E+01	1.0E+01	TH	90	229	2.1E+01	3.2E+00
PT	78	190	3.5E+00	5.4E-01	TH	90	230	1.9E+01	3.0E+00
PT	78	191	2.4E+03	3.7E+02	TH	90	231	1.8E+06	2.7E+05
PT	78	192	4.2E+00	6.4E-01	TH	90	232	1.7E+01	2.7E+00
PT	78	193	1.4E+02	2.2E+01	TH	90	234	8.1E+03	1.3E+03
PT	78	193M	3.0E+03	4.6E+02	PA	91	228	2.5E+06	3.9E+05
PT	78	195M	2.9E+03	4.5E+02	PA	91	229	1.1E+06	1.6E+05
PT	78	197	4.8E+04	7.3E+03	PA	91	230	1.5E+04	2.3E+03
AU	79	193	4.6E+04	7.1E+03	PA	91	231	1.8E+01	2.7E+00
AU	79	194	3.0E+03	4.6E+02	PA	91	232	1.1E+06	1.8E+05
AU	79	195	5.2E+01	8.0E+00	PA	91	233	7.5E+03	1.1E+03
AU	79	196	7.7E+02	1.2E+02	U	92	230	1.1E+00	1.6E-01

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(5) Spleen

TABLE 6A. UNIT-RAD DEPOSITION FOR SPLEEN VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2
U	92	231	1.4E+01	2.1E+00	CM	96	240	5.7E+03	8.8E+02
U	92	232	2.0E-03	3.1E-04	CM	96	241	4.2E+03	6.4E+02
U	92	233	1.8E-03	2.8E-04	CM	96	242	6.7E+02	1.0E+02
U	92	234	1.7E-03	2.6E-04	CM	96	243	1.7E+01	2.6E+00
U	92	235	1.6E-03	2.4E-04	CM	96	244	2.1E+01	3.3E+00
U	92	236	1.6E-03	2.4E-04	CM	96	245	1.3E+01	2.0E+00
U	92	237	5.4E+00	8.4E-01	CM	96	246	1.2E+01	1.9E+00
U	92	238	1.5E-03	2.3E-04	CM	96	247	1.1E+01	1.8E+00
U	92	240	4.3E+02	6.6E+01	CM	96	248	1.1E+01	1.7E+00
NP	93	234	1.2E+05	1.8E+04	BK	97	245	8.1E+05	1.3E+05
NP	93	235	3.0E+02	4.6E+01	BK	97	246	4.9E+06	7.5E+05
NP	93	236	1.5E+01	2.3E+00	BK	97	247	1.3E+02	2.0E+01
NP	93	236M	2.0E+06	3.2E+05	BK	97	248	1.5E+07	2.3E+06
NP	93	237	1.6E+01	2.5E+00	BK	97	249	3.2E+03	4.9E+02
NP	93	238	4.1E+05	6.3E+04	CF	98	246	6.9E+06	1.1E+06
NP	93	239	3.1E+05	4.8E+04	CF	98	248	2.8E+03	4.3E+02
PU	94	236	1.2E+04	1.9E+03	CF	98	249	1.3E+02	2.0E+01
PU	94	237	3.8E+05	5.9E+04	CF	98	250	2.9E+02	4.5E+01
PU	94	238	1.9E+03	2.9E+02	CF	98	251	1.2E+02	1.8E+01
PU	94	239	1.6E+03	2.4E+02	CF	98	252	9.3E+02	1.4E+02
PU	94	240	1.6E+03	2.4E+02	CF	98	253	7.9E+04	1.2E+04
PU	94	241	3.2E+03	4.9E+02	ES	99	251	6.0E+06	9.2E+05
PU	94	242	1.5E+03	2.3E+02	ES	99	252	6.6E+03	1.0E+03
PU	94	244	1.4E+03	2.1E+02	ES	99	253	7.3E+04	1.1E+04
PU	94	246	2.1E+06	3.2E+05	ES	99	254	1.8E+03	2.7E+02
AM	95	239	6.1E+06	9.5E+05	ES	99	254M	4.9E+06	7.5E+05
AM	95	240	3.6E+05	5.6E+04	ES	99	255	5.2E+04	8.0E+03
AM	95	241	1.5E+01	2.2E+00	FM	100	252	1.4E+07	2.1E+06
AM	95	242	3.3E+06	5.1E+05	FM	100	253	7.9E+05	1.2E+05
AM	95	242M	1.4E+01	2.2E+00	FM	100	255	1.7E+07	2.6E+06
AM	95	243	1.3E+01	2.0E+00	FM	100	257	1.2E+04	1.8E+03

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(5) Spleen

TABLE 6A. UNIT-RAD DEPOSITION FOR TESTES

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
H	1	3	6.9E+02	1.6E+01	CU	29	67	9.8E+01	2.3E+00
BE	4	7	2.1E+03	4.9E+01	ZN	30	65	4.0E+00	9.2E-02
BE	4	10	2.1E+00	4.7E-02	ZN	30	69M	1.3E+04	2.9E+02
C	6	14	1.1E+02	2.6E+00	ZN	30	72	2.4E+02	5.5E+00
NA	11	22	8.2E-01	1.9E-02	GA	31	67	1.4E+05	3.3E+03
NA	11	24	1.7E+02	3.8E+00	GA	31	72	2.4E+05	5.5E+03
MG	12	28	3.0E+00	7.0E-02	GE	32	68	4.1E-01	9.4E-03
AL	13	26	7.5E-04	1.7E-05	GE	32	69	5.4E+02	1.2E+01
SI	14	32	3.1E+02	7.2E+00	GE	32	71	3.5E+03	8.2E+01
P	15	32	2.1E+00	4.7E-02	AS	33	71	1.8E+01	4.3E-01
P	15	33	1.4E+01	3.2E-01	AS	33	72	2.1E+01	4.7E-01
S	16	35	1.0E+01	2.3E-01	AS	33	73	7.0E+00	1.6E-01
CL	17	36	2.2E+00	4.9E-02	AS	33	74	2.7E-01	6.2E-03
AR	18	37	7.3E+02	1.7E+01	AS	33	76	2.8E+01	6.3E-01
AR	18	39	2.8E-02	6.5E-04	AS	33	77	1.0E+02	2.3E+00
AR	18	42	3.0E-03	7.0E-05	SE	34	72	2.2E-03	5.1E-05
K	19	40	2.2E+00	5.0E-02	SE	34	75	3.5E-04	8.0E-05
K	19	42	2.0E+03	4.7E+01	SE	34	79	6.3E-05	1.4E-06
K	19	43	1.3E+03	2.9E+01	BR	35	76	3.3E+02	7.5E+00
CA	20	41	1.8E+03	4.2E+01	BR	35	77	7.5E+01	1.7E+00
CA	20	45	8.7E+01	2.0E+00	BR	35	82	6.3E+01	1.4E+00
CA	20	47	6.3E+01	1.5E+00	KR	36	76	7.8E+02	1.8E+01
CA	20	48	1.8E+00	4.1E-02	KR	36	79	4.5E+02	1.0E+01
SC	21	44M	6.3E+07	1.5E+06	KR	36	81	2.8E-01	6.4E-03
SC	21	46	4.3E+05	9.8E+03	KR	36	85	5.4E-02	1.2E-03
SC	21	47	3.1E+08	7.2E+06	RB	37	83	1.7E+00	3.9E-02
SC	21	48	8.6E+07	2.0E+06	RB	37	84	1.1E+00	2.6E-02
TI	22	44	1.0E+02	2.4E+00	RB	37	86	3.8E+00	8.8E-02
V	23	48	1.7E+00	3.9E-02	RB	37	87	5.0E+00	1.2E-01
V	23	49	2.8E+01	6.5E-01	SR	38	82	6.9E+01	1.6E+00
V	23	50	4.8E-03	1.1E-04	SR	38	83	1.3E+04	3.1E+02
CR	24	48	3.9E+02	9.0E+00	SR	38	85	2.6E+02	6.0E+00
CR	24	51	1.3E+02	3.0E+00	SR	38	89	2.0E+02	4.6E+00
MN	25	52	7.4E+02	1.7E+01	SR	38	90	5.5E+01	1.3E+00
MN	25	53	2.3E+04	5.3E+02	Y	39	86	5.8E+09	1.3E+08
MN	25	54	1.9E+02	4.3E+00	Y	39	87	1.1E+09	2.6E+07
FE	26	55	8.0E+02	1.8E+01	Y	39	87M	2.2E+10	5.0E+08
FE	26	59	2.6E+01	6.0E-01	Y	39	88	2.5E+06	5.7E+04
FE	26	60	1.5E+00	3.5E-02	Y	39	90	1.1E+09	2.5E+07
CO	27	55	4.9E+04	1.1E+03	Y	39	91	1.6E+07	3.8E+05
CO	27	56	1.4E+02	3.2E+00	ZR	40	86	5.7E+08	1.3E+07
CO	27	57	1.5E+03	3.4E+01	ZR	40	88	4.3E+05	9.9E+03
CO	27	58	2.9E+02	6.8E+00	ZR	40	89	7.8E+07	1.8E+06
CO	27	60	7.2E+01	1.7E+00	ZR	40	93	5.5E+06	1.3E+05
NI	28	56	6.2E-02	1.4E-03	ZR	40	95	1.1E+06	2.5E+04
NI	28	57	1.5E+00	3.5E-02	ZR	40	97	8.4E+08	1.9E+07
NI	28	59	7.7E-03	1.8E-04	NB	41	90	2.7E+04	6.2E+02
NI	28	63	3.7E-03	8.6E-05	NB	41	91	2.6E+01	6.1E-01
NI	28	66	7.5E-01	1.7E-02	NB	41	91M	3.0E+02	7.0E+00
CU	29	64	1.4E+03	3.2E+01	NB	41	92	8.7E+02	2.0E+01

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(6) Testes

TABLE 6A. UNIT-RAD DEPOSITION FOR TESTES VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
NB	41	93M	9.3E+01	2.1E+00	SB	51	122	1.4E+05	3.2E+03
NB	41	94	2.7E-01	6.2E-03	SB	51	124	6.3E+02	1.5E+01
NB	41	95	1.8E+02	4.1E+00	SB	51	125	1.4E+02	3.3E+00
NB	41	95M	4.3E+03	1.0E+02	SB	51	126	4.5E+03	1.0E+02
NB	41	96	2.1E+04	4.8E+02	SB	51	127	7.0E+04	1.6E+03
MO	42	93	3.5E+02	8.0E+00	TE	52	118	5.7E+02	1.3E+01
MO	42	99	3.5E+02	8.0E+00	TE	52	119	2.1E+04	4.8E+02
TC	43	95	1.9E+00	4.3E-02	TE	52	119M	5.3E+02	1.2E+01
TC	43	95M	1.4E-03	3.2E-05	TE	52	121	3.4E+02	7.7E+00
TC	43	96	2.8E-02	6.5E-04	TE	52	121M	5.8E+01	1.3E+00
TC	43	97	4.8E-04	1.1E-05	TE	52	123	1.3E+03	3.0E+01
TC	43	97M	7.8E-03	1.8E-04	TE	52	123M	2.1E+02	4.8E+00
TC	43	98	6.4E-06	1.5E-07	TE	52	125M	5.2E+02	1.2E+01
TC	43	99	1.1E-04	2.4E-06	TE	52	127M	1.7E+02	3.8E+00
RU	44	97	1.2E+06	2.7E+04	TE	52	129M	1.1E+02	2.6E+00
RU	44	103	2.4E+04	5.5E+02	TE	52	131M	5.2E+03	1.2E+02
RU	44	106	1.2E+03	2.7E+01	TE	52	132	6.9E+02	1.6E+01
RH	45	99	3.6E+00	8.3E-02	I	53	123	2.1E+03	4.9E+01
RH	45	100	1.9E+02	4.3E+00	I	53	124	6.6E+00	1.5E-01
RH	45	101	2.5E-02	5.8E-04	I	53	125	2.6E+01	6.0E-01
RH	45	101M	4.0E+01	9.2E-01	I	53	126	7.8E+00	1.8E-01
RH	45	102	4.5E-02	1.0E-03	I	53	129	1.7E+01	3.8E-01
RH	45	105	4.2E+02	9.7E+00	I	53	130	2.1E+02	4.8E+00
PD	46	100	1.2E+02	2.7E+00	I	53	131	1.1E+01	2.5E-01
PD	46	103	2.3E+02	5.4E+00	I	53	133	1.6E+02	3.6E+00
PD	46	107	1.6E+01	3.7E-01	XE	54	122	4.4E+02	1.0E+01
PD	46	109	1.3E+04	2.9E+02	XE	54	125	2.4E+03	5.6E+01
PD	46	112	9.2E+02	2.1E+01	XE	54	127	8.4E+00	1.9E-01
AG	47	105	3.6E+00	8.3E-02	XE	54	129M	7.6E+01	1.7E+00
AG	47	106M	4.8E+00	1.1E-01	XE	54	131M	5.7E+01	1.3E+00
AG	47	108M	1.0E+00	2.3E-02	XE	54	133	1.9E+02	4.5E+00
AG	47	110M	9.9E-01	2.3E-02	XE	54	133M	3.8E+02	8.8E+00
AG	47	111	3.0E+01	6.9E-01	CS	55	129	1.1E+03	2.6E+01
CD	48	109	2.2E+03	5.0E+01	CS	55	131	5.8E+02	1.3E+01
CD	48	113M	1.4E+02	3.2E+00	CS	55	132	5.4E+01	1.2E+00
CD	48	115	2.8E+05	6.3E+03	CS	55	134	4.1E-01	9.4E-03
CD	48	115M	3.3E+03	7.6E+01	CS	55	135	1.2E+01	2.8E-01
IN	49	111	2.1E+04	4.9E+02	CS	55	136	5.7E+00	1.3E-01
IN	49	114M	9.0E+01	2.1E+00	CS	55	137	8.4E-01	1.9E-02
IN	49	115	2.7E+00	6.2E-02	BA	56	128	4.6E+04	1.1E+03
SN	50	113	1.2E+02	2.8E+00	BA	56	131	1.5E+04	3.4E+02
SN	50	117M	9.8E+02	2.3E+01	BA	56	133	1.2E+04	2.8E+02
SN	50	119M	4.4E+02	1.0E+01	BA	56	133M	3.3E+05	7.5E+03
SN	50	121	1.8E+05	4.1E+03	BA	56	135M	1.4E+06	3.2E+04
SN	50	121M	2.2E+02	5.0E+00	BA	56	140	4.0E+03	9.2E+01
SN	50	123M	7.0E+01	1.6E+00	LA	57	135	4.5E+07	1.0E+06
SN	50	125	2.9E+02	6.6E+00	LA	57	137	6.4E+03	1.5E+02
SN	50	126	9.0E+00	2.1E-01	LA	57	138	1.9E+02	4.3E+00
SB	51	119	8.7E+06	2.0E+05	LA	57	140	3.2E+06	7.3E+04
SB	51	120M	1.7E+04	4.0E+02	CE	58	134	3.1E+08	7.0E+06

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(6) Testes

TABLE 6A. UNIT-RAD DEPOSITION FOR TESTES

VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
CE	58	135	6.2E+09	1.4E+08	GD	64	159	1.1E+10	2.6E+08
CE	58	137M	4.7E+09	1.1E+08	GD	64	162	7.2E+05	1.6E+04
CE	58	139	1.2E+07	2.8E+05	TB	65	151	4.6E+09	1.1E+08
CE	58	141	4.2E+07	9.6E+05	TB	65	152	1.3E+09	3.1E+07
CE	58	142	5.7E+05	1.3E+04	TB	65	153	9.9E+08	2.3E+07
CE	58	143	1.5E+09	3.5E+07	TB	65	154	5.0E+09	1.1E+08
CE	58	144	4.0E+05	9.3E+03	TB	65	155	2.7E+08	6.2E+06
PR	59	142	3.5E+07	8.0E+05	TB	65	156	8.2E+07	1.9E+06
PR	59	143	7.1E+05	1.6E+04	TB	65	157	9.0E+06	2.1E+05
ND	60	140	2.3E+07	5.3E+05	TB	65	158	3.9E+05	9.0E+03
ND	60	144	1.3E+03	3.0E+01	TB	65	160	2.5E+06	5.9E+04
ND	60	147	1.3E+06	3.0E+04	TB	65	161	4.1E+08	9.4E+06
PM	61	143	3.5E+06	8.0E+04	TB	65	164	6.8E+09	1.6E+08
PM	61	144	3.9E+05	8.9E+03	DY	66	154	2.9E+01	6.8E-01
PM	61	145	9.2E+06	2.1E+05	DY	66	154M	2.6E+07	6.1E+05
PM	61	146	7.2E+05	1.7E+04	DY	66	156	4.6E+01	1.1E+00
PM	61	147	3.1E+05	7.1E+03	DY	66	159	2.0E+05	4.7E+03
PM	61	148	8.6E+07	2.0E+06	DY	66	166	2.4E+06	5.5E+04
PM	61	148M	1.2E+06	2.8E+04	HO	67	163	4.5E+03	1.0E+02
PM	61	149	1.5E+09	3.4E+07	HO	67	166	2.3E+07	5.2E+05
PM	61	151	2.0E+09	4.6E+07	HO	67	166M	2.0E+02	4.6E+00
SM	62	141	3.9E+07	9.0E+05	ER	68	160	6.5E+06	1.5E+05
SM	62	145	6.4E+07	1.5E+06	ER	68	169	5.0E+06	1.1E+05
SM	62	146	1.8E+06	4.1E+04	ER	68	172	5.4E+06	1.2E+05
SM	62	147	2.0E+06	4.6E+04	TM	69	165	9.6E+08	2.2E+07
SM	62	148	1.1E+06	2.6E+04	TM	69	167	1.1E+08	2.4E+06
SM	62	149	2.5E+06	5.7E+04	TM	69	168	2.6E+06	5.9E+04
SM	62	151	3.0E+08	6.9E+06	TM	69	170	7.5E+06	1.7E+05
SM	62	153	2.1E+10	4.9E+08	TM	69	171	4.8E+07	1.1E+06
EU	63	145	2.6E+08	5.9E+06	TM	69	172	6.0E+08	1.4E+07
EU	63	146	6.2E+07	1.4E+06	YB	70	166	6.5E+08	1.5E+07
EU	63	146M	6.4E+08	1.5E+07	YB	70	169	1.6E+07	3.6E+05
EU	63	147	7.6E+06	1.8E+05	YB	70	175	7.1E+08	1.6E+07
EU	63	148	1.6E+07	3.6E+05	LU	71	169	6.8E+06	1.6E+05
EU	63	149	7.8E+06	1.8E+05	LU	71	170	2.4E+06	5.4E+04
EU	63	150	1.0E+06	2.4E+04	LU	71	171	4.3E+06	9.9E+04
EU	63	150M	3.9E+09	8.9E+07	LU	71	172	8.6E+05	2.0E+04
EU	63	152	7.4E+05	1.7E+04	LU	71	173	5.2E+03	1.2E+02
EU	63	154	6.4E+05	1.5E+04	LU	71	174	1.1E+03	2.5E+01
EU	63	155	1.3E+07	2.9E+05	LU	71	174M	2.2E+04	5.0E+02
EU	63	156	2.6E+07	5.9E+05	LU	71	176	3.3E+02	7.6E+00
EU	63	157	1.1E+10	2.4E+08	LU	71	177	4.8E+06	1.1E+05
GD	64	146	9.9E+05	2.3E+04	LU	71	177M	6.3E+04	1.4E+03
GD	64	147	5.3E+08	1.2E+07	HF	72	170	9.0E+10	2.1E+09
GD	64	148	1.7E+05	3.9E+03	HF	72	171	1.8E+11	4.1E+09
GD	64	149	4.3E+07	9.9E+05	HF	72	172	1.4E+07	3.1E+05
GD	64	150	1.0E+05	2.4E+03	HF	72	173	5.6E+10	1.3E+09
GD	64	151	6.4E+06	1.5E+05	HF	72	174	4.7E+06	1.1E+05
GD	64	152	2.5E+05	5.8E+03	HF	72	175	2.6E+08	5.9E+05
GD	64	153	9.0E+06	2.1E+05	HF	72	181	2.9E+08	6.7E+06

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(6) Testes

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
HF	72	182	7.2E+06	1.6E+05	AU	79	198	5.5E+00	1.3E-01
TA	73	177	3.9E+01	9.0E-01	AU	79	199	1.3E+01	3.0E-01
TA	73	179	8.7E-01	2.0E-02	HG	80	194	1.1E-04	2.5E-06
TA	73	182	1.2E-01	2.7E-03	HG	80	195M	1.1E-01	2.5E-03
TA	73	183	1.7E+01	3.9E-01	HG	80	197	2.1E-01	4.8E-03
W	74	178	7.8E-01	1.8E-02	HG	80	197M	7.4E-01	1.7E-02
W	74	181	2.2E+00	5.1E-02	HG	80	203	2.7E-03	6.2E-05
W	74	185	2.4E+00	5.4E-02	TL	81	200	2.5E+02	5.8E+00
W	74	187	3.2E+02	7.4E+00	TL	81	201	2.1E+02	4.8E+00
W	74	188	2.3E-01	5.3E-03	TL	81	202	1.0E+01	2.3E-01
RE	75	180	8.3E-01	1.9E-02	TL	81	204	6.8E-02	1.6E-03
RE	75	181	9.1E-01	2.1E-02	PB	82	200	2.0E+02	4.5E+00
RE	75	182	1.1E-01	2.6E-03	PB	82	202	4.1E-03	9.3E-05
RE	75	182M	2.3E+00	5.4E-02	PB	82	203	8.1E+01	1.9E+00
RE	75	183	3.7E-03	8.5E-05	PB	82	204	9.2E-04	2.1E-05
RE	75	184	2.6E-03	6.1E-05	PB	82	205	2.8E-02	6.4E-04
RE	75	184M	3.7E-04	8.5E-06	PB	82	210	6.4E-04	1.5E-05
RE	75	186	2.0E-01	4.7E-03	BI	83	205	1.1E+01	2.6E-01
RE	75	187	7.4E-02	1.7E-03	BI	83	206	5.1E+01	1.2E+00
RE	75	188	2.0E+00	4.5E-02	BI	83	207	1.8E-02	4.1E-04
RE	75	189	2.3E+00	5.4E-02	BI	83	208	8.8E-03	2.0E-04
OS	76	182	1.5E+01	3.5E-01	BI	83	210	2.4E+01	5.4E-01
OS	76	183	1.2E+02	2.7E+00	BI	83	210M	4.3E-03	9.8E-05
OS	76	185	2.9E-02	6.6E-04	PO	84	206	4.8E-01	1.1E-02
OS	76	191	1.2E+00	2.7E-02	PO	84	208	6.2E-04	1.4E-05
OS	76	191M	2.8E+02	6.4E+00	PO	84	209	1.5E-04	3.4E-06
OS	76	193	3.2E+01	7.4E-01	PO	84	210	7.5E-03	1.7E-04
OS	76	194	3.9E-04	9.0E-06	RN	86	211	1.8E+02	4.1E+00
IR	77	185	6.1E+01	1.4E+00	RN	86	222	2.4E+00	5.5E-02
IR	77	186	3.6E+01	8.3E-01	RA	88	223	1.3E-03	3.1E-05
IR	77	187	9.7E+01	2.2E+00	RA	88	224	9.1E-03	2.1E-04
IR	77	188	4.2E+00	9.7E-02	RA	88	225	9.2E-04	2.1E-05
IR	77	189	7.9E-01	1.8E-02	RA	88	226	8.6E-07	2.0E-08
IR	77	190	2.3E-01	5.3E-03	RA	88	228	2.8E-06	6.4E-08
IR	77	192	2.8E-02	6.3E-04	AC	89	225	1.5E+04	3.5E+02
IR	77	192M	2.0E-04	4.6E-06	AC	89	227	1.1E+01	2.5E-01
IR	77	193M	4.0E+00	9.3E-02	TH	90	227	5.1E+03	1.2E+02
IR	77	194	3.3E+01	7.7E-01	TH	90	228	7.6E+01	1.7E+00
PT	78	188	1.5E-01	3.5E-03	TH	90	229	7.1E+00	1.6E-01
PT	78	190	7.7E-05	1.8E-06	TH	90	230	6.7E+00	1.5E-01
PT	78	191	6.3E+00	1.4E-01	TH	90	231	6.0E+05	1.4E+04
PT	78	192	9.2E-05	2.1E-06	TH	90	232	6.0E+00	1.4E-01
PT	78	193	3.2E-03	7.4E-05	TH	90	234	2.8E+03	6.4E+01
PT	78	193M	7.6E+00	1.7E-01	PA	91	228	8.7E+05	2.0E+04
PT	78	195M	7.4E+00	1.7E-01	PA	91	229	3.7E+05	8.4E+03
PT	78	197	1.3E+02	3.0E+00	PA	91	230	5.1E+03	1.2E+02
AU	79	193	7.9E+01	1.8E+00	PA	91	231	6.1E+00	1.4E-01
AU	79	194	5.1E+00	1.2E-01	PA	91	232	3.9E+05	9.0E+03
AU	79	195	5.1E-02	1.2E-03	PA	91	233	2.6E+03	5.9E+01
AU	79	196	1.3E+00	3.0E-02	U	92	230	3.7E+01	8.4E-01

Table 6A. Unit-rad deposition for selected organs via milk (contd)
(6) Testes

TABLE 6A. UNIT-RAD DEPOSITION FOR TESTES VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
U	92	231	4.7E+02	1.1E+01	CM	96	240	2.0E+03	4.5E+01
U	92	232	6.9E-02	1.6E-03	CM	96	241	1.4E+03	3.3E+01
U	92	233	6.2E-02	1.4E-03	CM	96	242	2.3E+02	5.3E+00
U	92	234	5.9E-02	1.4E-03	CM	96	243	5.9E+00	1.4E-01
U	92	235	5.5E-02	1.3E-03	CM	96	244	7.2E+00	1.7E-01
U	92	236	5.4E-02	1.2E-03	CM	96	245	4.4E+00	1.0E-01
U	92	237	1.9E+02	4.3E+00	CM	96	246	4.2E+00	9.7E-02
U	92	238	5.2E-02	1.2E-03	CM	96	247	3.9E+00	9.1E-02
U	92	240	1.5E+04	3.4E+02	CM	96	248	3.8E+00	8.8E-02
NP	93	234	4.0E+04	9.2E+02	BK	97	245	2.8E+05	6.4E+03
NP	93	235	1.0E+02	2.4E+00	BK	97	246	1.7E+06	3.9E+04
NP	93	236	5.2E+00	1.2E-01	BK	97	247	4.4E+01	1.0E+00
NP	93	236M	7.0E+05	1.6E+04	BK	97	248	5.2E+06	1.2E+05
NP	93	237	5.5E+00	1.3E-01	BK	97	249	1.1E+03	2.5E+01
NP	93	238	1.4E+05	3.2E+03	CF	98	246	2.4E+06	5.4E+04
NP	93	239	1.1E+05	2.5E+03	CF	98	248	9.6E+02	2.2E+01
PU	94	236	4.3E+03	9.8E+01	CF	98	249	4.5E+01	1.0E+00
PU	94	237	1.3E+05	3.0E+03	CF	98	250	1.0E+02	2.3E+00
PU	94	238	6.5E+02	1.5E+01	CF	98	251	4.0E+01	9.3E-01
PU	94	239	5.4E+02	1.2E+01	CF	98	252	3.2E+02	7.3E+00
PU	94	240	5.4E+02	1.2E+01	CF	98	253	2.7E+04	6.2E+02
PU	94	241	1.1E+03	2.5E+01	ES	99	251	2.1E+06	4.7E+04
PU	94	242	5.2E+02	1.2E+01	ES	99	252	2.3E+03	5.2E+01
PU	94	244	4.6E+02	1.1E+01	ES	99	253	2.5E+04	5.8E+02
PU	94	246	7.2E+05	1.7E+04	ES	99	254	6.1E+02	1.4E+01
AM	95	239	2.1E+06	4.8E+04	ES	99	254M	1.7E+06	3.9E+04
AM	95	240	1.3E+05	2.9E+03	ES	99	255	1.8E+04	4.1E+02
AM	95	241	5.0E+00	1.1E-01	FM	100	252	4.7E+06	1.1E+05
AM	95	242	1.1E+06	2.6E+04	FM	100	253	2.7E+05	6.2E+03
AM	95	242M	4.9E+00	1.1E-01	FM	100	255	5.8E+06	1.3E+05
AM	95	243	4.4E+00	1.0E-01	FM	100	257	4.0E+03	9.2E+01

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(6) Testes

TABLE 6A. UNIT-RAD DEPOSITION FOR WHOLE BODY VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
H	1	3	6.9E+02	9.9E+01	CU	29	67	2.3E+03	3.3E+02
BE	4	7	3.2E+06	4.6E+05	ZN	30	65	2.8E+00	4.0E-01
BE	4	10	1.0E+05	1.4E+04	ZN	30	69M	1.3E+04	1.9E+03
C	6	14	1.1E+02	1.6E+01	ZN	30	72	2.5E+02	3.6E+01
NA	11	22	8.2E-01	1.2E-01	GA	31	67	2.6E+08	3.7E+07
NA	11	24	1.7E+02	2.4E+01	GA	31	72	3.1E+08	4.4E+07
MG	12	28	3.6E+03	5.1E+02	GE	32	68	1.3E+05	1.9E+04
AL	13	26	1.2E+01	1.7E+00	GE	32	69	1.7E+06	2.4E+05
SI	14	32	1.8E+02	2.6E+01	GE	32	71	5.0E+07	7.1E+06
P	15	32	7.5E+00	1.1E+00	AS	33	71	2.2E+04	3.1E+03
P	15	33	4.0E+01	5.7E+00	AS	33	72	2.4E+04	3.4E+03
S	16	35	2.6E+01	3.8E+00	AS	33	73	1.0E+04	1.5E+03
CL	17	36	2.2E+00	3.1E-01	AS	33	74	3.4E+02	4.8E+01
AR	18	37	7.4E+02	1.1E+02	AS	33	76	3.2E+04	4.6E+03
AR	18	39	2.8E-02	4.0E-03	AS	33	77	1.2E+05	1.7E+04
AR	18	42	3.1E-03	4.4E-04	SE	34	72	4.5E+00	6.5E-01
K	19	40	2.2E+00	3.1E-01	SE	34	75	4.8E+00	6.9E-01
K	19	42	2.1E+03	2.9E+02	SE	34	79	5.0E+01	7.2E+00
K	19	43	1.3E+03	1.8E+02	BR	35	76	3.3E+02	4.7E+01
CA	20	41	5.0E+00	7.1E-01	BR	35	77	7.5E+01	1.1E+01
CA	20	45	8.0E+00	1.1E+00	BR	35	82	6.3E+01	9.0E+00
CA	20	47	4.8E+01	6.9E+00	KR	36	76	7.8E+02	1.1E+02
CA	20	48	4.9E-03	7.0E-04	KR	36	79	4.5E+02	6.4E+01
SC	21	44M	2.0E+09	2.9E+08	KR	36	81	2.8E-01	4.0E-02
SC	21	46	1.4E+07	2.0E+06	KR	36	85	5.4E-02	7.8E-03
SC	21	47	9.9E+09	1.4E+09	RB	37	83	1.7E+00	2.5E-01
SC	21	48	2.7E+09	3.9E+08	RB	37	84	1.1E+00	1.6E-01
TI	22	44	2.3E+06	3.3E+05	RB	37	86	3.8E+00	5.5E-01
V	23	48	2.7E+03	3.9E+02	RB	37	87	5.0E+00	7.2E-01
V	23	49	2.9E+05	4.2E+04	SR	38	82	3.1E+01	4.4E+00
V	23	50	9.9E+02	1.4E+02	SR	38	83	1.3E+04	1.8E+03
CR	24	48	4.6E+05	6.5E+04	SR	38	85	6.3E+01	9.0E+00
CR	24	51	1.6E+05	2.3E+04	SR	38	89	5.8E+01	8.2E+00
MN	25	52	8.2E+03	1.2E+03	SR	38	90	2.6E-01	3.8E-02
MN	25	53	1.9E+05	2.8E+04	Y	39	86	9.5E+09	1.4E+09
MN	25	54	1.6E+03	2.3E+02	Y	39	87	1.8E+09	2.6E+08
FE	26	55	3.0E+03	4.4E+02	Y	39	87M	3.5E+10	5.0E+09
FE	26	59	2.0E+02	2.9E+01	Y	39	88	4.0E+06	5.7E+05
FE	26	60	4.0E+00	5.7E-01	Y	39	90	1.8E+09	2.5E+08
CO	27	55	3.8E+04	5.5E+03	Y	39	91	2.7E+07	3.8E+06
CO	27	56	1.1E+02	1.5E+01	ZR	40	86	1.3E+10	1.9E+09
CO	27	57	1.2E+03	1.7E+02	ZR	40	88	1.1E+07	1.5E+06
CO	27	58	2.3E+02	3.3E+01	ZR	40	89	1.8E+09	2.6E+08
CO	27	60	5.6E+01	8.1E+00	ZR	40	93	2.3E+08	3.3E+07
NI	28	56	7.3E+01	1.1E+01	ZR	40	95	2.7E+07	3.8E+06
NI	28	57	1.8E+03	2.5E+02	ZR	40	97	2.0E+10	2.8E+09
NI	28	59	1.0E+02	1.4E+01	NB	41	90	6.3E+04	8.9E+03
NI	28	63	4.5E+01	6.4E+00	NB	41	91	6.1E+02	8.7E+01
NI	28	66	8.8E+02	1.3E+02	NB	41	91M	7.6E+02	1.1E+02
CU	29	64	3.8E+04	5.5E+03	NB	41	92	2.0E+03	2.9E+02

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(7) Whole body

TABLE 6A. UNIT-RAD DEPOSITION FOR WHOLE BODY VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
NB	41	93M	6.0E+02	8.5E+01	SB	51	122	4.7E+04	6.7E+03
NB	41	94	6.2E+00	8.8E-01	SB	51	124	5.1E+02	7.3E+01
NB	41	95	4.3E+02	6.2E+01	SB	51	125	1.2E+03	1.7E+02
NB	41	95M	1.0E+04	1.5E+03	SB	51	126	1.9E+03	2.7E+02
NB	41	96	4.9E+04	7.0E+03	SB	51	127	2.4E+04	3.4E+03
MO	42	93	9.1E+01	1.3E+01	TE	52	118	2.3E+03	3.3E+02
MO	42	99	4.5E+02	6.5E+01	TE	52	119	7.5E+04	1.1E+04
TC	43	95	1.4E+03	2.0E+02	TE	52	119M	2.1E+03	3.0E+02
TC	43	95M	1.7E+01	2.4E+00	TE	52	121	1.6E+03	2.3E+02
TC	43	96	4.0E+01	5.7E+00	TE	52	121M	3.8E+02	5.4E+01
TC	43	97	6.9E+02	9.9E+01	TE	52	123	9.1E+03	1.3E+03
TC	43	97M	1.4E+02	2.0E+01	TE	52	123M	1.3E+03	1.9E+02
TC	43	98	9.3E+00	1.3E+00	TE	52	125M	3.0E+03	4.3E+02
TC	43	99	1.5E+02	2.2E+01	TE	52	127M	1.0E+03	1.5E+02
RU	44	97	1.2E+07	1.7E+06	TE	52	129M	6.1E+02	8.7E+01
RU	44	103	2.6E+05	3.7E+04	TE	52	131M	1.9E+04	2.7E+03
RU	44	106	1.5E+04	2.2E+03	TE	52	132	2.7E+03	3.8E+02
RH	45	99	3.2E+02	4.6E+01	I	53	123	1.2E+04	1.7E+03
RH	45	100	7.0E+03	1.0E+03	I	53	124	2.5E+01	3.5E+00
RH	45	101	1.5E+02	2.2E+01	I	53	125	2.3E+01	3.3E+00
RH	45	101M	2.0E+03	2.9E+02	I	53	126	1.7E+01	2.5E+00
RH	45	102	3.3E+01	4.7E+00	I	53	129	4.9E+00	7.0E-01
RH	45	105	1.7E+04	2.4E+03	I	53	130	1.1E+03	1.6E+02
PD	46	100	7.1E+02	1.0E+02	I	53	131	3.1E+01	4.5E+00
PD	46	103	3.6E+03	5.1E+02	I	53	133	8.1E+02	1.2E+02
PD	46	107	8.5E+04	1.2E+04	XE	54	122	4.4E+02	6.3E+01
PD	46	109	4.9E+04	7.0E+03	XE	54	125	2.4E+03	3.5E+02
PD	46	112	3.8E+03	5.4E+02	XE	54	127	8.4E+00	1.2E+00
AG	47	105	1.1E+00	1.6E-01	XE	54	129M	7.6E+01	1.1E+01
AG	47	106M	2.9E+00	4.2E-01	XE	54	131M	5.7E+01	8.2E+00
AG	47	108M	1.6E-01	2.3E-02	XE	54	133	1.9E+02	2.8E+01
AG	47	110M	1.8E-01	2.6E-02	XE	54	133M	3.8E+02	5.5E+01
AG	47	111	1.9E+01	2.8E+00	CS	55	129	1.1E+03	1.6E+02
CD	48	109	2.2E+05	3.1E+04	CS	55	131	5.8E+02	8.3E+01
CD	48	113M	8.2E+04	1.2E+04	CS	55	132	5.4E+01	7.8E+00
CD	48	115	8.2E+06	1.2E+06	CS	55	134	4.1E-01	5.8E-02
CD	48	115M	1.2E+05	1.7E+04	CS	55	135	1.2E+01	1.8E+00
IN	49	111	2.6E+07	3.8E+06	CS	55	136	5.7E+00	8.2E-01
IN	49	114M	2.1E+05	3.1E+04	CS	55	137	8.4E-01	1.2E-01
IN	49	115	4.9E+05	7.1E+04	BA	56	128	4.0E+04	5.7E+03
SN	50	113	3.0E+02	4.3E+01	BA	56	131	7.0E+03	1.0E+03
SN	50	117M	4.0E+03	5.7E+02	BA	56	133	1.4E+03	2.0E+02
SN	50	119M	8.9E+02	1.3E+02	BA	56	133M	3.1E+05	4.4E+04
SN	50	121	8.3E+05	1.2E+05	BA	56	135M	1.4E+06	2.0E+05
SN	50	121M	3.1E+02	4.4E+01	BA	56	140	1.8E+03	2.6E+02
SN	50	123M	1.7E+02	2.5E+01	LA	57	135	5.3E+10	7.5E+09
SN	50	125	1.2E+03	1.7E+02	LA	57	137	1.1E+08	1.6E+07
SN	50	126	1.3E+01	1.8E+00	LA	57	138	3.2E+06	4.6E+05
SB	51	119	2.8E+06	4.0E+05	LA	57	140	3.7E+09	5.3E+08
SB	51	120M	6.2E+03	8.8E+02	CE	58	134	7.1E+08	1.0E+08

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(7) Whole body

TABLE 6A. UNIT-RAD DEPOSITION FOR WHOLE BODY VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
CE	58	135	1.4E+10	2.1E+09	GD	64	159	1.3E+11	1.9E+10
CE	58	137M	1.1E+10	1.6E+09	GD	64	162	6.6E+06	9.4E+05
CE	58	139	2.5E+07	3.6E+06	TB	65	151	5.4E+10	7.7E+09
CE	58	141	9.4E+07	1.3E+07	TB	65	152	1.6E+10	2.2E+09
CE	58	142	8.0E+05	1.2E+05	TB	65	153	1.2E+10	1.6E+09
CE	58	143	3.5E+09	5.0E+08	TB	65	154	5.8E+10	8.3E+09
CE	58	144	7.7E+05	1.1E+05	TB	65	155	3.1E+09	4.5E+08
PR	59	142	4.1E+10	5.8E+09	TB	65	156	9.5E+08	1.4E+08
PR	59	143	8.5E+08	1.2E+08	TB	65	157	6.3E+07	9.0E+05
ND	60	140	2.7E+09	3.8E+08	TB	65	158	2.7E+06	3.9E+05
ND	60	144	1.8E+06	2.5E+05	TB	65	160	2.8E+07	4.0E+06
ND	60	147	1.6E+08	2.2E+07	TB	65	161	4.7E+09	6.8E+08
PM	61	143	3.1E+07	4.4E+06	TB	65	164	7.9E+10	1.1E+10
PM	61	144	3.3E+06	4.7E+05	DY	66	154	3.7E+05	5.3E+04
PM	61	145	6.1E+07	8.7E+06	DY	66	154M	3.1E+10	4.4E+09
PM	61	146	5.1E+06	7.4E+05	DY	66	156	5.8E+05	8.3E+04
PM	61	147	2.3E+06	3.3E+05	DY	66	159	2.9E+08	4.1E+07
PM	61	148	8.9E+08	1.3E+08	DY	66	166	2.8E+09	4.0E+08
PM	61	148M	1.3E+07	1.8E+06	HO	67	163	5.2E+07	7.4E+06
PM	61	149	1.6E+10	2.2E+09	HO	67	166	2.7E+10	3.8E+09
PM	61	151	2.1E+10	3.0E+09	HO	67	166M	2.3E+06	3.3E+05
SM	62	141	4.5E+07	6.4E+06	ER	68	160	7.6E+09	1.1E+09
SM	62	145	6.1E+07	8.7E+06	ER	68	169	5.9E+09	8.5E+08
SM	62	146	1.2E+06	1.8E+05	ER	68	172	6.3E+09	9.1E+08
SM	62	147	1.4E+06	2.0E+05	TM	69	165	8.4E+09	1.2E+09
SM	62	148	8.1E+05	1.2E+05	TM	69	167	9.2E+08	1.3E+08
SM	62	149	1.7E+06	2.5E+05	TM	69	168	2.1E+07	3.0E+06
SM	62	151	2.1E+08	3.0E+07	TM	69	170	5.9E+07	8.5E+06
SM	62	153	2.5E+10	3.5E+09	TM	69	171	3.1E+08	4.5E+07
EU	63	145	1.5E+09	2.1E+08	TM	69	172	5.2E+09	7.5E+08
EU	63	146	3.6E+08	5.2E+07	YB	70	166	1.1E+10	1.6E+09
EU	63	146M	3.7E+09	5.3E+08	YB	70	169	2.7E+08	3.8E+07
EU	63	147	4.3E+07	6.2E+06	YB	70	175	1.2E+10	1.8E+09
EU	63	148	8.7E+07	1.2E+07	LU	71	169	7.9E+09	1.1E+09
EU	63	149	4.1E+07	5.9E+06	LU	71	170	2.8E+09	4.0E+08
EU	63	150	4.0E+06	5.7E+05	LU	71	171	5.1E+09	7.3E+08
EU	63	150M	2.3E+10	3.2E+09	LU	71	172	1.0E+09	1.4E+08
EU	63	152	2.7E+06	3.9E+05	LU	71	173	1.0E+07	1.4E+06
EU	63	154	2.3E+06	3.3E+05	LU	71	174	3.5E+06	5.0E+05
EU	63	155	5.5E+07	7.9E+06	LU	71	174M	3.1E+07	4.5E+05
EU	63	156	1.5E+08	2.1E+07	LU	71	176	3.9E+06	5.5E+05
EU	63	157	6.2E+10	8.8E+09	LU	71	177	5.6E+09	8.1E+08
GD	64	146	1.1E+07	1.6E+06	LU	71	177M	8.8E+07	1.3E+07
GD	64	147	6.2E+09	8.9E+08	HF	72	170	2.8E+10	4.1E+09
GD	64	148	1.2E+06	1.7E+05	HF	72	171	5.6E+10	8.0E+09
GD	64	149	5.0E+08	7.1E+07	HF	72	172	4.3E+06	6.1E+05
GD	64	150	7.2E+05	1.0E+05	HF	72	173	1.8E+10	2.5E+09
GD	64	151	6.7E+07	9.6E+06	HF	72	174	1.5E+06	2.1E+05
GD	64	152	1.8E+06	2.5E+05	HF	72	175	8.1E+07	1.2E+07
GD	64	153	8.7E+07	1.2E+07	HF	72	181	9.2E+07	1.3E+07

Table 6A. Unit-rad deposition for selected organs via milk (cont'd).
(7) Whole body

TABLE 6A. UNIT-RAD DEPOSITION FOR WHOLE BODY VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2
HF	72	182	2.3E+06	3.2E+05	AU	79	198	6.5E+03	9.3E+02
TA	73	177	2.3E+03	3.3E+02	AU	79	199	1.6E+04	2.3E+03
TA	73	179	7.7E+01	1.1E+01	HG	80	194	2.0E+00	2.9E-01
TA	73	182	8.1E+00	1.2E+00	HG	80	195M	1.5E+02	2.1E+01
TA	73	183	1.0E+03	1.4E+02	HG	80	197	3.1E+02	4.4E+01
W	74	178	2.1E+04	3.0E+03	HG	80	197M	9.5E+02	1.4E+02
W	74	181	3.4E+05	4.8E+04	HG	80	203	1.8E+01	2.6E+00
W	74	185	2.1E+05	3.0E+04	TL	81	200	9.6E+02	1.4E+02
W	74	187	7.5E+05	1.1E+05	TL	81	201	8.5E+02	1.2E+02
W	74	188	1.9E+04	2.7E+03	TL	81	202	5.4E+01	7.8E+00
RE	75	180	1.1E+03	1.5E+02	TL	81	204	1.4E+01	2.0E+00
RE	75	181	1.2E+03	1.7E+02	PB	82	200	2.3E+05	3.3E+04
RE	75	182	1.8E+02	2.6E+01	PB	82	202	2.4E+01	3.5E+00
RE	75	182M	2.9E+03	4.2E+02	PB	82	203	9.5E+04	1.4E+04
RE	75	183	4.8E+01	6.8E+00	PB	82	204	5.6E+00	8.0E-01
RE	75	184	2.0E+01	2.8E+00	PB	82	205	1.7E+02	2.4E+01
RE	75	184M	1.1E+01	1.6E+00	PB	82	210	3.0E+00	4.2E-01
RE	75	186	3.6E+02	5.2E+01	BI	83	205	5.4E+04	7.8E+03
RE	75	187	9.2E+04	1.3E+04	BI	83	206	1.3E+05	1.9E+04
RE	75	188	2.5E+03	3.6E+02	BI	83	207	2.3E+04	3.2E+03
RE	75	189	3.1E+03	4.5E+02	BI	83	208	1.5E+04	2.2E+03
OS	76	182	2.6E+04	3.7E+03	BI	83	210	5.5E+04	7.9E+03
OS	76	183	1.7E+05	2.4E+04	BI	83	210M	7.5E+03	1.1E+03
OS	76	185	1.6E+03	2.3E+02	PO	84	206	7.2E+02	1.0E+02
OS	76	191	1.1E+04	1.6E+03	PO	84	208	2.6E+01	3.7E+00
OS	76	191M	4.2E+05	6.0E+04	PO	84	209	3.9E+01	5.6E+00
OS	76	193	6.2E+04	8.9E+03	PO	84	210	4.9E+01	7.0E+00
OS	76	194	4.7E+02	6.7E+01	RN	86	211	1.8E+02	2.6E+01
IR	77	185	7.4E+04	1.1E+04	RN	86	222	2.4E+00	3.5E-01
IR	77	186	4.3E+04	6.2E+03	RA	88	223	1.6E+00	2.2E-01
IR	77	187	1.2E+05	1.7E+04	RA	88	224	1.1E+01	1.5E+00
IR	77	188	5.4E+03	7.7E+02	RA	88	225	1.1E+00	1.5E-01
IR	77	189	1.5E+03	2.2E+02	RA	88	226	1.5E-03	2.2E-04
IR	77	190	4.3E+02	6.1E+01	RA	88	228	4.0E-03	5.7E-04
IR	77	192	1.5E+02	2.2E+01	AC	89	225	1.8E+07	2.5E+06
IR	77	192M	8.7E+01	1.2E+01	AC	89	227	1.4E+04	2.1E+03
IR	77	193M	7.5E+03	1.1E+03	TH	90	227	6.0E+06	8.6E+05
IR	77	194	4.1E+04	5.8E+03	TH	90	228	9.0E+04	1.3E+04
PT	78	188	2.5E+02	3.6E+01	TH	90	229	8.8E+03	1.3E+03
PT	78	190	2.8E+01	4.0E+00	TH	90	230	8.2E+03	1.2E+03
PT	78	191	8.3E+03	1.2E+03	TH	90	231	7.1E+08	1.0E+08
PT	78	192	3.3E+01	4.8E+00	TH	90	232	7.4E+03	1.1E+03
PT	78	193	1.1E+03	1.6E+02	TH	90	234	3.3E+06	4.7E+05
PT	78	193M	1.0E+04	1.5E+03	PA	91	228	1.0E+09	1.5E+08
PT	78	195M	1.0E+04	1.5E+03	PA	91	229	4.3E+08	6.1E+07
PT	78	197	1.6E+05	2.2E+04	PA	91	230	6.0E+06	8.6E+05
AU	79	193	9.3E+04	1.3E+04	PA	91	231	7.7E+03	1.1E+03
AU	79	194	6.0E+03	8.6E+02	PA	91	232	4.6E+08	6.5E+07
AU	79	195	1.5E+02	2.1E+01	PA	91	233	3.0E+06	4.3E+05
AU	79	196	1.6E+03	2.3E+02	U	92	230	5.1E+04	7.4E+03

Table 6A. Unit-rad deposition for selected organs via milk (cont'd).
(7) Whole body

TABLE 6A. UNIT-RAD DEPOSITION FOR WHOLE BODY VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
U	92	231	5.7E+05	8.2E+04	CM	96	240	2.3E+06	3.3E+05
U	92	232	5.3E+03	7.5E+02	CM	96	241	1.7E+06	2.4E+05
U	92	233	5.5E+03	7.8E+02	CM	96	242	2.7E+05	3.8E+04
U	92	234	5.1E+03	7.4E+02	CM	96	243	7.8E+03	1.1E+03
U	92	235	4.8E+03	6.8E+02	CM	96	244	9.5E+03	1.4E+03
U	92	236	4.7E+03	6.7E+02	CM	96	245	5.9E+03	8.4E+02
U	92	237	2.3E+05	3.3E+04	CM	96	246	5.7E+03	8.1E+02
U	92	238	4.5E+03	6.4E+02	CM	96	247	5.3E+03	7.6E+02
U	92	240	1.7E+07	2.5E+06	CM	96	248	5.2E+03	7.4E+02
NP	93	234	4.7E+07	6.7E+06	BK	97	245	3.3E+08	4.7E+07
NP	93	235	1.2E+05	1.7E+04	BK	97	246	2.0E+09	2.8E+08
NP	93	236	6.6E+03	9.4E+02	BK	97	247	5.4E+04	7.7E+03
NP	93	236M	8.2E+08	1.2E+08	BK	97	248	6.1E+09	8.7E+08
NP	93	237	7.0E+03	1.0E+03	BK	97	249	1.3E+06	1.8E+05
NP	93	238	1.6E+08	2.3E+07	CF	98	246	2.8E+09	3.9E+08
NP	93	239	1.3E+08	1.8E+07	CF	98	248	1.1E+06	1.6E+05
PU	94	236	5.0E+05	7.2E+04	CF	98	249	5.5E+04	7.9E+03
PU	94	237	1.5E+07	2.2E+06	CF	98	250	1.2E+05	1.7E+04
PU	94	238	7.9E+04	1.1E+04	CF	98	251	4.9E+04	7.1E+03
PU	94	239	6.6E+04	9.5E+03	CF	98	252	3.8E+05	5.4E+04
PU	94	240	6.6E+04	9.4E+03	CF	98	253	3.1E+07	4.5E+06
PU	94	241	1.3E+05	1.9E+04	ES	99	251	2.4E+09	3.4E+08
PU	94	242	6.3E+04	9.1E+03	ES	99	252	2.7E+06	3.8E+05
PU	94	244	5.7E+04	8.1E+03	ES	99	253	2.9E+07	4.2E+06
PU	94	246	8.4E+07	1.2E+07	ES	99	254	7.1E+05	1.0E+05
AM	95	239	2.5E+09	3.5E+08	ES	99	254M	2.0E+09	2.8E+08
AM	95	240	1.5E+08	2.1E+07	ES	99	255	2.1E+07	3.0E+06
AM	95	241	6.9E+03	9.9E+02	FM	100	252	5.5E+09	7.9E+08
AM	95	242	1.3E+09	1.9E+08	FM	100	253	3.1E+08	4.5E+07
AM	95	242M	6.7E+03	9.6E+02	FM	100	255	6.7E+09	9.6E+08
AM	95	243	6.1E+03	8.7E+02	FM	100	257	4.7E+06	6.7E+05

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(7) Whole body

TABLE 6A. UNIT-RAD DEPOSITION FOR GI TRACT VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2
H	1	3	7.9E+02	1.1E+02	CU	29	67	3.4E+01	4.9E+00
BE	4	7	2.6E+03	3.7E+02	ZN	30	65	5.8E-01	8.2E-02
BE	4	10	3.4E+02	4.9E+01	ZN	30	69M	2.9E+01	4.2E+00
C	6	14	1.1E+02	1.6E+01	ZN	30	72	9.1E-01	1.3E-01
NA	11	22	8.5E-01	1.2E-01	GA	31	67	7.6E+03	1.1E+03
NA	11	24	3.2E+01	4.5E+00	GA	31	72	5.6E+03	8.0E+02
MG	12	28	9.0E+00	1.3E+00	GE	32	68	1.3E+01	1.8E+00
AL	13	26	7.0E+00	1.0E+00	GE	32	69	1.9E+02	2.7E+01
SI	14	32	6.0E+02	8.5E+01	GE	32	71	4.9E+03	7.0E+02
P	15	32	3.2E+00	4.6E-01	AS	33	71	2.5E+01	3.6E+00
P	15	33	2.8E+01	3.9E+00	AS	33	72	1.8E+01	2.5E+00
S	16	35	1.1E+02	1.6E+01	AS	33	73	1.8E+02	2.6E+01
CL	17	36	6.0E+00	8.5E-01	AS	33	74	1.8E+00	2.5E-01
AR	18	37	2.6E+03	3.7E+02	AS	33	76	2.4E+01	3.4E+00
AR	18	39	1.9E+01	2.8E+00	AS	33	77	1.0E+02	1.5E+01
AR	18	42	1.6E+00	2.3E-01	SE	34	72	2.2E+00	3.1E-01
K	19	40	1.2E+01	1.7E+00	SE	34	75	4.2E+00	6.0E-01
K	19	42	3.9E+02	5.6E+01	SE	34	79	4.7E+01	6.7E+00
K	19	43	2.9E+02	4.1E+01	BR	35	76	6.3E+01	9.0E+00
CA	20	41	4.3E+02	6.1E+01	BR	35	77	2.2E+01	3.1E+00
CA	20	45	1.9E+01	2.7E+00	BR	35	82	1.5E+01	2.1E+00
CA	20	47	4.3E+00	6.1E-01	KR	36	76	1.6E+02	2.3E+01
CA	20	48	4.2E-01	6.0E-02	KR	36	79	1.3E+02	1.8E+01
SC	21	44M	7.4E+03	1.1E+03	KR	36	81	2.0E+02	2.8E+01
SC	21	46	1.1E+03	1.6E+02	KR	36	85	1.7E+01	2.5E+00
SC	21	47	4.6E+04	6.6E+03	RB	37	83	6.8E+00	9.7E-01
SC	21	48	8.6E+03	1.2E+03	RB	37	84	2.6E+00	3.7E-01
TI	22	44	7.0E+02	1.0E+02	RB	37	86	6.0E+00	8.5E-01
V	23	48	6.7E+00	9.5E-01	RB	37	87	3.8E+01	5.5E+00
V	23	49	2.1E+03	3.0E+02	SR	38	82	3.4E+00	4.8E-01
V	23	50	7.9E+00	1.1E+00	SR	38	83	1.5E+02	2.1E+01
CR	24	48	5.3E+01	7.6E+00	SR	38	85	1.7E+01	2.4E+00
CR	24	51	2.1E+02	3.0E+01	SR	38	89	1.2E+01	1.7E+00
MN	25	52	5.4E+01	7.7E+00	SR	38	90	4.5E+00	6.5E-01
MN	25	53	7.4E+03	1.1E+03	Y	39	86	1.9E+04	2.7E+03
MN	25	54	5.5E+01	7.9E+00	Y	39	87	8.4E+03	1.2E+03
FE	26	55	1.4E+03	2.0E+02	Y	39	87M	7.0E+04	1.0E+04
FE	26	59	9.4E+00	1.3E+00	Y	39	88	4.1E+02	5.9E+01
FE	26	60	3.4E+00	4.9E-01	Y	39	90	7.1E+03	1.0E+03
CO	27	55	3.4E+02	4.9E+01	Y	39	91	1.5E+03	2.2E+02
CO	27	56	8.2E+00	1.2E+00	ZR	40	86	2.8E+04	4.0E+03
CO	27	57	1.0E+02	1.5E+01	ZR	40	88	7.5E+02	1.1E+02
CO	27	58	1.7E+01	2.4E+00	ZR	40	89	8.2E+03	1.2E+03
CO	27	60	5.5E+00	7.8E-01	ZR	40	93	9.9E+04	1.4E+04
NI	28	56	2.3E+00	3.2E-01	ZR	40	95	1.5E+03	2.1E+02
NI	28	57	2.2E+01	3.1E+00	ZR	40	97	4.1E+04	5.9E+03
NI	28	59	2.7E+02	3.9E+01	NB	41	90	6.3E+01	9.0E+00
NI	28	63	1.2E+02	1.7E+01	NB	41	91	2.2E+02	3.2E+01
NI	28	66	1.4E+01	1.9E+00	NB	41	91M	2.1E+01	3.1E+00
CU	29	64	2.9E+02	4.1E+01	NB	41	92	1.1E+01	1.6E+00

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(8) GI tract

10/22/28: Insert after p. 76.

TABLE 6A. UNIT-RAD DEPOSITION FOR GI TRACT VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
NB	41	93M	1.4E+02	2.0E+01	SB	51	122	5.4E+01	7.7E+00
NB	41	94	2.2E+00	3.2E-01	SB	51	124	3.5E+00	5.0E-01
NB	41	95	7.2E+00	1.0E+00	SB	51	125	1.3E+01	1.8E+00
NB	41	95M	2.5E+01	3.6E+00	SB	51	126	5.6E+00	8.1E-01
NB	41	96	5.8E+01	8.2E+00	SB	51	127	3.3E+01	4.8E+00
MO	42	93	3.5E+02	5.0E+01	TE	52	118	4.0E+01	5.7E+00
MO	42	99	7.1E+01	1.0E+01	TE	52	119	4.9E+02	7.0E+01
TC	43	95	2.4E+02	3.5E+01	TE	52	119M	3.2E+01	4.5E+00
TC	43	95M	4.7E+00	6.7E-01	TE	52	121	4.4E+01	6.3E+00
TC	43	96	9.1E+00	1.3E+00	TE	52	121M	1.6E+01	2.3E+00
TC	43	97	2.0E+02	2.8E+01	TE	52	123	4.3E+02	6.2E+01
TC	43	97M	4.0E+01	5.7E+00	TE	52	123M	5.5E+01	7.8E+00
TC	43	98	2.7E+00	3.8E-01	TE	52	125M	1.2E+02	1.7E+01
TC	43	99	4.4E+01	6.3E+00	TE	52	127M	4.4E+01	6.3E+00
RU	44	97	2.1E+05	2.9E+04	TE	52	129M	2.1E+01	3.0E+00
RU	44	103	3.3E+04	4.8E+03	TE	52	131M	1.5E+02	2.1E+01
RU	44	106	5.9E+03	8.5E+02	TE	52	132	3.3E+01	4.7E+00
RH	45	99	5.3E+00	7.5E-01	I	53	123	2.3E+03	3.2E+02
RH	45	100	3.7E+01	5.3E+00	I	53	124	1.3E+01	1.9E+00
RH	45	101	3.7E+00	5.4E-01	I	53	125	9.4E+01	1.3E+01
RH	45	101M	2.0E+01	2.9E+00	I	53	126	2.2E+01	3.1E+00
RH	45	102	7.8E-01	1.1E-01	I	53	129	6.5E+01	9.2E+00
RH	45	105	1.1E+02	1.5E+01	I	53	130	2.2E+02	3.1E+01
PD	46	100	5.0E+00	7.2E-01	I	53	131	2.7E+01	3.8E+00
PD	46	103	3.6E+01	5.1E+00	I	53	133	1.8E+02	2.6E+01
PD	46	107	1.0E+03	1.4E+02	XE	54	122	9.7E+01	1.4E+01
PD	46	109	2.1E+02	3.1E+01	XE	54	125	5.2E+02	7.5E+01
PD	46	112	1.8E+01	2.6E+00	XE	54	127	3.0E+01	4.3E+00
AG	47	105	2.5E+00	3.5E-01	XE	54	129M	6.9E+01	9.8E+00
AG	47	106M	2.4E+00	3.4E-01	XE	54	131M	7.4E+01	1.1E+01
AG	47	108M	7.8E-01	1.1E-01	XE	54	133	1.3E+02	1.8E+01
AG	47	110M	7.5E-01	1.1E-01	XE	54	133M	1.4E+02	2.0E+01
AG	47	111	1.5E+01	2.1E+00	CS	55	129	2.9E+02	4.2E+01
CD	48	109	7.3E+02	1.0E+02	CS	55	131	5.7E+02	8.2E+01
CD	48	113M	3.8E+02	5.4E+01	CS	55	132	3.9E+01	5.6E+00
CD	48	115	7.3E+02	1.0E+02	CS	55	134	3.7E+00	5.4E-01
CD	48	115M	1.0E+02	1.5E+01	CS	55	135	1.3E+02	1.8E+01
IN	49	111	2.0E+03	2.9E+02	CS	55	136	7.1E+00	1.0E+00
IN	49	114M	1.0E+02	1.5E+01	CS	55	137	8.8E+00	1.3E+00
IN	49	115	4.5E+02	6.5E+01	BA	56	128	7.2E+01	1.0E+01
SN	50	113	1.1E+01	1.5E+00	BA	56	131	3.7E+01	5.3E+00
SN	50	117M	2.7E+01	3.9E+00	BA	56	133	4.2E+01	6.0E+00
SN	50	119M	4.7E+01	6.8E+00	BA	56	133M	4.5E+02	6.4E+01
SN	50	121	1.0E+03	1.5E+02	BA	56	135M	1.7E+03	2.5E+02
SN	50	121M	2.9E+01	4.1E+00	BA	56	140	1.0E+01	1.5E+00
SN	50	123M	6.4E+00	9.2E-01	LA	57	135	1.2E+05	1.7E+04
SN	50	125	6.0E+00	8.6E-01	LA	57	137	5.3E+04	7.6E+03
SN	50	126	1.2E+00	1.7E-01	LA	57	138	1.5E+03	2.2E+02
SB	51	119	2.4E+03	3.4E+02	LA	57	140	1.1E+04	1.6E+03
SB	51	120M	1.1E+01	1.6E+00	CE	58	134	3.0E+03	4.3E+02

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(8) GI tract

TABLE 6A. UNIT-RAD DEPOSITION FOR GI TRACT VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
CE	58	135	3.1E+04	4.4E+03	GD	64	159	2.9E+05	4.1E+04
CE	58	137M	3.0E+04	4.3E+03	GD	64	162	1.4E+03	2.0E+02
CE	58	139	2.7E+03	3.8E+02	TB	65	151	1.1E+05	1.6E+04
CE	58	141	2.9E+03	4.1E+02	TB	65	152	3.3E+04	4.8E+03
CE	58	142	4.3E+02	6.2E+01	TB	65	153	4.5E+04	6.4E+03
CE	58	143	9.6E+03	1.4E+03	TB	65	154	1.3E+05	1.9E+04
CE	58	144	1.4E+02	2.0E+01	TB	65	155	2.1E+04	3.0E+03
PR	59	142	8.9E+04	1.3E+04	TB	65	156	6.2E+03	8.9E+02
PR	59	143	1.2E+04	1.7E+03	TB	65	157	4.0E+04	5.7E+03
ND	60	140	1.2E+04	1.7E+03	TB	65	158	1.7E+03	2.5E+02
ND	60	144	1.1E+03	1.6E+02	TB	65	160	1.8E+03	2.5E+02
ND	60	147	1.9E+03	2.6E+02	TB	65	161	3.8E+04	5.4E+03
PM	61	143	5.6E+03	8.0E+02	TB	65	164	1.9E+05	2.7E+04
PM	61	144	7.4E+02	1.1E+02	DY	66	154	2.5E+02	3.5E+01
PM	61	145	3.4E+04	4.9E+03	DY	66	156M	6.0E+04	8.6E+03
PM	61	146	2.3E+03	3.3E+02	DY	66	156	3.9E+02	5.5E+01
PM	61	147	8.8E+02	1.3E+02	DY	66	159	3.3E+04	4.7E+03
PM	61	148	5.8E+03	8.3E+02	DY	66	166	1.3E+04	1.9E+03
PM	61	148M	4.7E+02	6.8E+01	HO	67	163	3.7E+04	5.3E+03
PM	61	149	5.5E+04	7.9E+03	HO	67	166	6.7E+04	9.5E+03
PM	61	151	5.3E+04	7.6E+03	HO	67	166M	1.6E+03	2.3E+02
SM	62	141	8.9E+02	1.3E+02	ER	68	160	2.0E+04	2.8E+03
SM	62	145	1.3E+04	1.9E+03	ER	68	169	6.1E+04	8.7E+03
SM	62	146	7.8E+02	1.1E+02	ER	68	172	2.1E+04	3.0E+03
SM	62	147	8.9E+02	1.3E+02	TM	69	165	2.2E+04	3.1E+03
SM	62	148	5.0E+02	7.2E+01	TM	69	167	9.6E+03	1.4E+03
SM	62	149	1.1E+03	1.5E+02	TM	69	168	1.5E+03	2.2E+02
SM	62	151	1.3E+05	1.9E+04	TM	69	170	6.0E+03	8.6E+02
SM	62	153	8.1E+04	1.2E+04	TM	69	171	1.0E+05	1.5E+04
EU	63	145	1.0E+04	1.5E+03	TM	69	172	2.1E+04	3.0E+03
EU	63	146	2.1E+03	3.0E+02	YB	70	166	4.2E+04	6.0E+03
EU	63	146M	1.1E+04	1.6E+03	YB	70	169	8.1E+03	1.2E+03
EU	63	147	1.0E+03	1.5E+02	YB	70	175	6.7E+04	9.5E+03
EU	63	148	4.2E+03	6.1E+02	LU	71	169	2.3E+04	3.2E+03
EU	63	149	3.6E+03	5.2E+02	LU	71	170	9.2E+03	1.3E+03
EU	63	150	1.8E+03	2.6E+02	LU	71	171	4.6E+04	6.6E+03
EU	63	150M	4.4E+04	6.3E+03	LU	71	172	7.8E+03	1.1E+03
EU	63	152	1.4E+03	2.1E+02	LU	71	173	2.9E+03	4.2E+02
EU	63	154	1.3E+03	1.8E+02	LU	71	174	1.6E+03	2.3E+02
EU	63	155	1.7E+04	2.4E+03	LU	71	174M	4.1E+03	5.8E+02
EU	63	156	2.3E+03	3.3E+02	LU	71	176	2.8E+03	3.9E+02
EU	63	157	1.3E+05	1.8E+04	LU	71	177	4.4E+04	6.3E+03
GD	64	146	4.8E+02	6.8E+01	LU	71	177M	1.1E+04	1.6E+03
GD	64	147	1.5E+04	2.1E+03	HF	72	170	5.4E+04	7.7E+03
GD	64	148	6.2E+02	8.9E+01	HF	72	171	1.1E+05	1.6E+04
GD	64	149	4.9E+03	7.0E+02	HF	72	172	1.7E+03	2.5E+02
GD	64	150	3.8E+02	5.4E+01	HF	72	173	4.2E+04	6.0E+03
GD	64	151	6.3E+03	9.1E+02	HF	72	174	7.9E+02	1.1E+02
GD	64	152	9.2E+02	1.3E+02	HF	72	175	4.9E+03	7.0E+02
GD	64	153	1.4E+04	2.0E+03	HF	72	181	3.7E+03	5.3E+02

Table 6A. Unit-rad deposition for selected organs via milk (cont'd)
(8) GI tract

TABLE 6A. UNIT-RAD DEPOSITION FOR GI TRACT VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	CHILD UC/M**2
HF	72	182	1.2E+03	1.7E+02	AU	79	198	2.8E+01	4.0E+00
TA	73	177	4.1E+00	5.9E-01	AU	79	199	7.6E+01	1.1E+01
TA	73	179	6.3E+00	9.0E-01	HG	80	194	5.4E-01	7.7E-02
TA	73	182	3.0E-01	4.3E-02	HG	80	195M	1.1E+01	1.6E+00
TA	73	183	3.1E+00	4.4E-01	HG	80	197	2.9E+01	4.1E+00
W	74	178	1.0E+02	1.4E+01	HG	80	197M	6.2E+01	8.9E+00
W	74	181	1.6E+03	2.3E+02	HG	80	203	4.4E+00	6.2E-01
W	74	185	9.9E+02	1.4E+02	TL	81	200	1.9E+01	2.7E+00
W	74	187	4.4E+03	6.4E+02	TL	81	201	2.7E+01	3.8E+00
W	74	188	9.1E+01	1.3E+01	TL	81	202	3.9E+00	5.5E-01
RE	75	180	2.1E+01	3.1E+00	TL	81	204	2.7E+00	3.8E-01
RE	75	181	2.4E+01	3.4E+00	PB	82	200	4.5E+02	6.4E+01
RE	75	182	5.1E+00	7.3E-01	PB	82	202	2.9E+01	4.2E+00
RE	75	182M	5.3E+01	7.6E+00	PB	82	203	2.9E+02	4.1E+01
RE	75	183	2.9E+00	4.2E-01	PB	82	204	6.7E+00	9.6E-01
RE	75	184	1.2E+00	1.7E-01	PB	82	205	2.0E+02	2.9E+01
RE	75	184M	7.1E-01	1.0E-01	PB	82	210	3.0E+00	4.3E-01
RE	75	186	1.2E+01	1.7E+00	BI	83	205	2.1E+01	3.1E+00
RE	75	187	6.2E+03	8.8E+02	BI	83	206	4.4E+01	6.3E+00
RE	75	188	4.8E+01	6.9E+00	BI	83	207	1.1E+01	1.5E+00
RE	75	189	6.4E+01	9.2E+00	BI	83	208	7.3E+00	1.1E+00
OS	76	182	4.5E+01	6.5E+00	BI	83	210	1.7E+01	2.4E+00
OS	76	183	2.8E+02	4.1E+01	BI	83	210M	3.6E+00	5.1E-01
OS	76	185	3.4E+00	4.8E-01	PO	84	206	3.5E+00	5.0E-01
OS	76	191	2.3E+01	3.4E+00	PO	84	208	4.6E-01	6.6E-02
OS	76	191M	7.2E+02	1.0E+02	PO	84	209	7.1E-01	1.0E-01
OS	76	193	1.1E+02	1.6E+01	PO	84	210	7.4E-01	1.1E-01
OS	76	194	9.9E-01	1.4E-01	RN	86	211	3.7E+01	5.3E+00
IR	77	185	1.6E+02	2.3E+01	RN	86	222	1.2E+00	1.8E-01
IR	77	186	9.5E+01	1.4E+01	RA	88	223	8.4E-02	1.2E-02
IR	77	187	2.4E+02	3.4E+01	RA	88	224	2.2E-01	3.2E-02
IR	77	188	1.7E+01	2.4E+00	RA	88	225	7.1E-02	1.0E-02
IR	77	189	1.4E+01	2.1E+00	RA	88	226	3.0E-02	4.4E-03
IR	77	190	3.8E+00	5.5E-01	RA	88	228	2.7E-02	3.8E-03
IR	77	192	2.6E+00	3.7E-01	AC	89	225	1.9E+02	2.8E+01
IR	77	192M	1.8E+00	2.6E-01	AC	89	227	5.9E+01	8.4E+00
IR	77	193M	6.7E+01	9.6E+00	TH	90	227	1.1E+02	1.6E+01
IR	77	194	9.5E+01	1.4E+01	TH	90	228	5.9E+01	8.4E+00
PT	78	188	2.2E+00	3.1E-01	TH	90	229	5.9E+01	8.5E+00
PT	78	190	7.1E-01	1.0E-01	TH	90	230	5.6E+01	7.9E+00
PT	78	191	3.5E+01	5.0E+00	TH	90	231	1.7E+03	2.5E+02
PT	78	192	8.5E-01	1.2E-01	TH	90	232	5.0E+01	7.1E+00
PT	78	193	2.9E+01	4.2E+00	TH	90	234	7.9E+01	1.1E+01
PT	78	193M	5.5E+01	7.9E+00	PA	91	228	2.3E+03	3.3E+02
PT	78	195M	5.1E+01	7.3E+00	PA	91	229	1.2E+03	1.8E+02
PT	78	197	3.7E+02	5.3E+01	PA	91	230	1.1E+02	1.5E+01
AU	79	193	2.2E+02	3.1E+01	PA	91	231	5.1E+01	7.3E+00
AU	79	194	2.0E+01	2.8E+00	PA	91	232	1.2E+03	1.7E+02
AU	79	195	1.2E+01	1.7E+00	PA	91	233	8.2E+01	1.2E+01
AU	79	196	1.2E+01	1.8E+00	U	92	230	9.0E-01	1.3E-01

Table 6A. Unit-rad deposition for selected organs via milk (cont'd)
(8) GI tract

TABLE 6A. UNIT-RAD DEPOSITION FOR GI TRACT VIA MILK.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	CHILD UC/M**2
U	92	231	3.0E+00	4.3E-01	CM	96	240	6.2E+01	8.8E+00
U	92	232	5.0E-01	7.1E-02	CM	96	241	5.8E+01	8.3E+00
U	92	233	5.2E-01	7.4E-02	CM	96	242	4.2E+01	6.0E+00
U	92	234	4.9E-01	7.0E-02	CM	96	243	3.6E+01	5.2E+00
U	92	235	4.5E-01	6.5E-02	CM	96	244	3.6E+01	5.1E+00
U	92	236	4.5E-01	6.4E-02	CM	96	245	3.7E+01	5.2E+00
U	92	237	1.7E+00	2.4E-01	CM	96	246	3.5E+01	5.0E+00
U	92	238	4.3E-01	6.1E-02	CM	96	247	3.3E+01	4.7E+00
U	92	240	3.4E+01	4.9E+00	CM	96	248	3.2E+01	4.6E+00
NP	93	234	2.6E+02	3.8E+01	BK	97	245	6.0E+02	8.6E+01
NP	93	235	4.7E+01	6.7E+00	BK	97	246	1.8E+03	2.6E+02
NP	93	236	4.3E+01	6.2E+00	BK	97	247	1.1E+02	1.6E+01
NP	93	236M	1.9E+03	2.7E+02	BK	97	248	4.3E+03	6.1E+02
NP	93	237	4.6E+01	6.5E+00	BK	97	249	1.1E+02	1.6E+01
NP	93	238	5.6E+02	8.0E+01	CF	98	246	2.4E+03	3.4E+02
NP	93	239	4.6E+02	6.6E+01	CF	98	248	1.1E+02	1.6E+01
PU	94	236	1.5E+02	2.1E+01	CF	98	249	1.1E+02	1.6E+01
PU	94	237	2.0E+02	2.9E+01	CF	98	250	1.1E+02	1.5E+01
PU	94	238	1.4E+02	2.1E+01	CF	98	251	1.0E+02	1.4E+01
PU	94	239	1.4E+02	1.9E+01	CF	98	252	9.8E+01	1.4E+01
PU	94	240	1.3E+02	1.9E+01	CF	98	253	1.8E+02	2.6E+01
PU	94	241	1.4E+02	1.9E+01	ES	99	251	2.1E+03	2.9E+02
PU	94	242	1.3E+02	1.9E+01	ES	99	252	1.1E+02	1.5E+01
PU	94	244	1.2E+02	1.7E+01	ES	99	253	1.8E+02	2.6E+01
PU	94	246	3.0E+02	4.2E+01	ES	99	254	9.7E+01	1.4E+01
AM	95	239	4.7E+03	6.7E+02	ES	99	254M	1.7E+03	2.5E+02
AM	95	240	5.0E+02	7.2E+01	ES	99	255	1.5E+02	2.2E+01
AM	95	241	4.1E+01	5.8E+00	FM	100	252	3.9E+03	5.5E+02
AM	95	242	2.7E+03	3.9E+02	FM	100	253	5.4E+02	7.7E+01
AM	95	242M	3.8E+01	5.4E+00	FM	100	255	4.5E+03	6.4E+02
AM	95	243	3.7E+01	5.2E+00	FM	100	257	1.1E+02	1.5E+01

Table 6A. Unit-rad deposition for selected organs via milk (contd).
(8) GI tract

6. F_1 : UNIT-RAD DEPOSITION
(Continued)

Soil-Root Pathway

$$F_1 = \frac{3.71 \times 10^{-1} \rho d}{Q} \left(\frac{C_S}{C_B} \right) \times \frac{1}{\left[T_R \left(1 - e^{-20.8/T_R} \right) - T_E \left(1 - e^{-20.8/T_E} \right) \right]}$$

The expression above yields F_1 via soil when ρ is expressed in g/cm^3 , d is

expressed in cm, Q is expressed in MeV, and T_R and T_E are expressed in yr. The ρ was assumed to be $2 g/cm^3$, and d was assumed to be 20 cm. F_1 values are listed for the adult and the infant.

In calculating the F_1 via soil for infants, the T_E for all radionuclides was set equal to zero. Since the newborn experiences rapid growth, he will come into equilibrium with his diet and environment (soil) much more rapidly than an adult. Setting $T_E = 0$ simply accounts for this rapid equilibration.

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
H	1	3	4.7E+01	4.7E+01	NB	41	91M	6.4E+01	3.7E+00
BE	4	7	1.9E+02	2.0E+01	NB	41	93M	2.4E+00	1.4E+00
BE	4	10	2.6E-02	2.5E-02	NB	41	94	4.6E-03	4.0E-03
C	6	14	1.8E+00	1.8E+00	NB	41	95	5.7E+01	1.9E+00
NA	11	22	1.5E+00	1.4E+00	MO	42	93	1.6E+02	1.6E+02
AL	13	26	6.2E+02	6.2E+02	TC	43	95M	1.2E+00	8.4E-01
SI	14	32	6.5E+02	6.5E+02	TC	43	97	3.6E-01	3.6E-01
S	16	35	3.0E+03	3.7E+02	TC	43	97M	6.5E+00	5.1E+00
CL	17	36	1.3E-01	1.3E-01	TC	43	98	4.8E-03	4.8E-03
AR	18	37	5.5E+02	5.5E+02	TC	43	99	7.9E-02	7.9E-02
AR	18	39	2.9E-02	2.9E-02	RU	44	103	5.6E+02	4.5E+01
AR	18	42	3.1E-03	3.1E-03	RU	44	106	2.7E+00	1.2E+00
K	19	40	1.9E+00	1.9E+00	RH	45	101	9.0E-02	9.0E-02
CA	20	41	1.6E+02	2.9E+01	RH	45	102	1.7E-01	1.5E-01
CA	20	45	5.8E+03	5.3E+01	PD	46	107	5.8E+00	5.8E+00
CA	20	48	1.5E-01	2.8E-02	AG	47	105	8.7E+02	1.2E+02
SC	21	46	8.4E+04	4.2E+03	AG	47	108M	1.3E+00	1.2E+00
TI	22	44	1.4E+03	1.4E+03	AG	47	110M	1.5E+01	7.4E+00
V	23	49	3.1E+05	2.2E+05	CD	48	109	1.3E+02	1.0E+02
V	23	50	3.9E+01	3.8E+01	CD	48	113M	6.7E+00	6.5E+00
MN	25	53	4.4E+04	4.2E+04	CD	48	115M	4.5E+02	1.2E+02
MN	25	54	1.6E+04	7.5E+03	IN	49	114M	1.8E+00	8.5E-01
FE	26	55	1.4E+05	5.3E+04	IN	49	115	3.3E-02	3.3E-02
FE	26	59	2.2E+05	5.8E+03	SN	50	113	1.6E+03	2.3E+02
FE	26	60	2.1E+01	1.7E+01	SN	50	119M	1.9E+03	5.1E+02
CO	27	56	7.0E+01	5.4E+01	SN	50	121M	1.8E+01	1.6E+01
CO	27	57	2.5E+02	2.3E+02	SN	50	123M	8.7E+02	1.3E+02
CO	27	58	1.6E+02	1.2E+02	SN	50	126	5.0E-01	4.5E-01
CO	27	60	1.8E+00	1.8E+00	SB	51	124	1.1E+03	4.3E+02
NI	28	59	2.5E+02	2.2E+02	SB	51	125	1.3E+02	1.2E+02
NI	28	63	1.2E+02	1.1E+02	TE	52	121M	9.7E+00	8.1E+00
ZN	30	65	1.2E+02	2.0E+01	TE	52	123	4.7E+00	4.7E+00
GE	32	68	1.2E-01	1.2E-01	TE	52	123M	4.8E+01	3.7E+01
AS	33	73	3.2E+06	3.2E+06	TE	52	125M	2.0E+02	1.3E+02
SE	34	75	7.6E-01	7.6E-01	TE	52	127M	3.8E+01	3.0E+01
SE	34	79	1.5E-01	1.5E-01	TE	52	129M	6.7E+01	3.5E+01
KR	36	81	2.9E-01	2.9E-01	I	53	125	2.8E+04	2.2E+04
KR	36	85	5.6E-02	5.6E-02	I	53	129	1.6E+02	1.5E+02
RB	37	83	2.2E+03	1.1E+03	XE	54	127	6.3E+00	6.3E+00
RB	37	84	3.0E+03	8.7E+02	CS	55	134	3.5E+00	3.1E+00
RB	37	87	8.3E+01	8.3E+01	CS	55	135	1.1E+01	1.1E+01
SR	38	85	1.6E+05	5.6E+02	CS	55	137	1.0E+00	1.0E+00
SR	38	89	1.7E+05	4.9E+02	BA	56	133	1.8E+03	1.7E+03
SR	38	90	1.4E+01	2.2E+00	LA	57	137	2.2E-01	1.9E-01
Y	39	88	3.1E+04	1.8E+02	LA	57	138	6.4E-03	5.5E-03
Y	39	91	3.4E+05	1.1E+03	CE	58	139	2.3E+05	2.0E+04
ZR	40	88	7.7E+04	6.1E+03	CE	58	141	3.2E+06	6.8E+04
ZR	40	93	1.2E+04	1.1E+04	CE	58	142	8.2E+01	6.6E+01
ZR	40	95	2.4E+05	1.5E+04	CE	58	144	3.4E+03	5.4E+02
NB	41	91	4.6E-01	4.0E-01	ND	60	144	4.9E-03	4.0E-03

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil.
(1) Bone

TABLE 6B. UNIT-RAD DEPOSITION FOR BONE

VIA TYPICAL AGRICULTURAL

SOIL.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	INFANT UC/M**2
PM	61	143	7.2E+04	1.1E+04	W	74	185	6.7E+00	6.0E+00
PM	61	144	5.4E+03	1.1E+03	W	74	188	6.6E-01	5.8E-01
PM	61	145	5.7E+03	4.2E+03	RE	75	183	2.5E+00	2.3E+00
PM	61	146	1.5E+03	7.8E+02	RE	75	184	1.6E+00	1.5E+00
PM	61	147	1.2E+03	4.8E+02	RE	75	184M	2.6E-01	2.6E-01
PM	61	148M	1.7E+05	4.6E+03	RE	75	187	5.5E+01	5.5E+01
SM	62	145	6.9E+04	1.3E+04	OS	76	185	7.6E-01	7.6E-01
SM	62	146	4.5E+01	3.6E+01	OS	76	194	1.2E-02	1.2E-02
SM	62	147	5.1E+01	4.1E+01	IR	77	192	7.0E-01	7.0E-01
SM	62	148	2.9E+01	2.3E+01	IR	77	192M	6.0E-03	6.0E-03
SM	62	149	6.2E+01	5.0E+01	PT	78	190	2.3E-03	2.3E-03
SM	62	151	8.5E+03	6.7E+03	PT	78	192	2.7E-03	2.7E-03
EU	63	148	9.5E+05	3.3E+04	PT	78	193	9.6E-02	9.6E-02
EU	63	149	2.5E+05	1.6E+04	AU	79	195	5.7E+00	5.7E+00
EU	63	150	1.0E+03	5.4E+02	HG	80	194	1.7E-01	1.7E-01
EU	63	152	3.1E+02	2.1E+02	HG	80	203	3.5E+00	3.5E+00
EU	63	154	2.3E+02	1.6E+02	TL	81	204	1.3E+01	1.3E+01
EU	63	155	4.5E+04	1.4E+04	PB	82	202	6.2E-01	3.6E-01
GD	64	146	3.7E+04	1.7E+03	PB	82	204	1.4E-01	8.2E-02
GD	64	148	2.5E+01	2.1E+01	PB	82	205	4.3E+00	2.5E+00
GD	64	150	1.3E+01	1.1E+01	PB	82	210	1.1E-01	5.7E-02
GD	64	151	1.0E+05	1.1E+04	BI	83	207	5.3E-03	5.3E-03
GD	64	152	3.2E+01	2.8E+01	BI	83	208	2.6E-03	2.6E-03
GD	64	153	6.5E+04	1.2E+04	BI	83	210M	1.3E-03	1.3E-03
GD	64	162	3.1E+03	8.3E+02	PO	84	208	6.8E-03	6.6E-03
TB	65	157	2.5E+03	2.1E+03	PO	84	209	1.6E-03	1.6E-03
TB	65	158	1.1E+02	9.3E+01	PO	84	210	8.7E-02	7.4E-02
TB	65	160	1.1E+05	7.7E+03	RA	88	226	5.5E+00	1.1E+00
DY	66	154	1.0E-03	8.8E-04	RA	88	228	3.4E+01	3.5E+00
DY	66	156	1.6E-03	1.4E-03	AC	89	227	7.8E-03	3.3E-04
DY	66	159	4.5E+01	5.7E+00	TH	90	228	2.4E-01	2.3E-03
HO	67	163	1.5E-01	1.3E-01	TH	90	229	4.3E-03	2.1E-04
HO	67	166M	6.8E-03	5.9E-03	TH	90	230	4.0E-03	2.0E-04
TM	69	168	7.3E+04	5.8E+03	TH	90	232	3.6E-03	1.8E-04
TM	69	170	1.5E+05	1.6E+04	PA	91	231	3.6E-03	1.8E-04
TM	69	171	1.3E+05	5.5E+04	U	92	232	2.2E+01	2.1E+01
YB	70	169	2.4E+06	7.4E+04	U	92	233	1.9E+01	1.9E+01
LU	71	173	4.5E-01	1.5E-01	U	92	234	1.8E+01	1.8E+01
LU	71	174	5.9E-02	3.3E-02	U	92	235	1.7E+01	1.6E+01
LU	71	174M	4.3E+00	6.1E-01	U	92	236	1.7E+01	1.6E+01
LU	71	176	1.1E-02	9.9E-03	U	92	238	1.6E+01	1.5E+01
LU	71	177M	1.3E+01	1.7E+00	NP	93	235	5.4E-01	3.0E-03
HF	72	172	4.2E+01	3.2E+01	NP	93	236	3.1E-03	1.6E-04
HF	72	174	3.7E+00	3.4E+00	NP	93	237	3.3E-03	1.6E-04
HF	72	175	1.8E+04	1.9E+03	PU	94	236	8.2E-02	1.1E-03
HF	72	181	2.9E+04	2.0E+03	PU	94	237	4.4E+01	2.7E-02
HF	72	182	5.7E+00	5.2E+00	PU	94	238	3.6E-03	1.7E-04
TA	73	179	2.2E+02	1.4E+02	PU	94	239	2.9E-03	1.5E-04
TA	73	182	1.1E+02	3.2E+01	PU	94	240	2.9E-03	1.4E-04
W	74	181	6.4E+00	6.0E+00	PU	94	241	7.8E-03	2.9E-04

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (cont'd).
(1) Bone

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(1) Bone

TABLE 6B. UNIT-RAD DEPOSITION FOR BONE VIA TYPICAL AGRICULTURAL SOIL. 05/09/68 PAGE 3

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PU	94	242	2.8E-03	1.4E-04	CM	96	248	2.3E-03	1.1E-04
PU	94	244	2.5E-03	1.2E-04	BK	97	247	2.4E-03	1.2E-04
AM	95	241	3.0E-03	1.5E-04	BK	97	249	6.6E-01	2.8E-03
AM	95	242M	3.0E-03	1.5E-04	CF	98	248	5.3E-01	2.5E-03
AM	95	243	2.6E-03	1.3E-04	CF	98	249	2.4E-03	1.2E-04
CM	96	241	6.5E+01	3.1E-02	CF	98	250	7.9E-03	2.7E-04
CM	96	242	2.9E+00	6.4E-03	CF	98	251	2.2E-03	1.1E-04
CM	96	243	3.9E-03	1.8E-04	CF	98	252	6.8E-02	8.5E-04
CM	96	244	5.3E-03	2.2E-04	ES	99	252	2.9E+00	5.6E-03
CM	96	245	2.6E-03	1.3E-04	ES	99	254	2.5E-01	1.6E-03
CM	96	246	2.5E-03	1.3E-04	FM	100	257	8.6E+00	9.3E-03
CM	96	247	2.3E-03	1.2E-04					

TABLE 6B. UNIT-RAD DEPOSITION FOR KIDNEYS

VIA TYPICAL AGRICULTURAL

SOIL.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	INFANT UC/M**2
H	1	3	4.7E+01	4.7E+01	NB	41	91M	2.6E+04	2.0E+03
BE	4	7	1.3E+06	4.1E+05	NB	41	93M	1.2E+03	7.4E+02
BE	4	10	5.0E+02	4.9E+02	NB	41	94	2.4E+00	2.1E+00
C	6	14	9.8E-01	9.8E-01	NB	41	95	2.3E+04	1.0E+03
NA	11	22	7.0E+00	6.9E+00	MO	42	93	1.4E+02	1.4E+02
AL	13	26	1.8E+04	1.8E+04	TC	43	95M	1.1E+00	8.4E-01
SI	14	32	1.0E+04	1.0E+04	TC	43	97	3.6E-01	3.6E-01
S	16	35	9.0E+01	9.0E+01	TC	43	97M	6.3E+00	5.1E+00
CL	17	36	1.0E-01	1.0E-01	TC	43	98	4.8E-03	4.8E-03
AR	18	37	5.5E+02	5.5E+02	TC	43	99	7.9E-02	7.9E-02
AR	18	39	2.9E-02	2.9E-02	RU	44	103	2.5E+01	4.5E+00
AR	18	42	3.1E-03	3.1E-03	RU	44	106	1.8E-01	1.2E-01
K	19	40	5.2E+00	5.1E+00	RH	45	101	9.2E-02	9.0E-02
CA	20	41	1.5E+04	1.5E+04	RH	45	102	1.7E-01	1.5E-01
CA	20	45	3.0E+04	2.8E+04	PD	46	107	5.8E+00	5.8E+00
CA	20	48	1.5E+01	1.5E+01	AG	47	105	1.2E+03	1.1E+03
SC	21	46	4.2E+04	2.1E+03	AG	47	108M	1.1E+01	1.1E+01
TI	22	44	2.6E+04	2.6E+04	AG	47	110M	6.9E+01	6.8E+01
V	23	49	5.0E+06	4.1E+06	CD	48	109	1.5E+00	9.0E-01
V	23	50	7.2E+02	7.1E+02	CD	48	113M	6.2E-02	5.8E-02
MN	25	53	6.0E+04	5.9E+04	CD	48	115M	8.4E+00	1.1E+00
MN	25	54	1.2E+04	1.1E+04	IN	49	114M	1.9E+00	8.5E-01
FE	26	55	4.6E+05	2.7E+05	IN	49	115	3.3E-02	3.3E-02
FE	26	59	4.9E+05	2.9E+04	SN	50	113	1.3E+04	1.9E+03
FE	26	60	9.2E+01	8.4E+01	SN	50	119M	1.6E+04	4.3E+03
CO	27	56	1.6E+04	1.2E+04	SN	50	121M	1.5E+02	1.3E+02
CO	27	57	5.6E+04	5.2E+04	SN	50	123M	6.9E+03	1.1E+03
CO	27	58	3.7E+04	2.7E+04	SN	50	126	4.1E+00	3.8E+00
CO	27	60	4.0E+02	4.0E+02	SB	51	124	1.2E+04	1.2E+04
NI	28	59	3.1E+04	3.1E+04	SB	51	125	3.4E+03	3.4E+03
NI	28	63	1.5E+04	1.5E+04	TE	52	121M	4.9E-01	4.1E-01
ZN	30	65	4.2E+01	2.6E+01	TE	52	123	2.3E-01	2.3E-01
GE	32	68	1.2E-01	1.2E-01	TE	52	123M	2.4E+00	1.9E+00
AS	33	73	2.7E+07	3.2E+06	TE	52	125M	9.8E+00	6.4E+00
SE	34	75	4.6E+01	4.2E+01	TE	52	127M	1.9E+00	1.5E+00
SE	34	79	8.5E+00	8.5E+00	TE	52	129M	3.3E+00	1.7E+00
KR	36	81	2.9E-01	2.9E-01	I	53	125	3.7E+04	3.4E+04
KR	36	85	5.6E-02	5.6E-02	I	53	129	2.3E+02	2.3E+02
RB	37	83	1.6E+04	8.0E+03	XE	54	127	6.3E+00	6.3E+00
RB	37	84	2.1E+04	6.2E+03	CS	55	134	1.2E+03	1.0E+03
RB	37	87	6.0E+02	5.9E+02	CS	55	135	3.7E+03	3.6E+03
SR	38	85	5.0E+05	4.0E+05	CS	55	137	3.5E+02	3.4E+02
SR	38	89	4.6E+05	3.5E+05	BA	56	133	6.3E+04	6.3E+04
SR	38	90	1.6E+03	1.6E+03	LA	57	137	1.1E+07	1.1E+07
Y	39	88	7.3E+03	1.8E+02	LA	57	138	3.2E+05	3.2E+05
Y	39	91	8.1E+04	1.1E+03	CE	58	139	5.0E+05	1.0E+05
ZR	40	88	7.0E+04	6.1E+03	CE	58	141	6.3E+06	3.4E+05
ZR	40	93	1.2E+04	1.1E+04	CE	58	142	3.6E+02	3.3E+02
ZR	40	95	2.2E+05	1.5E+04	CE	58	144	8.0E+03	2.7E+03
NB	41	91	2.3E+02	2.1E+02	ND	60	144	4.3E-03	4.0E-03

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (cont'd).
(2) Kidneys

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PM	61	143	3.8E+04	1.1E+04	W	74	185	6.0E+00	6.0E+00
PM	61	144	3.0E+03	1.1E+03	W	74	188	5.8E-01	5.8E-01
PM	61	145	4.8E+03	4.2E+03	RE	75	183	2.3E+00	2.3E+00
PM	61	146	1.1E+03	7.8E+02	RE	75	184	1.5E+00	1.5E+00
PM	61	147	8.0E+02	4.8E+02	RE	75	184M	2.6E-01	2.6E-01
PM	61	148M	7.8E+04	4.6E+03	RE	75	187	5.5E+01	5.5E+01
SM	62	145	1.9E+05	6.4E+04	OS	76	185	8.0E-01	7.6E-01
SM	62	146	2.0E+02	1.8E+02	OS	76	194	1.2E-02	1.2E-02
SM	62	147	2.2E+02	2.0E+02	IR	77	192	1.2E+00	7.0E-01
SM	62	148	1.3E+02	1.2E+02	IR	77	192M	6.1E-03	6.0E-03
SM	62	149	2.7E+02	2.5E+02	PT	78	190	2.3E-03	2.3E-03
SM	62	151	3.7E+04	3.4E+04	PT	78	192	2.8E-03	2.7E-03
EU	63	148	4.7E+05	1.7E+04	PT	78	193	9.7E-02	9.6E-02
EU	63	149	1.2E+05	8.1E+03	AU	79	195	3.3E+02	1.3E+02
EU	63	150	5.0E+02	2.7E+02	HG	80	194	4.7E+00	4.3E+00
EU	63	152	1.5E+02	1.1E+02	HG	80	203	1.2E+02	8.9E+01
EU	63	154	1.1E+02	8.1E+01	TL	81	204	1.3E+01	1.3E+01
EU	63	155	2.2E+04	6.9E+03	PB	82	202	5.4E+00	5.0E+00
GD	64	146	4.8E+04	1.7E+03	PB	82	204	1.2E+00	1.1E+00
GD	64	148	2.6E+01	2.1E+01	PB	82	205	3.7E+01	3.5E+01
GD	64	150	1.4E+01	1.1E+01	PB	82	210	8.8E-01	7.9E-01
GD	64	151	1.3E+05	1.1E+04	BI	83	207	1.1E-01	1.1E-01
GD	64	152	3.4E+01	2.8E+01	BI	83	208	5.6E-02	5.6E-02
GD	64	153	8.0E+04	1.2E+04	BI	83	210M	2.7E-02	2.7E-02
GD	64	162	3.8E+03	8.3E+02	PO	84	208	7.1E-03	6.6E-03
TB	65	157	2.4E+03	2.1E+03	PO	84	209	1.6E-03	1.6E-03
TB	65	158	1.0E+02	9.3E+01	PO	84	210	1.1E-01	7.4E-02
TB	65	160	8.2E+04	7.7E+03	RA	88	226	2.3E-04	2.3E-04
DY	66	154	8.8E-04	8.8E-04	RA	88	228	7.5E-04	7.5E-04
DY	66	156	1.4E-03	1.4E-03	AC	89	227	2.7E-03	3.3E-04
DY	66	159	5.7E+00	5.7E+00	TH	90	228	7.3E-02	2.3E-03
HO	67	163	1.5E-01	1.3E-01	TH	90	229	1.4E-03	2.1E-04
HO	67	166M	6.6E-03	5.9E-03	TH	90	230	1.3E-03	2.0E-04
TM	69	168	1.4E+05	2.9E+04	TH	90	232	1.2E-03	1.8E-04
TM	69	170	3.0E+05	8.2E+04	PA	91	231	2.6E-03	1.8E-04
TM	69	171	4.1E+05	2.7E+05	U	92	232	2.1E-04	2.1E-04
YB	70	169	1.7E+06	7.4E+04	U	92	233	1.9E-04	1.9E-04
LU	71	173	3.7E-01	1.5E-01	U	92	234	1.8E-04	1.8E-04
LU	71	174	5.2E-02	3.3E-02	U	92	235	1.6E-04	1.6E-04
LU	71	174M	3.4E+00	6.1E-01	U	92	236	1.6E-04	1.6E-04
LU	71	176	1.1E-02	9.9E-03	U	92	238	1.5E-04	1.5E-04
LU	71	177M	1.0E+01	1.7E+00	NP	93	235	4.7E-01	3.0E-03
HF	72	172	4.1E+01	3.2E+01	NP	93	236	2.7E-03	1.6E-04
HF	72	174	3.7E+00	3.4E+00	NP	93	237	2.9E-03	1.6E-04
HF	72	175	1.7E+04	1.9E+03	PU	94	236	3.7E-02	1.1E-03
HF	72	181	2.7E+04	2.0E+03	PU	94	237	1.9E+01	2.7E-02
HF	72	182	5.6E+00	5.2E+00	PU	94	238	1.6E-03	1.7E-04
TA	73	179	4.8E+01	2.9E+01	PU	94	239	1.3E-03	1.5E-04
TA	73	182	2.8E+01	6.3E+00	PU	94	240	1.3E-03	1.4E-04
W	74	181	6.0E+00	6.0E+00	PU	94	241	3.5E-03	2.9E-04

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(2) Kidneys

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(2) Kidneys

TABLE 6B. UNIT-RAD DEPOSITION FOR KIDNEYS VIA TYPICAL AGRICULTURAL SOIL. 05/09/68 PAGE 6

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PU	94	242	1.3E-03	1.4E-04	CM	96	248	8.0E-04	1.1E-04
PU	94	244	1.1E-03	1.2E-04	BK	97	247	1.2E-04	1.2E-04
AM	95	241	1.2E-03	1.5E-04	BK	97	249	2.8E-03	2.8E-03
AM	95	242M	1.2E-03	1.5E-04	CF	98	248	2.5E-03	2.5E-03
AM	95	243	1.0E-03	1.3E-04	CF	98	249	1.2E-04	1.2E-04
CM	96	241	2.1E+01	3.1E-02	CF	98	250	2.7E-04	2.7E-04
CM	96	242	9.5E-01	6.4E-03	CF	98	251	1.1E-04	1.1E-04
CM	96	243	1.4E-03	1.8E-04	CF	98	252	8.5E-04	8.5E-04
CM	96	244	1.9E-03	2.2E-04	ES	99	252	5.6E-03	5.6E-03
CM	96	245	9.2E-04	1.3E-04	ES	99	254	1.6E-03	1.6E-03
CM	96	246	8.9E-04	1.3E-04	FM	100	257	9.3E-03	9.3E-03
CM	96	247	8.3E-04	1.2E-04					

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
H	1	3	4.7E+01	4.7E+01	NB	41	91M	2.6E+04	1.8E+03
BE	4	7	2.5E+06	4.1E+05	NB	41	93M	1.1E+03	6.7E+02
BE	4	10	5.1E+02	4.9E+02	NB	41	94	2.2E+00	1.9E+00
C	6	14	9.8E-01	9.8E-01	NB	41	95	2.3E+04	9.2E+02
NA	11	22	1.1E+01	1.1E+01	MO	42	93	4.2E+00	4.1E+00
AL	13	26	1.0E+04	1.0E+04	TC	43	95M	1.3E+00	8.4E-01
SI	14	32	9.0E+03	9.0E+03	TC	43	97	3.6E-01	3.6E-01
S	16	35	9.0E+01	9.0E+01	TC	43	97M	6.8E+00	5.1E+00
CL	17	36	1.7E-01	1.7E-01	TC	43	98	4.8E-03	4.8E-03
AR	18	37	5.5E+02	5.5E+02	TC	43	99	7.9E-02	7.9E-02
AR	18	39	2.9E-02	2.9E-02	RU	44	103	1.3E+02	4.5E+01
AR	18	42	3.1E-03	3.1E-03	RU	44	106	1.4E+00	1.2E+00
K	19	40	3.6E+00	3.6E+00	RH	45	101	9.1E-02	9.0E-02
CA	20	41	3.0E+04	3.0E+04	RH	45	102	1.7E-01	1.5E-01
CA	20	45	5.7E+04	5.5E+04	PD	46	107	5.8E+00	5.8E+00
CA	20	48	2.9E+01	2.9E+01	AG	47	105	6.6E+02	2.9E+02
SC	21	46	8.9E+04	4.2E+03	AG	47	108M	2.9E+00	2.8E+00
TI	22	44	6.8E+03	6.8E+03	AG	47	110M	2.1E+01	1.8E+01
V	23	49	5.7E+06	4.7E+06	CD	48	109	1.6E+01	1.1E+01
V	23	50	8.2E+02	8.2E+02	CD	48	113M	7.7E-01	7.4E-01
MN	25	53	3.5E+04	3.5E+04	CD	48	115M	7.6E+01	1.3E+01
MN	25	54	7.7E+03	6.2E+03	IN	49	114M	1.8E+00	8.5E-01
FE	26	55	1.6E+05	1.0E+05	IN	49	115	3.3E-02	3.3E-02
FE	26	59	1.5E+05	1.1E+04	SN	50	113	1.7E+04	1.1E+03
FE	26	60	3.5E+01	3.2E+01	SN	50	119M	1.9E+04	2.5E+03
CO	27	56	2.7E+03	2.1E+03	SN	50	121M	1.1E+02	8.0E+01
CO	27	57	9.5E+03	8.7E+03	SN	50	123M	8.9E+03	6.5E+02
CO	27	58	6.2E+03	4.6E+03	SN	50	126	2.8E+00	2.2E+00
CO	27	60	6.8E+01	6.8E+01	SB	51	124	7.8E+03	4.8E+03
NI	28	59	2.8E+04	2.6E+04	SB	51	125	1.4E+03	1.3E+03
NI	28	63	1.4E+04	1.3E+04	TE	52	121M	4.9E+00	4.1E+00
ZN	30	65	3.8E+01	2.8E+01	TE	52	123	2.3E+00	2.3E+00
GE	32	68	1.2E-01	1.2E-01	TE	52	123M	2.4E+01	1.9E+01
AS	33	73	1.7E+07	2.0E+06	TE	52	125M	9.8E+01	6.4E+01
SE	34	75	3.0E+01	2.5E+01	TE	52	127M	1.9E+01	1.5E+01
SE	34	79	4.9E+00	4.9E+00	TE	52	129M	3.3E+01	1.7E+01
KR	36	81	2.9E-01	2.9E-01	I	53	125	6.8E+03	6.1E+03
KR	36	85	5.6E-02	5.6E-02	I	53	129	4.2E+01	4.2E+01
RB	37	83	6.0E+02	3.0E+02	XE	54	127	6.3E+00	6.3E+00
RB	37	84	8.1E+02	2.4E+02	CS	55	134	1.7E+03	1.5E+03
RB	37	87	2.3E+01	2.2E+01	CS	55	135	5.5E+03	5.4E+03
SR	38	85	1.1E+06	1.0E+06	CS	55	137	5.2E+02	5.1E+02
SR	38	89	1.0E+06	9.1E+05	BA	56	133	1.4E+05	1.0E+05
SR	38	90	4.2E+03	4.2E+03	LA	57	137	5.4E+05	5.1E+05
Y	39	88	1.3E+04	9.1E+02	LA	57	138	1.6E+04	1.5E+04
Y	39	91	1.4E+05	5.6E+03	CE	58	139	3.1E+05	1.0E+05
ZR	40	88	2.9E+04	6.1E+03	CE	58	141	3.4E+06	3.4E+05
ZR	40	93	1.1E+04	1.1E+04	CE	58	142	3.4E+02	3.3E+02
ZR	40	95	8.8E+04	1.5E+04	CE	58	144	5.4E+03	2.7E+03
NB	41	91	2.1E+02	1.9E+02	ND	60	144	4.0E-03	4.0E-03

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(3) Liver

TABLE 6B. UNIT-RAD DEPOSITION FOR LIVER

VIA TYPICAL AGRICULTURAL SOIL.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PM	61	143	1.9E+05	5.4E+04	W	74	185	6.3E+00	6.0E+00
PM	61	144	1.5E+04	5.3E+03	W	74	188	6.2E-01	5.8E-01
PM	61	145	2.4E+04	2.1E+04	RE	75	183	2.8E+00	2.3E+00
PM	61	146	5.5E+03	3.9E+03	RE	75	184	2.0E+00	1.5E+00
PM	61	147	4.0E+03	2.4E+03	RE	75	184M	2.8E-01	2.6E-01
PM	61	148M	3.9E+05	2.3E+04	RE	75	187	5.5E+01	5.5E+01
SM	62	145	9.9E+04	6.4E+04	OS	76	185	8.0E-01	7.6E-01
SM	62	146	1.8E+02	1.8E+02	OS	76	194	1.2E-02	1.2E-02
SM	62	147	2.1E+02	2.0E+02	IR	77	192	9.6E-01	7.0E-01
SM	62	148	1.2E+02	1.2E+02	IR	77	192M	6.1E-03	6.0E-03
SM	62	149	2.5E+02	2.5E+02	PT	78	190	2.3E-03	2.3E-03
SM	62	151	3.5E+04	3.4E+04	PT	78	192	2.8E-03	2.7E-03
EU	63	148	5.5E+05	1.7E+05	PT	78	193	9.6E-02	9.6E-02
EU	63	149	1.8E+05	8.1E+04	AU	79	195	2.2E+02	8.4E+01
EU	63	150	2.9E+03	2.7E+03	HG	80	194	6.2E+00	5.7E+00
EU	63	152	1.1E+03	1.1E+03	HG	80	203	1.5E+02	1.2E+02
EU	63	154	8.3E+02	8.1E+02	TL	81	204	1.2E+01	1.2E+01
EU	63	155	8.2E+04	6.9E+04	PB	82	202	4.9E+00	3.7E+00
GD	64	146	9.0E+04	8.5E+03	PB	82	204	1.1E+00	8.3E-01
GD	64	148	1.1E+02	1.1E+02	PB	82	205	3.4E+01	2.5E+01
GD	64	150	6.1E+01	5.7E+01	PB	82	210	8.5E-01	5.8E-01
GD	64	151	2.6E+05	5.4E+04	BI	83	207	5.9E-01	5.9E-01
GD	64	152	1.5E+02	1.4E+02	BI	83	208	2.9E-01	2.9E-01
GD	64	153	1.8E+05	6.2E+04	BI	83	210M	1.4E-01	1.4E-01
GD	64	162	9.4E+03	4.2E+03	PO	84	208	6.9E-03	6.6E-03
TB	65	157	2.2E+04	2.1E+04	PO	84	209	1.6E-03	1.6E-03
TB	65	158	9.4E+02	9.3E+02	PO	84	210	9.6E-02	7.4E-02
TB	65	160	1.5E+05	7.7E+04	RA	88	226	2.3E-04	2.3E-04
DY	66	154	9.4E-04	8.8E-04	RA	88	228	7.5E-04	7.5E-04
DY	66	156	1.5E-03	1.4E-03	AC	89	227	5.3E-04	3.3E-04
DY	66	159	2.5E+01	5.7E+00	TH	90	228	1.9E-01	2.3E-03
HO	67	163	1.5E-01	1.3E-01	TH	90	229	3.4E-03	2.1E-04
HO	67	166M	6.7E-03	5.9E-03	TH	90	230	3.1E-03	2.0E-04
TM	69	168	1.1E+06	5.8E+05	TH	90	232	2.8E-03	1.8E-04
TM	69	170	2.5E+06	1.6E+06	PA	91	231	2.9E-03	1.8E-04
TM	69	171	6.0E+06	5.5E+06	U	92	232	2.1E-04	2.1E-04
YB	70	169	1.2E+07	3.7E+06	U	92	233	1.9E-04	1.9E-04
LU	71	173	1.5E-01	1.5E-01	U	92	234	1.8E-04	1.8E-04
LU	71	174	3.3E-02	3.3E-02	U	92	235	1.6E-04	1.6E-04
LU	71	174M	6.1E-01	6.1E-01	U	92	236	1.6E-04	1.6E-04
LU	71	176	9.9E-03	9.9E-03	U	92	238	1.5E-04	1.5E-04
LU	71	177M	1.7E+00	1.7E+00	NP	93	235	4.0E-01	3.0E-03
HF	72	172	4.3E+00	3.2E+00	NP	93	236	2.3E-03	1.6E-04
HF	72	174	3.7E-01	3.4E-01	NP	93	237	2.4E-03	1.6E-04
HF	72	175	1.9E+03	1.9E+02	PU	94	236	3.4E-02	1.1E-03
HF	72	181	3.0E+03	2.0E+02	PU	94	237	1.8E+01	2.7E-02
HF	72	182	5.7E-01	5.2E-01	PU	94	238	1.6E-03	1.7E-04
TA	73	179	2.4E+01	1.4E+01	PU	94	239	1.3E-03	1.5E-04
TA	73	182	1.4E+01	3.2E+00	PU	94	240	1.2E-03	1.4E-04
W	74	181	6.2E+00	6.0E+00	PU	94	241	3.3E-03	2.9E-04

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (cont'd).
(3) Liver

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(3) Liver

TABLE 6B. UNIT-RAD DEPOSITION FOR LIVER VIA TYPICAL AGRICULTURAL SOIL. 05/09/68 PAGE 9

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PU	94	242	1.2E-03	1.4E-04	CM	96	248	1.8E-04	1.1E-04
PU	94	244	1.1E-03	1.2E-04	BK	97	247	1.2E-04	1.2E-04
AM	95	241	2.5E-04	1.5E-04	BK	97	249	2.8E-03	2.8E-03
AM	95	242M	2.5E-04	1.5E-04	CF	98	248	2.5E-03	2.5E-03
AM	95	243	2.2E-04	1.3E-04	CF	98	249	1.2E-04	1.2E-04
CM	96	241	2.7E+00	3.1E-02	CF	98	250	2.7E-04	2.7E-04
CM	96	242	1.2E-01	6.4E-03	CF	98	251	1.1E-04	1.1E-04
CM	96	243	3.0E-04	1.8E-04	CF	98	252	8.5E-04	8.5E-04
CM	96	244	3.9E-04	2.2E-04	ES	99	252	5.6E-03	5.6E-03
CM	96	245	2.1E-04	1.3E-04	ES	99	254	1.6E-03	1.6E-03
CM	96	246	2.0E-04	1.3E-04	FM	100	257	9.3E-03	9.3E-03
CM	96	247	1.9E-04	1.2E-04					

TABLE 68. UNIT-RAD DEPOSITION FOR OVARIES

VIA TYPICAL AGRICULTURAL

SOIL.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
H	1	3	4.7E+01	4.7E+01	NB	41	91M	2.2E+03	2.2E+03
BE	4	7	4.1E+05	4.1E+05	NB	41	93M	8.2E+02	8.2E+02
BE	4	10	4.9E+02	4.9E+02	NB	41	94	2.4E+00	2.4E+00
C	6	14	9.8E-01	9.8E-01	NB	41	95	1.1E+03	1.1E+03
NA	11	22	7.7E+00	7.6E+00	MO	42	93	1.9E+03	1.9E+03
AL	13	26	1.1E+04	1.1E+04	TC	43	95M	8.4E-01	8.4E-01
SI	14	32	1.3E+04	1.3E+04	TC	43	97	3.6E-01	3.6E-01
S	16	35	9.0E+01	9.0E+01	TC	43	97M	5.1E+00	5.1E+00
CL	17	36	1.1E-01	1.1E-01	TC	43	98	4.8E-03	4.8E-03
AR	18	37	5.5E+02	5.5E+02	TC	43	99	7.9E-02	7.9E-02
AR	18	39	2.9E-02	2.9E-02	RU	44	103	1.3E+02	4.5E+01
AR	18	42	3.1E-03	3.1E-03	RU	44	106	1.4E+00	1.2E+00
K	19	40	7.0E+00	6.9E+00	RH	45	101	9.0E-02	9.0E-02
CA	20	41	7.8E+03	7.7E+03	RH	45	102	1.5E-01	1.5E-01
CA	20	45	1.7E+04	1.4E+04	PD	46	107	5.8E+00	5.8E+00
CA	20	48	7.6E+00	7.6E+00	AG	47	105	1.2E+03	1.1E+03
SC	21	46	4.2E+01	4.2E+01	AG	47	108M	1.1E+01	1.1E+01
TI	22	44	1.1E+04	1.1E+04	AG	47	110M	6.9E+01	6.8E+01
V	23	49	3.3E+07	3.3E+07	CD	48	109	7.4E+01	6.5E+01
V	23	50	5.7E+03	5.7E+03	CD	48	113M	4.2E+00	4.2E+00
MN	25	53	3.2E+05	3.2E+05	CD	48	115M	1.9E+02	7.6E+01
MN	25	54	5.7E+04	5.6E+04	IN	49	114M	8.5E-01	8.5E-01
FE	26	55	5.0E+05	3.4E+05	IN	49	115	3.3E-02	3.3E-02
FE	26	59	4.1E+05	3.7E+04	SN	50	113	7.2E+02	5.2E+02
FE	26	60	1.1E+02	1.1E+02	SN	50	119M	1.4E+03	1.2E+03
CO	27	56	8.8E+03	6.7E+03	SN	50	121M	3.7E+01	3.6E+01
CO	27	57	3.1E+04	2.8E+04	SN	50	123M	4.0E+02	3.0E+02
CO	27	58	2.0E+04	1.5E+04	SN	50	126	1.0E+00	1.0E+00
CO	27	60	2.2E+02	2.2E+02	SB	51	124	2.9E+03	2.9E+03
NI	28	59	2.2E+04	2.2E+04	SB	51	125	7.8E+02	7.8E+02
NI	28	63	1.1E+04	1.1E+04	TE	52	121M	9.7E-01	8.1E-01
ZN	30	65	1.1E+02	7.8E+01	TE	52	123	4.7E-01	4.7E-01
GE	32	68	1.2E-01	1.2E-01	TE	52	123M	4.8E+00	3.7E+00
AS	33	73	3.2E+06	3.2E+06	TE	52	125M	2.0E+01	1.3E+01
SE	34	75	7.6E-01	7.6E-01	TE	52	127M	3.8E+00	3.0E+00
SE	34	79	1.5E-01	1.5E-01	TE	52	129M	6.7E+00	3.5E+00
KR	36	81	2.9E-01	2.9E-01	I	53	125	7.5E+03	7.5E+03
KR	36	85	5.6E-02	5.6E-02	I	53	129	5.2E+01	5.2E+01
RB	37	83	4.7E+04	2.4E+04	XE	54	127	6.3E+00	6.3E+00
RB	37	84	6.3E+04	1.9E+04	CS	55	134	1.6E+02	1.4E+02
RB	37	87	1.8E+03	1.8E+03	CS	55	135	5.1E+02	5.0E+02
SR	38	85	2.5E+05	1.5E+05	CS	55	137	4.8E+01	4.7E+01
SR	38	89	2.4E+05	1.3E+05	BA	56	133	3.2E+04	3.2E+04
SR	38	90	5.9E+02	5.9E+02	LA	57	137	8.5E+02	8.5E+02
Y	39	88	1.8E+02	1.8E+02	LA	57	138	2.5E+01	2.5E+01
Y	39	91	1.1E+03	1.1E+03	CE	58	139	2.0E+03	2.0E+03
ZR	40	88	6.7E+03	6.7E+03	CE	58	141	6.8E+03	6.8E+03
ZR	40	93	1.2E+04	1.2E+04	CE	58	142	6.6E+00	6.6E+00
ZR	40	95	1.7E+04	1.7E+04	CE	58	144	5.4E+01	5.4E+01
NB	41	91	2.3E+02	2.3E+02	ND	60	144	4.0E-03	4.0E-03

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(4) Ovaries

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PM	61	143	1.1E+03	1.1E+03	W	74	185	6.0E+00	6.0E+00
PM	61	144	1.1E+02	1.1E+02	W	74	188	5.8E-01	5.8E-01
PM	61	145	4.2E+02	4.2E+02	RE	75	183	2.3E+00	2.3E+00
PM	61	146	7.8E+01	7.8E+01	RE	75	184	1.5E+00	1.5E+00
PM	61	147	4.8E+01	4.8E+01	RE	75	184M	2.6E-01	2.6E-01
PM	61	148M	4.6E+02	4.6E+02	RE	75	187	5.5E+01	5.5E+01
SM	62	145	1.3E+04	1.3E+04	OS	76	185	7.6E-01	7.6E-01
SM	62	146	3.6E+01	3.6E+01	OS	76	194	1.2E-02	1.2E-02
SM	62	147	4.1E+01	4.1E+01	IR	77	192	7.0E-01	7.0E-01
SM	62	148	2.3E+01	2.3E+01	IR	77	192M	6.0E-03	6.0E-03
SM	62	149	5.0E+01	5.0E+01	PT	78	190	2.3E-03	2.3E-03
SM	62	151	6.7E+03	6.7E+03	PT	78	192	2.7E-03	2.7E-03
EU	63	148	3.3E+04	3.3E+04	PT	78	193	9.6E-02	9.6E-02
EU	63	149	1.6E+04	1.6E+04	AU	79	195	6.2E+01	6.2E+01
EU	63	150	5.4E+02	5.4E+02	HG	80	194	1.7E-01	1.7E-01
EU	63	152	2.1E+02	2.1E+02	HG	80	203	3.5E+00	3.5E+00
EU	63	154	1.6E+02	1.6E+02	TL	81	204	1.4E+01	1.4E+01
EU	63	155	1.4E+04	1.4E+04	PB	82	202	4.5E+01	4.5E+01
GD	64	146	1.7E+02	1.7E+02	PB	82	204	1.0E+01	1.0E+01
GD	64	148	2.1E+00	2.1E+00	PB	82	205	3.1E+02	3.1E+02
GD	64	150	1.1E+00	1.1E+00	PB	82	210	7.1E+00	7.1E+00
GD	64	151	1.1E+03	1.1E+03	BI	83	207	2.7E+00	2.7E+00
GD	64	152	2.8E+00	2.8E+00	BI	83	208	1.3E+00	1.3E+00
GD	64	153	1.2E+03	1.2E+03	BI	83	210M	6.4E-01	6.4E-01
GD	64	162	8.3E+01	8.3E+01	PO	84	208	6.6E-03	6.6E-03
TB	65	157	2.1E+02	2.1E+02	PO	84	209	1.6E-03	1.6E-03
TB	65	158	9.3E+00	9.3E+00	PO	84	210	7.4E-02	7.4E-02
TB	65	160	7.7E+02	7.7E+02	RA	88	226	2.3E-04	2.3E-04
DY	66	154	8.8E-04	8.8E-04	RA	88	228	7.5E-04	7.5E-04
DY	66	156	1.4E-03	1.4E-03	AC	89	227	3.3E-04	3.3E-04
DY	66	159	5.7E+00	5.7E+00	TH	90	228	2.3E-03	2.3E-03
HO	67	163	1.3E-01	1.3E-01	TH	90	229	2.1E-04	2.1E-04
HO	67	166M	5.9E-03	5.9E-03	TH	90	230	2.0E-04	2.0E-04
TM	69	168	5.8E+02	5.8E+02	TH	90	232	1.8E-04	1.8E-04
TM	69	170	1.6E+03	1.6E+03	PA	91	231	1.8E-04	1.8E-04
TM	69	171	5.5E+03	5.5E+03	U	92	232	2.1E-04	2.1E-04
YB	70	169	7.4E+03	7.4E+03	U	92	233	1.9E-04	1.9E-04
LU	71	173	1.5E-01	1.5E-01	U	92	234	1.8E-04	1.8E-04
LU	71	174	3.3E-02	3.3E-02	U	92	235	1.6E-04	1.6E-04
LU	71	174M	6.1E-01	6.1E-01	U	92	236	1.6E-04	1.6E-04
LU	71	176	9.9E-03	9.9E-03	U	92	238	1.5E-04	1.5E-04
LU	71	177M	1.7E+00	1.7E+00	NP	93	235	3.0E-03	3.0E-03
HF	72	172	2.1E-01	1.6E-01	NP	93	236	1.6E-04	1.6E-04
HF	72	174	1.8E-02	1.7E-02	NP	93	237	1.6E-04	1.6E-04
HF	72	175	8.5E+01	9.4E+00	PU	94	236	1.1E-03	1.1E-03
HF	72	181	1.4E+02	1.0E+01	PU	94	237	2.7E-02	2.7E-02
HF	72	182	2.8E-02	2.6E-02	PU	94	238	1.7E-04	1.7E-04
TA	73	179	2.6E+00	1.4E+00	PU	94	239	1.5E-04	1.5E-04
TA	73	182	1.6E+00	3.2E-01	PU	94	240	1.4E-04	1.4E-04
W	74	181	6.0E+00	6.0E+00	PU	94	241	2.9E-04	2.9E-04

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(4) Ovaries

TABLE 6B. UNIT-RAD DEPOSITION FOR OVARIES

VIA TYPICAL AGRICULTURAL

SOIL.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PU	94	242	1.4E-04	1.4E-04
PU	94	244	1.2E-04	1.2E-04
AM	95	241	1.5E-04	1.5E-04
AM	95	242M	1.5E-04	1.5E-04
AM	95	243	1.3E-04	1.3E-04
CM	96	241	3.1E-02	3.1E-02
CM	96	242	6.4E-03	6.4E-03
CM	96	243	1.8E-04	1.8E-04
CM	96	244	2.2E-04	2.2E-04
CM	96	245	1.3E-04	1.3E-04
CM	96	246	1.3E-04	1.3E-04
CM	96	247	1.2E-04	1.2E-04

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
CM	96	248	1.1E-04	1.1E-04
BK	97	247	1.2E-04	1.2E-04
BK	97	249	2.8E-03	2.8E-03
CF	98	248	2.5E-03	2.5E-03
CF	98	249	1.2E-04	1.2E-04
CF	98	250	2.7E-04	2.7E-04
CF	98	251	1.1E-04	1.1E-04
CF	98	252	8.5E-04	8.5E-04
ES	99	252	5.6E-03	5.6E-03
ES	99	254	1.6E-03	1.6E-03
FM	100	257	9.3E-03	9.3E-03

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(4) Ovaries

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
H	1	3	4.7E+01	4.7E+01	NB	41	91M	2.9E+04	1.8E+03
BE	4	7	4.5E+06	4.1E+05	NB	41	93M	1.1E+03	6.7E+02
BE	4	10	5.3E+02	4.9E+02	NB	41	94	2.2E+00	1.9E+00
C	6	14	9.8E-01	9.8E-01	NB	41	95	2.6E+04	9.2E+02
NA	11	22	1.3E+01	1.3E+01	MO	42	93	1.3E+03	1.3E+03
AL	13	26	1.0E+04	9.5E+03	TC	43	95M	8.4E-01	8.4E-01
SI	14	32	6.3E+03	6.3E+03	TC	43	97	3.6E-01	3.6E-01
S	16	35	9.0E+01	9.0E+01	TC	43	97M	5.1E+00	5.1E+00
CL	17	36	1.4E-01	1.4E-01	TC	43	98	4.8E-03	4.8E-03
AR	18	37	5.5E+02	5.5E+02	TC	43	99	7.9E-02	7.9E-02
AR	18	39	2.9E-02	2.9E-02	RU	44	103	1.1E+02	2.3E+01
AR	18	42	3.1E-03	3.1E-03	RU	44	106	8.6E-01	6.0E-01
K	19	40	3.0E+00	3.0E+00	RH	45	101	9.1E-02	9.0E-02
CA	20	41	2.5E+04	2.5E+04	RH	45	102	1.7E-01	1.5E-01
CA	20	45	4.8E+04	4.5E+04	PD	46	107	5.8E+00	5.8E+00
CA	20	48	2.4E+01	2.4E+01	AG	47	105	2.7E+03	1.7E+03
SC	21	46	3.8E+04	2.1E+03	AG	47	108M	1.7E+01	1.7E+01
TI	22	44	7.5E+03	7.1E+03	AG	47	110M	1.2E+02	1.1E+02
V	23	49	3.2E+07	2.5E+07	CD	48	109	1.1E+02	7.2E+01
V	23	50	4.4E+03	4.4E+03	CD	48	113M	4.9E+00	4.6E+00
MN	25	53	3.8E+05	3.7E+05	CD	48	115M	5.2E+02	8.5E+01
MN	25	54	7.0E+04	6.7E+04	IN	49	114M	1.7E+00	8.5E-01
FE	26	55	8.7E+04	5.4E+04	IN	49	115	3.3E-02	3.3E-02
FE	26	59	8.4E+04	5.9E+03	SN	50	113	1.9E+04	2.2E+03
FE	26	60	1.8E+01	1.7E+01	SN	50	119M	2.2E+04	5.0E+03
CO	27	56	3.5E+03	2.7E+03	SN	50	121M	1.9E+02	1.6E+02
CO	27	57	1.2E+04	1.1E+04	SN	50	123M	1.0E+04	1.3E+03
CO	27	58	8.1E+03	6.0E+03	SN	50	126	5.0E+00	4.4E+00
CO	27	60	8.9E+01	8.8E+01	SB	51	124	8.6E+02	8.6E+02
NI	28	59	5.3E+04	5.3E+04	SB	51	125	2.4E+02	2.4E+02
NI	28	63	2.6E+04	2.6E+04	TE	52	121M	9.7E-01	8.1E-01
ZN	30	65	7.8E+01	7.8E+01	TE	52	123	4.7E-01	4.7E-01
GE	32	68	1.2E-01	1.2E-01	TE	52	123M	4.8E+00	3.7E+00
AS	33	73	1.6E+06	1.6E+06	TE	52	125M	2.0E+01	1.3E+01
SE	34	75	8.8E-01	7.6E-01	TE	52	127M	3.8E+00	3.0E+00
SE	34	79	1.5E-01	1.5E-01	TE	52	129M	6.7E+00	3.5E+00
KR	36	81	2.9E-01	2.9E-01	I	53	125	1.5E+01	1.3E+01
KR	36	85	5.6E-02	5.6E-02	I	53	129	9.3E-02	9.3E-02
RB	37	83	5.1E+02	2.6E+02	XE	54	127	6.3E+00	6.3E+00
RB	37	84	6.9E+02	2.0E+02	CS	55	134	3.5E+01	3.1E+01
RB	37	87	1.9E+01	1.9E+01	CS	55	135	1.1E+02	1.1E+02
SR	38	85	6.8E+05	5.7E+05	CS	55	137	1.0E+01	1.0E+01
SR	38	89	6.2E+05	5.0E+05	BA	56	133	6.1E+04	6.0E+04
SR	38	90	2.3E+03	2.3E+03	LA	57	137	6.9E+02	6.9E+02
Y	39	88	1.7E+05	1.8E+03	LA	57	138	2.0E+01	2.0E+01
Y	39	91	1.9E+06	1.1E+04	CE	58	139	7.0E+06	1.0E+06
ZR	40	88	6.4E+04	5.5E+03	CE	58	141	9.2E+07	3.4E+06
ZR	40	93	1.1E+04	9.7E+03	CE	58	142	3.7E+03	3.3E+03
ZR	40	95	2.0E+05	1.4E+04	CE	58	144	1.1E+05	2.7E+04
NB	41	91	2.2E+02	1.9E+02	ND	60	144	4.0E-03	4.0E-03

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(5) Spleen

TABLE 6B. UNIT-RAD DEPOSITION FOR SPLEEN

VIA TYPICAL AGRICULTURAL SOIL.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PM	61	143	4.1E+05	1.1E+05	W	74	185	6.0E+00	6.0E+00
PM	61	144	3.2E+04	1.1E+04	W	74	188	5.8E-01	5.8E-01
PM	61	145	4.9E+04	4.2E+04	RE	75	183	2.3E+00	2.3E+00
PM	61	146	1.1E+04	7.8E+03	RE	75	184	1.5E+00	1.5E+00
PM	61	147	8.3E+03	4.8E+03	RE	75	184M	2.6E-01	2.6E-01
PM	61	148M	8.6E+05	4.6E+04	RE	75	187	5.5E+01	5.5E+01
SM	62	145	4.0E+05	1.3E+05	OS	76	185	7.6E-01	7.6E-01
SM	62	146	4.0E+02	3.6E+02	OS	76	194	1.2E-02	1.2E-02
SM	62	147	4.5E+02	4.1E+02	IR	77	192	1.2E+00	7.0E-01
SM	62	148	2.6E+02	2.3E+02	IR	77	192M	6.1E-03	6.0E-03
SM	62	149	5.5E+02	5.0E+02	PT	78	190	2.3E-03	2.3E-03
SM	62	151	7.5E+04	6.7E+04	PT	78	192	2.8E-03	2.7E-03
EU	63	148	3.1E+06	3.3E+05	PT	78	193	9.7E-02	9.6E-02
EU	63	149	8.5E+05	1.6E+05	AU	79	195	3.3E+02	1.4E+02
EU	63	150	6.7E+03	5.4E+03	HG	80	194	1.4E+00	1.3E+00
EU	63	152	2.4E+03	2.1E+03	HG	80	203	3.3E+01	2.7E+01
EU	63	154	1.8E+03	1.6E+03	TL	81	204	1.2E+01	1.2E+01
EU	63	155	2.3E+05	1.4E+05	PB	82	202	9.3E+00	9.3E+00
GD	64	146	1.5E+05	1.7E+04	PB	82	204	2.1E+00	2.1E+00
GD	64	148	2.2E+02	2.1E+02	PB	82	205	6.4E+01	6.4E+01
GD	64	150	1.2E+02	1.1E+02	PB	82	210	1.5E+00	1.5E+00
GD	64	151	4.5E+05	1.1E+05	BI	83	207	1.0E+00	1.0E+00
GD	64	152	2.9E+02	2.8E+02	BI	83	208	5.1E-01	5.1E-01
GD	64	153	3.3E+05	1.2E+05	BI	83	210M	2.5E-01	2.5E-01
GD	64	162	1.7E+04	8.3E+03	PD	84	208	7.0E-03	6.6E-03
TB	65	157	2.2E+04	2.1E+04	PD	84	209	1.6E-03	1.6E-03
TB	65	158	9.7E+02	9.3E+02	PD	84	210	1.1E-01	7.4E-02
TB	65	160	4.4E+05	7.7E+04	RA	88	226	2.3E-04	2.3E-04
DY	66	154	8.8E-04	8.8E-04	RA	88	228	7.5E-04	7.5E-04
DY	66	156	1.4E-03	1.4E-03	AC	89	227	3.3E-04	3.3E-04
DY	66	159	5.7E+00	5.7E+00	TH	90	228	2.3E-03	2.3E-03
HO	67	163	1.3E-01	1.3E-01	TH	90	229	2.1E-04	2.1E-04
HO	67	166M	5.9E-03	5.9E-03	TH	90	230	2.0E-04	2.0E-04
TM	69	168	3.3E+04	5.8E+03	TH	90	232	1.8E-04	1.8E-04
TM	69	170	6.9E+04	1.6E+04	PA	91	231	1.8E-04	1.8E-04
TM	69	171	8.7E+04	5.5E+04	U	92	232	2.1E-04	2.1E-04
YB	70	169	1.0E+07	7.4E+05	U	92	233	1.9E-04	1.9E-04
LU	71	173	1.5E-01	1.5E-01	U	92	234	1.8E-04	1.8E-04
LU	71	174	3.3E-02	3.3E-02	U	92	235	1.6E-04	1.6E-04
LU	71	174M	6.1E-01	6.1E-01	U	92	236	1.6E-04	1.6E-04
LU	71	176	9.9E-03	9.9E-03	U	92	238	1.5E-04	1.5E-04
LU	71	177M	1.7E+00	1.7E+00	NP	93	235	3.0E-03	3.0E-03
HF	72	172	3.8E+00	3.2E+00	NP	93	236	1.6E-04	1.6E-04
HF	72	174	3.6E-01	3.4E-01	NP	93	237	1.6E-04	1.6E-04
HF	72	175	1.1E+03	1.9E+02	PU	94	236	1.1E-03	1.1E-03
HF	72	181	1.8E+03	2.0E+02	PU	94	237	2.7E-02	2.7E-02
HF	72	182	5.5E-01	5.2E-01	PU	94	238	1.7E-04	1.7E-04
TA	73	179	4.0E+01	2.9E+01	PU	94	239	1.5E-04	1.5E-04
TA	73	182	1.9E+01	6.3E+00	PU	94	240	1.4E-04	1.4E-04
W	74	181	6.0E+00	6.0E+00	PU	94	241	2.9E-04	2.9E-04

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(5) Spleen

TABLE 6B. UNIT-RAD DEPOSITION FOR SPLEEN VIA TYPICAL AGRICULTURAL SOIL. 05/09/68 PAGE 15

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PU	94	242	1.4E-04	1.4E-04	CM	96	248	1.1E-04	1.1E-04
PU	94	244	1.2E-04	1.2E-04	BK	97	247	1.2E-04	1.2E-04
AM	95	241	1.5E-04	1.5E-04	BK	97	249	2.8E-03	2.8E-03
AM	95	242M	1.5E-04	1.5E-04	CF	98	248	2.5E-03	2.5E-03
AM	95	243	1.3E-04	1.3E-04	CF	98	249	1.2E-04	1.2E-04
CM	96	241	3.1E-02	3.1E-02	CF	98	250	2.7E-04	2.7E-04
CM	96	242	6.4E-03	6.4E-03	CF	98	251	1.1E-04	1.1E-04
CM	96	243	1.8E-04	1.8E-04	CF	98	252	8.5E-04	8.5E-04
CM	96	244	2.2E-04	2.2E-04	ES	99	252	5.6E-03	5.6E-03
CM	96	245	1.3E-04	1.3E-04	ES	99	254	1.6E-03	1.6E-03
CM	96	246	1.3E-04	1.3E-04	FM	100	257	9.3E-03	9.3E-03
CM	96	247	1.2E-04	1.2E-04					

TABLE 6B. UNIT-RAD DEPOSITION FOR TESTES

VIA TYPICAL AGRICULTURAL

SOIL.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	INFANT UC/M**2
H	1	3	4.7E+01	4.7E+01	NB	41	91M	2.2E+03	2.2E+03
BE	4	7	4.1E+05	4.1E+05	NB	41	93M	8.2E+02	8.2E+02
BE	4	10	4.9E+02	4.9E+02	NB	41	94	2.4E+00	2.4E+00
C	6	14	9.8E-01	9.8E-01	NB	41	95	1.1E+03	1.1E+03
NA	11	22	7.4E+00	7.3E+00	MO	42	93	1.7E+03	1.7E+03
AL	13	26	1.8E+04	1.8E+04	TC	43	95M	8.4E-01	8.4E-01
SI	14	32	7.0E+03	6.9E+03	TC	43	97	3.6E-01	3.6E-01
S	16	35	7.3E+02	9.0E+01	TC	43	97M	5.1E+00	5.1E+00
CL	17	36	9.2E-02	9.2E-02	TC	43	98	4.8E-03	4.8E-03
AR	18	37	5.5E+02	5.5E+02	TC	43	99	7.9E-02	7.9E-02
AR	18	39	2.9E-02	2.9E-02	RU	44	103	2.5E+02	4.5E+01
AR	18	42	3.1E-03	3.1E-03	RU	44	106	1.8E+00	1.2E+00
K	19	40	4.6E+00	4.5E+00	RH	45	101	9.0E-02	9.0E-02
CA	20	41	1.8E+04	1.8E+04	RH	45	102	1.5E-01	1.5E-01
CA	20	45	3.6E+04	3.3E+04	PD	46	107	5.8E+00	5.8E+00
CA	20	48	1.8E+01	1.8E+01	AG	47	105	2.6E+03	2.2E+03
SC	21	46	4.2E+02	4.2E+02	AG	47	108M	2.1E+01	2.1E+01
TI	22	44	1.3E+04	1.3E+04	AG	47	110M	1.4E+02	1.4E+02
V	23	49	8.2E+06	8.2E+06	CD	48	109	9.2E+01	9.2E+01
V	23	50	1.4E+03	1.4E+03	CD	48	113M	5.9E+00	5.9E+00
MN	25	53	4.4E+05	4.4E+05	CD	48	115M	1.1E+02	1.1E+02
MN	25	54	8.5E+04	7.9E+04	IN	49	114M	8.5E-01	8.5E-01
FE	26	55	7.9E+05	6.4E+05	IN	49	115	3.3E-02	3.3E-02
FE	26	59	4.4E+05	6.9E+04	SN	50	113	4.6E+03	3.0E+03
FE	26	60	2.1E+02	2.0E+02	SN	50	119M	8.4E+03	6.8E+03
CO	27	56	1.3E+02	9.6E+01	SN	50	121M	2.2E+02	2.1E+02
CO	27	57	4.4E+02	4.1E+02	SN	50	123M	2.6E+03	1.7E+03
CO	27	58	2.9E+02	2.1E+02	SN	50	126	6.0E+00	6.0E+00
CO	27	60	3.2E+00	3.1E+00	SB	51	124	1.7E+03	1.7E+03
NI	28	59	2.1E+04	2.1E+04	SB	51	125	4.7E+02	4.7E+02
NI	28	63	1.0E+04	1.0E+04	TE	52	121M	9.7E-01	8.1E-01
ZN	30	65	1.9E+02	8.8E+01	TE	52	123	4.7E-01	4.7E-01
GE	32	68	1.2E-01	1.2E-01	TE	52	123M	4.8E+00	3.7E+00
AS	33	73	8.1E+05	8.1E+05	TE	52	125M	2.0E+01	1.3E+01
SE	34	75	7.6E-01	7.6E-01	TE	52	127M	3.8E+00	3.0E+00
SE	34	79	1.5E-01	1.5E-01	TE	52	129M	6.7E+00	3.5E+00
KR	36	81	2.9E-01	2.9E-01	I	53	125	1.5E+01	1.3E+01
KR	36	85	5.6E-02	5.6E-02	I	53	129	9.3E-02	9.3E-02
RB	37	83	1.8E+03	9.4E+02	XE	54	127	6.3E+00	6.3E+00
RB	37	84	2.5E+03	7.3E+02	CS	55	134	7.0E+01	6.1E+01
RB	37	87	7.0E+01	6.9E+01	CS	55	135	2.2E+02	2.2E+02
SR	38	85	4.5E+05	3.4E+05	CS	55	137	2.1E+01	2.0E+01
SR	38	89	4.2E+05	3.0E+05	BA	56	133	6.9E+04	6.9E+04
SR	38	90	1.4E+03	1.4E+03	LA	57	137	8.5E+02	8.5E+02
Y	39	88	1.4E+05	1.8E+03	LA	57	138	2.5E+01	2.5E+01
Y	39	91	1.6E+06	1.1E+04	CE	58	139	6.8E+04	2.0E+04
ZR	40	88	7.9E+04	7.6E+03	CE	58	141	7.8E+05	6.8E+04
ZR	40	93	1.5E+04	1.3E+04	CE	58	142	6.9E+01	6.6E+01
ZR	40	95	2.5E+05	1.9E+04	CE	58	144	1.2E+03	5.4E+02
NB	41	91	2.3E+02	2.3E+02	ND	60	144	4.0E-03	4.0E-03

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (cont'd).
(6) Testes

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PM	61	143	2.7E+04	1.1E+04	W	74	185	6.0E+00	6.0E+00
PM	61	144	2.2E+03	1.1E+03	W	74	188	5.8E-01	5.8E-01
PM	61	145	4.5E+03	4.2E+03	RE	75	183	2.3E+00	2.3E+00
PM	61	146	9.7E+02	7.8E+02	RE	75	184	1.5E+00	1.5E+00
PM	61	147	6.7E+02	4.8E+02	RE	75	184M	2.6E-01	2.6E-01
PM	61	148M	4.9E+04	4.6E+03	RE	75	187	5.5E+01	5.5E+01
SM	62	145	2.8E+05	1.3E+05	OS	76	185	7.6E-01	7.6E-01
SM	62	146	3.8E+02	3.6E+02	OS	76	194	1.2E-02	1.2E-02
SM	62	147	4.3E+02	4.1E+02	IR	77	192	7.0E-01	7.0E-01
SM	62	148	2.4E+02	2.3E+02	IR	77	192M	6.0E-03	6.0E-03
SM	62	149	5.2E+02	5.0E+02	PT	78	190	2.3E-03	2.3E-03
SM	62	151	7.1E+04	6.7E+04	PT	78	192	2.7E-03	2.7E-03
EU	63	148	2.7E+06	3.3E+05	PT	78	193	9.6E-02	9.6E-02
EU	63	149	7.5E+05	1.6E+05	AU	79	195	1.3E+02	1.3E+02
EU	63	150	6.5E+03	5.4E+03	HG	80	194	1.7E-01	1.7E-01
EU	63	152	2.4E+03	2.1E+03	HG	80	203	3.5E+00	3.5E+00
EU	63	154	1.8E+03	1.6E+03	TL	81	204	1.6E+01	1.6E+01
EU	63	155	2.2E+05	1.4E+05	PB	82	202	4.0E+01	4.0E+01
GD	64	146	1.3E+04	1.7E+03	PB	82	204	9.1E+00	9.1E+00
GD	64	148	2.2E+01	2.1E+01	PB	82	205	2.8E+02	2.8E+02
GD	64	150	1.2E+01	1.1E+01	PB	82	210	6.4E+00	6.4E+00
GD	64	151	4.0E+04	1.1E+04	BI	83	207	2.7E-01	2.7E-01
GD	64	152	2.9E+01	2.8E+01	BI	83	208	1.3E-01	1.3E-01
GD	64	153	3.0E+04	1.2E+04	BI	83	210M	6.4E-02	6.4E-02
GD	64	162	1.6E+03	8.3E+02	PO	84	208	6.6E-03	6.6E-03
TB	65	157	2.3E+03	2.1E+03	PO	84	209	1.6E-03	1.6E-03
TB	65	158	9.8E+01	9.3E+01	PO	84	210	7.4E-02	7.4E-02
TB	65	160	5.0E+04	7.7E+03	RA	88	226	2.3E-04	2.3E-04
DY	66	154	8.8E-04	8.8E-04	RA	88	228	7.5E-04	7.5E-04
DY	66	156	1.4E-03	1.4E-03	AC	89	227	3.3E-04	3.3E-04
DY	66	159	5.7E+00	5.7E+00	TH	90	228	2.3E-03	2.3E-03
HO	67	163	1.3E-01	1.3E-01	TH	90	229	2.1E-04	2.1E-04
HO	67	166M	5.9E-03	5.9E-03	TH	90	230	2.0E-04	2.0E-04
TM	69	168	1.6E+04	2.9E+03	TH	90	232	1.8E-04	1.8E-04
TM	69	170	3.4E+04	8.2E+03	PA	91	231	1.8E-04	1.8E-04
TM	69	171	4.3E+04	2.7E+04	U	92	232	2.1E-04	2.1E-04
YB	70	169	5.1E+05	3.7E+04	U	92	233	1.9E-04	1.9E-04
LU	71	173	1.5E-01	1.5E-01	U	92	234	1.8E-04	1.8E-04
LU	71	174	3.3E-02	3.3E-02	U	92	235	1.6E-04	1.6E-04
LU	71	174M	6.1E-01	6.1E-01	U	92	236	1.6E-04	1.6E-04
LU	71	176	9.9E-03	9.9E-03	U	92	238	1.5E-04	1.5E-04
LU	71	177M	1.7E+00	1.7E+00	NP	93	235	3.0E-03	3.0E-03
HF	72	172	4.1E+02	3.2E+02	NP	93	236	1.6E-04	1.6E-04
HF	72	174	3.7E+01	3.4E+01	NP	93	237	1.6E-04	1.6E-04
HF	72	175	1.7E+05	1.9E+04	PU	94	236	1.1E-03	1.1E-03
HF	72	181	2.7E+05	2.0E+04	PU	94	237	2.7E-02	2.7E-02
HF	72	182	5.6E+01	5.2E+01	PU	94	238	1.7E-04	1.7E-04
TA	73	179	2.6E+01	1.4E+01	PU	94	239	1.5E-04	1.5E-04
TA	73	182	1.6E+01	3.2E+00	PU	94	240	1.4E-04	1.4E-04
W	74	181	6.0E+00	6.0E+00	PU	94	241	2.9E-04	2.9E-04

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(6) Testes

TABLE 6B. UNIT-RAD DEPOSITION FOR TESTES VIA TYPICAL AGRICULTURAL SOIL. 05/09/68 PAGE 18

ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	INFANT UC/M**2
PU	94	242	1.4E-04	1.4E-04	CM	96	248	1.1E-04	1.1E-04
PU	94	244	1.2E-04	1.2E-04	BK	97	247	1.2E-04	1.2E-04
AM	95	241	1.5E-04	1.5E-04	BK	97	249	2.8E-03	2.8E-03
AM	95	242M	1.5E-04	1.5E-04	CF	98	248	2.5E-03	2.5E-03
AM	95	243	1.3E-04	1.3E-04	CF	98	249	1.2E-04	1.2E-04
CM	96	241	3.1E-02	3.1E-02	CF	98	250	2.7E-04	2.7E-04
CM	96	242	6.4E-03	6.4E-03	CF	98	251	1.1E-04	1.1E-04
CM	96	243	1.8E-04	1.8E-04	CF	98	252	8.5E-04	8.5E-04
CM	96	244	2.2E-04	2.2E-04	ES	99	252	5.6E-03	5.6E-03
CM	96	245	1.3E-04	1.3E-04	ES	99	254	1.6E-03	1.6E-03
CM	96	246	1.3E-04	1.3E-04	FM	100	257	9.3E-03	9.3E-03
CM	96	247	1.2E-04	1.2E-04					

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(6) Testes

TABLE 6B. UNIT-RAD DEPOSITION FOR WHOLE BODY VIA TYPICAL AGRICULTURAL SOIL.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
H	1	3	4.7E+01	4.7E+01	NB	41	91M	3.8E+04	2.8E+03
BE	4	7	4.1E+08	9.5E+07	NB	41	93M	1.6E+03	1.1E+03
BE	4	10	1.2E+05	1.1E+05	NB	41	94	3.4E+00	3.0E+00
C	6	14	9.8E-01	9.8E-01	NB	41	95	3.3E+04	1.4E+03
NA	11	22	7.7E+00	7.6E+00	MO	42	93	4.4E+02	4.3E+02
AL	13	26	1.7E+04	1.6E+04	TC	43	95M	1.8E+01	1.7E+01
SI	14	32	7.2E+03	7.2E+03	TC	43	97	7.1E+00	7.1E+00
S	16	35	7.3E+02	3.6E+02	TC	43	97M	1.1E+02	1.0E+02
CL	17	36	1.1E-01	1.1E-01	TC	43	98	9.6E-02	9.6E-02
AR	18	37	5.5E+02	5.5E+02	TC	43	99	1.6E+00	1.6E+00
AR	18	39	2.9E-02	2.9E-02	RU	44	103	9.7E+02	2.3E+02
AR	18	42	3.1E-03	3.1E-03	RU	44	106	8.1E+00	6.0E+00
K	19	40	5.9E+00	5.9E+00	RH	45	101	9.1E-02	9.0E-02
CA	20	41	1.1E+03	2.1E+02	RH	45	102	1.6E-01	1.5E-01
CA	20	45	4.0E+04	3.9E+02	PD	46	107	5.8E+00	5.8E+00
CA	20	48	1.1E+00	2.1E-01	AG	47	105	1.5E+03	6.3E+02
SC	21	46	3.8E+05	2.1E+04	AG	47	108M	6.4E+00	6.2E+00
TJ	22	44	3.9E+03	3.7E+03	AG	47	110M	4.7E+01	3.9E+01
V	23	49	2.5E+07	2.2E+07	CD	48	109	1.0E+02	7.0E+01
V	23	50	3.8E+03	3.8E+03	CD	48	113M	4.7E+00	4.5E+00
MN	25	53	2.7E+05	2.7E+05	CD	48	115M	4.7E+02	8.2E+01
MN	25	54	5.4E+04	4.8E+04	IN	49	114M	1.7E+00	8.5E-01
FE	26	55	8.6E+05	4.7E+05	IN	49	115	3.3E-02	3.3E-02
FE	26	59	9.6E+05	5.1E+04	SN	50	113	1.0E+04	3.8E+03
FE	26	60	1.7E+02	1.5E+02	SN	50	119M	1.5E+04	8.4E+03
CO	27	56	1.4E+04	1.1E+04	SN	50	121M	2.7E+02	2.6E+02
CO	27	57	5.0E+04	4.6E+04	SN	50	123M	5.6E+03	2.1E+03
CO	27	58	3.3E+04	2.5E+04	SN	50	126	7.6E+00	7.4E+00
CO	27	60	3.6E+02	3.6E+02	SB	51	124	2.8E+03	1.7E+03
NI	28	59	2.0E+04	1.9E+04	SB	51	125	4.9E+02	4.7E+02
NI	28	63	9.9E+03	9.0E+03	TE	52	121M	8.9E+00	8.1E+00
ZN	30	65	3.2E+02	6.7E+01	TE	52	123	4.7E+00	4.7E+00
GE	32	68	1.2E-01	1.2E-01	TE	52	123M	4.3E+01	3.7E+01
AS	33	73	1.1E+05	2.3E+04	TE	52	125M	1.6E+02	1.3E+02
SE	34	75	1.7E+01	1.5E+01	TE	52	127M	3.4E+01	3.0E+01
SE	34	79	3.1E+00	3.1E+00	TE	52	129M	5.1E+01	3.5E+01
KR	36	81	2.9E-01	2.9E-01	I	53	125	4.3E+04	1.3E+04
KR	36	85	5.6E-02	5.6E-02	I	53	129	9.1E+01	8.9E+01
RB	37	83	4.7E+03	2.4E+03	XE	54	127	6.3E+00	6.3E+00
RB	37	84	6.3E+03	1.8E+03	CS	55	134	1.4E+03	1.3E+03
RB	37	87	1.8E+02	1.7E+02	CS	55	135	4.5E+03	4.5E+03
SR	38	85	2.5E+06	1.2E+04	CS	55	137	4.3E+02	4.2E+02
SR	38	89	2.7E+06	1.0E+04	BA	56	133	3.9E+03	3.8E+03
SR	38	90	2.2E+02	4.8E+01	LA	57	137	1.2E+03	1.1E+03
Y	39	88	2.4E+05	1.8E+03	LA	57	138	3.4E+01	3.2E+01
Y	39	91	2.7E+06	1.1E+04	CE	58	139	1.0E+06	2.0E+05
ZR	40	88	4.4E+05	7.0E+04	CE	58	141	1.3E+07	6.8E+05
ZR	40	93	1.3E+05	1.2E+05	CE	58	142	7.1E+02	6.6E+02
ZR	40	95	1.4E+06	1.7E+05	CE	58	144	1.6E+04	5.4E+03
NB	41	91	3.3E+02	3.0E+02	ND	60	144	4.3E-03	4.0E-03

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
Whole body

TABLE 6B. UNIT-RAD DEPOSITION FOR WHOLE BODY VIA TYPICAL AGRICULTURAL SOIL.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PM	61	143	3.8E+05	1.1E+05	W	74	185	6.1E+00	6.0E+00
PM	61	144	3.0E+04	1.1E+04	W	74	188	5.9E-01	5.8E-01
PM	61	145	4.8E+04	4.2E+04	RE	75	183	2.6E+00	2.3E+00
PM	61	146	1.1E+04	7.8E+03	RE	75	184	1.7E+00	1.5E+00
PM	61	147	8.0E+03	4.8E+03	RE	75	184M	2.7E-01	2.6E-01
PM	61	148M	7.8E+05	4.6E+04	RE	75	187	5.5E+01	5.5E+01
SM	62	145	3.8E+05	1.3E+05	OS	76	185	7.7E-01	7.6E-01
SM	62	146	3.9E+02	3.6E+02	OS	76	194	1.2E-02	1.2E-02
SM	62	147	4.5E+02	4.1E+02	IR	77	192	8.9E+01	7.0E+01
SM	62	148	2.5E+02	2.3E+02	IR	77	192M	6.1E-01	6.0E-01
SM	62	149	5.4E+02	5.0E+02	PT	78	190	2.3E-03	2.3E-03
SM	62	151	7.4E+04	6.7E+04	PT	78	192	2.8E-03	2.7E-03
EU	63	148	4.2E+06	3.3E+05	PT	78	193	9.6E-02	9.6E-02
EU	63	149	1.1E+06	1.6E+05	AU	79	195	1.6E+02	9.9E+01
EU	63	150	7.3E+03	5.4E+03	HG	80	194	3.7E+00	3.4E+00
EU	63	152	2.5E+03	2.1E+03	HG	80	203	8.6E+01	7.1E+01
EU	63	154	1.9E+03	1.6E+03	TL	81	204	1.5E+01	1.5E+01
EU	63	155	2.7E+05	1.4E+05	PB	82	202	8.5E+00	6.9E+00
GD	64	146	2.1E+05	1.7E+04	PB	82	204	1.9E+00	1.6E+00
GD	64	148	2.3E+02	2.1E+02	PB	82	205	5.9E+01	4.7E+01
GD	64	150	1.2E+02	1.1E+02	PB	82	210	1.5E+00	1.1E+00
GD	64	151	6.0E+05	1.1E+05	BI	83	207	3.7E+00	3.7E+00
GD	64	152	3.0E+02	2.8E+02	BI	83	208	1.8E+00	1.8E+00
GD	64	153	4.1E+05	1.2E+05	BI	83	210M	8.8E-01	8.8E-01
GD	64	162	2.1E+04	8.3E+03	PO	84	208	6.8E-03	6.6E-03
TB	65	157	2.4E+04	2.1E+04	PO	84	209	1.6E-03	1.6E-03
TB	65	158	1.0E+03	9.3E+02	PO	84	210	9.0E-02	7.4E-02
TB	65	160	7.9E+05	7.7E+04	RA	88	226	1.2E+02	4.3E+01
DY	66	154	9.7E-04	8.8E-04	RA	88	228	7.3E+02	1.4E+02
DY	66	156	1.5E-03	1.4E-03	AC	89	227	2.7E-03	3.3E-04
DY	66	159	3.3E+01	5.7E+00	TH	90	228	1.9E-01	2.3E-03
HO	67	163	2.1E+04	1.9E+04	TH	90	229	3.4E-03	2.1E-04
HO	67	166M	9.2E+02	8.3E+02	TH	90	230	3.1E-03	2.0E-04
TM	69	168	5.1E+05	5.8E+04	TH	90	232	2.8E-03	1.8E-04
TM	69	170	1.0E+06	1.6E+05	PA	91	231	2.1E-03	1.8E-04
TM	69	171	1.1E+06	5.5E+05	U	92	232	7.2E+01	7.1E+01
YB	70	169	1.7E+07	7.4E+05	U	92	233	6.5E+01	6.4E+01
LU	71	173	5.2E+04	2.1E+04	U	92	234	6.2E+01	6.1E+01
LU	71	174	7.3E+03	4.6E+03	U	92	235	5.7E+01	5.6E+01
LU	71	174M	4.8E+05	8.6E+04	U	92	236	5.6E+01	5.6E+01
LU	71	176	1.5E+03	1.4E+03	U	92	238	5.4E+01	5.3E+01
LU	71	177M	1.4E+06	2.4E+05	NP	93	235	2.9E-01	3.0E-03
HF	72	172	2.1E+02	1.6E+02	NP	93	236	1.7E-03	1.6E-04
HF	72	174	1.8E+01	1.7E+01	NP	93	237	1.8E-03	1.6E-04
HF	72	175	8.5E+04	9.4E+03	PU	94	236	7.3E-02	1.1E-03
HF	72	181	1.4E+05	1.0E+04	PU	94	237	3.9E+01	2.7E-02
HF	72	182	2.8E+01	2.6E+01	PU	94	238	3.2E-03	1.7E-04
TA	73	179	4.0E+02	2.9E+02	PU	94	239	2.6E-03	1.5E-04
TA	73	182	1.9E+02	6.3E+01	PU	94	240	2.6E-03	1.4E-04
W	74	181	6.1E+00	6.0E+00	PU	94	241	7.0E-03	2.9E-04

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
Whole body

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
Whole body

TABLE 6B. UNIT-RAD DEPOSITION FOR WHOLE BODY VIA TYPICAL AGRICULTURAL SOIL. 05/09/68 PAGE 21

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PU	94	242	2.5E-03	1.4E-04	CM	96	248	8.0E-04	1.1E-04
PU	94	244	2.2E-03	1.2E-04	BK	97	247	2.1E-03	1.2E-04
AM	95	241	8.9E-04	1.5E-04	BK	97	249	5.9E-01	2.8E-03
AM	95	242M	8.9E-04	1.5E-04	CF	98	248	4.7E-01	2.5E-03
AM	95	243	7.8E-04	1.3E-04	CF	98	249	2.2E-03	1.2E-04
CM	96	241	2.1E+01	3.1E-02	CF	98	250	7.1E-03	2.7E-04
CM	96	242	9.5E-01	6.4E-03	CF	98	251	1.9E-03	1.1E-04
CM	96	243	1.4E-03	1.8E-04	CF	98	252	6.0E-02	8.5E-04
CM	96	244	1.9E-03	2.2E-04	ES	99	252	2.6E+00	5.6E-03
CM	96	245	9.2E-04	1.3E-04	ES	99	254	2.2E-01	1.6E-03
CM	96	246	8.9E-04	1.3E-04	FM	100	257	7.6E+00	9.3E-03
CM	96	247	8.3E-04	1.2E-04					

TABLE 6B. UNIT-RAD DEPOSITION FOR GI TRACT

VIA TYPICAL AGRICULTURAL

SOIL.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	INFANT UC/M**2
H	1	3	4.7E+01	4.7E+01	NB	41	91M	4.4E+03	4.3E+03
BE	4	7	8.4E+05	8.2E+05	NB	41	93M	1.6E+03	1.6E+03
BE	4	10	9.9E+02	9.9E+02	NB	41	94	4.6E+00	4.6E+00
C	6	14	7.6E-01	7.6E-01	NB	41	95	2.3E+03	2.2E+03
NA	11	22	4.9E+00	4.9E+00	MO	42	93	9.8E+02	9.8E+02
AL	13	26	1.1E+03	1.1E+03	TC	43	95M	5.8E+01	5.6E+01
SI	14	32	8.0E+04	8.0E+04	TC	43	97	2.4E+01	2.4E+01
S	16	35	1.5E+03	1.5E+03	TC	43	97M	3.5E+02	3.4E+02
CL	17	36	4.1E-02	4.1E-02	TC	43	98	3.2E-01	3.2E-01
AR	18	37	9.5E+04	9.1E+04	TC	43	99	5.3E+00	5.3E+00
AR	18	39	4.8E+00	4.8E+00	RU	44	103	8.7E+02	8.4E+02
AR	18	42	5.2E-01	5.2E-01	RU	44	106	2.2E+01	2.2E+01
K	19	40	5.1E+00	5.1E+00	RH	45	101	6.5E-01	6.4E-01
CA	20	41	3.5E+03	3.5E+03	RH	45	102	1.1E+00	1.1E+00
CA	20	45	6.5E+03	6.4E+03	PD	46	107	9.7E+01	9.7E+01
CA	20	48	3.5E+00	3.5E+00	AG	47	105	4.0E+02	3.9E+02
SC	21	46	3.0E+04	3.0E+04	AG	47	108M	3.8E+00	3.8E+00
TI	22	44	4.6E+03	4.6E+03	AG	47	110M	2.4E+01	2.4E+01
V	23	49	2.2E+05	2.2E+05	CD	48	109	3.4E+02	3.4E+02
V	23	50	3.8E+01	3.8E+01	CD	48	113M	2.2E+01	2.2E+01
MN	25	53	3.3E+04	3.3E+04	CD	48	115M	4.1E+02	4.0E+02
MN	25	54	5.9E+03	5.8E+03	IN	49	114M	4.0E+02	3.9E+02
FE	26	55	2.7E+06	2.7E+06	IN	49	115	1.5E+01	1.5E+01
FE	26	59	3.0E+05	2.9E+05	SN	50	113	4.8E+02	4.8E+02
FE	26	60	8.4E+02	8.4E+02	SN	50	119M	1.1E+03	1.1E+03
CO	27	56	1.8E+03	1.8E+03	SN	50	121M	3.3E+01	3.3E+01
CO	27	57	7.6E+03	7.6E+03	SN	50	123M	2.7E+02	2.7E+02
CO	27	58	4.1E+03	4.0E+03	SN	50	126	9.4E-01	9.4E-01
CO	27	60	5.9E+01	5.9E+01	SB	51	124	4.0E+03	3.9E+03
NI	28	59	1.6E+04	1.6E+04	SB	51	125	1.1E+03	1.1E+03
NI	28	63	7.8E+03	7.8E+03	TE	52	121M	1.9E+01	1.8E+01
ZN	30	65	2.3E+02	2.3E+02	TE	52	123	1.1E+01	1.1E+01
GE	32	68	9.9E+00	9.8E+00	TE	52	123M	8.6E+01	8.5E+01
AS	33	73	4.8E+04	4.7E+04	TE	52	125M	3.0E+02	2.9E+02
SE	34	75	2.7E+01	2.6E+01	TE	52	127M	6.8E+01	6.8E+01
SE	34	79	5.3E+00	5.3E+00	TE	52	129M	8.3E+01	7.9E+01
KR	36	81	9.5E+00	9.5E+00	I	53	125	8.9E+04	8.7E+04
KR	36	85	1.9E+00	1.9E+00	I	53	129	6.0E+02	6.0E+02
RB	37	83	9.5E+03	9.4E+03	XE	54	127	6.6E+01	6.3E+01
RB	37	84	7.6E+03	7.3E+03	CS	55	134	2.4E+03	2.4E+03
RB	37	87	6.9E+02	6.9E+02	CS	55	135	8.4E+03	8.4E+03
SR	38	85	4.9E+04	4.8E+04	CS	55	137	7.9E+02	7.9E+02
SR	38	89	4.3E+04	4.2E+04	BA	56	133	2.1E+03	2.1E+03
SR	38	90	1.9E+02	1.9E+02	LA	57	137	9.9E+03	9.9E+03
Y	39	88	9.2E+03	9.1E+03	LA	57	138	2.9E+02	2.9E+02
Y	39	91	5.8E+04	5.6E+04	CE	58	139	1.0E+05	1.0E+05
ZR	40	88	1.0E+05	1.0E+05	CE	58	141	3.6E+05	3.4E+05
ZR	40	93	1.8E+05	1.8E+05	CE	58	142	3.3E+02	3.3E+02
ZR	40	95	2.5E+05	2.5E+05	CE	58	144	2.7E+03	2.7E+03
NB	41	91	4.6E+02	4.6E+02	ND	60	144	1.9E+02	1.9E+02

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (cont'd)
(8) GI tract

10/22/68: Insert after p. 08.

ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**2	INFANT UC/M**2
PM	61	143	2.7E+04	2.7E+04	W	74	185	4.4E+04	4.3E+04
PM	61	144	2.7E+03	2.6E+03	W	74	188	4.3E+03	4.2E+03
PM	61	145	1.0E+04	1.0E+04	RE	75	183	1.1E+03	1.1E+03
PM	61	146	1.9E+03	1.9E+03	RE	75	184	6.9E+02	6.7E+02
PM	61	147	1.2E+03	1.2E+03	RE	75	184M	1.2E+02	1.2E+02
PM	61	148M	1.2E+04	1.1E+04	RE	75	187	2.5E+04	2.5E+04
SM	62	145	4.9E+04	4.9E+04	OS	76	185	2.9E+02	2.8E+02
SM	62	146	1.4E+02	1.4E+02	OS	76	194	4.4E+00	4.4E+00
SM	62	147	1.6E+02	1.6E+02	IR	77	192	6.0E+00	5.9E+00
SM	62	148	8.9E+01	8.9E+01	IR	77	192M	5.0E-02	5.0E-02
SM	62	149	1.9E+02	1.9E+02	PT	78	190	4.7E-01	4.7E-01
SM	62	151	2.6E+04	2.6E+04	PT	78	192	5.6E-01	5.6E-01
EU	63	148	8.1E+04	7.9E+04	PT	78	193	2.0E+01	2.0E+01
EU	63	149	3.9E+04	3.9E+04	AU	79	195	5.8E+04	5.7E+04
EU	63	150	1.3E+03	1.3E+03	HG	80	194	1.2E+01	1.1E+01
EU	63	152	5.1E+02	5.1E+02	HG	80	203	2.4E+02	2.4E+02
EU	63	154	3.9E+02	3.9E+02	TL	81	204	4.1E+01	4.1E+01
EU	63	155	3.3E+04	3.3E+04	PB	82	202	3.9E+01	3.9E+01
GD	64	146	1.0E+04	1.0E+04	PB	82	204	8.9E+00	8.9E+00
GD	64	148	1.2E+02	1.2E+02	PB	82	205	2.7E+02	2.7E+02
GD	64	150	6.7E+01	6.7E+01	PB	82	210	6.2E+00	6.2E+00
GD	64	151	6.4E+04	6.3E+04	BI	83	207	3.8E+00	3.8E+00
GD	64	152	1.6E+02	1.6E+02	BI	83	208	1.9E+00	1.9E+00
GD	64	153	7.4E+04	7.4E+04	BI	83	210M	9.1E-01	9.1E-01
GD	64	162	4.9E+03	4.9E+03	PO	84	208	6.7E-03	6.6E-03
TB	65	157	7.1E+03	7.1E+03	PO	84	209	1.6E-03	1.6E-03
TB	65	158	3.1E+02	3.1E+02	PO	84	210	7.5E-02	7.4E-02
TB	65	160	2.6E+04	2.6E+04	RA	88	226	1.2E+01	1.2E+01
DY	66	154	4.3E+01	4.3E+01	RA	88	228	4.0E+01	4.0E+01
DY	66	156	6.7E+01	6.7E+01	AC	89	227	3.3E-04	3.3E-04
DY	66	159	2.8E+05	2.7E+05	TH	90	228	2.3E-03	2.3E-03
HO	67	163	6.2E+03	6.2E+03	TH	90	229	2.1E-04	2.1E-04
HO	67	166M	2.8E+02	2.8E+02	TH	90	230	2.0E-04	2.0E-04
TM	69	168	2.0E+04	1.9E+04	TH	90	232	1.8E-04	1.8E-04
TM	69	170	5.5E+04	5.4E+04	PA	91	231	1.8E-04	1.8E-04
TM	69	171	1.8E+05	1.8E+05	U	92	232	1.4E+01	1.4E+01
YB	70	169	2.4E+05	2.3E+05	U	92	233	1.2E+01	1.2E+01
LU	71	173	7.1E+03	7.1E+03	U	92	234	1.2E+01	1.2E+01
LU	71	174	1.5E+03	1.5E+03	U	92	235	1.1E+01	1.1E+01
LU	71	174M	2.9E+04	2.9E+04	U	92	236	1.1E+01	1.1E+01
LU	71	176	4.6E+02	4.6E+02	U	92	238	1.0E+01	1.0E+01
LU	71	177M	8.2E+04	8.1E+04	NP	93	235	3.0E-03	3.0E-03
HF	72	172	2.9E+03	2.9E+03	NP	93	236	1.6E-04	1.6E-04
HF	72	174	3.2E+02	3.2E+02	NP	93	237	1.6E-04	1.6E-04
HF	72	175	1.8E+05	1.7E+05	PU	94	236	1.1E-03	1.1E-03
HF	72	181	1.9E+05	1.9E+05	PU	94	237	2.8E-02	2.7E-02
HF	72	182	4.8E+02	4.8E+02	PU	94	238	1.7E-04	1.7E-04
TA	73	179	6.5E+03	6.5E+03	PU	94	239	1.5E-04	1.5E-04
TA	73	182	1.5E+03	1.4E+03	PU	94	240	1.4E-04	1.4E-04
W	74	181	4.4E+04	4.3E+04	PU	94	241	2.9E-04	2.9E-04

Table 6B. Unit-Rad deposition for selected organs via typical agricultural soil (contd).
(8) GI tract

Table 6B. Unit-rad deposition for selected organs via typical agricultural soil (contd).
(8) GI tract

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TABLE 6B. UNIT-RAD DEPOSITION FOR GI TRACT					VIA TYPICAL AGRICULTURAL SOIL.				
ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**2	INFANT UC/M**2
PU	94	242	1.4E-04	1.4E-04	CM	96	248	1.1E-04	1.1E-04
PU	94	244	1.2E-04	1.2E-04	BK	97	247	1.2E-04	1.2E-04
AM	95	241	1.5E-04	1.5E-04	BK	97	249	2.9E-03	2.8E-03
AM	95	242M	1.5E-04	1.5E-04	CF	98	248	2.5E-03	2.5E-03
AM	95	243	1.3E-04	1.3E-04	CF	98	249	1.2E-04	1.2E-04
CM	96	241	3.2E-02	3.1E-02	CF	98	250	2.7E-04	2.7E-04
CM	96	242	6.4E-03	6.4E-03	CF	98	251	1.1E-04	1.1E-04
CM	96	243	1.8E-04	1.8E-04	CF	98	252	8.5E-04	8.5E-04
CM	96	244	2.2E-04	2.2E-04	ES	99	252	5.7E-03	5.6E-03
CM	96	245	1.3E-04	1.3E-04	ES	99	254	1.6E-03	1.6E-03
CM	96	246	1.3E-04	1.3E-04	FM	100	257	9.5E-03	9.3E-03
CM	96	247	1.2E-04	1.2E-04					

7. C_A : CONCENTRATIONS IN WATER

C_A : Seawater

The concentrations of various elements in the ocean as reported in the literature often vary over orders of magnitude. Much of this difference can often be accounted for as a difference between the open ocean and the continental shelf or an estuarine area. The higher concentrations are reported for the latter which are abundant with suspended material. Thus, this difference is often accounted for as the difference between the "element in solution" and the total concentration. At the same time, in those cases where there is a wide range in the concentration in the water, the literature also demonstrates a proportionate range in the concentration in sea food. In other words, the "element in solution" appears to be in equilibrium with suspended material; hence, the total concentration is representative of the biological exchangeable pool. Therefore, in each case we have selected the higher values, since in any peaceful application

of nuclear explosives, such as the construction of harbors or canals, the continental shelf or estuarine situation will be the area of interest. The C_A values were assigned according to the procedures and code numbers shown below.

Rules for estimating C_A of seawater

Code

- 1 The C_A was taken from the measured values in the literature in accordance with the above paragraph.
- 4 The C_A for scandium, yttrium, lanthanum and the rare earths were based upon a composite of all the data on these elements as discussed in the Appendix under cerium.
- 8 The C_A for the platinum metals were based upon ruthenium as described in the Appendix under rhodium.
- 9 The C_A for the actinide elements were based upon plutonium as described in the Appendix under actinium.
- 99 The C_A was estimated from collateral data as described in the Appendix.

TABLE 7A. CONCENTRATION IN SEAWATER

10/09/68

ELEMENT SYMBOL	ATOMIC NO. (Z)	CONC. C _A (PPM)	CODE	REFERENCE(S)				ELEMENT SYMBOL	ATOMIC NO. (Z)	CONC. C _A (PPM)	CODE	REFERENCE(S)			
H	1	1.08E+05	1					SB	51	5.00E-04	1	5992	5306	6060	6059
HE	2	5.00E-06	1	6058				TE	52	1.00E-05	99				
LI	3	2.00E-01	1	5992	5524			I	53	5.00E-02	1	5992	6058	4400	5034
BE	4	1.00E-05	1	5992	6010	3935		XE	54	1.00E-04	1	5992	5769		
B	5	4.60E+00	1	1907	1835	5992		CS	55	5.00E-04	1	5992	1930	6060	2151
C	6	2.80E+01	1	6058	5992			BA	56	1.00E-02	1	5992	1657		
N	7	5.00E-01	1	5992	6058			LA	57	3.00E-04	4	5995	5992	1835	
O	8	8.57E+05	1					CE	58	4.00E-04	99	5995	6026	5992	1835
F	9	1.40E+00	1	6058	1835	5992	6003	PR	59	5.00E-05	4				
NE	10	1.40E-04	1	5306	5769	5768		ND	60	2.00E-04	4				
NA	11	1.05E+04	1	6058	5992			PM	61	4.00E-24	4				
MG	12	1.30E+03	1	5992	6058	1835		SM	62	5.00E-05	4				
AL	13	5.00E-01	1	6058	2097	1927	5992	EU	63	8.00E-06	4				
SI	14	3.00E+00	1	6058	5306	5992		GD	64	3.00E-05	4				
P	15	7.00E-02	1	6058	5306	5992		TB	65	5.00E-06	4				
S	16	9.00E+02	1	5992	6058			DY	66	2.00E-05	4				
CL	17	1.90E+04	1	1929	5992			HO	67	5.00E-06	4				
AR	18	6.00E-01	1	5992	5768			ER	68	6.00E-06	4				
K	19	3.80E+02	1	5992	1929	6001		TM	69	5.00E-06	4				
CA	20	4.00E+02	1	5992	6058	5306	6011	YB	70	6.00E-06	4				
SC	21	5.00E-05	4	5992	1835	6060		LU	71	5.00E-06	4				
TI	22	1.00E-03	1	6058	5306	5992	1935	HF	72	6.00E-06	99				
V	23	2.00E-03	1	5992	1848	1968	6008	TA	73	2.00E-06	99				
CR	24	5.00E-05	1	983	6058	5312	6001	W	74	1.00E-04	1	6008			
MN	25	2.00E-03	1	5992	6058	5306		RE	75	8.40E-06	1	6219			
FE	26	1.00E-02	1	6058	1913			OS	76	1.00E-06	8				
CO	27	1.00E-04	1	6008	5992	1968	5335	IR	77	1.00E-08	8				
NI	28	2.00E-03	1	5992	1848	6008	2520	PT	78	1.00E-05	8				
CU	29	3.00E-03	1	6058	5992	2520	1848	AU	79	3.00E-05	1	6000	1922	1852	6059
ZN	30	1.00E-02	1	1415	5992			HG	80	3.00E-05	1	1968	1835		
GA	31	3.00E-05	1	5992	1860			TL	81	1.00E-06	99				
GE	32	6.00E-05	1	1859	5992			PB	82	5.00E-03	1	1935	1848		
AS	33	3.00E-03	1	5992	5037	1929	6008	BI	83	2.00E-04	1	1935	5992		
SE	34	1.00E-03	1	5992	1835	6005	6008	PO	84	1.00E-13	99				
BR	35	6.50E+01	1	5992	1835			AT	85	1.00E-21	99				
KR	36	3.00E-04	1	5992	5769			RN	86	1.40E-14	1	1989	506	5230	
RB	37	1.20E-01	1	5992	5329	5524	6329	FR	87	1.00E-22	99				
SR	38	8.00E+00	1	5992	1055	1657		RA	88	1.00E-10	1	1989	5314		
Y	39	4.00E-04	4	5995	5464			AC	89	7.00E-09	9				
ZR	40	3.00E-04	99					TH	90	3.00E-05	1	6256			
NB	41	1.00E-05	1	5992				PA	91	7.00E-06	9				
MO	42	1.00E-02	1	1848	5992	6008		U	92	3.00E-03	1	1911	1920	5992	3885
TC	43	1.00E-15	99					NP	93	7.00E-11	9				
RU	44	1.00E-06	1	5994				PU	94	7.00E-12	1	6049	1299		
RH	45	1.00E-06	8					AM	95	7.00E-29	9				
PD	46	1.00E-06	8					CM	96	7.00E-29	9				
AG	47	3.00E-04	1	1848	6059	5992		BK	97	7.00E-29	9				
CD	48	1.00E-04	1	1918	5992	5329		CF	98	7.00E-29	9				
IN	49	1.00E-07	99					ES	99	7.00E-29	9				
SN	50	3.00E-03	1	5992	1848	6058		FM	100	7.00E-29	9				

Table 7A. Concentration in seawater.

7. CONCENTRATIONS IN WATER (contd)

C_A: Freshwater

In the case of freshwater, the differences in concentration often represent differences in the source of the water. Therefore, average values were selected for freshwater concentrations. The C_A values were assigned according to the procedures and code numbers shown below.

Rules for estimating C_A of freshwater

Code #

- 1 The C_A was taken from measured values in the literature.

- 4 The C_A for scandium, yttrium, lanthanum and the rare earths were based upon a composite of all the data on these elements as discussed in the Appendix under cerium.

- 7 The C_A was assumed to be the same as that of seawater.

- 8 The C_A for the platinum metals were based upon ruthenium as discussed in the Appendix under rhodium.

- 9 The C_A for the actinide elements were based upon plutonium as discussed in the Appendix under actinium.

- 99 The C_A was estimated from collateral data as described in the Appendix.

TABLE 7B. CONCENTRATION IN FRESHWATER

10/09/68

ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _A (PPM)	CODE	REFERENCE(S)			ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _A (PPM)	CODE	REFERENCE(S)		
H	1	1.08E+05	1				SB	51	5.00E-04	1	6322		
HE	2	5.00E-06	1	6058			TE	52	3.00E-05	99			
LI	3	3.00E-03	1	5779	5306	5791	I	53	2.00E-03	1	928	5779	
BE	4	5.00E-05	1	5779	5306	6010	XE	54	1.00E-04	7	5992	5769	
B	5	1.30E-02	1	5779	5306	5791	CS	55	2.00E-05	1	6051	5779	6146 6322
C	6	1.10E+01	1	5779	5306		BA	56	5.00E-02	1	5779	5791	
N	7	2.00E-01	1	5779	5306		LA	57	3.00E-04	4	4576		
O	8	8.89E+05	1				CE	58	4.00E-04	99			
F	9	1.00E-01	1	5306	5779	4940	PR	59	5.00E-05	4			
NE	10	1.40E-04	7	5306	5769	5768	ND	60	2.00E-04	4			
NA	11	6.30E+00	1	6051	5779	1872 4940	PM	61	4.00E-24	4			
MG	12	1.00E+01	1	5779	1872	4940	SM	62	5.00E-05	4			
AL	13	2.40E-01	1	5306	2097	5892 5791	EJ	63	8.00E-06	4			
SI	14	4.00E+00	1	5779	5306		GD	64	3.00E-05	4			
P	15	2.00E-02	1	4576	5306		TB	65	5.00E-06	4			
S	16	4.00E+00	1	5779	4576		DY	66	2.00E-05	4			
CL	17	8.00E+00	1	5779	4940		HO	67	5.00E-06	4			
AR	18	6.00E-01	7	5992	5768		ER	68	6.00E-06	4			
K	19	2.30E+00	1	6146	1872 4940 5779		TM	69	5.00E-06	4			
CA	20	1.50E+01	1	5779	1679 323 1872		YB	70	6.00E-06	4			
SC	21	5.00E-05	4	4576			LJ	71	5.00E-06	4			
TI	22	1.00E-02	1	5779	5879 5892 5791		HF	72	6.00E-05	99			
V	23	1.00E-03	1	5779	5892 5791		TA	73	2.00E-06	99			
CR	24	5.00E-03	1	5779	5948 5312 5791		W	74	1.00E-04	7			
MN	25	1.00E-02	1	5779	6051 4576 5879		RE	75	8.40E-06	7			
FE	26	1.00E-01	1	5779	1308 1872 6051		OS	76	1.00E-06	8			
CO	27	1.00E-04	1	4576	5779 6051 2520		IR	77	1.00E-08	8			
NI	28	5.00E-03	1	5779	2520 5892 5791		PT	78	1.00E-05	8			
CU	29	1.00E-02	1	5779	2520 4576 6051		AU	79	3.00E-05	7			
ZN	30	1.00E-02	1	5779	4576 6051 5892		HG	80	1.00E-04	1	5779	5306	
GA	31	3.00E-05	7				TL	81	1.00E-06	7			
GE	32	6.00E-05	7	5892			PB	82	5.00E-03	1	5779	5892 5791	
AS	33	3.00E-03	1	4576	5779		BI	83	2.00E-04	7	5892		
SE	34	3.00E-03	1	6062	4940 6322		PO	84	3.00E-13	99			
BR	35	2.00E-02	1	5779			AT	85	4.00E-23	99			
KR	36	3.00E-04	7	5992	5769		RN	86	3.50E-13	1	5306	5779 4930	
RB	37	2.00E-03	1	5779	6051 5791 6322		FR	87	4.00E-24	99			
SR	38	1.00E-01	1	5779	6051 1308 3734		RA	88	4.00E-10	1	5779	4939 1301 4930	
Y	39	4.00E-04	4				AC	89	7.00E-09	9			
ZR	40	3.00E-03	1	5779			TH	90	2.00E-05	1	5779	5306 5314 6256	
NB	41	1.00E-05	7				PA	91	7.00E-06	9			
MO	42	1.00E-03	1	5779	5892 5791 6322		U	92	1.00E-03	1	5779	4930 4939 4576	
TC	43	4.00E-17	99				NP	93	7.00E-11	9			
RU	44	1.00E-06	7				PJ	94	7.00E-12	9	5780		
RH	45	1.00E-06	8				AM	95	7.00E-29	9			
PD	46	1.00E-06	8				CM	96	7.00E-29	9			
AG	47	1.30E-04	1	5779	5306 5791 6322		BK	97	7.00E-29	9			
CD	48	5.00E-04	1	5779	5892		CF	98	7.00E-29	9			
IN	49	1.00E-07	99				ES	99	7.00E-29	9			
SN	50	3.00E-03	7	577 9			FM	100	7.00E-29	9			

Table 7B. Concentration in freshwater.

8. C^* : RATIO OF AQUATIC DIET TO
TERRESTRIAL DIET

This ratio is used to correct the C_B values where a trace element might be present in higher concentration in a totally aquatic diet than in a terrestrial diet. It was assumed that if this occurs, the C_B value would increase in direct proportion to the intake.

The concentrations in the terrestrial diet are those listed in Table 5C for the GI tract. The concentrations in the aquatic diet were determined by assuming that the diet is composed of 60% plants, 20% invertebrates, and 20% fish. These

percentages together with the concentrations listed in Tables 11 and 12 were then used to calculate the aquatic diet concentrations.

If the calculated ratio of the concentrations was less than 1, it was set equal to 1. This was done to account for those situations where the trace element might be essential and the body could compensate for a lowered intake.

Rules for estimating C^*

Code #

- 1 The C^* was set equal to 1.
- 2 The C^* was set equal to the calculated value.

TABLE 8A. RATIO OF SEAWATER DIET TO TERRESTRIAL DIET

10/09/68

ELEMENT SYMBOL	ATOMIC NO. (Z)	C *	CODE	ELEMENT SYMBOL	ATOMIC NO. (Z)	C *	CODE
H	1	1.00E+00	2	SB	51	1.40E+03	2
HE	2	1.00E+00	2	TE	52	4.50E+01	2
LI	3	1.00E+00	1	I	53	1.00E+00	1
BE	4	1.00E+00	1	XE	54	3.00E+00	2
B	5	2.10E+01	2	CS	55	1.40E+00	2
C	6	1.00E+00	1	BA	56	2.60E+00	2
N	7	1.00E+00	2	LA	57	2.50E+01	2
O	8	1.00E+00	2	CE	58	2.50E+01	2
F	9	1.80E+00	2	PR	59	2.50E+01	2
NE	10	1.00E+00	2	ND	60	2.50E+01	2
NA	11	1.00E+00	2	PM	61	2.50E+01	2
MG	12	4.30E+00	2	SM	62	2.50E+01	2
AL	13	1.20E+01	2	EU	63	2.50E+01	2
SI	14	5.20E+01	2	GD	64	2.50E+01	2
P	15	1.00E+00	2	TB	65	2.50E+01	2
S	16	1.00E+00	2	DY	66	2.50E+01	2
CL	17	1.00E+00	2	HO	67	2.50E+01	2
AR	18	1.00E+00	2	ER	68	2.50E+01	2
K	19	1.00E+00	1	TM	69	2.50E+01	2
CA	20	1.00E+00	1	YB	70	2.50E+01	2
SC	21	4.40E+01	2	LU	71	2.50E+01	2
TI	22	5.20E+00	2	HF	72	6.90E+00	2
V	23	1.00E+00	1	TA	73	1.00E+00	1
CR	24	1.00E+00	1	W	74	1.00E+00	1
MN	25	4.50E+01	2	RE	75	1.70E+00	2
FE	26	1.00E+00	1	OS	76	5.80E+00	2
CO	27	1.00E+00	2	IR	77	1.00E+00	1
NI	28	1.90E+00	2	PT	78	3.30E+01	2
CU	29	4.20E+00	2	AU	79	4.00E+00	2
ZN	30	2.40E+01	2	HG	80	4.20E+01	2
GA	31	1.00E+00	1	TL	81	2.30E+01	2
GE	32	1.00E+00	1	PB	82	2.80E+00	2
AS	33	1.00E+00	2	BI	83	1.10E+03	2
SE	34	2.20E+00	2	PO	84	1.00E+00	1
BR	35	1.80E+01	2	AT	85	1.00E+00	1
KR	36	1.70E+00	2	RN	86	1.00E+00	1
RB	37	1.50E+00	2	FR	87	1.00E+00	1
SR	38	7.10E+01	2	RA	88	5.30E+00	2
Y	39	2.50E+01	2	AC	89	4.60E+02	2
ZR	40	1.00E+00	2	TH	90	1.00E+00	1
NB	41	1.00E+00	1	PA	91	4.60E+02	2
MO	42	1.30E+00	2	U	92	1.30E+03	2
TC	43	1.00E+00	1	NP	93	4.60E+02	2
RU	44	1.60E+00	2	PU	94	4.60E+02	2
RH	45	1.00E+00	1	AM	95	4.60E+02	2
PD	46	1.00E+00	1	CM	96	4.60E+02	2
AG	47	5.40E+00	2	BK	97	4.60E+02	2
CD	48	3.40E+01	2	CF	98	4.60E+02	2
IN	49	1.00E+00	1	ES	99	4.60E+02	2
SN	50	1.00E+00	1	FM	100	4.60E+02	2

Table 8A. Ratio of seawater diet to terrestrial diet.

TABLE 8B. RATIO OF FRESHWATER DIET TO TERRESTRIAL DIET

10/09/68

ELEMENT SYMBOL	ATOMIC NO.(Z)	C *	CODE	ELEMENT SYMBOL	ATOMIC NO.(Z)	C *	CODE
H	1	1.00E+00	2	SB	51	1.40E+03	2
HE	2	1.00E+00	2	TE	52	1.40E+02	2
LI	3	1.00E+00	1	I	53	1.00E+00	1
BE	4	1.00E+00	1	XE	54	3.00E+00	2
B	5	1.00E+00	1	CS	55	6.20E+00	2
C	6	1.00E+00	1	BA	56	1.30E+01	2
N	7	1.00E+00	2	LA	57	2.50E+01	2
O	8	1.00E+00	2	CE	58	2.50E+01	2
F	9	1.00E+00	1	PR	59	2.50E+01	2
NE	10	1.00E+00	2	ND	60	2.50E+01	2
NA	11	1.00E+00	1	PM	61	2.50E+01	2
MG	12	4.30E+00	2	SM	62	2.50E+01	2
AL	13	6.20E+00	2	FJ	63	2.50E+01	2
SI	14	5.20E+01	2	GD	64	2.50E+01	2
P	15	1.00E+00	1	TB	65	2.50E+01	2
S	16	1.00E+00	1	DY	66	2.50E+01	2
CL	17	1.00E+00	2	HO	67	2.50E+01	2
AR	18	1.00E+00	2	FR	68	2.50E+01	2
K	19	1.00E+00	1	TM	69	2.50E+01	2
CA	20	1.00E+00	1	YB	70	2.50E+01	2
SC	21	4.40E+01	2	LJ	71	2.50E+01	2
TI	22	5.00E+01	2	HF	72	6.90E+01	2
V	23	1.00E+00	1	TA	73	1.00E+00	1
CR	24	4.60E+01	2	W	74	1.00E+00	1
MN	25	4.50E+01	2	RE	75	1.70E+00	2
FE	26	1.00E+00	1	OS	76	5.80E+00	2
CO	27	1.00E+00	2	IR	77	1.00E+00	1
NI	28	1.90E+00	2	PT	78	3.30E+01	2
CU	29	1.10E+01	2	AJ	79	4.20E+00	2
ZN	30	1.20E+01	2	HG	80	1.40E+02	2
GA	31	1.00E+00	1	TL	81	2.30E+01	2
GE	32	1.00E+00	1	PB	82	2.80E+00	2
AS	33	1.20E+00	2	BI	83	1.10E+03	2
SE	34	6.60E+00	2	PO	84	1.00E+00	1
BR	35	1.00E+00	2	AT	85	1.00E+00	1
KR	36	1.70E+00	2	RN	86	1.00E+00	1
RB	37	2.30E+00	2	FR	87	1.00E+00	1
SR	38	4.50E+01	2	RA	88	2.10E+01	2
Y	39	2.50E+01	2	AC	89	4.60E+02	2
ZR	40	6.90E+00	2	TH	90	1.00E+00	1
NB	41	1.00E+00	1	PA	91	4.60E+02	2
MO	42	1.30E+00	2	U	92	4.40E+02	2
TC	43	1.00E+00	1	NP	93	1.90E+03	2
RU	44	1.60E+00	2	PJ	94	4.60E+02	2
RH	45	1.00E+00	1	AM	95	4.60E+02	2
PD	46	1.00E+00	1	CM	96	4.60E+02	2
AG	47	1.00E+00	1	BK	97	4.60E+02	2
CD	48	6.70E+01	2	CF	98	4.60E+02	2
IN	49	1.00E+00	1	ES	99	4.60E+02	2
SN	50	1.00E+00	1	FM	100	4.60E+02	2

Table 8B. Ratio of seawater diet to terrestrial diet.

10/22/68. Insert after new p. 108.

9. F_A: UNIT-RAD CONTAMINATION

The unit-rad contamination F_A is the initial concentration of a radionuclide in water that could result in a 30-year integrated dose of 1 rad to the tissue in question (6354). The equation for F_A is similar to that for F₁ via soil. In converting the soil F₁ to F_A, all that is required is to divide through by d. This converts the unit to μCi/m³/rad. Then ρ is set equal to 10⁶ g/m³, the density of water, and C_S is replaced by C_A, the concentration of the stable element in water.

One additional modification of the equation is also made. The C_B value is replaced by (C_BC*), where C* is the ratio of the concentrations (aquatic diet/terrestrial diet). Thus, C* corrects the C_B values for those cases where the

aquatic diet supplies more of an element than does a terrestrial diet. The assumption here is that if a larger quantity of a trace element is consumed, the body burden will increase proportionately.

The resultant equation for F_A for the adult is:

$$F_A = \left(\frac{37.1}{Q} \right) \left(\frac{C_A}{C_B C^*} \right) \cdot \left[\frac{1}{T_R (1 - e^{-20.8/T_R}) - T_E (1 - e^{-20.8/T_E})} \right]$$

Again in the case of the infant, we assume instantaneous equilibrium with the environment and the following equation applies:

$$F_A = \left(\frac{37.1}{Q} \right) \left(\frac{C_A}{C_B C^*} \right) \left[\frac{1}{T_R (1 - e^{-20.8/T_R})} \right]$$

TABLE 9A. UNIT-RAD CONTAMINATION FOR BONE

VIA SEAWATER.

10/09/68 PAGE 1

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	1.1E+02	1.5E+00
BE	4	7	8.0E-04	8.5E-05	ZN	30	65	2.6E-03	4.1E-04
BE	4	10	1.1E-07	1.0E-07	ZN	30	69M	2.3E+02	1.0E-01
C	6	14	6.4E-03	6.3E-03	ZN	30	72	4.0E+00	6.0E-03
NA	11	22	6.1E+00	6.0E+00	GA	31	67	2.9E+00	6.1E-01
NA	11	24	8.0E+04	4.3E+03	GA	31	72	4.7E+00	2.2E-01
MG	12	28	1.2E+05	5.9E+02	GE	32	68	1.8E-05	1.8E-05
AL	13	26	9.1E-04	9.1E-04	GE	32	69	2.6E-03	2.6E-03
SI	14	32	2.8E-04	2.8E-04	GE	32	71	7.1E-02	7.1E-02
P	15	32	6.3E-02	7.7E-04	AS	33	71	2.4E+03	2.4E+03
P	15	33	2.4E-01	5.0E-03	AS	33	72	1.2E+03	1.2E+03
S	16	35	7.8E+03	9.9E+02	AS	33	73	4.9E+03	4.9E+03
CL	17	36	6.0E+01	6.0E+01	AS	33	74	1.2E+02	1.2E+02
AR	18	37	8.2E+02	8.2E+02	AS	33	76	1.7E+03	1.7E+03
AR	18	39	4.4E-02	4.4E-02	AS	33	77	8.5E+03	8.5E+03
AR	18	42	4.7E-03	4.7E-03	SE	34	72	2.3E-02	2.3E-02
K	19	40	1.3E-01	1.3E-01	SE	34	75	8.7E-03	8.7E-03
K	19	42	6.5E+04	5.7E+02	SE	34	79	1.7E-03	1.7E-03
K	19	43	3.9E+04	6.2E+02	BR	35	76	1.4E+06	1.1E+05
CA	20	41	1.1E+01	2.1E+00	BR	35	77	2.9E+05	6.6E+04
CA	20	45	4.3E+02	3.9E+00	BR	35	82	2.5E+05	3.9E+04
CA	20	47	2.5E+04	6.5E+00	KR	36	76	1.5E+02	1.5E+02
CA	20	48	1.1E-02	2.1E-03	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	2.9E+01	4.3E-02	KR	36	81	1.3E+00	1.3E+00
SC	21	46	3.4E-02	1.7E-03	KR	36	85	2.5E-01	2.5E-01
SC	21	47	1.3E+02	2.8E-01	RB	37	83	4.4E+00	2.3E+00
SC	21	48	4.0E+01	4.6E-02	RB	37	84	6.0E+00	1.7E+00
TI	22	44	1.5E-04	1.5E-04	RB	37	86	2.9E+01	5.5E+00
V	23	48	3.5E+00	3.7E-01	RB	37	87	1.7E-01	1.7E-01
V	23	49	1.5E+01	1.1E+01	SR	38	82	1.4E+02	2.0E-01
V	23	50	1.9E-03	1.9E-03	SR	38	83	1.5E+05	1.2E+01
CR	24	48	4.2E-02	4.2E-02	SR	38	85	1.5E+02	5.2E-01
CR	24	51	1.5E-01	1.5E-01	SR	38	89	1.6E+02	4.6E-01
MN	25	52	7.9E-01	1.2E-02	SR	38	90	1.3E-02	2.1E-03
MN	25	53	5.8E-03	5.5E-03	Y	39	86	4.9E+02	1.7E-02
MN	25	54	2.2E-03	9.8E-04	Y	39	87	7.9E+01	1.5E-02
FE	26	55	9.5E-02	3.5E-02	Y	39	87M	1.8E+03	5.9E-02
FE	26	59	1.5E-01	3.8E-03	Y	39	88	2.4E-02	1.5E-04
FE	26	60	1.4E-05	1.1E-05	Y	39	90	8.0E+01	1.2E-02
CO	27	55	4.9E+00	1.5E-01	Y	39	91	2.7E-01	9.0E-04
CO	27	56	2.2E-03	1.7E-03	ZR	40	86	1.8E+03	1.3E+00
CO	27	57	7.7E-03	7.1E-03	ZR	40	88	1.9E-01	1.5E-02
CO	27	58	5.0E-03	3.8E-03	ZR	40	89	2.0E+02	6.7E-01
CO	27	60	5.6E-05	5.5E-05	ZR	40	93	3.1E-02	2.7E-02
VI	28	56	4.8E+00	3.7E-02	ZR	40	95	6.1E-01	3.7E-02
NI	28	57	1.5E+02	2.9E-01	ZR	40	97	2.6E+03	1.8E+00
NI	28	59	1.6E-02	1.5E-02	NB	41	90	1.3E-01	8.0E-05
NI	28	63	8.0E-03	7.1E-03	NB	41	91	2.2E-06	1.9E-06
VI	28	66	7.1E+01	2.0E-01	NB	41	91M	3.0E-04	1.8E-05
CU	29	64	2.1E+03	6.1E+00	NB	41	92	2.6E-03	2.6E-05

Table 9A. Unit-rad contamination for selected organs via seawater.
(1) Bone

TABLE 9A. UNIT-RAD CONTAMINATION FOR BONE

VIA SEAWATER.

10/09/68 PAGE 2

ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	1.1E-05	6.5E-06	SB	51	122	2.8E-01	7.6E-03
NB	41	94	2.2E-08	1.9E-08	SB	51	124	4.5E-04	1.7E-04
NB	41	95	2.7E-04	9.0E-06	SB	51	125	5.0E-05	4.6E-05
NB	41	95M	1.8E-02	6.6E-05	SB	51	126	6.2E-03	6.9E-04
NB	41	96	1.0E-01	9.7E-05	SB	51	127	1.3E-01	4.9E-03
MO	42	93	1.5E+00	1.5E+00	TE	52	118	4.3E-01	7.2E-02
MO	42	99	7.0E+03	9.1E+01	TE	52	119	2.2E+01	4.7E-01
TC	43	95	6.2E+01	2.0E+00	TE	52	119M	4.3E-01	5.9E-02
TC	43	95M	3.0E-02	2.1E-02	TE	52	121	1.6E-01	5.9E-02
TC	43	96	8.6E-01	1.3E-01	TE	52	121M	5.4E-03	4.5E-03
TC	43	97	8.9E-03	8.9E-03	TE	52	123	2.6E-03	2.6E-03
TC	43	97M	1.6E-01	1.3E-01	TE	52	123M	2.7E-02	2.1E-02
TC	43	98	1.2E-04	1.2E-04	TE	52	125M	1.1E-01	7.2E-02
TC	43	99	2.0E-03	2.0E-03	TE	52	127M	2.1E-02	1.7E-02
RU	44	97	1.5E+02	9.6E-01	TE	52	129M	3.7E-02	1.9E-02
RU	44	103	8.7E-01	7.1E-02	TE	52	131M	5.2E+00	2.0E-01
RU	44	106	4.2E-03	1.9E-03	TE	52	132	6.1E-01	5.9E-02
RH	45	99	3.6E-02	1.7E-02	I	53	123	5.4E+05	1.9E+04
RH	45	100	2.0E+00	9.9E-02	I	53	124	1.1E+03	2.4E+02
RH	45	101	2.3E-04	2.3E-04	I	53	125	7.0E+02	5.6E+02
RH	45	101M	4.2E-01	8.9E-02	I	53	126	7.1E+02	3.3E+02
RH	45	102	4.1E-04	3.8E-04	I	53	129	3.9E+00	3.9E+00
RH	45	105	4.5E+00	3.7E-01	I	53	130	5.2E+04	1.7E+03
PD	46	100	6.1E-02	2.2E-02	I	53	131	1.3E+03	4.7E+02
PD	46	103	1.6E-01	1.2E-01	I	53	133	3.7E+04	2.1E+03
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	5.5E+00	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	4.1E-01	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	1.2E+00	1.7E-01	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	1.1E+01	3.4E-01	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	1.9E-03	1.6E-03	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	2.0E-02	1.0E-02	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	7.3E+01	2.1E+00	CS	55	129	8.7E+01	1.0E+00
CD	48	109	1.9E-03	1.5E-03	CS	55	131	2.9E+01	2.4E+00
CD	48	113M	9.8E-05	9.5E-05	CS	55	132	3.1E+00	1.8E-01
CD	48	115	1.4E+00	2.7E-02	CS	55	134	6.2E-04	5.4E-04
CD	48	115M	6.6E-03	1.7E-03	CS	55	135	2.0E-03	1.9E-03
IN	49	111	2.3E-03	1.1E-04	CS	55	136	2.5E-01	2.7E-02
IN	49	114M	4.6E-06	2.1E-06	CS	55	137	1.9E-04	1.8E-04
IN	49	115	8.2E-08	8.1E-08	BA	56	128	1.5E+02	5.3E+00
SN	50	113	1.2E+00	1.7E-01	BA	56	131	1.7E+01	2.5E+00
SN	50	117M	9.8E+01	1.9E+00	BA	56	133	3.4E-02	3.3E-02
SN	50	119M	1.5E+00	3.8E-01	BA	56	133M	1.2E+03	1.9E+01
SN	50	121	3.9E+04	6.2E+01	BA	56	135M	5.5E+03	1.0E+02
SN	50	121M	1.4E-02	1.2E-02	BA	56	140	4.2E+01	6.8E-01
SN	50	123M	6.5E-01	9.7E-02	LA	57	135	6.9E-02	5.6E-05
SN	50	125	3.6E+01	4.7E-01	LA	57	137	1.6E-07	1.4E-07
SN	50	126	3.7E-04	3.4E-04	LA	57	138	4.8E-09	4.2E-09
SB	51	119	1.8E+01	2.9E-01	LA	57	140	4.6E-03	7.7E-06
SB	51	120M	3.0E-02	1.6E-03	CE	58	134	5.2E+01	1.0E-01

Table 9A. Unit-rad contamination for selected organs via seawater. (cont'd.)
(1) Bone

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	1.2E+03	6.1E-01	GD	64	159	1.4E+03	1.1E+00
CE	58	137M	8.8E+02	8.4E-01	GD	64	162	2.2E-03	6.0E-04
CE	58	139	1.8E-01	1.5E-02	TB	65	151	9.5E+02	7.1E-01
CE	58	141	2.4E+00	5.2E-02	TB	65	152	2.7E+02	2.1E-01
CE	58	142	6.2E-05	5.0E-05	TB	65	153	1.8E+02	4.6E-01
CE	58	143	2.8E+02	2.6E-01	TB	65	154	1.0E+03	8.8E-01
CE	58	144	2.5E-03	4.1E-04	TB	65	155	4.1E+01	2.3E-01
PR	59	142	8.0E-02	4.3E-05	TB	65	156	1.3E+01	6.8E-02
PR	59	143	8.8E-04	8.0E-06	TB	65	157	1.8E-03	1.5E-03
ND	60	140	4.8E-03	1.1E-05	TB	65	158	7.7E-05	6.6E-05
ND	60	144	3.9E-09	3.2E-09	TB	65	160	8.2E-02	5.5E-03
ND	60	147	1.9E-04	1.4E-06	TB	65	161	5.9E+01	4.0E-01
PM	61	143	2.9E-02	4.3E-03	TB	65	164	1.4E+03	1.4E+00
PM	61	144	2.2E-03	4.2E-04	DY	66	154	6.8E-10	5.9E-10
PM	61	145	2.3E-03	1.7E-03	DY	66	154M	3.7E-02	2.0E-05
PM	61	146	6.1E-04	3.1E-04	DY	66	156	1.1E-09	9.2E-10
PM	61	147	4.8E-04	1.9E-04	DY	66	159	3.0E-05	3.8E-06
PM	61	148	1.4E+01	5.1E-02	DY	66	166	2.8E-03	9.4E-06
PM	61	148M	6.9E-02	1.8E-03	HO	67	163	1.1E-07	9.5E-08
PM	61	149	3.0E+02	4.4E-01	HO	67	166	3.3E-02	3.7E-05
PM	61	151	4.3E+02	3.4E-01	HO	67	166M	4.9E-09	4.2E-09
SM	62	141	5.0E-01	6.6E-03	ER	68	160	9.7E-03	1.2E-05
SM	62	145	5.4E-02	1.0E-02	ER	68	169	4.9E-03	4.6E-05
SM	62	146	3.5E-05	2.8E-05	ER	68	172	7.7E-03	1.6E-05
SM	62	147	4.0E-05	3.2E-05	TM	69	165	1.4E+02	1.7E-01
SM	62	148	2.3E-05	1.8E-05	TM	69	167	1.0E+01	9.6E-02
SM	62	149	4.8E-05	3.9E-05	TM	69	168	5.2E-02	4.1E-03
SM	62	151	6.6E-03	5.2E-03	TM	69	170	1.0E-01	1.2E-02
SM	62	153	6.0E+02	7.8E-01	TM	69	171	9.6E-02	3.9E-02
EU	63	145	4.6E+01	1.8E-01	TM	69	172	8.2E+01	2.2E-01
EU	63	146	1.2E+01	3.7E-02	YB	70	166	2.1E+02	5.2E-01
EU	63	146M	1.5E+02	1.6E-01	YB	70	169	1.8E+00	5.5E-02
EU	63	147	7.0E-01	1.1E-02	YB	70	175	2.1E+02	8.8E-01
EU	63	148	7.6E-01	2.6E-02	LU	71	169	9.5E-03	1.4E-05
EU	63	149	2.0E-01	1.3E-02	LU	71	170	3.2E-03	6.4E-06
EU	63	150	8.0E-04	4.3E-04	LU	71	171	4.2E-03	3.4E-05
EU	63	150M	9.7E+02	3.5E-01	LU	71	172	9.0E-04	6.0E-06
EU	63	152	2.5E-04	1.7E-04	LU	71	173	3.2E-07	1.1E-07
EU	63	154	1.8E-04	1.3E-04	LU	71	174	4.2E-08	2.4E-08
EU	63	155	3.6E-02	1.1E-02	LU	71	174M	3.1E-06	4.4E-07
EU	63	156	3.1E+00	3.1E-02	LU	71	176	8.2E-09	7.1E-09
EU	63	157	2.6E+03	1.1E+00	LU	71	177	5.0E-03	3.4E-05
GD	64	146	2.7E-02	1.2E-03	LU	71	177M	9.3E-06	1.2E-06
GD	64	147	6.4E+01	6.7E-02	HF	72	170	1.3E+01	1.1E-02
GD	64	148	1.8E-05	1.5E-05	HF	72	171	2.6E+01	2.5E-02
GD	64	149	3.3E+00	3.0E-02	HF	72	172	1.5E-05	1.1E-05
GD	64	150	9.4E-06	8.2E-06	HF	72	173	7.9E+00	1.3E-02
GD	64	151	7.2E-02	7.7E-03	HF	72	174	1.3E-06	1.2E-06
GD	64	152	2.3E-05	2.0E-05	HF	72	175	6.5E-03	6.8E-04
GD	64	153	4.6E-02	8.9E-03	HF	72	181	1.1E-02	7.3E-04

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(1) Bone

TABLE 9A. UNIT-RAD CONTAMINATION FOR BONE

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	2.0E-06	1.9E-06	AU	79	198	2.0E-02	2.0E-02
TA	73	177	1.4E+00	1.0E-02	AU	79	199	5.5E-02	5.5E-02
TA	73	179	1.1E-03	7.1E-04	HG	80	194	3.1E-05	3.1E-05
TA	73	182	5.7E-04	1.6E-04	HG	80	195M	3.5E-03	3.5E-03
TA	73	183	5.2E-01	8.4E-03	HG	80	197	1.0E-02	1.0E-02
W	74	178	5.1E-04	3.6E-04	HG	80	197M	1.5E-02	1.5E-02
W	74	181	1.6E-03	1.5E-03	HG	80	203	6.3E-04	6.3E-04
W	74	185	1.7E-03	1.5E-03	TL	81	200	1.3E-01	3.8E-03
W	74	187	1.6E-01	1.6E-02	TL	81	201	9.9E-02	7.7E-03
W	74	188	1.7E-04	1.5E-04	TL	81	202	3.9E-03	9.7E-04
RE	75	180	2.3E+00	4.4E-01	TL	81	204	1.4E-05	1.4E-05
RE	75	181	2.5E+00	4.8E-01	PB	82	200	1.9E+03	4.6E-01
RE	75	182	3.8E-01	1.7E-01	PB	82	202	2.8E-04	1.6E-04
RE	75	182M	6.1E+00	8.2E-01	PB	82	203	7.3E+02	4.3E-01
RE	75	183	3.0E-02	2.9E-02	PB	82	204	6.3E-05	3.6E-05
RE	75	184	2.0E-02	1.8E-02	PB	82	205	1.9E-03	1.1E-03
RE	75	184M	3.3E-03	3.2E-03	PB	82	210	4.9E-05	2.5E-05
RE	75	186	7.8E-01	4.0E-01	BI	83	205	1.5E-05	8.3E-06
RE	75	187	6.8E-01	6.8E-01	BI	83	206	6.8E-05	2.2E-05
RE	75	188	5.3E+00	8.9E-01	BI	83	207	2.4E-08	2.4E-08
RE	75	189	6.6E+00	1.4E+00	BI	83	208	1.2E-08	1.2E-08
OS	76	182	1.2E-02	1.2E-02	BI	83	210	3.1E-05	8.6E-06
OS	76	183	5.2E-02	5.2E-02	BI	83	210M	5.8E-09	5.8E-09
OS	76	185	3.3E-04	3.3E-04	PO	84	206	1.9E-01	5.0E-02
OS	76	191	7.8E-03	7.8E-03	PO	84	208	1.7E-04	1.7E-04
OS	76	191M	1.5E-01	1.5E-01	PO	84	209	4.0E-05	4.0E-05
OS	76	193	3.7E-02	3.7E-02	PO	84	210	2.2E-03	1.8E-03
OS	76	194	5.1E-06	5.1E-06	RN	86	211	3.0E+00	3.0E+00
IR	77	185	2.0E-01	2.0E-01	RN	86	222	1.9E-01	1.9E-01
IR	77	186	1.2E-01	1.2E-01	RA	88	223	6.5E+01	4.6E-02
IR	77	187	2.5E-01	2.5E-01	RA	88	224	6.4E+02	1.4E-01
IR	77	188	3.5E-02	3.5E-02	RA	88	225	4.0E+01	3.6E-02
IR	77	189	2.9E-02	2.9E-02	RA	88	226	3.2E-04	6.4E-05
IR	77	190	8.0E-03	8.0E-03	RA	88	228	2.0E-03	2.1E-04
IR	77	192	1.8E-03	1.8E-03	AC	89	225	5.3E+02	7.3E-02
IR	77	192M	1.5E-05	1.5E-05	AC	89	227	3.0E-03	1.3E-04
IR	77	193M	1.4E-01	1.4E-01	TH	90	227	4.4E-03	1.1E-06
IR	77	194	1.4E-01	1.4E-01	TH	90	228	3.0E-06	2.8E-08
PT	78	188	1.5E-04	1.5E-04	TH	90	229	5.3E-08	2.7E-09
PT	78	190	1.7E-07	1.7E-07	TH	90	230	5.0E-08	2.5E-09
PT	78	191	2.6E-03	2.6E-03	TH	90	231	1.1E+00	1.6E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	4.5E-08	2.2E-09
PT	78	193	7.3E-06	7.3E-06	TH	90	234	2.0E-03	6.7E-07
PT	78	193M	4.2E-03	4.2E-03	PA	91	228	4.9E+04	6.2E-01
PT	78	195M	3.9E-03	3.9E-03	PA	91	229	2.0E+04	4.1E-01
PT	78	197	1.7E-02	1.7E-02	PA	91	230	1.4E+02	3.3E-02
AU	79	193	9.1E-02	9.1E-02	PA	91	231	1.4E-03	7.0E-05
AU	79	194	1.2E-02	1.2E-02	PA	91	232	2.1E+04	3.9E-01
AU	79	195	1.1E-03	1.1E-03	PA	91	233	5.2E+01	2.0E-02
AU	79	196	9.0E-03	9.0E-03	U	92	230	5.9E-01	3.8E-02

Table 9A. Unit-rad contamination for selected organs via seawater (contd).
(1) Bone

TABLE 9A. UNIT-RAD CONTAMINATION FOR BONE

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.4E+01	1.9E-01	CM	96	240	4.0E+01	1.5E-02
U	92	232	1.2E-04	1.2E-04	CM	96	241	2.5E+01	1.2E-02
U	92	233	1.1E-04	1.1E-04	CM	96	242	1.1E+00	2.4E-03
U	92	234	1.1E-04	1.0E-04	CM	96	243	1.5E-03	6.7E-05
U	92	235	9.8E-05	9.4E-05	CM	96	244	2.0E-03	8.3E-05
U	92	236	9.7E-05	9.3E-05	CM	96	245	1.0E-03	5.0E-05
U	92	237	4.8E+00	1.1E-01	CM	96	246	9.6E-04	4.8E-05
U	92	238	9.3E-05	8.9E-05	CM	96	247	8.9E-04	4.5E-05
U	92	240	5.3E+02	1.0E+00	CM	96	248	8.7E-04	4.4E-05
NP	93	234	1.8E+03	1.1E-01	BK	97	245	1.1E+03	7.6E-02
NP	93	235	2.0E-01	1.1E-03	BK	97	246	8.0E+03	2.0E-01
NP	93	236	1.2E-03	5.9E-05	BK	97	247	9.0E-04	4.5E-05
NP	93	236M	4.0E+04	5.0E-01	BK	97	248	2.6E+04	3.5E-01
NP	93	237	1.2E-03	6.2E-05	BK	97	249	2.5E-01	1.1E-03
NP	93	238	7.3E+03	2.1E-01	CF	98	246	1.2E+04	2.4E-01
NP	93	239	5.6E+03	1.8E-01	CF	98	248	2.0E-01	9.6E-04
PU	94	236	3.1E-02	4.4E-04	CF	98	249	9.3E-04	4.6E-05
PU	94	237	1.7E+01	1.0E-02	CF	98	250	3.0E-03	1.0E-04
PU	94	238	1.4E-03	6.6E-05	CF	98	251	8.3E-04	4.1E-05
PU	94	239	1.1E-03	5.6E-05	CF	98	252	2.6E-02	3.2E-04
PU	94	240	1.1E-03	5.5E-05	CF	98	253	6.2E+01	1.6E-02
PU	94	241	3.0E-03	1.1E-04	ES	99	251	1.0E+04	2.1E-01
PU	94	242	1.1E-03	5.3E-05	ES	99	252	1.1E+00	2.1E-03
PU	94	244	9.5E-04	4.7E-05	ES	99	253	5.6E+01	1.5E-02
PU	94	246	2.2E+02	3.3E-02	ES	99	254	9.4E-02	6.1E-04
AM	95	239	1.2E+05	8.4E-01	ES	99	254M	8.1E+03	1.8E-01
AM	95	240	6.5E+03	1.9E-01	ES	99	255	3.6E+01	1.2E-02
AM	95	241	1.1E-03	5.7E-05	FM	100	252	2.4E+04	3.1E-01
AM	95	242	6.5E+04	5.9E-01	FM	100	253	1.1E+03	6.8E-02
AM	95	242M	1.1E-03	5.6E-05	FM	100	255	2.9E+04	3.4E-01
AM	95	243	1.0E-03	5.0E-05	FM	100	257	3.3E+00	3.5E-03

Table 9A Unit-rad contamination for selected organs via seawater (cont'd).
(1) Bone

TABLE 9A. UNIT-RAD CONTAMINATION FOR KIDNEYS

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	1.2E+02	3.4E+00
BE	4	7	5.5E+00	1.7E+00	ZN	30	65	8.8E-04	5.4E-04
BE	4	10	2.1E-03	2.1E-03	ZN	30	69M	3.5E+01	1.4E-01
C	6	14	3.4E-03	3.4E-03	ZN	30	72	6.2E-01	8.0E-03
NA	11	22	2.9E+01	2.9E+01	GA	31	67	2.3E+02	6.1E+01
NA	11	24	3.9E+05	2.1E+04	GA	31	72	3.6E+02	2.2E+01
MG	12	28	4.4E+03	4.4E+03	GE	32	68	1.8E-05	1.8E-05
AL	13	26	2.6E-02	2.6E-02	GE	32	69	2.1E-02	2.6E-03
SI	14	32	4.5E-03	4.5E-03	GE	32	71	1.5E-01	7.1E-02
P	15	32	6.9E-02	3.1E-02	AS	33	71	5.0E+05	2.4E+03
P	15	33	3.4E-01	2.0E-01	AS	33	72	6.1E+05	1.2E+03
S	16	35	2.4E+02	2.4E+02	AS	33	73	4.0E+04	4.9E+03
CL	17	36	4.9E+01	4.8E+01	AS	33	74	3.9E+03	1.2E+02
AR	18	37	8.2E+02	8.2E+02	AS	33	76	8.2E+05	1.7E+03
AR	18	39	4.4E-02	4.4E-02	AS	33	77	2.9E+06	8.5E+03
AR	18	42	4.7E-03	4.7E-03	SE	34	72	3.0E+00	1.3E+00
K	19	40	3.6E-01	3.6E-01	SE	34	75	5.3E-01	4.8E-01
K	19	42	1.8E+05	1.6E+03	SE	34	79	9.7E-02	9.6E-02
K	19	43	1.1E+05	1.7E+03	BR	35	76	1.4E+05	1.1E+04
CA	20	41	1.1E+03	1.1E+03	ER	35	77	2.9E+04	6.6E+03
CA	20	45	2.2E+03	2.0E+03	ER	35	82	2.5E+04	3.9E+03
CA	20	47	1.6E+04	3.4E+03	KR	36	76	1.5E+02	1.5E+02
CA	20	48	1.1E+00	1.1E+00	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	1.4E+01	2.2E-02	KR	36	81	1.3E+00	1.3E+00
SC	21	46	1.7E-02	8.5E-04	KR	36	85	2.5E-01	2.5E-01
SC	21	47	6.7E+01	1.4E-01	RB	37	83	3.2E+01	1.6E+01
SC	21	48	2.0E+01	2.3E-02	RB	37	84	4.3E+01	1.2E+01
TI	22	44	2.7E-03	2.7E-03	RB	37	86	2.1E+02	3.9E+01
V	23	48	3.9E+01	6.9E+00	RB	37	87	1.2E+00	1.2E+00
V	23	49	2.5E+02	2.1E+02	SR	38	82	2.4E+02	1.4E+02
V	23	50	3.6E-02	3.6E-02	SR	38	83	1.0E+05	8.3E+03
CR	24	48	2.6E+03	4.1E+00	SR	38	85	4.7E+02	3.8E+02
CR	24	51	3.3E+02	1.4E+01	SR	38	89	4.3E+02	3.3E+02
MN	25	52	9.4E-02	1.7E-02	SR	38	90	1.5E+00	1.5E+00
MN	25	53	7.8E-03	7.8E-03	Y	39	86	1.1E+02	1.7E-02
MN	25	54	1.5E-03	1.4E-03	Y	39	87	1.8E+01	1.5E-02
FE	26	55	3.0E-01	1.8E-01	Y	39	87M	4.2E+02	5.9E-02
FE	26	59	3.2E-01	1.9E-02	Y	39	88	5.8E-03	1.5E-04
FE	26	60	6.1E-05	5.5E-05	Y	39	90	1.9E+01	1.2E-02
CO	27	55	1.1E+03	3.4E+01	Y	39	91	6.5E-02	9.0E-04
CO	27	56	5.0E-01	3.8E-01	ZR	40	86	1.6E+03	1.3E+00
CO	27	57	1.8E+00	1.6E+00	ZR	40	88	1.8E-01	1.5E-02
CO	27	58	1.1E+00	9.5E-01	ZR	40	89	1.8E+02	6.7E-01
CO	27	60	1.3E-02	1.2E-02	ZR	40	93	3.0E-02	2.7E-02
VI	28	56	5.1E+00	5.1E+00	ZR	40	95	5.5E-01	3.7E-02
NI	28	57	3.9E+01	3.9E+01	ZR	40	97	2.3E+03	1.8E+00
NI	28	59	2.0E+00	2.0E+00	NE	41	90	5.3E+01	4.2E-02
VI	28	63	9.8E-01	9.8E-01	NE	41	91	1.1E-03	9.9E-04
NI	28	66	2.8E+01	2.8E+01	NE	41	91M	1.2E-01	9.4E-03
CU	29	64	2.3E+03	1.4E+01	NB	41	92	1.0E+00	1.4E-02

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(2) Kidneys

TABLE 9A. UNIT-RAD CONTAMINATION FOR KIDNEYS

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	5.4E-03	3.5E-03	SB	51	122	2.2E-01	2.2E-01
NB	41	94	1.1E-05	1.0E-05	SB	51	124	4.8E-03	4.8E-03
NB	41	95	1.1E-01	4.8E-03	SB	51	125	1.3E-03	1.3E-03
NB	41	95M	7.1E+00	3.5E-02	SB	51	126	2.0E-02	2.0E-02
NB	41	96	4.0E+01	5.2E-02	SB	51	127	1.4E-01	1.4E-01
MO	42	93	1.4E+00	1.4E+00	TE	52	118	2.2E-02	3.6E-03
MO	42	99	8.0E+02	8.2E+01	TE	52	119	1.1E+00	2.3E-02
TC	43	95	5.0E+01	2.0E+00	TE	52	119M	2.2E-02	2.9E-03
TC	43	95M	2.8E-02	2.1E-02	TE	52	121	8.2E-03	3.0E-03
TC	43	96	7.1E-01	1.3E-01	TE	52	121M	2.7E-04	2.3E-04
TC	43	97	8.9E-03	8.9E-03	TE	52	123	1.3E-04	1.3E-04
TC	43	97M	1.6E-01	1.3E-01	TE	52	123M	1.3E-03	1.0E-03
TC	43	98	1.2E-04	1.2E-04	TE	52	125M	5.4E-03	3.6E-03
TC	43	99	2.0E-03	2.0E-03	TE	52	127M	1.1E-03	8.3E-04
RU	44	97	6.1E+00	9.6E-02	TE	52	129M	1.8E-03	9.7E-04
RU	44	103	3.9E-02	7.1E-03	TE	52	131M	2.6E-01	1.0E-02
RU	44	106	2.8E-04	1.9E-04	TE	52	132	3.0E-02	3.0E-03
RH	45	99	4.8E-02	1.7E-02	I	53	123	3.9E+05	2.8E+04
RH	45	100	3.3E+00	9.9E-02	I	53	124	9.6E+02	3.6E+02
RH	45	101	2.3E-04	2.3E-04	I	53	125	9.4E+02	8.4E+02
RH	45	101M	6.4E-01	8.9E-02	I	53	126	7.6E+02	5.0E+02
RH	45	102	4.4E-04	3.8E-04	I	53	129	5.8E+00	5.8E+00
RH	45	105	7.3E+00	3.7E-01	I	53	130	3.8E+04	2.6E+03
PD	46	100	2.0E-01	2.2E-02	I	53	131	1.3E+03	7.0E+02
PD	46	103	3.2E-01	1.2E-01	I	53	133	2.8E+04	3.1E+03
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	2.4E+01	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	1.7E+00	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	1.7E+00	1.5E+00	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	4.6E+00	3.1E+00	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	1.5E-02	1.5E-02	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	9.6E-02	9.4E-02	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	3.0E+01	1.9E+01	CS	55	129	2.9E+04	3.4E+02
CD	48	109	2.2E-05	1.3E-05	CS	55	131	9.8E+03	7.9E+02
CD	48	113M	9.2E-07	8.5E-07	CS	55	132	1.0E+03	5.9E+01
CD	48	115	3.2E-02	2.4E-04	CS	55	134	2.1E-01	1.8E-01
CD	48	115M	1.2E-04	1.6E-05	CS	55	135	6.5E-01	6.4E-01
IN	49	111	2.4E-03	1.1E-04	CS	55	136	8.4E+01	8.9E+00
IN	49	114M	4.7E-06	2.1E-06	CS	55	137	6.2E-02	6.1E-02
IN	49	115	8.2E-08	8.1E-08	BA	56	128	8.8E+02	1.9E+02
SN	50	113	9.5E+00	1.4E+00	BA	56	131	1.6E+02	9.2E+01
SN	50	117M	7.7E+02	1.6E+01	BA	56	133	1.2E+00	1.2E+00
SN	50	119M	1.2E+01	3.2E+00	BA	56	133M	6.7E+03	1.1E+03
SN	50	121	3.1E+05	5.2E+02	BA	56	135M	2.9E+04	3.7E+03
SN	50	121M	1.1E-01	1.0E-01	BA	56	140	4.1E+01	2.5E+01
SN	50	123M	5.1E+00	8.2E-01	LA	57	135	3.2E+03	3.2E+03
SN	50	125	2.8E+02	4.0E+00	LA	57	137	8.2E+00	8.2E+00
SN	50	126	3.1E-03	2.8E-03	LA	57	138	2.4E-01	2.4E-01
SB	51	119	8.2E+00	8.2E+00	LA	57	140	4.4E+02	4.4E+02
SB	51	120M	4.7E-02	4.7E-02	CE	58	134	9.8E+01	5.2E-01

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(2) Kidneys

TABLE 9A. UNIT-RAD CONTAMINATION FOR KIDNEYS

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	2.3E+03	3.0E+00	GD	64	159	1.8E+03	1.1E+00
CE	58	137M	1.6E+03	4.2E+00	GD	64	162	2.7E-03	6.0E-04
CE	58	139	3.8E-01	7.5E-02	TB	65	151	6.6E+02	7.1E-01
CE	58	141	4.7E+00	2.6E-01	TB	65	152	1.9E+02	2.1E-01
CE	58	142	2.7E-04	2.5E-04	TB	65	153	1.3E+02	4.6E-01
CE	58	143	5.3E+02	1.3E+00	TB	65	154	7.1E+02	8.8E-01
CE	58	144	6.0E-03	2.0E-03	TB	65	155	2.9E+01	2.3E-01
PR	59	142	4.0E-02	4.3E-05	TB	65	156	8.9E+00	6.8E-02
PR	59	143	4.4E-04	8.0E-06	TB	65	157	1.7E-03	1.5E-03
ND	60	140	2.1E-03	1.1E-05	TB	65	158	7.3E-05	6.6E-05
ND	60	144	3.5E-09	3.2E-09	TB	65	160	5.9E-02	5.5E-03
ND	60	147	8.5E-05	1.4E-06	TB	65	161	4.1E+01	4.0E-01
PM	61	143	1.5E-02	4.3E-03	TB	65	164	9.6E+02	1.4E+00
PM	61	144	1.2E-03	4.2E-04	DY	66	154	5.9E-10	5.9E-10
PM	61	145	1.9E-03	1.7E-03	DY	66	154M	2.0E-05	2.0E-05
PM	61	146	4.4E-04	3.1E-04	DY	66	156	9.2E-10	9.2E-10
PM	61	147	3.2E-04	1.9E-04	DY	66	159	3.8E-06	3.8E-06
PM	61	148	6.3E+00	5.1E-02	DY	66	166	9.4E-06	9.4E-06
PM	61	148M	3.1E-02	1.8E-03	HO	67	163	1.1E-07	9.5E-08
PM	61	149	1.3E+02	4.4E-01	HO	67	166	2.6E-02	3.7E-05
PM	61	151	1.9E+02	3.4E-01	HO	67	166M	4.7E-09	4.2E-09
SM	62	141	1.1E+00	3.3E-02	ER	68	160	6.3E-03	1.2E-05
SM	62	145	1.5E-01	5.0E-02	ER	68	169	3.2E-03	4.6E-05
SM	62	146	1.5E-04	1.4E-04	ER	68	172	5.0E-03	1.6E-05
SM	62	147	1.7E-04	1.6E-04	TM	69	165	2.4E+02	8.6E-01
SM	62	148	9.9E-05	9.1E-05	TM	69	167	1.7E+01	4.8E-01
SM	62	149	2.1E-04	1.9E-04	TM	69	168	1.0E-01	2.1E-02
SM	62	151	2.9E-02	2.6E-02	TM	69	170	2.1E-01	5.8E-02
SM	62	153	1.3E+03	3.9E+00	TM	69	171	2.9E-01	2.0E-01
EU	63	145	2.3E+01	9.1E-02	TM	69	172	1.4E+02	1.1E+00
EU	63	146	5.9E+00	1.8E-02	YB	70	166	1.5E+02	5.2E-01
EU	63	146M	7.3E+01	7.8E-02	YB	70	169	1.2E+00	5.5E-02
EU	63	147	3.4E-01	5.5E-03	YB	70	175	1.5E+02	8.8E-01
EU	63	148	3.8E-01	1.3E-02	LU	71	169	7.1E-03	1.4E-05
EU	63	149	9.8E-02	6.5E-03	LU	71	170	2.4E-03	6.4E-06
EU	63	150	4.0E-04	2.2E-04	LU	71	171	3.2E-03	3.4E-05
EU	63	150M	4.8E+02	1.7E-01	LU	71	172	6.8E-04	6.0E-06
EU	63	152	1.2E-04	8.5E-05	LU	71	173	2.7E-07	1.1E-07
EU	63	154	9.0E-05	6.5E-05	LU	71	174	3.7E-08	2.4E-08
EU	63	155	1.8E-02	5.5E-03	LU	71	174M	2.4E-06	4.4E-07
EU	63	156	1.5E+00	1.6E-02	LU	71	176	7.9E-09	7.1E-09
EU	63	157	1.3E+03	5.6E-01	LU	71	177	3.8E-03	3.4E-05
GD	64	146	3.4E-02	1.2E-03	LU	71	177M	7.3E-06	1.2E-06
GD	64	147	8.4E+01	6.7E-02	HF	72	170	1.2E+01	1.1E-02
GD	64	148	1.9E-05	1.5E-05	HF	72	171	2.4E+01	2.5E-02
GD	64	149	4.3E+00	3.0E-02	HF	72	172	1.5E-05	1.1E-05
GD	64	150	9.8E-06	8.2E-06	HF	72	173	7.5E+00	1.3E-02
GD	64	151	9.1E-02	7.7E-03	HF	72	174	1.3E-06	1.2E-06
GD	64	152	2.4E-05	2.0E-05	HF	72	175	6.1E-03	6.8E-04
GD	64	153	5.7E-02	8.9E-03	HF	72	181	1.0E-02	7.3E-04

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(2) Kidneys

ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	2.0E-06	1.9E-06	AU	79	198	4.8E+01	4.6E-01
TA	73	177	3.6E-01	2.1E-03	AU	79	199	1.1E+02	1.3E+00
TA	73	179	2.4E-04	1.4E-04	HG	80	194	8.4E-04	7.6E-04
TA	73	182	1.4E-04	3.2E-05	HG	80	195M	8.5E-01	8.8E-02
TA	73	183	1.4E-01	1.7E-03	HG	80	197	1.6E+00	2.6E-01
W	74	178	3.6E-04	3.6E-04	HG	80	197M	5.9E+00	3.8E-01
W	74	181	1.5E-03	1.5E-03	HG	80	203	2.1E-02	1.6E-02
W	74	185	1.5E-03	1.5E-03	TL	81	200	1.3E-01	3.8E-03
W	74	187	1.6E-02	1.6E-02	TL	81	201	9.7E-02	7.7E-03
W	74	188	1.5E-04	1.5E-04	TL	81	202	3.8E-03	9.7E-04
RE	75	180	4.4E-01	4.4E-01	TL	81	204	1.4E-05	1.4E-05
RE	75	181	4.8E-01	4.8E-01	PB	82	200	3.9E+03	6.4E+00
RE	75	182	1.7E-01	1.7E-01	PB	82	202	2.4E-03	2.2E-03
RE	75	182M	8.2E-01	8.2E-01	PB	82	203	1.5E+03	6.1E+00
RE	75	183	2.9E-02	2.9E-02	PB	82	204	5.5E-04	5.1E-04
RE	75	184	1.8E-02	1.8E-02	PB	82	205	1.7E-02	1.5E-02
RE	75	184M	3.2E-03	3.2E-03	PB	82	210	3.9E-04	3.5E-04
RE	75	186	4.0E-01	4.0E-01	BI	83	205	2.4E-04	1.8E-04
RE	75	187	6.8E-01	6.8E-01	BI	83	206	9.1E-04	4.6E-04
RE	75	188	8.9E-01	8.9E-01	BI	83	207	5.2E-07	5.2E-07
RE	75	189	1.4E+00	1.4E+00	BI	83	208	2.6E-07	2.6E-07
OS	76	182	7.9E-02	1.2E-02	BI	83	210	4.0E-04	1.8E-04
OS	76	183	5.7E-01	5.2E-02	BI	83	210M	1.2E-07	1.2E-07
OS	76	185	3.4E-04	3.3E-04	PO	84	206	4.5E-01	5.0E-02
OS	76	191	1.0E-02	7.8E-03	PO	84	208	1.8E-04	1.7E-04
OS	76	191M	1.4E+00	1.5E-01	PO	84	209	4.0E-05	4.0E-05
OS	76	193	1.7E-01	3.7E-02	PO	84	210	2.8E-03	1.8E-03
OS	76	194	5.1E-06	5.1E-06	RN	86	211	3.0E+00	3.0E+00
IR	77	185	1.6E+01	2.0E-01	RN	86	222	1.9E-01	1.9E-01
IR	77	186	9.5E+00	1.2E-01	RA	88	223	1.8E-05	9.8E-06
IR	77	187	2.6E+01	2.5E-01	RA	88	224	1.1E-04	3.0E-05
IR	77	188	1.1E+00	3.5E-02	RA	88	225	1.3E-05	7.6E-06
IR	77	189	1.4E-01	2.9E-02	RA	88	226	1.4E-08	1.4E-08
IR	77	190	4.2E-02	8.0E-03	RA	88	228	4.4E-08	4.4E-08
IR	77	192	2.9E-03	1.8E-03	AC	89	225	1.8E+02	7.3E-02
IR	77	192M	1.5E-05	1.5E-05	AC	89	227	1.0E-03	1.3E-04
IR	77	193M	7.3E-01	1.4E-01	TH	90	227	1.3E-03	1.1E-06
IR	77	194	8.7E+00	1.4E-01	TH	90	228	9.2E-07	2.8E-08
PT	78	188	1.0E-03	1.5E-04	TH	90	229	1.7E-08	2.7E-09
PT	78	190	1.8E-07	1.7E-07	TH	90	230	1.6E-08	2.5E-09
PT	78	191	5.4E-02	2.6E-03	TH	90	231	3.3E-01	1.6E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	1.5E-08	2.2E-09
PT	78	193	7.3E-06	7.3E-06	TH	90	234	6.1E-04	6.7E-07
PT	78	193M	6.1E-02	4.2E-03	PA	91	228	3.4E+04	6.2E-01
PT	78	195M	6.0E-02	3.9E-03	PA	91	229	1.4E+04	4.1E-01
PT	78	197	1.2E+00	1.7E-02	PA	91	230	9.8E+01	3.3E-02
AU	79	193	7.8E+02	2.1E+00	PA	91	231	9.8E-04	7.0E-05
AU	79	194	4.7E+01	2.7E-01	PA	91	232	1.5E+04	3.9E-01
AU	79	195	6.2E-02	2.4E-02	PA	91	233	3.6E+01	2.0E-02
AU	79	196	9.4E+00	2.0E-01	U	92	230	6.6E-07	3.8E-07

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(2) Kidneys

TABLE 9A. UNIT-RAD CONTAMINATION FOR KIDNEYS

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	8.7E-06	1.9E-06	CM	96	240	1.3E+01	1.5E-02
U	92	232	1.2E-09	1.2E-09	CM	96	241	8.1E+00	1.2E-02
U	92	233	1.1E-09	1.1E-09	CM	96	242	3.6E-01	2.4E-03
U	92	234	1.0E-09	1.0E-09	CM	96	243	5.2E-04	6.7E-05
U	92	235	9.4E-10	9.4E-10	CM	96	244	7.0E-04	8.3E-05
U	92	236	9.3E-10	9.3E-10	CM	96	245	3.5E-04	5.0E-05
U	92	237	3.4E-06	1.1E-05	CM	96	246	3.4E-04	4.8E-05
U	92	238	8.9E-10	8.9E-10	CM	96	247	3.1E-04	4.5E-05
U	92	240	2.8E-04	1.0E-05	CM	96	248	3.1E-04	4.4E-05
NP	93	234	1.6E+03	1.1E-01	BK	97	245	7.6E-02	7.6E-02
NP	93	235	1.8E-01	1.1E-03	BK	97	246	2.0E-01	2.0E-01
NP	93	236	1.0E-03	5.9E-05	BK	97	247	4.5E-05	4.5E-05
NP	93	236M	3.5E+04	5.0E-01	BK	97	248	3.5E-01	3.5E-01
NP	93	237	1.1E-03	6.2E-05	BK	97	249	1.1E-03	1.1E-03
NP	93	238	6.4E+03	2.1E-01	CF	98	246	2.4E-01	2.4E-01
NP	93	239	4.9E+03	1.8E-01	CF	98	248	9.6E-04	9.6E-04
PU	94	236	1.4E-02	4.4E-04	CF	98	249	4.6E-05	4.6E-05
PU	94	237	7.3E+00	1.0E-02	CF	98	250	1.0E-04	1.0E-04
PU	94	238	6.3E-04	6.6E-05	CF	98	251	4.1E-05	4.1E-05
PU	94	239	5.1E-04	5.6E-05	CF	98	252	3.2E-04	3.2E-04
PU	94	240	5.0E-04	5.5E-05	CF	98	253	1.6E-02	1.6E-02
PU	94	241	1.3E-03	1.1E-04	ES	99	251	2.1E-01	2.1E-01
PU	94	242	4.8E-04	5.3E-05	ES	99	252	2.1E-03	2.1E-03
PU	94	244	4.3E-04	4.7E-05	ES	99	253	1.5E-02	1.5E-02
PU	94	246	9.6E+01	3.3E-02	ES	99	254	6.1E-04	6.1E-04
AM	95	239	4.5E+04	8.4E-01	ES	99	254M	1.8E-01	1.8E-01
AM	95	240	2.4E+03	1.9E-01	ES	99	255	1.2E-02	1.2E-02
AM	95	241	4.5E-04	5.7E-05	FM	100	252	3.1E-01	3.1E-01
AM	95	242	2.4E+04	5.9E-01	FM	100	253	6.8E-02	6.8E-02
AM	95	242M	4.4E-04	5.6E-05	FM	100	255	3.4E-01	3.4E-01
AM	95	243	3.9E-04	5.0E-05	FM	100	257	3.5E-03	3.5E-03

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(2) Kidneys

TABLE 9A. UNIT-RAD CONTAMINATION FOR LIVER

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	3.6E+02	7.6E-01
BE	4	7	1.0E+01	1.7E+00	ZN	30	65	7.9E-04	5.7E-04
BE	4	10	2.1E-03	2.1E-03	ZN	30	69M	2.3E+01	1.5E-01
C	6	14	3.4E-03	3.4E-03	ZN	30	72	4.0E-01	8.4E-03
NA	11	22	4.6E+01	4.5E+01	GA	31	67	1.4E+02	5.6E+01
NA	11	24	6.1E+05	3.3E+04	GA	31	72	1.8E+02	2.0E+01
MG	12	28	3.6E+03	3.6E+03	GE	32	68	1.8E-05	1.8E-05
AL	13	26	1.5E-02	1.5E-02	GE	32	69	1.4E-02	2.6E-03
SI	14	32	3.9E-03	3.9E-03	GE	32	71	1.2E-01	7.1E-02
P	15	32	6.3E-02	1.9E-02	AS	33	71	3.2E+05	1.5E+03
P	15	33	2.8E-01	1.2E-01	AS	33	72	3.8E+05	7.5E+02
S	16	35	2.4E+02	2.4E+02	AS	33	73	2.5E+04	3.0E+03
CL	17	36	8.2E+01	8.1E+01	AS	33	74	2.5E+03	7.8E+01
AR	18	37	8.2E+02	8.2E+02	AS	33	76	5.2E+05	1.0E+03
AR	18	39	4.4E-02	4.4E-02	AS	33	77	1.8E+06	5.3E+03
AR	18	42	4.7E-03	4.7E-03	SE	34	72	2.9E+00	7.5E-01
K	19	40	2.5E-01	2.5E-01	SE	34	75	3.4E-01	2.8E-01
K	19	42	1.2E+05	1.1E+03	SE	34	79	5.6E-02	5.6E-02
K	19	43	7.3E+04	1.2E+03	BR	35	76	9.5E+04	7.5E+03
CA	20	41	2.2E+03	2.2E+03	BR	35	77	2.0E+04	4.5E+03
CA	20	45	4.2E+03	4.0E+03	BR	35	82	1.7E+04	2.7E+03
CA	20	47	1.8E+04	6.7E+03	KR	36	76	1.5E+02	1.5E+02
CA	20	48	2.1E+00	2.1E+00	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	3.1E+01	4.3E-02	KR	36	81	1.3E+00	1.3E+00
SC	21	46	3.6E-02	1.7E-03	KR	36	85	2.5E-01	2.5E-01
SC	21	47	1.4E+02	2.8E-01	RB	37	83	1.2E+00	6.1E-01
SC	21	48	4.3E+01	4.6E-02	RB	37	84	1.6E+00	4.7E-01
TI	22	44	7.1E-04	7.1E-04	RB	37	86	7.9E+00	1.5E+00
V	23	48	4.2E+01	7.9E+00	RB	37	87	4.5E-02	4.5E-02
V	23	49	2.8E+02	2.3E+02	SR	38	82	4.7E+02	3.8E+02
V	23	50	4.1E-02	4.1E-02	SR	38	83	1.2E+05	2.2E+04
CR	24	48	4.2E+00	4.2E+00	SR	38	85	1.1E+03	9.8E+02
CR	24	51	1.5E+01	1.5E+01	SR	38	89	9.6E+02	8.6E+02
MN	25	52	1.4E-01	1.0E-02	SR	38	90	3.9E+00	3.9E+00
MN	25	53	4.6E-03	4.6E-03	Y	39	86	1.9E+02	8.3E-02
MN	25	54	1.0E-03	8.1E-04	Y	39	87	3.1E+01	7.3E-02
FE	26	55	1.1E-01	6.8E-02	Y	39	87M	7.0E+02	2.9E-01
FE	26	59	9.8E-02	7.4E-03	Y	39	88	1.0E-02	7.3E-04
FE	26	60	2.3E-05	2.1E-05	Y	39	90	3.1E+01	5.9E-02
CO	27	55	1.9E+02	5.7E+00	Y	39	91	1.1E-01	4.5E-03
CO	27	56	8.5E-02	6.4E-02	ZR	40	86	5.7E+02	1.3E+00
CO	27	57	3.0E-01	2.7E-01	ZR	40	88	7.2E-02	1.5E-02
CO	27	58	1.9E-01	1.4E-01	ZR	40	89	6.6E+01	6.7E-01
CO	27	60	2.1E-03	2.1E-03	ZR	40	93	2.8E-02	2.7E-02
NI	28	56	3.6E+02	4.3E+00	ZR	40	95	2.2E-01	3.7E-02
NI	28	57	1.1E+04	3.4E+01	ZR	40	97	8.4E+02	1.8E+00
NI	28	59	1.9E+00	1.7E+00	NB	41	90	5.3E+01	3.8E-02
NI	28	63	9.1E-01	8.4E-01	NB	41	91	1.0E-03	9.0E-04
NI	28	66	5.3E+03	2.4E+01	NB	41	91M	1.2E-01	8.5E-03
CU	29	64	6.8E+03	3.0E+00	NB	41	92	1.1E+00	1.3E-02

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(3) Liver

TABLE 9A. UNIT-RAD CONTAMINATION FOR LIVER

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	5.1E-03	3.2E-03	SB	51	122	1.2E+00	8.4E-02
NB	41	94	1.0E-05	9.1E-05	SB	51	124	3.0E-03	1.9E-03
NB	41	95	1.1E-01	4.3E-03	SB	51	125	5.3E-04	5.1E-04
NB	41	95M	7.1E+00	3.2E-02	SB	51	126	3.1E-02	7.7E-03
NB	41	96	4.1E+01	4.7E-02	SB	51	127	5.9E-01	5.5E-02
MO	42	93	4.0E-02	4.0E-02	TE	52	118	2.2E-01	3.6E-02
MO	42	99	8.5E+01	2.4E+00	TE	52	119	1.1E+01	2.3E-01
TC	43	95	7.4E+01	2.0E+00	TE	52	119M	2.2E-01	2.9E-02
TC	43	95M	3.2E-02	2.1E-02	TE	52	121	8.2E-02	3.0E-02
TC	43	96	1.0E+00	1.3E-01	TE	52	121M	2.7E-03	2.3E-03
TC	43	97	9.0E-03	8.9E-03	TE	52	123	1.3E-03	1.3E-03
TC	43	97M	1.7E-01	1.3E-01	TE	52	123M	1.3E-02	1.0E-02
TC	43	98	1.2E-04	1.2E-04	TE	52	125M	5.4E-02	3.6E-02
TC	43	99	2.0E-03	2.0E-03	TE	52	127M	1.1E-02	8.3E-03
RU	44	97	2.4E+01	9.6E-01	TE	52	129M	1.8E-02	9.7E-03
RU	44	103	2.0E-01	7.1E-02	TE	52	131M	2.6E+00	1.0E-01
RU	44	106	2.2E-03	1.9E-03	TE	52	132	3.0E-01	3.0E-02
RH	45	99	3.7E-02	1.7E-02	I	53	123	7.1E+04	5.1E+03
RH	45	100	2.2E+00	9.9E-02	I	53	124	1.7E+02	6.5E+01
RH	45	101	2.3E-04	2.3E-04	I	53	125	1.7E+02	1.5E+02
RH	45	101M	4.5E-01	8.9E-02	I	53	126	1.4E+02	9.0E+01
RH	45	102	4.2E-04	3.8E-04	I	53	129	1.1E+00	1.1E+00
RH	45	105	4.9E+00	3.7E-01	I	53	130	6.9E+03	4.8E+02
PD	46	100	1.4E-01	2.2E-02	I	53	131	2.4E+02	1.3E+02
PD	46	103	2.5E-01	1.2E-01	I	53	133	5.1E+03	5.6E+02
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	1.5E+01	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	1.1E+00	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	9.2E-01	4.0E-01	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	5.9E+00	8.1E-01	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	4.0E-03	3.9E-03	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	3.0E-02	2.5E-02	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	4.0E+01	5.1E+00	CS	55	129	4.3E+04	5.0E+02
CD	48	109	2.4E-04	1.7E-04	CS	55	131	1.5E+04	1.2E+03
CD	48	113M	1.1E-05	1.1E-05	CS	55	132	1.6E+03	8.9E+01
CD	48	115	2.7E-01	3.1E-03	CS	55	134	3.1E-01	2.7E-01
CD	48	115M	1.1E-03	2.0E-04	CS	55	135	9.8E-01	9.6E-01
IN	49	111	2.3E-03	1.1E-04	CS	55	136	1.3E+02	1.3E+01
IN	49	114M	4.6E-06	2.1E-06	CS	55	137	9.3E-02	9.1E-02
IN	49	115	8.2E-08	8.1E-08	BA	56	128	1.3E+05	3.1E+02
SN	50	113	1.2E+01	8.5E-01	BA	56	131	1.3E+04	1.5E+02
SN	50	117M	1.1E+03	9.4E+00	BA	56	133	2.8E+00	2.0E+00
SN	50	119M	1.4E+01	1.9E+00	BA	56	133M	1.0E+06	1.7E+03
SN	50	121	4.4E+05	3.1E+02	BA	56	135M	4.8E+06	6.0E+03
SN	50	121M	8.1E-02	6.0E-02	BA	56	140	3.1E+03	4.1E+01
SN	50	123M	6.7E+00	4.9E-01	LA	57	135	7.4E+04	1.5E+02
SN	50	125	4.1E+02	2.4E+00	LA	57	137	4.0E-01	3.8E-01
SN	50	126	2.1E-03	1.7E-03	LA	57	138	1.2E-02	1.1E-02
SB	51	119	8.0E+01	3.2E+00	LA	57	140	4.9E+03	2.1E+01
SB	51	120M	1.4E-01	1.8E-02	CE	58	134	5.1E+01	5.2E-01

Table 9A. Unit-rad contamination for selected organs via seawater (contd).
(3) Liver

TABLE 9A. UNIT-RAD CONTAMINATION FOR LIVER

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	1.2E+03	3.0E+00	GD	64	159	3.2E+03	5.3E+00
CE	58	137M	8.6E+02	4.2E+00	GD	64	162	6.7E-03	3.0E-03
CE	58	139	2.3E-01	7.5E-02	TB	65	151	6.4E+02	7.1E+00
CE	58	141	2.6E+00	2.6E-01	TB	65	152	1.9E+02	2.1E+00
CE	58	142	2.6E-04	2.5E-04	TB	65	153	1.3E+02	4.6E+00
CE	58	143	2.8E+02	1.3E+00	TB	65	154	6.9E+02	8.8E+00
CE	58	144	4.1E-03	2.0E-03	TB	65	155	3.0E+01	2.3E+00
PR	59	142	2.0E-02	4.3E-05	TB	65	156	9.1E+00	6.8E-01
PR	59	143	2.3E-04	8.0E-06	TB	65	157	1.5E-02	1.5E-02
ND	60	140	4.3E-04	1.1E-05	TB	65	158	6.7E-04	6.6E-04
ND	60	144	3.2E-09	3.2E-09	TB	65	160	1.1E-01	5.5E-02
ND	60	147	1.8E-05	1.4E-06	TB	65	161	4.3E+01	4.0E+00
PM	61	143	7.5E-02	2.2E-02	TB	65	164	9.3E+02	1.4E+01
PM	61	144	5.9E-03	2.1E-03	DY	66	154	6.3E-10	5.9E-10
PM	61	145	9.6E-03	8.3E-03	DY	66	154M	1.8E-02	2.0E-05
PM	61	146	2.2E-03	1.6E-03	DY	66	156	9.9E-10	9.2E-10
PM	61	147	1.6E-03	9.6E-04	DY	66	159	1.7E-05	3.8E-06
PM	61	148	3.1E+01	2.6E-01	DY	66	166	1.4E-03	9.4E-06
PM	61	148M	1.6E-01	9.1E-03	HO	67	163	1.1E-07	9.5E-08
PM	61	149	6.6E+02	2.2E+00	HO	67	166	2.9E-02	3.7E-05
PM	61	151	9.3E+02	1.7E+00	HO	67	166M	4.8E-09	4.2E-09
SM	62	141	3.4E-01	3.3E-02	ER	68	160	4.2E-03	1.2E-05
SM	62	145	7.8E-02	5.0E-02	ER	68	169	2.1E-03	4.6E-05
SM	62	146	1.4E-04	1.4E-04	ER	68	172	3.3E-03	1.6E-05
SM	62	147	1.6E-04	1.6E-04	TM	69	165	1.0E+03	1.7E+01
SM	62	148	9.3E-05	9.1E-05	TM	69	167	8.0E+01	9.6E+00
SM	62	149	2.0E-04	1.9E-04	TM	69	168	7.5E-01	4.1E-01
SM	62	151	2.7E-02	2.6E-02	TM	69	170	1.8E+00	1.2E+00
SM	62	153	3.8E+02	3.9E+00	TM	69	171	4.3E+00	3.9E+00
EU	63	145	2.0E+01	9.1E-01	TM	69	172	5.9E+02	2.2E+01
EU	63	146	5.3E+00	1.8E-01	YB	70	166	7.7E+02	2.6E+01
EU	63	146M	6.4E+01	7.8E-01	YB	70	169	8.8E+00	2.8E+00
EU	63	147	3.5E-01	5.5E-02	YB	70	175	7.8E+02	4.4E+01
EU	63	148	4.4E-01	1.3E-01	LU	71	169	1.4E-05	1.4E-05
EU	63	149	1.4E-01	6.5E-02	LU	71	170	6.4E-06	6.4E-06
EU	63	150	2.3E-03	2.2E-03	LU	71	171	3.4E-05	3.4E-05
EU	63	150M	4.1E+02	1.7E+00	LU	71	172	6.0E-06	6.0E-06
EU	63	152	8.8E-04	8.5E-04	LU	71	173	1.1E-07	1.1E-07
EU	63	154	6.7E-04	6.5E-04	LU	71	174	2.4E-08	2.4E-08
EU	63	155	6.6E-02	5.5E-02	LU	71	174M	4.4E-07	4.4E-07
EU	63	156	1.5E+00	1.6E-01	LU	71	176	7.1E-09	7.1E-09
EU	63	157	1.1E+03	5.6E+00	LU	71	177	3.4E-05	3.4E-05
GD	64	146	6.4E-02	6.1E-03	LU	71	177M	1.2E-06	1.2E-06
GD	64	147	1.5E+02	3.3E-01	HF	72	170	1.4E+00	1.1E-03
GD	64	148	8.1E-05	7.5E-05	HF	72	171	2.7E+00	2.5E-03
GD	64	149	7.8E+00	1.5E-01	HF	72	172	1.5E-06	1.1E-06
GD	64	150	4.3E-05	4.1E-05	HF	72	173	8.3E-01	1.3E-03
GD	64	151	1.9E-01	3.8E-02	HF	72	174	1.4E-07	1.2E-07
GD	64	152	1.1E-04	1.0E-04	HF	72	175	6.7E-04	6.8E-05
GD	64	153	1.3E-01	4.5E-02	HF	72	181	1.1E-03	7.3E-05

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(3) Liver

TABLE 9A. UNIT-RAD CONTAMINATION FOR LIVER

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	2.1E-07	1.9E-07	AU	79	198	3.3E+01	3.0E-01
TA	73	177	1.8E-01	1.0E-03	AU	79	199	7.8E+01	8.1E-01
TA	73	179	1.2E-04	7.1E-05	HG	80	194	1.1E-03	1.0E-03
TA	73	182	7.1E-05	1.6E-05	HG	80	195M	1.1E+00	1.2E-01
TA	73	183	6.8E-02	8.4E-04	HG	80	197	2.0E+00	3.4E-01
W	74	178	4.2E-04	3.6E-04	HG	80	197M	7.3E+00	5.0E-01
W	74	181	1.6E-03	1.5E-03	HG	80	203	2.7E-02	2.1E-02
W	74	185	1.6E-03	1.5E-03	TL	81	200	8.3E-02	3.4E-03
W	74	187	8.1E-02	1.6E-02	TL	81	201	6.5E-02	7.0E-03
W	74	188	1.5E-04	1.5E-04	TL	81	202	2.7E-03	8.8E-04
RE	75	180	8.3E+00	4.4E-01	TL	81	204	1.3E-05	1.3E-05
RE	75	181	9.1E+00	4.8E-01	PB	82	200	1.0E+04	4.7E+00
RE	75	182	1.1E+00	1.7E-01	PB	82	202	2.2E-03	1.6E-03
RE	75	182M	2.3E+01	8.2E-01	PB	82	203	4.0E+03	4.4E+00
RE	75	183	3.5E-02	2.9E-02	PB	82	204	5.0E-04	3.7E-04
RE	75	184	2.5E-02	1.8E-02	PB	82	205	1.5E-02	1.1E-02
RE	75	184M	3.5E-03	3.2E-03	PB	82	210	3.8E-04	2.6E-04
RE	75	186	2.0E+00	4.0E-01	BI	83	205	1.8E-03	9.1E-04
RE	75	187	6.8E-01	6.8E-01	BI	83	206	8.2E-03	2.4E-03
RE	75	188	2.0E+01	8.9E-01	BI	83	207	2.7E-06	2.7E-06
RE	75	189	2.3E+01	1.4E+00	BI	83	208	1.3E-06	1.3E-06
OS	76	182	8.5E-02	1.2E-02	BI	83	210	3.8E-03	9.4E-04
OS	76	183	6.2E-01	5.2E-02	BI	83	210M	6.4E-07	6.4E-07
OS	76	185	3.5E-04	3.3E-04	PO	84	206	2.8E-01	5.0E-02
OS	76	191	1.1E-02	7.8E-03	PO	84	208	1.7E-04	1.7E-04
OS	76	191M	1.5E+00	1.5E-01	PO	84	209	4.0E-05	4.0E-05
OS	76	193	1.9E-01	3.7E-02	PO	84	210	2.4E-03	1.8E-03
OS	76	194	5.1E-06	5.1E-05	RN	86	211	3.0E+00	3.0E+00
IR	77	185	8.8E+00	2.0E-01	RN	86	222	1.9E-01	1.9E-01
IR	77	186	5.2E+00	1.2E-01	RA	88	223	1.8E-05	9.8E-06
IR	77	187	1.4E+01	2.5E-01	RA	88	224	1.1E-04	3.0E-05
IR	77	188	5.9E-01	3.5E-02	RA	88	225	1.3E-05	7.6E-06
IR	77	189	8.8E-02	2.9E-02	RA	88	226	1.4E-08	1.4E-08
IR	77	190	2.6E-02	8.0E-03	RA	88	228	4.4E-08	4.4E-08
IR	77	192	2.4E-03	1.8E-03	AC	89	225	1.8E+01	7.3E-02
IR	77	192M	1.5E-05	1.5E-05	AC	89	227	2.0E-04	1.3E-04
IR	77	193M	4.6E-01	1.4E-01	TH	90	227	3.4E-03	1.1E-06
IR	77	194	4.8E+00	1.4E-01	TH	90	228	2.3E-06	2.8E-08
PT	78	188	4.4E-04	1.5E-04	TH	90	229	4.2E-08	2.7E-09
PT	78	190	1.7E-07	1.7E-07	TH	90	230	3.9E-08	2.5E-09
PT	78	191	2.0E-02	2.6E-03	TH	90	231	8.7E-01	1.6E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	3.5E-08	2.2E-09
PT	78	193	7.3E-06	7.3E-06	TH	90	234	1.6E-03	6.7E-07
PT	78	193M	2.3E-02	4.2E-03	PA	91	228	3.9E+04	6.2E-01
PT	78	195M	2.3E-02	3.9E-03	PA	91	229	1.6E+04	4.1E-01
PT	78	197	4.2E-01	1.7E-02	PA	91	230	1.1E+02	3.3E-02
AU	79	193	5.4E+02	1.3E+00	PA	91	231	1.1E-03	7.0E-05
AU	79	194	3.3E+01	1.8E-01	PA	91	232	1.7E+04	3.9E-01
AU	79	195	4.2E-02	1.6E-02	PA	91	233	4.1E+01	2.0E-02
AU	79	196	6.5E+00	1.3E-01	U	92	230	3.8E-07	3.8E-07

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(3) Liver

TABLE 9A. UNIT-RAD CONTAMINATION FOR LIVER

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.9E-06	1.9E-06	CM	96	240	1.7E+00	1.5E-02
U	92	232	1.2E-09	1.2E-09	CM	96	241	1.0E+00	1.2E-02
U	92	233	1.1E-09	1.1E-09	CM	96	242	4.7E-02	2.4E-03
U	92	234	1.0E-09	1.0E-09	CM	96	243	1.1E-04	6.7E-05
U	92	235	9.4E-10	9.4E-10	CM	96	244	1.5E-04	8.3E-05
U	92	236	9.3E-10	9.3E-10	CM	96	245	7.9E-05	5.0E-05
U	92	237	1.1E-06	1.1E-06	CM	96	246	7.6E-05	4.8E-05
U	92	238	8.9E-10	8.9E-10	CM	96	247	7.0E-05	4.5E-05
U	92	240	1.0E-05	1.0E-05	CM	96	248	6.9E-05	4.4E-05
NP	93	234	1.4E+03	1.1E-01	BK	97	245	7.6E-02	7.6E-02
NP	93	235	1.1E-01	1.1E-03	BK	97	246	2.0E-01	2.0E-01
NP	93	236	8.8E-04	5.9E-05	BK	97	247	4.5E-05	4.5E-05
NP	93	236M	2.9E+04	5.0E-01	BK	97	248	3.5E-01	3.5E-01
NP	93	237	9.3E-04	6.2E-05	BK	97	249	1.1E-03	1.1E-03
NP	93	238	5.4E+03	2.1E-01	CF	98	246	2.4E-01	2.4E-01
NP	93	239	4.1E+03	1.8E-01	CF	98	248	9.6E-04	9.6E-04
PU	94	236	1.3E-02	4.4E-04	CF	98	249	4.6E-05	4.6E-05
PU	94	237	6.8E+00	1.0E-02	CF	98	250	1.0E-04	1.0E-04
PU	94	238	5.9E-04	6.6E-05	CF	98	251	4.1E-05	4.1E-05
PU	94	239	4.8E-04	5.6E-05	CF	98	252	3.2E-04	3.2E-04
PU	94	240	4.7E-04	5.5E-05	CF	98	253	1.6E-02	1.6E-02
PU	94	241	1.3E-03	1.1E-04	ES	99	251	2.1E-01	2.1E-01
PU	94	242	4.6E-04	5.3E-05	ES	99	252	2.1E-03	2.1E-03
PU	94	244	4.1E-04	4.7E-05	ES	99	253	1.5E-02	1.5E-02
PU	94	246	9.0E+01	3.3E-02	ES	99	254	6.1E-04	6.1E-04
AM	95	239	5.8E+03	8.4E-01	ES	99	254M	1.8E-01	1.8E-01
AM	95	240	3.1E+02	1.9E-01	ES	99	255	1.2E-02	1.2E-02
AM	95	241	9.6E-05	5.7E-05	FM	100	252	3.1E-01	3.1E-01
AM	95	242	3.1E+03	5.9E-01	FM	100	253	6.8E-02	6.8E-02
AM	95	242M	9.5E-05	5.6E-05	FM	100	255	3.4E-01	3.4E-01
AM	95	243	8.4E-05	5.0E-05	FM	100	257	3.5E-03	3.5E-03

Table 9A. Unit-rad contamination for selected organs via seawater (contd).
(3) Liver

TABLE 9A. UNIT-RAD CONTAMINATION FOR OVARIES

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	5.4E+02	CU	29	67	4.9E+01	7.1E+00
BE	4	7	1.7E+00	1.7E+00	ZN	30	65	2.3E-03	1.6E-03
BE	4	10	2.1E-03	2.1E-03	ZN	30	69M	7.6E+01	4.1E-01
C	6	14	3.4E-03	3.4E-03	ZN	30	72	1.3E+00	2.4E-02
NA	11	22	3.2E+01	3.2E+01	GA	31	67	6.8E+01	6.8E+01
NA	11	24	4.3E+05	2.3E+04	GA	31	72	2.4E+01	2.4E+01
MG	12	28	6.9E+03	6.9E+03	GE	32	68	1.8E-05	1.8E-05
AL	13	26	1.6E-02	1.6E-02	GE	32	69	2.6E-03	2.6E-03
SI	14	32	5.6E-03	5.5E-03	GE	32	71	7.1E-02	7.1E-02
P	15	32	9.4E-02	5.1E-02	AS	33	71	2.4E+03	2.4E+03
P	15	33	4.9E-01	3.3E-01	AS	33	72	1.2E+03	1.2E+03
S	16	35	2.4E+02	2.4E+02	AS	33	73	4.9E+03	4.9E+03
CL	17	36	5.1E+01	5.1E+01	AS	33	74	1.2E+02	1.2E+02
AR	18	37	8.2E+02	8.2E+02	AS	33	76	1.7E+03	1.7E+03
AR	18	39	4.4E-02	4.4E-02	AS	33	77	8.5E+03	8.5E+03
AR	18	42	4.7E-03	4.7E-03	SE	34	72	2.3E-02	2.3E-02
K	19	40	4.9E-01	4.8E-01	SE	34	75	8.7E-03	8.7E-03
K	19	42	2.4E+05	2.1E+03	SE	34	79	1.7E-03	1.7E-03
K	19	43	1.4E+05	2.3E+03	BR	35	76	1.3E+06	1.0E+05
CA	20	41	5.7E+02	5.6E+02	BR	35	77	2.6E+05	6.0E+04
CA	20	45	1.3E+03	1.0E+03	BR	35	82	2.3E+05	3.6E+04
CA	20	47	1.5E+04	1.7E+03	KR	36	76	1.5E+02	1.5E+02
CA	20	48	5.6E-01	5.6E-01	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	4.3E-04	4.3E-04	KR	36	81	1.3E+00	1.3E+00
SC	21	46	1.7E-05	1.7E-05	KR	36	85	2.5E-01	2.5E-01
SC	21	47	2.8E-03	2.8E-03	KB	37	83	9.4E+01	4.8E+01
SC	21	48	4.6E-04	4.6E-04	KB	37	84	1.3E+02	3.7E+01
TI	22	44	1.1E-03	1.1E-03	RB	37	86	6.2E+02	1.2E+02
V	23	48	5.5E+01	5.5E+01	RB	37	87	3.6E+00	3.5E+00
V	23	49	1.6E+03	1.6E+03	SK	38	82	1.5E+02	5.3E+01
V	23	50	2.9E-01	2.9E-01	SR	38	83	1.0E+05	3.0E+03
CR	24	48	1.4E-01	1.4E-01	SR	38	85	2.3E+02	1.4E+02
CR	24	51	4.7E-01	4.7E-01	SP	38	89	2.3E+02	1.2E+02
MN	25	52	1.1E-01	9.3E-02	SK	38	90	5.5E-01	5.5E-01
MN	25	53	4.1E-02	4.1E-02	Y	39	86	1.7E-02	1.7E-02
MN	25	54	7.4E-03	7.4E-03	Y	39	87	1.5E-02	1.5E-02
FE	26	55	3.3E-01	2.2E-01	Y	39	87M	5.9E-02	5.9E-02
FE	26	59	2.7E-01	2.4E-02	Y	39	88	1.5E-04	1.5E-04
FE	26	60	7.5E-05	7.0E-05	Y	39	90	1.2E-02	1.2E-02
CO	27	55	6.1E+02	1.8E+01	Y	39	91	9.0E-04	9.0E-04
CO	27	56	2.7E-01	2.1E-01	ZR	40	86	1.4E+00	1.4E+00
CO	27	57	9.7E-01	8.9E-01	ZR	40	88	1.7E-02	1.7E-02
CO	27	58	6.3E-01	4.7E-01	ZR	40	89	7.4E-01	7.4E-01
CO	27	60	6.9E-03	6.9E-03	ZF	40	93	3.0E-02	3.0E-02
NI	28	56	3.6E+00	3.6E+00	ZF	40	95	4.2E-02	4.2E-02
NI	28	57	2.8E+01	2.8E+01	ZK	40	97	2.1E+00	2.1E+00
NI	28	59	1.4E+00	1.4E+00	NE	41	90	4.7E-02	4.7E-02
NI	28	63	6.9E-01	6.9E-01	NE	41	91	1.1E-03	1.1E-03
NI	28	66	2.0E+01	2.0E+01	NE	41	91M	1.0E-02	1.0E-02
CU	29	64	8.3E+02	2.9E+01	NE	41	92	1.5E-02	1.5E-02

Table 9A. Unit-rad contamination for selected organs via seawater (contd).
(4) Ovaries

TABLE 9A. UNIT-RAD CONTAMINATION FOR OVARIES

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	3.9E-03	3.9E-03	SB	51	122	5.1E-02	5.1E-02
NB	41	94	1.1E-05	1.1E-05	SB	51	124	1.1E-03	1.1E-03
NB	41	95	5.3E-03	5.3E-03	SB	51	125	3.0E-04	3.0E-04
NB	41	95M	3.9E-02	3.9E-02	SB	51	126	4.6E-03	4.6E-03
NB	41	96	5.7E-02	5.7E-02	SB	51	127	3.3E-02	3.3E-02
MO	42	93	1.8E+01	1.8E+01	TE	52	118	4.3E-02	7.2E-03
MO	42	99	7.8E+03	1.1E+03	TE	52	119	2.2E+00	4.7E-02
TC	43	95	2.0E+00	2.0E+00	TE	52	119M	4.3E-02	5.9E-03
TC	43	95M	2.1E-02	2.1E-02	TE	52	121	1.6E-02	5.9E-03
TC	43	96	1.3E-01	1.3E-01	TE	52	121M	5.4E-04	4.5E-04
TC	43	97	8.9E-03	8.9E-03	TE	52	123	2.6E-04	2.6E-04
TC	43	97M	1.3E-01	1.3E-01	TE	52	123M	2.7E-03	2.1E-03
TC	43	98	1.2E-04	1.2E-04	TE	52	125M	1.1E-02	7.2E-03
TC	43	99	2.0E-03	2.0E-03	TE	52	127M	2.1E-03	1.7E-03
RU	44	97	2.4E+01	9.6E-01	TE	52	129M	3.7E-03	1.9E-03
RU	44	103	2.0E-01	7.1E-02	TE	52	131M	5.2E-01	2.0E-02
RU	44	106	2.2E-03	1.9E-03	TE	52	132	6.1E-02	5.9E-03
RH	45	99	1.7E-02	1.7E-02	I	53	123	6.2E+03	6.2E+03
RH	45	100	9.9E-02	9.9E-02	I	53	124	8.0E+01	8.0E+01
RH	45	101	2.3E-04	2.3E-04	I	53	125	1.9E+02	1.9E+02
RH	45	101M	8.9E-02	8.9E-02	I	53	126	1.1E+02	1.1E+02
RH	45	102	3.8E-04	3.8E-04	I	53	129	1.3E+00	1.3E+00
RH	45	105	3.7E-01	3.7E-01	I	53	130	5.8E+02	5.8E+02
PD	46	100	2.2E-02	2.2E-02	I	53	131	1.6E+02	1.6E+02
PD	46	103	1.2E-01	1.2E-01	I	53	133	6.9E+02	6.9E+02
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	4.4E-01	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	4.9E-02	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	1.6E+00	1.5E+00	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	4.2E+00	3.1E+00	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	1.5E-02	1.5E-02	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	9.5E-02	9.4E-02	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	2.7E+01	1.9E+01	CS	55	129	4.0E+03	4.6E+01
CD	48	109	1.1E-03	9.5E-04	CS	55	131	1.4E+03	1.1E+02
CD	48	113M	6.2E-05	6.1E-05	CS	55	132	1.4E+02	8.2E+00
CD	48	115	5.1E-01	1.7E-02	CS	55	134	2.9E-02	2.5E-02
CD	48	115M	2.8E-03	1.1E-03	CS	55	135	9.0E-02	8.9E-02
IN	49	111	1.1E-04	1.1E-04	CS	55	136	1.2E+01	1.2E+00
IN	49	114M	2.1E-06	2.1E-06	CS	55	137	8.6E-03	8.4E-03
IN	49	115	8.1E-08	8.1E-08	BA	56	128	3.0E+02	9.7E+01
SN	50	113	5.4E-01	3.9E-01	BA	56	131	6.6E+01	4.6E+01
SN	50	117M	1.8E+01	4.3E+00	BA	56	133	6.1E-01	6.1E-01
SN	50	119M	1.0E+00	8.7E-01	BA	56	133M	2.2E+03	5.4E+02
SN	50	121	5.8E+03	1.4E+02	BA	56	135M	9.3E+03	1.8E+03
SN	50	121M	2.8E-02	2.7E-02	BA	56	140	1.7E+01	1.3E+01
SN	50	123M	3.0E-01	2.2E-01	LA	57	135	2.5E-01	2.5E-01
SN	50	125	6.3E+00	1.1E+00	LA	57	137	6.4E-04	6.4E-04
SN	50	126	7.7E-04	7.7E-04	LA	57	138	1.8E-05	1.8E-05
SB	51	119	1.9E+00	1.9E+00	LA	57	140	3.4E-02	3.4E-02
SB	51	120M	1.1E-02	1.1E-02	CE	58	134	1.0E-02	1.0E-02

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(4) Ovaries

TABLE 9A. UNIT-RAD CONTAMINATION FOR OVARIES

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	6.1E-02	6.1E-02	GD	64	159	1.1E-01	1.1E-01
CE	58	137M	8.4E-02	8.4E-02	GD	64	162	6.0E-05	6.0E-05
CE	58	139	1.5E-03	1.5E-03	TB	65	151	7.1E-02	7.1E-02
CE	58	141	5.2E-03	5.2E-03	TB	65	152	2.1E-02	2.1E-02
CE	58	142	5.0E-06	5.0E-06	TB	65	153	4.6E-02	4.6E-02
CE	58	143	2.6E-02	2.6E-02	TB	65	154	8.8E-02	8.8E-02
CE	58	144	4.1E-05	4.1E-05	TB	65	155	2.3E-02	2.3E-02
PR	59	142	4.3E-05	4.3E-05	TB	65	156	6.8E-03	6.8E-03
PR	59	143	8.0E-06	8.0E-06	TB	65	157	1.5E-04	1.5E-04
ND	60	140	1.1E-05	1.1E-05	TB	65	158	6.6E-06	6.6E-06
ND	60	144	3.2E-09	3.2E-09	TB	65	160	5.5E-04	5.5E-04
ND	60	147	1.4E-06	1.4E-06	TB	65	161	4.0E-02	4.0E-02
PM	61	143	4.3E-04	4.3E-04	TB	65	164	1.4E-01	1.4E-01
PM	61	144	4.2E-05	4.2E-05	DY	66	154	5.9E-10	5.9E-10
PM	61	145	1.7E-04	1.7E-04	DY	66	154M	2.0E-05	2.0E-05
PM	61	146	3.1E-05	3.1E-05	DY	66	156	9.2E-10	9.2E-10
PM	61	147	1.9E-05	1.9E-05	DY	66	159	3.8E-06	3.8E-06
PM	61	148	5.1E-03	5.1E-03	DY	66	166	9.4E-06	9.4E-06
PM	61	148M	1.8E-04	1.8E-04	HO	67	163	9.5E-08	9.5E-08
PM	61	149	4.4E-02	4.4E-02	HO	67	166	3.7E-05	3.7E-05
PM	61	151	3.4E-02	3.4E-02	HO	67	166M	4.2E-09	4.2E-09
SM	62	141	6.6E-03	6.6E-03	ER	68	160	1.2E-05	1.2E-05
SM	62	145	1.0E-02	1.0E-02	ER	68	169	4.6E-05	4.6E-05
SM	62	146	2.8E-05	2.8E-05	ER	68	172	1.6E-05	1.6E-05
SM	62	147	3.2E-05	3.2E-05	TM	69	165	1.7E-02	1.7E-02
SM	62	148	1.8E-05	1.8E-05	TM	69	167	9.6E-03	9.6E-03
SM	62	149	3.9E-05	3.9E-05	TM	69	168	4.1E-04	4.1E-04
SM	62	151	5.2E-03	5.2E-03	TM	69	170	1.2E-03	1.2E-03
SM	62	153	7.8E-01	7.8E-01	TM	69	171	3.9E-03	3.9E-03
EU	63	145	1.8E-01	1.8E-01	TM	69	172	2.2E-02	2.2E-02
EU	63	146	3.7E-02	3.7E-02	YB	70	166	5.2E-02	5.2E-02
EU	63	146M	1.6E-01	1.6E-01	YB	70	169	5.5E-03	5.5E-03
EU	63	147	1.1E-02	1.1E-02	YB	70	175	8.8E-02	8.8E-02
EU	63	148	2.6E-02	2.6E-02	LU	71	169	1.4E-05	1.4E-05
EU	63	149	1.3E-02	1.3E-02	LU	71	170	6.4E-06	6.4E-06
EU	63	150	4.3E-04	4.3E-04	LU	71	171	3.4E-05	3.4E-05
EU	63	150M	3.5E-01	3.5E-01	LU	71	172	6.0E-06	6.0E-06
EU	63	152	1.7E-04	1.7E-04	LU	71	173	1.1E-07	1.1E-07
EU	63	154	1.3E-04	1.3E-04	LU	71	174	2.4E-08	2.4E-08
EU	63	155	1.1E-02	1.1E-02	LU	71	174M	4.4E-07	4.4E-07
EU	63	156	3.1E-02	3.1E-02	LU	71	176	7.1E-09	7.1E-09
EU	63	157	1.1E+00	1.1E+00	LU	71	177	3.4E-05	3.4E-05
GD	64	146	1.2E-04	1.2E-04	LU	71	177M	1.2E-06	1.2E-06
GD	64	147	6.7E-03	6.7E-03	HF	72	170	6.2E-02	5.5E-05
GD	64	148	1.5E-06	1.5E-06	HF	72	171	1.2E-01	1.3E-04
GD	64	149	3.0E-03	3.0E-03	HF	72	172	7.5E-08	5.7E-08
GD	64	150	8.2E-07	8.2E-07	HF	72	173	3.7E-02	6.6E-05
GD	64	151	7.7E-04	7.7E-04	HF	72	174	6.7E-09	6.2E-09
GD	64	152	2.0E-06	2.0E-06	HF	72	175	3.1E-05	3.4E-06
GD	64	153	8.9E-04	8.9E-04	HF	72	181	5.0E-05	3.7E-06

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(4) Ovaries

TABLE 9A. UNIT-RAD CONTAMINATION FOR OVARIES

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	1.0E-08	9.4E-09	AU	79	198	2.2E-01	2.2E-01
TA	73	177	2.1E-02	1.0E-04	AU	79	199	6.0E-01	6.0E-01
TA	73	179	1.3E-05	7.1E-06	HG	80	194	3.1E-05	3.1E-05
TA	73	182	7.9E-06	1.6E-06	HG	80	195M	3.5E-03	3.5E-03
TA	73	183	7.9E-03	8.4E-05	HG	80	197	1.0E-02	1.0E-02
W	74	178	3.6E-04	3.6E-04	HG	80	197M	1.5E-02	1.5E-02
W	74	181	1.5E-03	1.5E-03	HG	80	203	6.3E-04	6.3E-04
W	74	185	1.5E-03	1.5E-03	TL	81	200	4.2E-03	4.2E-03
W	74	187	1.6E-02	1.6E-02	TL	81	201	8.6E-03	8.6E-03
W	74	188	1.5E-04	1.5E-04	TL	81	202	1.1E-03	1.1E-03
RE	75	180	4.4E-01	4.4E-01	TL	81	204	1.6E-05	1.6E-05
RE	75	181	4.8E-01	4.8E-01	PB	82	200	5.7E+01	5.7E+01
RE	75	182	1.7E-01	1.7E-01	PB	82	202	2.0E-02	2.0E-02
RE	75	182M	8.2E-01	8.2E-01	PB	82	203	5.4E+01	5.4E+01
RE	75	183	2.9E-02	2.9E-02	PB	82	204	4.5E-03	4.5E-03
RE	75	184	1.8E-02	1.8E-02	PB	82	205	1.4E-01	1.4E-01
RE	75	184M	3.2E-03	3.2E-03	PB	82	210	3.2E-03	3.2E-03
RE	75	186	4.0E-01	4.0E-01	BI	83	205	4.1E-03	4.1E-03
RE	75	187	6.8E-01	6.8E-01	BI	83	206	1.1E-02	1.1E-02
RE	75	188	8.9E-01	8.9E-01	BI	83	207	1.2E-05	1.2E-05
RE	75	189	1.4E+00	1.4E+00	BI	83	208	6.0E-06	6.0E-06
OS	76	182	1.2E-02	1.2E-02	BI	83	210	4.3E-03	4.3E-03
OS	76	183	5.2E-02	5.2E-02	BI	83	210M	2.9E-06	2.9E-06
OS	76	185	3.3E-04	3.3E-04	PO	84	206	5.0E-02	5.0E-02
OS	76	191	7.8E-03	7.8E-03	PO	84	208	1.7E-04	1.7E-04
OS	76	191M	1.5E-01	1.5E-01	PO	84	209	4.0E-05	4.0E-05
OS	76	193	3.7E-02	3.7E-02	PO	84	210	1.8E-03	1.8E-03
OS	76	194	5.1E-06	5.1E-06	RN	86	211	3.0E+00	3.0E+00
IR	77	185	2.0E-01	2.0E-01	RN	86	222	1.9E-01	1.9E-01
IR	77	186	1.2E-01	1.2E-01	RA	88	223	9.8E-06	9.8E-06
IR	77	187	2.5E-01	2.5E-01	RA	88	224	3.0E-05	3.0E-05
IR	77	188	3.5E-02	3.5E-02	RA	88	225	7.6E-06	7.6E-06
IR	77	189	2.9E-02	2.9E-02	RA	88	226	1.4E-08	1.4E-08
IR	77	190	8.0E-03	8.0E-03	RA	88	228	4.4E-08	4.4E-08
IR	77	192	1.8E-03	1.8E-03	AC	89	225	7.3E-02	7.3E-02
IR	77	192M	1.5E-05	1.5E-05	AC	89	227	1.3E-04	1.3E-04
IR	77	193M	1.4E-01	1.4E-01	TH	90	227	1.1E-06	1.1E-06
IR	77	194	1.4E-01	1.4E-01	TH	90	228	2.8E-08	2.8E-08
PT	78	188	1.5E-04	1.5E-04	TH	90	229	2.7E-09	2.7E-09
PT	78	190	1.7E-07	1.7E-07	TH	90	230	2.5E-09	2.5E-09
PT	78	191	2.6E-03	2.6E-03	TH	90	231	1.6E-05	1.6E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	2.2E-09	2.2E-09
PT	78	193	7.3E-06	7.3E-06	TH	90	234	6.7E-07	6.7E-07
PT	78	193M	4.2E-03	4.2E-03	PA	91	228	6.2E-01	6.2E-01
PT	78	195M	3.9E-03	3.9E-03	PA	91	229	4.1E-01	4.1E-01
PT	78	197	1.7E-02	1.7E-02	PA	91	230	3.3E-02	3.3E-02
AU	79	193	9.9E-01	9.9E-01	PA	91	231	7.0E-05	7.0E-05
AU	79	194	1.3E-01	1.3E-01	PA	91	232	3.9E-01	3.9E-01
AU	79	195	1.2E-02	1.2E-02	PA	91	233	2.0E-02	2.0E-02
AU	79	196	9.8E-02	9.8E-02	U	92	230	3.8E-07	3.8E-07

Table 9A. Unit-rad contamination for selected organs via seawater (contd).
(4) Ovaries

TABLE 9A. UNIT-RAD CONTAMINATION FOR OVARIES

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.9E-06	1.9E-06	CM	96	240	1.5E-02	1.5E-02
U	92	232	1.2E-09	1.2E-09	CM	96	241	1.2E-02	1.2E-02
U	92	233	1.1E-09	1.1E-09	CM	96	242	2.4E-03	2.4E-03
U	92	234	1.0E-09	1.0E-09	CM	96	243	6.7E-05	6.7E-05
U	92	235	9.4E-10	9.4E-10	CM	96	244	8.3E-05	8.3E-05
U	92	236	9.3E-10	9.3E-10	CM	96	245	5.0E-05	5.0E-05
U	92	237	1.1E-06	1.1E-06	CM	96	246	4.8E-05	4.8E-05
U	92	238	8.9E-10	8.9E-10	CM	96	247	4.5E-05	4.5E-05
U	92	240	1.0E-05	1.0E-05	CM	96	248	4.4E-05	4.4E-05
NP	93	234	1.1E-01	1.1E-01	BK	97	245	7.6E-02	7.6E-02
NP	93	235	1.1E-03	1.1E-03	BK	97	246	2.0E-01	2.0E-01
NP	93	236	5.9E-05	5.9E-05	BK	97	247	4.5E-05	4.5E-05
NP	93	236M	5.0E-01	5.0E-01	BK	97	248	3.5E-01	3.5E-01
NP	93	237	6.2E-05	6.2E-05	BK	97	249	1.1E-03	1.1E-03
NP	93	238	2.1E-01	2.1E-01	CF	98	246	2.4E-01	2.4E-01
NP	93	239	1.8E-01	1.8E-01	CF	98	248	9.6E-04	9.6E-04
PU	94	236	4.4E-04	4.4E-04	CF	98	249	4.6E-05	4.6E-05
PU	94	237	1.0E-02	1.0E-02	CF	98	250	1.0E-04	1.0E-04
PU	94	238	6.6E-05	6.6E-05	CF	98	251	4.1E-05	4.1E-05
PU	94	239	5.6E-05	5.6E-05	CF	98	252	3.2E-04	3.2E-04
PU	94	240	5.5E-05	5.5E-05	CF	98	253	1.6E-02	1.6E-02
PU	94	241	1.1E-04	1.1E-04	ES	99	251	2.1E-01	2.1E-01
PU	94	242	5.3E-05	5.3E-05	ES	99	252	2.1E-03	2.1E-03
PU	94	244	4.7E-05	4.7E-05	ES	99	253	1.5E-02	1.5E-02
PU	94	246	3.3E-02	3.3E-02	ES	99	254	6.1E-04	6.1E-04
AM	95	239	8.4E-01	8.4E-01	ES	99	254M	1.8E-01	1.8E-01
AM	95	240	1.9E-01	1.9E-01	ES	99	255	1.2E-02	1.2E-02
AM	95	241	5.7E-05	5.7E-05	FM	100	252	3.1E-01	3.1E-01
AM	95	242	5.9E-01	5.9E-01	FM	100	253	6.8E-02	6.8E-02
AM	95	242M	5.6E-05	5.6E-05	FM	100	255	3.4E-01	3.4E-01
AM	95	243	5.0E-05	5.0E-05	FM	100	257	3.5E-03	3.5E-03

Table 9A. Unit-rad contamination for selected organs via seawater (comid).
(4) Ovaries

TABLE 9A. UNIT-RAD CONTAMINATION FOR SPLEEN

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	4.4E+01	7.6E+00
BE	4	7	1.9E+01	1.7E+00	ZN	30	65	1.6E-03	1.6E-03
BE	4	10	2.2E-03	2.1E-03	ZN	30	69M	4.1E-01	4.1E-01
C	6	14	3.4E-03	3.4E-03	ZN	30	72	2.4E-02	2.4E-02
NA	11	22	5.4E+01	5.3E+01	GA	31	67	1.7E+02	6.1E+01
NA	11	24	7.1E+05	3.8E+04	GA	31	72	2.5E+02	2.2E+01
MG	12	28	4.0E+03	4.0E+03	GE	32	68	1.8E-05	1.8E-05
AL	13	26	1.5E-02	1.4E-02	GE	32	69	2.6E-03	2.6E-03
SI	14	32	2.8E-03	2.8E-03	GE	32	71	7.1E-02	7.1E-02
P	15	32	6.3E-02	2.3E-02	AS	33	71	1.2E+03	1.2E+03
P	15	33	3.0E-01	1.5E-01	AS	33	72	6.0E+02	6.0E+02
S	16	35	2.4E+02	2.4E+02	AS	33	73	2.4E+03	2.4E+03
CL	17	36	6.6E+01	6.6E+01	AS	33	74	6.2E+01	6.2E+01
AR	18	37	8.2E+02	8.2E+02	AS	33	76	8.3E+02	8.3E+02
AR	18	39	4.4E-02	4.4E-02	AS	33	77	4.3E+03	4.3E+03
AR	18	42	4.7E-03	4.7E-03	SE	34	72	7.3E-02	2.3E-02
K	19	40	2.1E-01	2.1E-01	SE	34	75	1.0E-02	8.7E-03
K	19	42	1.0E+05	9.2E+02	SE	34	79	1.7E-03	1.7E-03
K	19	43	6.2E+04	9.8E+02	BR	35	76	1.0E+05	7.9E+03
CA	20	41	1.8E+03	1.8E+03	BR	35	77	2.0E+04	4.7E+03
CA	20	45	3.5E+03	3.3E+03	BR	35	82	1.8E+04	2.8E+03
CA	20	47	1.6E+04	5.5E+03	KR	36	76	1.5E+02	1.5E+02
CA	20	48	1.8E+00	1.8E+00	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	1.3E+01	2.2E-02	KR	36	81	1.3E+00	1.3E+00
SC	21	46	1.5E-02	8.5E-04	KR	36	85	2.5E-01	2.5E-01
SC	21	47	6.0E+01	1.4E-01	RB	37	83	1.0E+00	5.2E-01
SC	21	48	1.8E+01	2.3E-02	RB	37	84	1.4E+00	4.1E-01
TI	22	44	7.8E-04	7.4E-04	RB	37	86	6.8E+00	1.3E+00
V	23	48	2.8E+02	4.2E+01	RB	37	87	3.9E-02	3.8E-02
V	23	49	1.6E+03	1.3E+03	SR	38	82	3.0E+02	2.1E+02
V	23	50	2.2E-01	2.2E-01	SR	38	83	1.2E+05	1.2E+04
CR	24	48	4.5E+00	4.5E+00	SR	38	85	6.4E+02	5.4E+02
CR	24	51	1.6E+01	1.6E+01	SR	38	89	5.8E+02	4.7E+02
MN	25	52	4.2E-01	1.1E-01	SR	38	90	2.2E+00	2.2E+00
MN	25	53	4.9E-02	4.9E-02	Y	39	86	2.7E+03	1.7E-01
MN	25	54	9.2E-03	8.7E-03	Y	39	87	4.4E+02	1.5E-01
FE	26	55	5.7E-02	3.6E-02	Y	39	87M	1.0E+04	5.9E-01
FE	26	59	5.5E-02	3.9E-03	Y	39	88	1.4E-01	1.5E-03
FE	26	60	1.2E-05	1.1E-05	Y	39	90	4.4E+02	1.2E-01
CO	27	55	2.4E+02	7.4E+03	Y	39	91	1.5E+00	9.0E-03
CO	27	56	1.1E-01	8.4E-02	ZR	40	86	1.4E+03	1.1E+00
CO	27	57	3.9E-01	3.5E-01	ZR	40	88	1.6E-01	1.4E-02
CO	27	58	2.5E-01	1.9E-01	ZR	40	89	1.7E+02	6.1E-01
CO	27	60	2.8E-03	2.7E-03	ZR	40	93	2.7E-02	2.4E-02
NI	28	56	8.7E+00	8.7E+00	ZR	40	95	5.0E-01	3.4E-02
NI	28	57	6.8E+01	6.8E+01	ZR	40	97	2.1E+03	1.7E+00
NI	28	59	3.5E+00	3.5E+03	NB	41	90	6.0E+01	3.8E-02
NI	28	63	1.7E+00	1.7E+00	NB	41	91	1.0E-03	9.0E-04
NI	28	66	4.8E+01	4.8E+01	NB	41	91M	1.4E-01	8.5E-03
CU	29	64	7.1E+02	3.1E+01	NB	41	92	1.2E+00	1.3E-02

Table 9A. Unit-rad contamination for selected organs via seawater (contd).
(5) Spleen

TABLE 9A. UNIT-RAD CONTAMINATION FOR SPLEEN

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	5.4E-03	3.2E-03	SB	51	122	1.5E-02	1.5E-02
NB	41	94	1.0E-05	9.1E-06	SB	51	124	3.3E-04	3.3E-04
NB	41	95	1.2E-01	4.3E-03	SB	51	125	9.1E-05	9.1E-05
NB	41	95M	8.0E+00	3.2E-02	SB	51	126	1.4E-03	1.4E-03
NB	41	96	4.6E+01	4.7E-02	SB	51	127	9.9E-03	9.9E-03
MO	42	93	1.3E+01	1.3E+01	TE	52	118	4.3E-02	7.2E-03
MO	42	99	3.0E+03	7.8E+02	TE	52	119	2.2E+00	4.7E-02
TC	43	95	2.0E+00	2.0E+00	TE	52	119M	4.3E-02	5.9E-03
TC	43	95M	2.1E-02	2.1E-02	TE	52	121	1.6E-02	5.9E-03
TC	43	96	1.3E-01	1.3E-01	TE	52	121M	5.4E-04	4.5E-04
TC	43	97	8.9E-03	8.9E-03	TE	52	123	2.6E-04	2.6E-04
TC	43	97M	1.3E-01	1.3E-01	TE	52	123M	2.7E-03	2.1E-03
TC	43	98	1.2E-04	1.2E-04	TE	52	125M	1.1E-02	7.2E-03
TC	43	99	2.0E-03	2.0E-03	TE	52	127M	2.1E-03	1.7E-03
RU	44	97	2.7E+01	4.8E-01	TE	52	129M	3.7E-03	1.9E-03
RU	44	103	1.8E-01	3.6E-02	TE	52	131M	5.2E-01	2.0E-02
RU	44	106	1.3E-03	9.3E-04	TE	52	132	6.1E-02	5.9E-03
RH	45	99	4.0E-02	1.7E-02	I	53	123	1.6E+02	1.1E+01
RH	45	100	2.5E+00	9.9E-02	I	53	124	3.8E-01	1.4E-01
RH	45	101	2.3E-04	2.3E-04	I	53	125	3.7E-01	3.4E-01
RH	45	101M	5.0E-01	8.9E-02	I	53	126	3.0E-01	2.0E-01
RH	45	102	4.2E-04	3.8E-04	I	53	129	2.3E-03	2.3E-03
RH	45	105	5.5E+00	3.7E-01	I	53	130	1.5E+01	1.0E+00
PD	46	100	1.1E-01	2.2E-02	I	53	131	5.2E-01	2.8E-01
PD	46	103	2.2E-01	1.2E-01	I	53	133	1.1E+01	1.2E+00
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	1.2E+01	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	8.9E-01	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	3.7E+00	2.4E+00	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	1.8E+01	4.9E+00	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	2.4E-02	2.3E-02	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	1.6E-01	1.5E-01	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	1.2E+02	3.1E+01	CS	55	129	8.7E+02	1.0E+01
CD	48	109	1.6E-03	1.1E-03	CS	55	131	2.9E+02	2.4E+01
CD	48	113M	7.2E-05	6.8E-05	CS	55	132	3.1E+01	1.8E+00
CD	48	115	1.9E+00	1.9E-02	CS	55	134	6.2E-03	5.4E-03
CD	48	115M	7.6E-03	1.2E-03	CS	55	135	2.0E-02	1.9E-02
IN	49	111	2.0E-03	1.1E-04	CS	55	136	2.5E+00	2.7E-01
IN	49	114M	4.2E-06	2.1E-06	CS	55	137	1.9E-03	1.8E-03
IN	49	115	8.2E-08	8.1E-03	BA	56	128	1.2E+03	1.8E+02
SN	50	113	1.4E+01	1.7E+00	BA	56	131	1.9E+02	8.8E+01
SN	50	117M	1.2E+03	1.9E+01	BA	56	133	1.2E+00	1.2E+00
SN	50	119M	1.7E+01	3.7E+00	BA	56	133M	9.2E+03	1.0E+03
SN	50	121	4.8E+05	6.1E+02	BA	56	135M	4.1E+04	3.5E+03
SN	50	121M	1.4E-01	1.2E-01	BA	56	140	4.8E+01	2.4E+01
SN	50	123M	7.7E+00	9.5E-01	LA	57	135	2.0E-01	2.0E-01
SN	50	125	4.4E+02	4.7E+00	LA	57	137	5.2E-04	5.2E-04
SN	50	126	3.7E-03	3.3E-03	LA	57	138	1.5E-05	1.5E-05
SB	51	119	5.8E-01	5.8E-01	LA	57	140	2.8E-02	2.8E-02
SB	51	120M	3.3E-03	3.3E-03	CE	58	134	1.5E+03	5.2E+00

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(5) Spleen

TABLE 9A. UNIT-RAD CONTAMINATION FOR SPLEEN

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	3.4E+04	3.0E+01	GD	64	159	5.4E+03	1.1E+01
CE	58	137M	2.5E+04	4.2E+01	GD	64	162	1.2E-02	6.0E-03
CE	58	139	5.3E+00	7.5E-01	TB	65	151	3.2E+03	7.1E+00
CE	58	141	7.0E+01	2.6E+00	TB	65	152	9.3E+02	2.1E+00
CE	58	142	2.8E-03	2.5E-03	TB	65	153	6.2E+02	4.6E+00
CE	58	143	8.0E+03	1.3E+01	TB	65	154	3.4E+03	8.8E+00
CE	58	144	8.0E-02	2.0E-02	TB	65	155	1.4E+02	2.3E+00
PR	59	142	4.3E-05	4.3E-05	TB	65	156	4.4E+01	6.8E-01
PR	59	143	8.0E-06	8.0E-06	TB	65	157	1.6E-02	1.5E-02
ND	60	140	1.1E-05	1.1E-05	TB	65	158	7.0E-04	6.6E-04
ND	60	144	3.2E-09	3.2E-09	TB	65	160	3.1E-01	5.5E-02
ND	60	147	1.4E-06	1.4E-06	TB	65	161	2.0E+02	4.0E+00
PM	61	143	1.6E-01	4.3E-02	TB	65	164	4.7E+03	1.4E+01
PM	61	144	1.3E-02	4.2E-03	DY	66	154	5.9E-10	5.9E-10
PM	61	145	1.9E-02	1.7E-02	DY	66	154M	2.0E-05	2.0E-05
PM	61	146	4.5E-03	3.1E-03	DY	66	156	9.2E-10	9.2E-10
PM	61	147	3.3E-03	1.9E-03	DY	66	159	3.8E-06	3.8E-06
PM	61	148	7.0E+01	5.1E-01	DY	66	166	9.4E-06	9.4E-06
PM	61	148M	3.5E-01	1.8E-02	HO	67	163	9.5E-08	9.5E-08
PM	61	149	1.5E+03	4.4E+00	HO	67	166	3.7E-05	3.7E-05
PM	61	151	2.1E+03	3.4E+00	HO	67	166M	4.2E-09	4.2E-09
SM	62	141	2.4E+00	6.6E-02	ER	68	160	1.2E-05	1.2E-05
SM	62	145	3.1E-01	1.0E-01	ER	68	169	4.6E-05	4.6E-05
SM	62	146	3.1E-04	2.8E-04	ER	68	172	1.6E-05	1.6E-05
SM	62	147	3.5E-04	3.2E-04	TM	69	165	5.7E+01	1.7E-01
SM	62	148	2.0E-04	1.8E-04	TM	69	167	4.1E+00	9.6E-02
SM	62	149	4.3E-04	3.9E-04	TM	69	168	2.3E-02	4.1E-03
SM	62	151	5.9E-02	5.2E-02	TM	69	170	4.9E-02	1.2E-02
SM	62	153	2.9E+03	7.8E+00	TM	69	171	6.2E-02	3.9E-02
EU	63	145	1.4E+02	1.8E+00	TM	69	172	3.3E+01	2.2E-01
EU	63	146	3.6E+01	3.7E-01	YB	70	166	8.8E+02	5.2E+00
EU	63	146M	4.4E+02	1.6E+00	YB	70	169	7.6E+00	5.5E-01
EU	63	147	2.1E+00	1.1E-01	YB	70	175	8.7E+02	8.8E+00
EU	63	148	2.4E+00	2.6E-01	LU	71	169	1.4E-05	1.4E-05
EU	63	149	6.8E-01	1.3E-01	LU	71	170	6.4E-06	6.4E-06
EU	63	150	5.4E-03	4.3E-03	LU	71	171	3.4E-05	3.4E-05
EU	63	150M	2.9E+03	3.5E+00	LU	71	172	6.0E-06	6.0E-06
EU	63	152	1.9E-03	1.7E-03	LU	71	173	1.1E-07	1.1E-07
EU	63	154	1.4E-03	1.3E-03	LU	71	174	2.4E-08	2.4E-08
EU	63	155	1.8E-01	1.1E-01	LU	71	174M	4.4E-07	4.4E-07
EU	63	156	9.5E+00	3.1E-01	LU	71	176	7.1E-09	7.1E-09
EU	63	157	7.8E+03	1.1E+01	LU	71	177	3.4E-05	3.4E-05
GD	64	146	1.1E-01	1.2E-02	LU	71	177M	1.2E-06	1.2E-06
GD	64	147	2.5E+02	6.7E-01	HF	72	170	7.8E-01	1.1E-03
GD	64	148	1.6E-04	1.5E-04	HF	72	171	1.5E+00	2.5E-03
GD	64	149	1.3E+01	3.0E-01	HF	72	172	1.4E-06	1.1E-06
GD	64	150	8.6E-05	8.2E-05	HF	72	173	4.6E-01	1.3E-03
GD	64	151	3.2E-01	7.7E-02	HF	72	174	1.3E-07	1.2E-07
GD	64	152	2.1E-04	2.0E-04	HF	72	175	4.1E-04	6.8E-05
GD	64	153	2.3E-01	8.9E-02	HF	72	181	6.5E-04	7.3E-05

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(5) Spleen

TABLE 9A. UNIT-RAD CONTAMINATION FOR SPLEEN

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	2.0E-07	1.9E-07	AU	79	198	4.5E+01	5.0E-01
TA	73	177	2.2E-01	2.1E-03	AU	79	199	1.1E+02	1.4E+00
TA	73	179	2.0E-04	1.4E-04	HG	80	194	2.5E-04	2.3E-04
TA	73	182	9.7E-05	3.2E-05	HG	80	195M	1.9E-01	2.7E-02
TA	73	183	8.3E-02	1.7E-03	HG	80	197	3.7E-01	7.8E-02
W	74	178	3.6E-04	3.6E-04	HG	80	197M	1.3E+00	1.2E-01
W	74	181	1.5E-03	1.5E-03	HG	80	203	5.9E-03	4.9E-03
W	74	185	1.5E-03	1.5E-03	TL	81	200	8.3E-02	3.4E-03
W	74	187	1.6E-02	1.6E-02	TL	81	201	6.5E-02	7.0E-03
W	74	188	1.5E-04	1.5E-04	TL	81	202	2.7E-03	8.8E-04
RE	75	180	4.4E-01	4.4E-01	TL	81	204	1.3E-05	1.3E-05
RE	75	181	4.8E-01	4.8E-01	PB	82	200	1.2E+01	1.2E+01
RE	75	182	1.7E-01	1.7E-01	PB	82	202	4.1E-03	4.1E-03
RE	75	182M	8.2E-01	8.2E-01	PB	82	203	1.1E+01	1.1E+01
RE	75	183	2.9E-02	2.9E-02	PB	82	204	9.4E-04	9.4E-04
RE	75	184	1.8E-02	1.8E-02	PC	82	205	2.8E-02	2.8E-02
RE	75	184M	3.2E-03	3.2E-03	PB	82	210	6.5E-04	6.5E-04
RE	75	186	4.0E-01	4.0E-01	BI	83	205	2.6E-03	1.6E-03
RE	75	187	6.8E-01	6.8E-01	BI	83	206	1.1E-02	4.2E-03
RE	75	188	8.9E-01	8.9E-01	BI	83	207	4.7E-06	4.7E-06
RE	75	189	1.4E+00	1.4E+00	BI	83	208	2.3E-06	2.3E-06
OS	76	182	1.2E-02	1.2E-02	BI	83	210	4.9E-03	1.6E-03
OS	76	183	5.2E-02	5.2E-02	BI	83	210M	1.1E-06	1.1E-06
OS	76	185	3.3E-04	3.3E-04	PO	84	206	3.9E-01	5.0E-02
OS	76	191	7.8E-03	7.8E-03	PO	84	208	1.8E-04	1.7E-04
OS	76	191M	1.5E-01	1.5E-01	PO	84	209	4.0E-05	4.0E-05
OS	76	193	3.7E-02	3.7E-02	PO	84	210	2.6E-03	1.8E-03
OS	76	194	5.1E-06	5.1E-05	RN	86	211	3.0E+00	3.0E+00
IR	77	185	1.6E+01	2.0E-01	RA	86	222	1.9E-01	1.9E-01
IR	77	186	9.5E+00	1.2E-01	RA	88	223	9.8E-06	9.8E-06
IR	77	187	2.6E+01	2.5E-01	RA	88	224	3.0E-05	3.0E-05
IR	77	188	1.1E+00	3.5E-02	RA	88	225	7.6E-06	7.6E-06
IR	77	189	1.4E-01	2.9E-02	RA	88	226	1.4E-08	1.4E-08
IR	77	190	4.2E-02	8.0E-03	RA	88	228	4.4E-08	4.4E-08
IR	77	192	2.9E-03	1.8E-03	AC	89	225	7.3E-02	7.3E-02
IR	77	192M	1.5E-05	1.5E-05	AC	89	227	1.3E-04	1.3E-04
IR	77	193M	7.3E-01	1.4E-01	TH	90	227	1.1E-06	1.1E-06
IR	77	194	8.7E+00	1.4E-01	TH	90	228	2.8E-08	2.8E-08
PT	78	188	1.0E-03	1.5E-04	TH	90	229	2.7E-09	2.7E-09
PT	78	190	1.8E-07	1.7E-07	TH	90	230	2.5E-09	2.5E-09
PT	78	191	5.4E-02	2.6E-03	TH	90	231	1.6E-05	1.6E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	2.2E-09	2.2E-09
PT	78	193	7.3E-06	7.3E-05	TH	90	234	6.7E-07	6.7E-07
PT	78	193M	6.1E-02	4.2E-03	PA	91	228	6.2E-01	6.2E-01
PT	78	195M	6.0E-02	3.9E-03	PA	91	229	4.1E-01	4.1E-01
PT	78	197	1.2E+00	1.7E-02	PA	91	230	3.3E-02	3.3E-02
AU	79	193	7.3E+02	2.3E+00	PA	91	231	7.0E-05	7.0E-05
AU	79	194	4.5E+01	3.0E-01	PA	91	232	3.9E-01	3.9E-01
AU	79	195	6.2E-02	2.7E-02	PA	91	233	2.0E-02	2.0E-02
AU	79	196	8.9E+00	2.2E-01	U	92	230	3.8E-07	3.8E-07

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(5) Spleen

TABLE 9A. UNIT-RAD CONTAMINATION FOR SPLEEN

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.9E-06	1.9E-06	CM	96	240	1.5E-02	1.5E-02
U	92	232	1.2E-09	1.2E-09	CM	96	241	1.2E-02	1.2E-02
U	92	233	1.1E-09	1.1E-09	CM	96	242	2.4E-03	2.4E-03
U	92	234	1.0E-09	1.0E-09	CM	96	243	6.7E-05	6.7E-05
U	92	235	9.4E-10	9.4E-10	CM	96	244	8.3E-05	8.3E-05
U	92	236	9.3E-10	9.3E-10	CM	96	245	5.0E-05	5.0E-05
U	92	237	1.1E-06	1.1E-06	CM	96	246	4.8E-05	4.8E-05
U	92	238	8.9E-10	8.9E-10	CM	96	247	4.5E-05	4.5E-05
U	92	240	1.0E-05	1.0E-05	CM	96	248	4.4E-05	4.4E-05
NP	93	234	1.1E-01	1.1E-01	BK	97	245	7.6E-02	7.6E-02
NP	93	235	1.1E-03	1.1E-03	BK	97	246	2.0E-01	2.0E-01
NP	93	236	5.9E-05	5.9E-05	BK	97	247	4.5E-05	4.5E-05
NP	93	236M	5.0E-01	5.0E-01	BK	97	248	3.5E-01	3.5E-01
NP	93	237	6.2E-05	6.2E-05	BK	97	249	1.1E-03	1.1E-03
NP	93	238	2.1E-01	2.1E-01	CF	98	246	2.4E-01	2.4E-01
NP	93	239	1.8E-01	1.8E-01	CF	98	248	9.6E-04	9.6E-04
PU	94	236	4.4E-04	4.4E-04	CF	98	249	4.6E-05	4.6E-05
PU	94	237	1.0E-02	1.0E-02	CF	98	250	1.0E-04	1.0E-04
PU	94	238	6.6E-05	6.6E-05	CF	98	251	4.1E-05	4.1E-05
PU	94	239	5.6E-05	5.6E-05	CF	98	252	3.2E-04	3.2E-04
PU	94	240	5.5E-05	5.5E-05	CF	98	253	1.6E-02	1.6E-02
PU	94	241	1.1E-04	1.1E-04	ES	99	251	2.1E-01	2.1E-01
PU	94	242	5.3E-05	5.3E-05	ES	99	252	2.1E-03	2.1E-03
PU	94	244	4.7E-05	4.7E-05	ES	99	253	1.5E-02	1.5E-02
PU	94	246	3.3E-02	3.3E-02	ES	99	254	6.1E-04	6.1E-04
AM	95	239	8.4E-01	8.4E-01	ES	99	254M	1.8E-01	1.8E-01
AM	95	240	1.9E-01	1.9E-01	ES	99	255	1.2E-02	1.2E-02
AM	95	241	5.7E-05	5.7E-05	FM	100	252	3.1E-01	3.1E-01
AM	95	242	5.9E-01	5.9E-01	FM	100	253	6.8E-02	6.8E-02
AM	95	242M	5.6E-05	5.6E-05	FM	100	255	3.4E-01	3.4E-01
AM	95	243	5.0E-05	5.0E-05	FM	100	257	3.5E-03	3.5E-03

Table 9A. Unit-rad contamination for selected organs via seawater (contd).
(5) Spleen

TABLE 9A. UNIT-RAD CONTAMINATION FOR TESTES

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	5.2E+01	1.1E+01
BE	4	7	1.7E+00	1.7E+00	ZN	30	65	3.9E-03	1.8E-03
BE	4	10	2.1E-03	2.1E-03	ZN	30	69M	2.2E+02	4.7E-01
C	6	14	3.4E-03	3.4E-03	ZN	30	72	3.8E+00	2.7E-02
NA	11	22	3.1E+01	3.0E+01	GA	31	67	6.8E+01	6.8E+01
NA	11	24	4.0E+05	2.2E+04	GA	31	72	2.4E+01	2.4E+01
MG	12	28	4.9E+03	4.9E+03	GE	32	68	1.8E-05	1.8E-05
AL	13	26	2.7E-02	2.7E-02	GE	32	69	2.6E-03	2.6E-03
SI	14	32	3.1E-03	3.0E-03	GE	32	71	7.1E-02	7.1E-02
P	15	32	7.7E-02	3.4E-02	AS	33	71	5.9E+02	5.9E+02
P	15	33	3.8E-01	2.2E-01	AS	33	72	3.0E+02	3.0E+02
S	16	35	1.9E+03	2.4E+02	AS	33	73	1.2E+03	1.2E+03
CL	17	36	4.4E+01	4.4E+01	AS	33	74	3.1E+01	3.1E+01
AR	18	37	8.2E+02	8.2E+02	AS	33	76	4.1E+02	4.1E+02
AR	18	39	4.4E-02	4.4E-02	AS	33	77	2.1E+03	2.1E+03
AR	18	42	4.7E-03	4.7E-03	SE	34	72	2.3E-02	2.3E-02
K	19	40	3.2E-01	3.2E-01	SE	34	75	8.7E-03	8.7E-03
K	19	42	1.6E+05	1.4E+03	SE	34	79	1.7E-03	1.7E-03
K	19	43	9.3E+04	1.5E+03	BR	35	76	1.3E+06	1.0E+05
CA	20	41	1.3E+03	1.3E+03	BR	35	77	2.6E+05	6.0E+04
CA	20	45	2.7E+03	2.4E+03	BR	35	82	2.3E+05	3.6E+04
CA	20	47	1.9E+04	4.0E+03	KR	36	76	1.5E+02	1.5E+02
CA	20	48	1.3E+00	1.3E+00	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	4.3E-03	4.3E-03	KR	36	81	1.3E+00	1.3E+00
SC	21	46	1.7E-04	1.7E-04	KR	36	85	2.5E-01	2.5E-01
SC	21	47	2.8E-02	2.8E-02	RB	37	83	3.7E+00	1.9E+00
SC	21	48	4.6E-03	4.6E-03	RB	37	84	5.0E+00	1.5E+00
TI	22	44	1.4E-03	1.4E-03	RB	37	86	2.4E+01	4.6E+00
V	23	48	1.4E+01	1.4E+01	RB	37	87	1.4E-01	1.4E-01
V	23	49	4.1E+02	4.1E+02	SR	38	82	2.2E+02	1.2E+02
V	23	50	7.1E-02	7.1E-02	SR	38	83	1.1E+05	7.1E+03
CR	24	48	2.9E+00	2.9E+00	SR	38	85	4.2E+02	3.2E+02
CR	24	51	1.0E+01	1.0E+01	SR	38	89	3.9E+02	2.8E+02
MN	25	52	7.2E-01	1.3E-01	SR	38	90	1.3E+00	1.3E+00
MN	25	53	5.8E-02	5.7E-02	Y	39	86	2.3E+03	1.7E-01
MN	25	54	1.1E-02	1.0E-02	Y	39	87	3.7E+02	1.5E-01
FE	26	55	5.2E-01	4.2E-01	Y	39	87M	8.4E+03	5.9E-01
FE	26	59	2.9E-01	4.6E-02	Y	39	88	1.1E-01	1.5E-03
FE	26	60	1.4E-04	1.3E-04	Y	39	90	3.7E+02	1.2E-01
CO	27	55	8.7E+00	2.6E-01	Y	39	91	1.3E+00	9.0E-03
CO	27	56	3.9E-03	3.0E-03	ZR	40	86	1.8E+03	1.6E+00
CO	27	57	1.4E-02	1.3E-02	ZR	40	88	2.0E-01	1.9E-02
CO	27	58	9.0E-03	6.7E-03	ZR	40	89	2.1E+02	8.3E-01
CO	27	60	9.9E-05	9.8E-05	ZR	40	93	3.7E-02	3.3E-02
NI	28	56	3.4E+00	3.4E+00	ZR	40	95	6.2E-01	4.7E-02
VI	28	57	2.6E+01	2.6E+01	ZR	40	97	2.6E+03	2.3E+00
NI	28	59	1.4E+00	1.4E+00	NB	41	90	4.7E-02	4.7E-02
NI	28	63	6.5E-01	6.5E-01	NB	41	91	1.1E-03	1.1E-03
NI	28	66	1.9E+01	1.9E+01	NB	41	91M	1.0E-02	1.0E-02
CU	29	64	8.3E+02	4.3E+01	NB	41	92	1.5E-02	1.5E-02

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(6) Testes

TABLE 9A. UNIT-RAD CONTAMINATION FOR TESTES

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	3.9E-03	3.9E-03	SB	51	122	3.0E-02	3.0E-02
NB	41	94	1.1E-05	1.1E-05	SB	51	124	6.7E-04	6.7E-04
NB	41	95	5.3E-03	5.3E-03	SB	51	125	1.8E-04	1.8E-04
NB	41	95M	3.9E-02	3.9E-02	SB	51	126	2.8E-03	2.8E-03
NB	41	96	5.7E-02	5.7E-02	SB	51	127	2.0E-02	2.0E-02
MO	42	93	1.6E+01	1.6E+01	TE	52	118	4.3E-02	7.2E-03
MO	42	99	7.5E+03	9.9E+02	TE	52	119	2.2E+00	4.7E-02
TC	43	95	2.0E+00	2.0E+00	TE	52	119M	4.3E-02	5.9E-03
TC	43	95M	2.1E-02	2.1E-02	TE	52	121	1.6E-02	5.9E-03
TC	43	96	1.3E-01	1.3E-01	TE	52	121M	5.4E-04	4.5E-04
TC	43	97	8.9E-03	8.9E-03	TE	52	123	2.6E-04	2.6E-04
TC	43	97M	1.3E-01	1.3E-01	TE	52	123M	2.7E-03	2.1E-03
TC	43	98	1.2E-04	1.2E-04	TE	52	125M	1.1E-02	7.2E-03
TC	43	99	2.0E-03	2.0E-03	TE	52	127M	2.1E-03	1.7E-03
RU	44	97	6.1E+01	9.6E-01	TE	52	129M	3.7E-03	1.9E-03
RU	44	103	3.9E-01	7.1E-02	TE	52	131M	5.2E-01	2.0E-02
RU	44	106	2.8E-03	1.9E-03	TE	52	132	6.1E-02	5.9E-03
RH	45	99	1.7E-02	1.7E-02	I	53	123	1.6E+02	1.1E+01
RH	45	100	9.9E-02	9.9E-02	I	53	124	3.8E-01	1.4E-01
RH	45	101	2.3E-04	2.3E-04	I	53	125	3.7E-01	3.4E-01
RH	45	101M	8.9E-02	8.9E-02	I	53	126	3.0E-01	2.0E-01
RH	45	102	3.8E-04	3.8E-04	I	53	129	2.3E-03	2.3E-03
RH	45	105	3.7E-01	3.7E-01	I	53	130	1.5E+01	1.0E+00
PD	46	100	2.2E-02	2.2E-02	I	53	131	5.2E-01	2.8E-01
PD	46	103	1.2E-01	1.2E-01	I	53	133	1.1E+01	1.2E+00
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	4.4E-01	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	4.9E-02	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	3.6E+00	3.0E+00	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	1.1E+01	6.2E+00	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	3.0E-02	3.0E-02	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	1.9E-01	1.9E-01	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	7.5E+01	3.9E+01	CS	55	129	1.7E+03	2.0E+01
CD	48	109	1.4E-03	1.4E-03	CS	55	131	5.9E+02	4.7E+01
CD	48	113M	8.7E-05	8.7E-05	CS	55	132	6.3E+01	3.5E+00
CD	48	115	2.5E-02	2.5E-02	CS	55	134	1.2E-02	1.1E-02
CD	48	115M	1.6E-03	1.6E-03	CS	55	135	3.9E-02	3.9E-02
IN	49	111	1.1E-04	1.1E-04	CS	55	136	5.0E+00	5.3E-01
IN	49	114M	2.1E-06	2.1E-06	CS	55	137	3.7E-03	3.6E-03
IN	49	115	8.1E-08	8.1E-08	BA	56	128	7.6E+02	2.1E+02
SN	50	113	3.4E+00	2.3E+00	BA	56	131	1.6E+02	1.0E+02
SN	50	117M	1.3E+02	2.5E+01	BA	56	133	1.3E+00	1.3E+00
SN	50	119M	6.3E+00	5.1E+00	BA	56	133M	5.7E+03	1.2E+03
SN	50	121	4.5E+04	8.3E+02	BA	56	135M	2.5E+04	4.0E+03
SN	50	121M	1.6E-01	1.6E-01	BA	56	140	4.1E+01	2.7E+01
SN	50	123M	1.9E+00	1.3E+00	LA	57	135	2.5E-01	2.5E-01
SN	50	125	4.7E+01	6.3E+00	LA	57	137	6.4E-04	6.4E-04
SN	50	126	4.5E-03	4.5E-03	LA	57	138	1.8E-05	1.8E-05
SB	51	119	1.2E+00	1.2E+00	LA	57	140	3.4E-02	3.4E-02
SB	51	120M	6.6E-03	6.6E-03	CE	58	134	1.2E+01	1.0E-01

Table 9A. Unit-rad contamination for selected organs via seawater (contd).
(6) Testes

TABLE 9A. UNIT-RAD CONTAMINATION FOR TESTES

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	2.8E+02	6.1E-01	GD	64	159	4.7E+02	1.1E+00
CE	58	137M	2.0E+02	8.4E-01	GD	64	162	1.1E-03	6.0E-04
CE	58	139	5.2E-02	1.5E-02	TB	65	151	3.8E+02	7.1E-01
CE	58	141	5.9E-01	5.2E-02	TB	65	152	1.1E+02	2.1E-01
CE	58	142	5.2E-05	5.0E-05	TB	65	153	7.2E+01	4.6E-01
CE	58	143	6.5E+01	2.6E-01	TB	65	154	4.1E+02	8.8E-01
CE	58	144	8.9E-04	4.1E-04	TB	65	155	1.7E+01	2.3E-01
PR	59	142	4.3E-05	4.3E-05	TB	65	156	5.1E+00	6.8E-02
PR	59	143	8.0E-06	8.0E-06	TB	65	157	1.6E-03	1.5E-03
ND	60	140	1.1E-05	1.1E-05	TB	65	158	7.0E-05	6.6E-05
ND	60	144	3.2E-09	3.2E-09	TB	65	160	3.6E-02	5.5E-03
ND	60	147	1.4E-06	1.4E-06	TB	65	161	2.4E+01	4.0E-01
PM	61	143	1.1E-02	4.3E-03	TB	65	164	5.5E+02	1.4E+00
PM	61	144	8.8E-04	4.2E-04	DY	66	154	5.9E-10	5.9E-10
PM	61	145	1.8E-03	1.7E-03	DY	66	154M	2.0E-05	2.0E-05
PM	61	146	3.9E-04	3.1E-04	DY	66	156	9.2E-10	9.2E-10
PM	61	147	2.7E-04	1.9E-04	DY	66	159	3.8E-06	3.8E-06
PM	61	148	3.8E+00	5.1E-02	DY	66	166	9.4E-06	9.4E-06
PM	61	148M	2.0E-02	1.8E-03	HO	67	163	9.5E-08	9.5E-08
PM	61	149	8.0E+01	4.4E-01	HO	67	166	3.7E-05	3.7E-05
PM	61	151	1.1E+02	3.4E-01	HO	67	166M	4.2E-09	4.2E-09
SM	62	141	1.4E+00	6.6E-02	ER	68	160	1.2E-05	1.2E-05
SM	62	145	2.2E-01	1.0E-01	ER	68	169	4.6E-05	4.6E-05
SM	62	146	3.0E-04	2.8E-04	ER	68	172	1.6E-05	1.6E-05
SM	62	147	3.4E-04	3.2E-04	TM	69	165	2.9E+01	8.6E-02
SM	62	148	1.9E-04	1.8E-04	TM	69	167	2.1E+00	4.8E-02
SM	62	149	4.1E-04	3.9E-04	TM	69	168	1.2E-02	2.1E-03
SM	62	151	5.6E-02	5.2E-02	TM	69	170	2.4E-02	5.8E-03
SM	62	153	1.6E+03	7.8E+00	TM	69	171	3.1E-02	2.0E-02
EU	63	145	1.2E+02	1.8E+00	TM	69	172	1.6E+01	1.1E-01
EU	63	146	3.1E+01	3.7E-01	YB	70	166	4.4E+01	2.6E-01
EU	63	146M	3.8E+02	1.6E+00	YB	70	169	3.8E-01	2.8E-02
EU	63	147	1.8E+00	1.1E-01	YB	70	175	4.4E+01	4.4E-01
EU	63	148	2.1E+00	2.6E-01	LU	71	169	1.4E-05	1.4E-05
EU	63	149	6.0E-01	1.3E-01	LU	71	170	6.4E-06	6.4E-06
EU	63	150	5.2E-03	4.3E-03	LU	71	171	3.4E-05	3.4E-05
EU	63	150M	2.5E+03	3.5E+00	LU	71	172	6.0E-06	6.0E-06
EU	63	152	1.9E-03	1.7E-03	LU	71	173	1.1E-07	1.1E-07
EU	63	154	1.4E-03	1.3E-03	LU	71	174	2.4E-08	2.4E-08
EU	63	155	1.7E-01	1.1E-01	LU	71	174M	4.4E-07	4.4E-07
EU	63	156	8.1E+00	3.1E-01	LU	71	176	7.1E-09	7.1E-09
EU	63	157	6.7E+03	1.1E+01	LU	71	177	3.4E-05	3.4E-05
GD	64	146	9.6E-03	1.2E-03	LU	71	177M	1.2E-06	1.2E-06
GD	64	147	2.1E+01	6.7E-02	HF	72	170	1.2E+02	1.1E-01
GD	64	148	1.6E-05	1.5E-05	HF	72	171	2.4E+02	2.5E-01
GD	64	149	1.1E+00	3.0E-02	HF	72	172	1.5E-04	1.1E-04
GD	64	150	8.5E-06	8.2E-06	HF	72	173	7.5E+01	1.3E-01
GD	64	151	2.9E-02	7.7E-03	HF	72	174	1.3E-05	1.2E-05
GD	64	152	2.1E-05	2.0E-05	HF	72	175	6.1E-02	6.8E-03
GD	64	153	2.1E-02	8.9E-03	HF	72	181	1.0E-01	7.3E-03

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(6) Testes

TABLE 9A. UNIT-RAD CONTAMINATION FOR TESTES

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	2.0E-05	1.9E-05	AU	79	198	4.6E-01	4.6E-01
TA	73	177	2.1E-01	1.0E-03	AU	79	199	1.3E+00	1.3E+00
TA	73	179	1.3E-04	7.1E-05	HG	80	194	3.1E-05	3.1E-05
TA	73	182	7.9E-05	1.6E-05	HG	80	195M	3.5E-03	3.5E-03
TA	73	183	7.9E-02	8.4E-04	HG	80	197	1.0E-02	1.0E-02
W	74	178	3.6E-04	3.6E-04	HG	80	197M	1.5E-02	1.5E-02
W	74	181	1.5E-03	1.5E-03	HG	80	203	6.3E-04	6.3E-04
W	74	185	1.5E-03	1.5E-03	TL	81	200	4.7E-03	4.7E-03
W	74	187	1.6E-02	1.6E-02	TL	81	201	9.7E-03	9.7E-03
W	74	188	1.5E-04	1.5E-04	TL	81	202	1.2E-03	1.2E-03
RE	75	180	4.4E-01	4.4E-01	TL	81	204	1.7E-05	1.7E-05
RE	75	181	4.8E-01	4.8E-01	PB	82	200	5.2E+01	5.2E+01
RE	75	182	1.7E-01	1.7E-01	PB	82	202	1.8E-02	1.8E-02
RE	75	182M	8.2E-01	8.2E-01	PB	82	203	4.9E+01	4.9E+01
RE	75	183	2.9E-02	2.9E-02	PB	82	204	4.1E-03	4.1E-03
RE	75	184	1.8E-02	1.8E-02	PB	82	205	1.2E-01	1.2E-01
RE	75	184M	3.2E-03	3.2E-03	PB	82	210	2.8E-03	2.8E-03
RE	75	186	4.0E-01	4.0E-01	BI	83	205	4.1E-04	4.1E-04
RE	75	187	6.8E-01	6.8E-01	BI	83	206	1.1E-03	1.1E-03
RE	75	188	8.9E-01	8.9E-01	BI	83	207	1.2E-06	1.2E-06
RE	75	189	1.4E+00	1.4E+00	BI	83	208	6.0E-07	6.0E-07
OS	76	182	1.2E-02	1.2E-02	BI	83	210	4.3E-04	4.3E-04
OS	76	183	5.2E-02	5.2E-02	BI	83	210M	2.9E-07	2.9E-07
OS	76	185	3.3E-04	3.3E-04	PO	84	206	5.0E-02	5.0E-02
OS	76	191	7.8E-03	7.8E-03	PO	84	208	1.7E-04	1.7E-04
OS	76	191M	1.5E-01	1.5E-01	PO	84	209	4.0E-05	4.0E-05
OS	76	193	3.7E-02	3.7E-02	PO	84	210	1.8E-03	1.8E-03
OS	76	194	5.1E-06	5.1E-06	RN	86	211	3.0E+00	3.0E+00
IR	77	185	2.0E-01	2.0E-01	RN	86	222	1.9E-01	1.9E-01
IR	77	186	1.2E-01	1.2E-01	RA	88	223	9.8E-06	9.8E-06
IR	77	187	2.5E-01	2.5E-01	RA	88	224	3.0E-05	3.0E-05
IR	77	188	3.5E-02	3.5E-02	RA	88	225	7.6E-06	7.6E-06
IR	77	189	2.9E-02	2.9E-02	RA	88	226	1.4E-08	1.4E-08
IR	77	190	8.0E-03	8.0E-03	RA	88	228	4.4E-08	4.4E-08
IR	77	192	1.8E-03	1.8E-03	AC	89	225	7.3E-02	7.3E-02
IR	77	192M	1.5E-05	1.5E-05	AC	89	227	1.3E-04	1.3E-04
IR	77	193M	1.4E-01	1.4E-01	TH	90	227	1.1E-06	1.1E-06
IR	77	194	1.4E-01	1.4E-01	TH	90	228	2.8E-08	2.8E-08
PT	78	188	1.5E-04	1.5E-04	TH	90	229	2.7E-09	2.7E-09
PT	78	190	1.7E-07	1.7E-07	TH	90	230	2.5E-09	2.5E-09
PT	78	191	2.6E-03	2.6E-03	TH	90	231	1.6E-05	1.6E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	2.2E-09	2.2E-09
PT	78	193	7.3E-06	7.3E-06	TH	90	234	6.7E-07	6.7E-07
PT	78	193M	4.2E-03	4.2E-03	PA	91	228	6.2E-01	6.2E-01
PT	78	195M	3.9E-03	3.9E-03	PA	91	229	4.1E-01	4.1E-01
PT	78	197	1.7E-02	1.7E-02	PA	91	230	3.3E-02	3.3E-02
AU	79	193	2.1E+00	2.1E+00	PA	91	231	7.0E-05	7.0E-05
AU	79	194	2.7E-01	2.7E-01	PA	91	232	3.9E-01	3.9E-01
AU	79	195	2.4E-02	2.4E-02	PA	91	233	2.0E-02	2.0E-02
AU	79	196	2.0E-01	2.0E-01	U	92	230	3.8E-07	3.8E-07

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(6) Testes

TABLE 9A. UNIT-RAD CONTAMINATION FOR TESTES

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.9E-06	1.9E-06	CM	96	240	1.5E-02	1.5E-02
U	92	232	1.2E-09	1.2E-09	CM	96	241	1.2E-02	1.2E-02
U	92	233	1.1E-09	1.1E-09	CM	96	242	2.4E-03	2.4E-03
U	92	234	1.0E-09	1.0E-09	CM	96	243	6.7E-05	6.7E-05
U	92	235	9.4E-10	9.4E-10	CM	96	244	8.3E-05	8.3E-05
U	92	236	9.3E-10	9.3E-10	CM	96	245	5.0E-05	5.0E-05
U	92	237	1.1E-06	1.1E-06	CM	96	246	4.8E-05	4.8E-05
U	92	238	8.9E-10	8.9E-10	CM	96	247	4.5E-05	4.5E-05
U	92	240	1.0E-05	1.0E-05	CM	96	248	4.4E-05	4.4E-05
NP	93	234	1.1E-01	1.1E-01	BK	97	245	7.6E-02	7.6E-02
NP	93	235	1.1E-03	1.1E-03	BK	97	246	2.0E-01	2.0E-01
NP	93	236	5.9E-05	5.9E-05	BK	97	247	4.5E-05	4.5E-05
NP	93	236M	5.0E-01	5.0E-01	BK	97	248	3.5E-01	3.5E-01
NP	93	237	6.2E-05	6.2E-05	BK	97	249	1.1E-03	1.1E-03
NP	93	238	2.1E-01	2.1E-01	CF	98	246	2.4E-01	2.4E-01
NP	93	239	1.8E-01	1.8E-01	CF	98	248	9.6E-04	9.6E-04
PU	94	236	4.4E-04	4.4E-04	CF	98	249	4.6E-05	4.6E-05
PU	94	237	1.0E-02	1.0E-02	CF	98	250	1.0E-04	1.0E-04
PU	94	238	6.6E-05	6.6E-05	CF	98	251	4.1E-05	4.1E-05
PU	94	239	5.6E-05	5.6E-05	CF	98	252	3.2E-04	3.2E-04
PU	94	240	5.5E-05	5.5E-05	CF	98	253	1.6E-02	1.6E-02
PU	94	241	1.1E-04	1.1E-04	ES	99	251	2.1E-01	2.1E-01
PU	94	242	5.3E-05	5.3E-05	ES	99	252	2.1E-03	2.1E-03
PU	94	244	4.7E-05	4.7E-05	ES	99	253	1.5E-02	1.5E-02
PU	94	246	3.3E-02	3.3E-02	ES	99	254	6.1E-04	6.1E-04
AM	95	239	8.4E-01	8.4E-01	ES	99	254M	1.8E-01	1.8E-01
AM	95	240	1.9E-01	1.9E-01	ES	99	255	1.2E-02	1.2E-02
AM	95	241	5.7E-05	5.7E-05	FM	100	252	3.1E-01	3.1E-01
AM	95	242	5.9E-01	5.9E-01	FM	100	253	6.8E-02	6.8E-02
AM	95	242M	5.6E-05	5.6E-05	FM	100	255	3.4E-01	3.4E-01
AM	95	243	5.0E-05	5.0E-05	FM	100	257	3.5E-03	3.5E-03

Table 9A. Unit-rad contamination for selected organs via seawater (contd).
(6) Testes

TABLE 9A. UNIT-RAD CONTAMINATION FOR WHOLE BODY VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	9.8E+02	9.8E+00
BE	4	7	1.7E+03	3.9E+02	ZN	30	65	6.7E-03	1.4E-03
BE	4	10	4.9E-01	4.7E-01	ZN	30	69M	5.7E+02	3.5E-01
C	6	14	3.4E-03	3.4E-03	ZN	30	72	9.9E+00	2.0E-02
NA	11	22	3.2E+01	3.2E+01	GA	31	67	5.8E+04	2.0E+04
NA	11	24	4.3E+05	2.3E+04	GA	31	72	8.2E+04	7.3E+03
MG	12	28	5.8E+05	2.9E+03	GE	32	68	1.8E-05	1.8E-05
AL	13	26	2.5E-02	2.4E-02	GE	32	69	4.2E-03	2.6E-03
SI	14	32	3.2E-03	3.1E-03	GE	32	71	7.7E-02	7.1E-02
P	15	32	1.0E-01	5.3E-03	AS	33	71	1.8E+03	1.7E+01
P	15	33	3.9E-01	3.5E-02	AS	33	72	2.2E+03	8.6E+00
S	16	35	1.9E+03	9.5E+02	AS	33	73	1.6E+02	3.5E+01
CL	17	36	5.1E+01	5.1E+01	AS	33	74	1.5E+01	8.9E-01
AR	18	37	8.2E+02	8.2E+02	AS	33	76	3.0E+03	1.2E+01
AR	18	39	4.4E-02	4.4E-02	AS	33	77	1.1E+04	6.1E+01
AR	18	42	4.7E-03	4.7E-03	SE	34	72	1.1E+00	4.6E-01
K	19	40	4.1E-01	4.1E-01	SE	34	75	1.9E-01	1.7E-01
K	19	42	2.0E+05	1.8E+03	SE	34	79	3.5E-02	3.5E-02
K	19	43	1.2E+05	1.9E+03	BR	35	76	1.1E+06	8.5E+04
CA	20	41	7.9E+01	1.6E+01	BR	35	77	2.2E+05	5.1E+04
CA	20	45	2.9E+03	2.9E+01	BR	35	82	2.0E+05	3.0E+04
CA	20	47	1.7E+05	4.8E+01	KR	36	76	1.5E+02	1.5E+02
CA	20	48	7.7E-02	1.5E-02	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	1.3E+02	2.2E-01	KR	36	81	1.3E+00	1.3E+00
SC	21	46	1.5E-01	8.5E-03	KR	36	85	2.5E-01	2.5E-01
SC	21	47	6.0E+02	1.4E+00	RB	37	83	9.3E+00	4.7E+00
SC	21	48	1.8E+02	2.3E-01	RB	37	84	1.3E+01	3.7E+00
TI	22	44	4.0E-04	3.8E-04	RB	37	86	6.1E+01	1.2E+01
V	23	48	1.3E+02	3.7E+01	RB	37	87	3.5E-01	3.5E-01
V	23	49	1.2E+03	1.1E+03	SR	38	82	2.2E+03	4.3E+00
V	23	50	1.9E-01	1.9E-01	SR	38	83	2.4E+06	2.5E+02
CR	24	48	6.5E+02	1.0E+00	SR	38	85	2.3E+03	1.1E+01
CR	24	51	8.2E+01	3.5E+00	SR	38	89	2.5E+03	9.8E+00
MN	25	52	5.8E-01	7.9E-02	SR	38	90	2.1E-01	4.5E-02
MN	25	53	3.5E-02	3.5E-02	Y	39	86	3.8E+03	1.7E-01
MN	25	54	7.0E-03	6.3E-03	Y	39	87	6.2E+02	1.5E-01
FE	26	55	5.6E-01	3.1E-01	Y	39	87M	1.4E+04	5.9E-01
FE	26	59	6.3E-01	3.4E-02	Y	39	88	1.9E-01	1.5E-03
FE	26	60	1.1E-04	9.8E-05	Y	39	90	6.2E+02	1.2E-01
CO	27	55	9.9E+02	3.0E+01	Y	39	91	2.1E+00	9.0E-03
CO	27	56	4.5E-01	3.4E-01	ZR	40	86	9.3E+03	1.5E+01
CO	27	57	1.6E+00	1.4E+00	ZR	40	88	1.1E+00	1.8E-01
CO	27	58	1.0E+00	7.7E-01	ZR	40	89	1.1E+03	7.8E+00
CO	27	60	1.1E-02	1.1E-02	ZR	40	93	3.3E-01	3.1E-01
NI	28	56	3.4E+02	3.0E+00	ZR	40	95	3.4E+00	4.3E-01
NI	28	57	1.1E+04	2.4E+01	ZR	40	97	1.4E+04	2.1E+01
NI	28	59	1.3E+00	1.2E+00	NB	41	90	7.5E+01	6.0E-02
NI	28	63	6.5E-01	5.9E-01	NB	41	91	1.6E-03	1.4E-03
NI	28	66	4.9E+03	1.7E+01	NB	41	91M	1.8E-01	1.3E-02
CU	29	64	1.8E+04	4.0E+01	NB	41	92	1.5E+00	2.0E-02

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(7) Whole body

TABLE 9A. UNIT-RAD CONTAMINATION FOR WHOLE BODY VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	7.8E-03	5.0E-03	SB	51	122	4.4E-01	3.0E-02
NB	41	94	1.6E-05	1.4E-05	SB	51	124	1.1E-03	6.7E-04
NB	41	95	1.5E-01	6.8E-03	SB	51	125	1.9E-04	1.8E-04
NB	41	95M	1.0E+01	5.0E-02	SB	51	126	1.1E-02	2.8E-03
NB	41	96	5.8E+01	7.4E-02	SB	51	127	2.1E-01	2.0E-02
MO	42	93	4.2E+00	4.1E+00	TE	52	118	2.5E-01	7.2E-02
MO	42	99	9.3E+03	2.5E+02	TE	52	119	1.1E+01	4.7E-01
TC	43	95	1.8E+02	4.0E+01	TE	52	119M	2.5E-01	5.9E-02
TC	43	95M	4.4E-01	4.2E-01	TE	52	121	1.1E-01	5.9E-02
TC	43	96	4.3E+00	2.5E+00	TE	52	121M	5.0E-03	4.5E-03
TC	43	97	1.8E-01	1.8E-01	TE	52	123	2.6E-03	2.6E-03
TC	43	97M	2.7E+00	2.6E+00	TE	52	123M	2.4E-02	2.1E-02
TC	43	98	2.4E-03	2.4E-03	TE	52	125M	9.0E-02	7.2E-02
TC	43	99	4.0E-02	4.0E-02	TE	52	127M	1.9E-02	1.7E-02
RU	44	97	2.2E+02	4.8E+00	TE	52	129M	2.8E-02	1.9E-02
RU	44	103	1.5E+00	3.6E-01	TE	52	131M	2.7E+00	2.0E-01
RU	44	106	1.3E-02	9.3E-03	TE	52	132	3.3E-01	5.9E-02
RH	45	99	2.9E-02	1.7E-02	I	53	123	2.8E+06	1.1E+04
RH	45	100	1.3E+00	9.9E-02	I	53	124	4.7E+03	1.4E+02
RH	45	101	2.3E-04	2.3E-04	I	53	125	1.1E+03	3.2E+02
RH	45	101M	2.9E-01	8.9E-02	I	53	126	2.2E+03	1.9E+02
RH	45	102	4.0E-04	3.8E-04	I	53	129	2.3E+00	2.2E+00
RH	45	105	3.0E+00	3.7E-01	I	53	130	2.7E+05	1.0E+03
PD	46	100	5.2E-02	2.2E-02	I	53	131	4.9E+03	2.7E+02
PD	46	103	1.5E-01	1.2E-01	I	53	133	1.9E+05	1.2E+03
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	4.3E+00	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	3.3E-01	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	2.0E+00	8.8E-01	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	1.3E+01	1.8E+00	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	8.9E-03	8.6E-03	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	6.5E-02	5.4E-02	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	8.9E+01	1.1E+01	CS	55	129	3.6E+04	4.2E+02
CD	48	109	1.5E-03	1.0E-03	CS	55	131	1.2E+04	9.8E+02
CD	48	113M	7.0E-05	6.6E-05	CS	55	132	1.3E+03	7.3E+01
CD	48	115	1.7E+00	1.9E-02	CS	55	134	2.6E-01	2.3E-01
CD	48	115M	6.8E-03	1.2E-03	CS	55	135	8.1E-01	8.0E-01
IN	49	111	2.0E-03	1.1E-04	CS	55	136	1.0E+02	1.1E+01
IN	49	114M	4.2E-06	2.1E-05	CS	55	137	7.7E-02	7.5E-02
IN	49	115	8.2E-08	8.1E-03	BA	56	128	3.3E+02	1.2E+01
SN	50	113	7.6E+00	2.8E+00	BA	56	131	3.7E+01	5.6E+00
SN	50	117M	4.8E+02	3.1E+01	BA	56	133	7.6E-02	7.4E-02
SN	50	119M	1.1E+01	6.3E+00	BA	56	133M	2.7E+03	6.5E+01
SN	50	121	1.8E+05	1.0E+03	BA	56	135M	1.2E+04	2.2E+02
SN	50	121M	2.1E-01	2.0E-01	BA	56	140	9.2E+00	1.5E+00
SN	50	123M	4.2E+00	1.6E+00	LA	57	135	2.0E+02	3.2E-01
SN	50	125	1.8E+02	7.9E+00	LA	57	137	8.8E-04	8.2E-04
SN	50	126	5.7E-03	5.6E-03	LA	57	138	2.5E-05	2.4E-05
SB	51	119	2.9E+01	1.2E+00	LA	57	140	1.3E+01	4.4E-02
SB	51	120M	5.0E-02	6.6E-03	CE	58	134	2.0E+02	1.0E+00

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(7) Whole body

TABLE 9A. UNIT-RAD CONTAMINATION FOR WHOLE BODY VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	4.6E+03	6.1E+00	GD	64	159	7.8E+03	1.1E+01
CE	58	137M	3.3E+03	8.4E+00	GD	64	162	1.5E-02	6.0E-03
CE	58	139	7.5E-01	1.5E-01	TB	65	151	6.3E+03	7.1E+00
CE	58	141	9.5E+00	5.2E-01	TB	65	152	1.8E+03	2.1E+00
CE	58	142	5.4E-04	5.0E-04	TB	65	153	1.2E+03	4.6E+00
CE	58	143	1.1E+03	2.6E+00	TB	65	154	6.8E+03	8.8E+00
CE	58	144	1.2E-02	4.1E-03	TB	65	155	2.8E+02	2.3E+00
PR	59	142	4.0E-02	4.3E-05	TB	65	156	8.5E+01	6.8E-01
PR	59	143	4.4E-04	8.0E-06	TB	65	157	1.7E-02	1.5E-02
ND	60	140	2.1E-03	1.1E-05	TB	65	158	7.3E-04	6.6E-04
ND	60	144	3.5E-09	3.2E-09	TB	65	160	5.6E-01	5.5E-02
ND	60	147	8.5E-05	1.4E-06	TB	65	161	4.0E+02	4.0E+00
PM	61	143	1.5E-01	4.3E-02	TB	65	164	9.2E+03	1.4E+01
PM	61	144	1.2E-02	4.2E-03	DY	66	154	6.5E-10	5.9E-10
PM	61	145	1.9E-02	1.7E-02	DY	66	154M	2.6E-02	2.0E-05
PM	61	146	4.4E-03	3.1E-03	DY	66	156	1.0E-09	9.2E-10
PM	61	147	3.2E-03	1.9E-03	DY	66	159	2.2E-05	3.8E-06
PM	61	148	6.3E+01	5.1E-01	DY	66	166	1.9E-03	9.4E-06
PM	61	148M	3.1E-01	1.8E-02	HO	67	163	1.5E-02	1.3E-02
PM	61	149	1.3E+03	4.4E+00	HO	67	166	3.4E+03	5.2E+00
PM	61	151	1.9E+03	3.4E+00	HO	67	166M	6.6E-04	5.9E-04
SM	62	141	2.2E+00	6.6E-02	ER	68	160	6.3E-03	1.2E-05
SM	62	145	2.9E-01	1.0E-01	ER	68	169	3.2E-03	4.6E-05
SM	62	146	3.1E-04	2.8E-04	ER	68	172	5.0E-03	1.6E-05
SM	62	147	3.5E-04	3.2E-04	TM	69	165	9.7E+02	1.7E+00
SM	62	148	2.0E-04	1.8E-04	TM	69	167	6.9E+01	9.6E-01
SM	62	149	4.2E-04	3.9E-04	TM	69	168	3.7E-01	4.1E-02
SM	62	151	5.8E-02	5.2E-02	TM	69	170	7.5E-01	1.2E-01
SM	62	153	2.6E+03	7.8E+00	TM	69	171	7.7E-01	3.9E-01
EU	63	145	2.0E+02	1.8E+00	TM	69	172	5.5E+02	2.2E+00
EU	63	146	5.1E+01	3.7E-01	YB	70	166	1.5E+03	5.2E+00
EU	63	146M	6.3E+02	1.6E+00	YB	70	169	1.2E+01	5.5E-01
EU	63	147	3.0E+00	1.1E-01	YB	70	175	1.5E+03	8.8E+00
EU	63	148	3.4E+00	2.6E-01	LU	71	169	1.0E+03	2.0E+00
EU	63	149	9.1E-01	1.3E-01	LU	71	170	3.4E+02	9.0E-01
EU	63	150	5.9E-03	4.3E-03	LU	71	171	4.5E+02	4.8E+00
EU	63	150M	4.1E+03	3.5E+00	LU	71	172	9.5E+01	8.4E-01
EU	63	152	2.0E-03	1.7E-03	LU	71	173	3.7E-02	1.5E-02
EU	63	154	1.5E-03	1.3E-03	LU	71	174	5.2E-03	3.3E-03
EU	63	155	2.2E-01	1.1E-01	LU	71	174M	3.4E-01	6.1E-02
EU	63	156	1.3E+01	3.1E-01	LU	71	176	1.1E-03	9.9E-04
EU	63	157	1.1E+04	1.1E+01	LU	71	177	5.3E+02	4.8E+00
GD	64	146	1.5E-01	1.2E-02	LU	71	177M	1.0E+00	1.7E-01
GD	64	147	3.5E+02	6.7E-01	HF	72	170	6.2E+01	5.5E-02
GD	64	148	1.6E-04	1.5E-04	HF	72	171	1.2E+02	1.3E-01
GD	64	149	1.9E+01	3.0E-01	HF	72	172	7.5E-05	5.7E-05
GD	64	150	8.8E-05	8.2E-05	HF	72	173	3.7E+01	6.6E-02
GD	64	151	4.3E-01	7.7E-02	HF	72	174	6.7E-06	6.2E-06
GD	64	152	2.1E-04	2.0E-04	HF	72	175	3.1E-02	3.4E-03
GD	64	153	2.9E-01	8.9E-02	HF	72	181	5.0E-02	3.7E-03

Table 9A. Unit-rad contamination for selected organs via seawater (contd).
(7) Whole body

TABLE 9A. UNIT-RAD CONTAMINATION FOR WHOLE BODY VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	1.0E-05	9.4E-06	AU	79	198	1.6E+01	3.5E-01
TA	73	177	2.2E+00	2.1E-02	AU	79	199	3.7E+01	9.5E-01
TA	73	179	2.0E-03	1.4E-03	HG	80	194	6.5E-04	6.1E-04
TA	73	182	9.7E-04	3.2E-04	HG	80	195M	4.9E-01	7.0E-02
TA	73	183	8.3E-01	1.7E-02	HG	80	197	9.6E-01	2.0E-01
W	74	178	3.8E-04	3.6E-04	HG	80	197M	3.3E+00	3.0E-01
W	74	181	1.5E-03	1.5E-03	HG	80	203	1.5E-02	1.3E-02
W	74	185	1.5E-03	1.5E-03	TL	81	200	1.1E-01	4.4E-03
W	74	187	3.2E-02	1.6E-02	TL	81	201	8.3E-02	9.0E-03
W	74	188	1.5E-04	1.5E-04	TL	81	202	3.5E-03	1.1E-03
RE	75	180	4.1E+00	4.4E-01	TL	81	204	1.7E-05	1.6E-05
RE	75	181	4.5E+00	4.8E-01	PB	82	200	1.5E+04	8.8E+00
RE	75	182	6.0E-01	1.7E-01	PB	82	202	3.8E-03	3.1E-03
RE	75	182M	1.1E+01	8.2E-01	PB	82	203	5.6E+03	8.3E+00
RE	75	183	3.2E-02	2.9E-02	PB	82	204	8.7E-04	7.0E-04
RE	75	184	2.1E-02	1.8E-02	PB	82	205	2.6E-02	2.1E-02
RE	75	184M	3.3E-03	3.2E-03	PB	82	210	6.5E-04	4.9E-04
RE	75	186	1.2E+00	4.0E-01	BI	83	205	7.6E-03	5.7E-03
RE	75	187	6.8E-01	6.8E-01	BI	83	206	2.7E-02	1.5E-02
RE	75	188	9.6E+00	8.9E-01	BI	83	207	1.7E-05	1.7E-05
RE	75	189	1.2E+01	1.4E+00	BI	83	208	8.3E-06	8.3E-06
OS	76	182	3.9E-02	1.2E-02	BI	83	210	1.2E-02	5.9E-03
OS	76	183	2.6E-01	5.2E-02	BI	83	210M	4.0E-06	4.0E-06
OS	76	185	3.3E-04	3.3E-04	PO	84	206	2.2E-01	5.0E-02
OS	76	191	8.8E-03	7.8E-03	PO	84	208	1.7E-04	1.7E-04
OS	76	191M	6.5E-01	1.5E-01	PO	84	209	4.0E-05	4.0E-05
OS	76	193	9.1E-02	3.7E-02	PO	84	210	2.2E-03	1.8E-03
OS	76	194	5.1E-06	5.1E-06	RN	86	211	3.0E+00	3.0E+00
IR	77	185	6.6E+02	2.0E+01	RN	86	222	1.9E-01	1.9E-01
IR	77	186	3.9E+02	1.2E+01	RA	88	223	1.3E+03	1.8E+00
IR	77	187	1.0E+03	2.5E+01	RA	88	224	1.3E+04	5.6E+00
IR	77	188	4.4E+01	3.5E+00	RA	88	225	7.8E+02	1.4E+00
IR	77	189	7.3E+00	2.9E+00	RA	88	226	7.2E-03	2.5E-03
IR	77	190	2.1E+00	8.0E-01	RA	88	228	4.3E-02	8.2E-03
IR	77	192	2.2E-01	1.8E-01	AC	89	225	1.8E+02	7.3E-02
IR	77	192M	1.5E-03	1.5E-03	AC	89	227	1.0E-03	1.3E-04
IR	77	193M	3.8E+01	1.4E+01	TH	90	227	3.4E-03	1.1E-06
IR	77	194	3.6E+02	1.4E+01	TH	90	228	2.3E-06	2.8E-08
PT	78	188	4.9E-04	1.5E-04	TH	90	229	4.2E-08	2.7E-09
PT	78	190	1.7E-07	1.7E-07	TH	90	230	3.9E-08	2.5E-09
PT	78	191	2.3E-02	2.6E-03	TH	90	231	8.7E-01	1.6E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	3.5E-08	2.2E-09
PT	78	193	7.3E-06	7.3E-06	TH	90	234	1.6E-03	6.7E-07
PT	78	193M	2.7E-02	4.2E-03	PA	91	228	2.8E+04	6.2E-01
PT	78	195M	2.6E-02	3.9E-03	PA	91	229	1.1E+04	4.1E-01
PT	78	197	4.9E-01	1.7E-02	PA	91	230	7.9E+01	3.3E-02
AU	79	193	2.5E+02	1.6E+00	PA	91	231	8.0E-04	7.0E-05
AU	79	194	1.5E+01	2.1E-01	PA	91	232	1.2E+04	3.9E-01
AU	79	195	3.1E-02	1.8E-02	PA	91	233	2.9E+01	2.0E-02
AU	79	196	3.2E+00	1.6E-01	U	92	230	7.6E-01	1.3E-01

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(7) Whole body

TABLE 9A. UNIT-RAD CONTAMINATION FOR WHOLE BODY VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.6E+01	6.5E-01	CM	96	240	1.3E+01	1.5E-02
U	92	232	4.2E-04	4.1E-04	CM	96	241	8.1E+00	1.2E-02
U	92	233	3.8E-04	3.7E-04	CM	96	242	3.6E-01	2.4E-03
U	92	234	3.6E-04	3.5E-04	CM	96	243	5.2E-04	6.7E-05
U	92	235	3.3E-04	3.2E-04	CM	96	244	7.0E-04	8.3E-05
U	92	236	3.2E-04	3.2E-04	CM	96	245	3.5E-04	5.0E-05
U	92	237	5.8E+00	3.6E-01	CM	96	246	3.4E-04	4.8E-05
U	92	238	3.1E-04	3.1E-04	CM	96	247	3.1E-04	4.5E-05
U	92	240	6.1E+02	3.6E+00	CM	96	248	3.1E-04	4.4E-05
NP	93	234	9.8E+02	1.1E-01	BK	97	245	9.9E+02	7.6E-02
NP	93	235	1.1E-01	1.1E-03	BK	97	246	7.2E+03	2.0E-01
NP	93	236	6.5E-04	5.9E-05	BK	97	247	8.1E-04	4.5E-05
NP	93	236M	2.1E+04	5.0E-01	BK	97	248	2.4E+04	3.5E-01
NP	93	237	6.8E-04	6.2E-05	BK	97	249	2.3E-01	1.1E-03
NP	93	238	3.9E+03	2.1E-01	CF	98	246	1.0E+04	2.4E-01
NP	93	239	3.0E+03	1.8E-01	CF	98	248	1.8E-01	9.6E-04
PU	94	236	2.8E-02	4.4E-04	CF	98	249	8.3E-04	4.6E-05
PU	94	237	1.5E+01	1.0E-02	CF	98	250	2.7E-03	1.0E-04
PU	94	238	1.2E-03	6.6E-05	CF	98	251	7.4E-04	4.1E-05
PU	94	239	9.9E-04	5.6E-05	CF	98	252	2.3E-02	3.2E-04
PU	94	240	9.8E-04	5.5E-05	CF	98	253	5.5E+01	1.6E-02
PU	94	241	2.6E-03	1.1E-04	ES	99	251	9.0E+03	2.1E-01
PU	94	242	9.4E-04	5.3E-05	ES	99	252	1.0E+00	2.1E-03
PU	94	244	8.5E-04	4.7E-05	ES	99	253	5.0E+01	1.5E-02
PU	94	246	2.0E+02	3.3E-02	ES	99	254	8.3E-02	6.1E-04
AM	95	239	3.3E+04	8.4E-01	ES	99	254M	7.2E+03	1.8E-01
AM	95	240	1.8E+03	1.9E-01	ES	99	255	3.2E+01	1.2E-02
AM	95	241	3.4E-04	5.7E-05	FM	100	252	2.1E+04	3.1E-01
AM	95	242	1.8E+04	5.9E-01	FM	100	253	9.8E+02	6.8E-02
AM	95	242M	3.4E-04	5.6E-05	FM	100	255	2.6E+04	3.4E-01
AM	95	243	3.0E-04	5.0E-05	FM	100	257	2.9E+00	3.5E-03

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(7) Whole body

TABLE 9A. UNIT-RAD CONTAMINATION FOR GI TRACT

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	2.6E+01	1.7E+01
BE	4	7	3.5E+00	3.4E+00	ZN	30	65	4.8E-03	4.8E-03
BE	4	10	4.1E-03	4.1E-03	ZN	30	69M	4.3E+00	1.2E+00
C	6	14	2.7E-03	2.7E-03	ZN	30	72	1.2E-01	7.0E-02
NA	11	22	2.1E+01	2.1E+01	GA	31	67	1.2E+01	8.0E+00
NA	11	24	5.0E+04	1.5E+04	GA	31	72	1.0E+01	2.9E+00
MG	12	28	9.7E+03	3.6E+03	GE	32	68	1.5E-03	1.5E-03
AL	13	26	1.6E-03	1.6E-03	GE	32	69	4.1E-01	2.2E-01
SI	14	32	3.5E-02	3.5E-02	GE	32	71	6.7E+00	5.9E+00
P	15	32	5.7E-02	5.1E-02	AS	33	71	5.4E+01	3.4E+01
P	15	33	3.5E-01	3.3E-01	AS	33	72	4.2E+01	1.7E+01
S	16	35	4.0E+03	3.9E+03	AS	33	73	7.2E+01	7.0E+01
CL	17	36	2.0E+01	2.0E+01	AS	33	74	2.0E+00	1.8E+00
AR	18	37	1.4E+05	1.4E+05	AS	33	76	5.6E+01	2.4E+01
AR	18	39	7.3E+00	7.3E+00	AS	33	77	2.4E+02	1.2E+02
AR	18	42	7.9E-01	7.9E-01	SE	34	72	9.4E-01	8.0E-01
K	19	40	3.6E-01	3.6E-01	SE	34	75	3.0E-01	3.0E-01
K	19	42	6.1E+03	1.6E+03	SE	34	79	6.0E-02	6.0E-02
K	19	43	4.4E+03	1.7E+03	BR	35	76	8.1E+03	2.6E+03
CA	20	41	2.6E+02	2.6E+02	BR	35	77	2.5E+03	1.5E+03
CA	20	45	4.7E+02	4.7E+02	BR	35	82	1.8E+03	9.1E+02
CA	20	47	1.0E+03	7.9E+02	KR	36	76	1.7E+04	5.1E+03
CA	20	48	2.5E-01	2.5E-01	KR	36	79	1.3E+04	6.4E+03
SC	21	44M	4.9E-01	3.0E-01	KR	36	81	4.2E+01	4.2E+01
SC	21	46	1.2E-02	1.2E-02	KR	36	85	8.2E+00	8.2E+00
SC	21	47	2.9E+00	2.0E+00	RB	37	83	1.9E+01	1.9E+01
SC	21	48	5.9E-01	3.3E-01	RB	37	84	1.5E+01	1.5E+01
TI	22	44	4.8E-04	4.8E-04	RB	37	86	5.0E+01	4.6E+01
V	23	48	4.0E-01	3.7E-01	RB	37	87	1.4E+00	1.4E+00
V	23	49	1.1E+01	1.1E+01	SR	38	82	1.8E+01	1.7E+01
V	23	50	1.9E-03	1.9E-03	SR	38	83	2.1E+03	9.9E+02
CR	24	48	1.7E+00	6.6E-01	SR	38	85	4.6E+01	4.5E+01
CR	24	51	2.4E+00	2.3E+00	SR	38	89	4.1E+01	3.9E+01
MN	25	52	1.2E-02	9.6E-03	SR	38	90	1.8E-01	1.8E-01
MN	25	53	4.3E-03	4.3E-03	Y	39	86	2.9E+00	8.3E-01
MN	25	54	7.7E-04	7.6E-04	Y	39	87	1.1E+00	7.3E-01
FE	26	55	1.8E+00	1.8E+00	Y	39	87M	1.0E+01	2.9E+00
FE	26	59	2.0E-01	1.9E-01	Y	39	88	7.4E-03	7.3E-03
FE	26	60	5.5E-04	5.5E-04	Y	39	90	9.3E-01	5.9E-01
CO	27	55	1.5E+01	4.9E+00	Y	39	91	4.6E-02	4.5E-02
CO	27	56	5.7E-02	5.6E-02	ZR	40	86	6.5E+01	2.1E+01
CO	27	57	2.4E-01	2.4E-01	ZR	40	88	2.6E-01	2.5E-01
CO	27	58	1.3E-01	1.3E-01	ZR	40	89	1.6E+01	1.1E+01
CO	27	60	1.8E-03	1.8E-03	ZR	40	93	4.4E-01	4.4E-01
NI	28	56	3.3E+00	2.6E+00	ZR	40	95	6.4E-01	6.2E-01
NI	28	57	4.1E+01	2.1E+01	ZR	40	97	9.6E+01	3.1E+01
NI	28	59	1.1E+00	1.1E+00	NB	41	90	3.2E-01	9.2E-02
NI	28	63	5.1E-01	5.1E-01	NB	41	91	2.2E-03	2.2E-03
NI	28	66	2.4E+01	1.5E+01	NB	41	91M	2.1E-02	2.0E-02
CU	29	64	2.5E+02	6.7E+01	NB	41	92	3.4E-02	3.0E-02

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd)
(8) GI tract

10/22/68; Insert after new p. 146.

TABLE 9A. UNIT-RAD CONTAMINATION FOR GI TRACT

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	7.6E-03	7.5E-03	SB	51	122	1.1E-01	6.9E-02
NB	41	94	2.2E-05	2.2E-05	SB	51	124	1.6E-03	1.5E-03
NB	41	95	1.1E-02	1.0E-02	SB	51	125	4.2E-04	4.2E-04
NB	41	95M	1.1E-01	7.5E-02	SB	51	126	7.1E-03	6.3E-03
NB	41	96	2.9E-01	1.1E-01	SB	51	127	6.2E-02	4.5E-02
MO	42	93	9.4E+00	9.4E+00	TE	52	118	2.1E-01	1.6E-01
MO	42	99	8.7E+02	5.6E+02	TE	52	119	3.5E+00	1.1E+00
TC	43	95	3.7E+02	1.3E+02	TE	52	119M	1.8E-01	1.3E-01
TC	43	95M	1.4E+00	1.4E+00	TE	52	121	1.5E-01	1.4E-01
TC	43	96	1.1E+01	8.4E+00	TE	52	121M	1.0E-02	1.0E-02
TC	43	97	5.9E-01	5.9E-01	TE	52	123	5.9E-03	5.9E-03
TC	43	97M	8.7E+00	8.6E+00	TE	52	123M	4.8E-02	4.7E-02
TC	43	98	8.0E-03	8.0E-03	TE	52	125M	1.7E-01	1.6E-01
TC	43	99	1.3E-01	1.3E-01	TE	52	127M	3.8E-02	3.8E-02
RU	44	97	2.7E+01	1.8E+01	TE	52	129M	4.6E-02	4.4E-02
RU	44	103	1.4E+00	1.3E+00	TE	52	131M	1.0E+00	4.5E-01
RU	44	106	3.5E-02	3.4E-02	TE	52	132	2.0E-01	1.4E-01
RH	45	99	1.4E-01	1.2E-01	I	53	123	2.8E+05	7.3E+04
RH	45	100	1.9E+00	7.1E-01	I	53	124	1.3E+03	9.3E+02
RH	45	101	1.6E-03	1.6E-03	I	53	125	2.2E+03	2.2E+03
RH	45	101M	8.5E-01	6.3E-01	I	53	126	1.4E+03	1.3E+03
RH	45	102	2.8E-03	2.7E-03	I	53	129	1.5E+01	1.5E+01
RH	45	105	5.3E+00	2.7E+00	I	53	130	2.6E+04	6.8E+03
PD	46	100	5.2E-01	3.7E-01	I	53	131	2.2E+03	1.8E+03
PD	46	103	2.1E+00	1.9E+00	I	53	133	2.2E+04	8.0E+03
PD	46	107	2.4E-01	2.4E-01	XE	54	122	5.9E+03	2.1E+03
PD	46	109	2.7E+01	7.3E+00	XE	54	125	3.2E+04	1.1E+04
PD	46	112	2.2E+00	8.2E-01	XE	54	127	5.5E+02	5.3E+02
AG	47	105	5.6E-01	5.4E-01	XE	54	129M	2.8E+03	2.4E+03
AG	47	106M	1.3E+00	1.1E+00	XE	54	131M	2.6E+03	2.3E+03
AG	47	108M	5.3E-03	5.3E-03	XE	54	133	5.9E+03	4.6E+03
AG	47	110M	3.4E-02	3.3E-02	XE	54	133M	7.7E+03	4.7E+03
AG	47	111	8.3E+00	6.9E+00	CS	55	129	1.7E+03	7.8E+02
CD	48	109	5.0E-03	5.0E-03	CS	55	131	2.1E+03	1.9E+03
CD	48	113M	3.2E-04	3.2E-04	CS	55	132	1.7E+02	1.4E+02
CD	48	115	1.5E-01	9.1E-02	CS	55	134	4.3E-01	4.2E-01
CD	48	115M	6.0E-03	5.8E-03	CS	55	135	1.5E+00	1.5E+00
IN	49	111	7.5E-02	4.9E-02	CS	55	136	2.3E+01	2.1E+01
IN	49	114M	1.0E-03	9.7E-04	CS	55	137	1.4E-01	1.4E-01
IN	49	115	3.7E-05	3.7E-05	BA	56	128	1.1E+01	6.5E+00
SN	50	113	3.6E-01	3.6E-01	BA	56	131	3.5E+00	3.1E+00
SN	50	117M	4.4E+00	3.9E+00	BA	56	133	4.1E-02	4.1E-02
SN	50	119M	8.0E-01	7.9E-01	BA	56	133M	7.0E+01	3.6E+01
SN	50	121	3.0E+02	1.3E+02	BA	56	135M	2.8E+02	1.2E+02
SN	50	121M	2.5E-02	2.5E-02	BA	56	140	9.4E-01	8.4E-01
SN	50	123M	2.1E-01	2.0E-01	LA	57	135	8.3E+00	2.9E+00
SN	50	125	1.1E+00	9.9E-01	LA	57	137	7.4E-03	7.4E-03
SN	50	126	7.0E-04	7.0E-04	LA	57	138	2.2E-04	2.2E-04
SB	51	119	5.1E+00	2.6E+00	LA	57	140	7.6E-01	4.0E-01
SB	51	120M	1.9E-02	1.5E-02	CE	58	134	7.8E-01	5.2E-01

Table 9A. Unit-rad contamination for selected organs via seawater (contd).
(8) GI tract

TABLE 9A. UNIT-RAD CONTAMINATION FOR GI TRACT VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	9.1E+00	3.0E+00	GD	64	159	1.9E+01	6.2E+00
CE	58	137M	8.6E+00	4.2E+00	GD	64	162	3.5E-03	3.5E-03
CE	58	139	7.6E-02	7.5E-02	TB	65	151	7.1E+00	2.4E+00
CE	58	141	2.7E-01	2.6E-01	TB	65	152	2.1E+00	6.8E-01
CE	58	142	2.5E-04	2.5E-04	TB	65	153	2.4E+00	1.5E+00
CE	58	143	2.7E+00	1.3E+00	TB	65	154	8.0E+00	2.9E+00
CE	58	144	2.0E-03	2.0E-03	TB	65	155	9.7E-01	7.7E-01
PR	59	142	5.9E+00	2.0E+00	TB	65	156	2.9E-01	2.3E-01
PR	59	143	4.2E-01	3.8E-01	TB	65	157	5.1E-03	5.1E-03
ND	60	140	7.6E-01	5.2E-01	TB	65	158	2.2E-04	2.2E-04
ND	60	144	1.6E-04	1.6E-04	TB	65	160	1.9E-02	1.8E-02
ND	60	147	7.9E-02	7.0E-02	TB	65	161	1.6E+00	1.3E+00
PM	61	143	1.1E-02	1.1E-02	TB	65	164	1.1E+01	4.6E+00
PM	61	144	1.1E-03	1.1E-03	DY	66	154	2.8E-05	2.8E-05
PM	61	145	4.2E-03	4.2E-03	DY	66	154M	3.6E+00	9.6E-01
PM	61	146	7.8E-04	7.8E-04	DY	66	156	4.5E-05	4.5E-05
PM	61	147	4.8E-04	4.8E-04	DY	66	159	1.8E-01	1.8E-01
PM	61	148	1.6E-01	1.3E-01	DY	66	166	6.5E-01	4.5E-01
PM	61	148M	4.7E-03	4.6E-03	HO	67	163	4.5E-03	4.5E-03
PM	61	149	1.9E+00	1.1E+00	HO	67	166	4.0E+00	1.7E+00
PM	61	151	1.9E+00	8.4E-01	HO	67	166M	2.0E-04	2.0E-04
SM	62	141	2.7E-02	2.5E-02	ER	68	160	1.3E+00	5.9E-01
SM	62	145	3.9E-02	3.8E-02	ER	68	169	2.6E+00	2.3E+00
SM	62	146	1.1E-04	1.1E-04	ER	68	172	1.4E+00	7.8E-01
SM	62	147	1.2E-04	1.2E-04	TM	69	165	1.3E+00	5.8E-01
SM	62	148	7.0E-05	7.0E-05	TM	69	167	3.7E-01	3.2E-01
SM	62	149	1.5E-04	1.5E-04	TM	69	168	1.4E-02	1.4E-02
SM	62	151	2.0E-02	2.0E-02	TM	69	170	3.9E-02	3.9E-02
SM	62	153	5.3E+00	3.0E+00	TM	69	171	1.3E-01	1.3E-01
EU	63	145	5.4E-01	4.3E-01	TM	69	172	1.1E+00	7.2E-01
EU	63	146	1.2E-01	8.8E-02	YB	70	166	2.6E+00	1.6E+00
EU	63	146M	7.3E-01	3.7E-01	YB	70	169	1.8E-01	1.7E-01
EU	63	147	2.8E-02	2.6E-02	YB	70	175	3.7E+00	2.8E+00
EU	63	148	6.5E-02	6.3E-02	LU	71	169	1.3E+00	6.6E-01
EU	63	149	3.1E-02	3.1E-02	LU	71	170	5.2E-01	3.0E-01
EU	63	150	1.0E-03	1.0E-03	LU	71	171	1.9E+00	1.6E+00
EU	63	150M	3.1E+00	8.2E-01	LU	71	172	3.4E-01	2.8E-01
EU	63	152	4.1E-04	4.1E-04	LU	71	173	5.1E-03	5.1E-03
EU	63	154	3.1E-04	3.1E-04	LU	71	174	1.1E-03	1.1E-03
EU	63	155	2.6E-02	2.6E-02	LU	71	174M	2.1E-02	2.0E-02
EU	63	156	8.2E-02	7.5E-02	LU	71	176	3.3E-04	3.3E-04
EU	63	157	8.9E+00	2.6E+00	LU	71	177	1.9E+00	1.6E+00
GD	64	146	7.4E-03	7.2E-03	LU	71	177M	5.9E-02	5.8E-02
GD	64	147	9.6E-01	3.9E-01	HF	72	170	4.1E+00	1.0E+00
GD	64	148	8.9E-05	8.9E-05	HF	72	171	8.3E+00	2.3E+00
GD	64	149	2.0E-01	1.8E-01	HF	72	172	1.1E-03	1.1E-03
GD	64	150	4.8E-05	4.8E-05	HF	72	173	3.1E+00	1.2E+00
GD	64	151	4.6E-02	4.5E-02	HF	72	174	1.1E-04	1.1E-04
GD	64	152	1.2E-04	1.2E-04	HF	72	175	6.4E-02	6.3E-02
GD	64	153	5.3E-02	5.3E-02	HF	72	181	7.0E-02	6.8E-02

Table 9A. Unit-rad contamination for selected organs via seawater. (contd).
(8) GI tract

TABLE 9A. UNIT-RAD CONTAMINATION FOR GI TRACT

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	1.7E-04	1.7E-04	AU	79	198	3.1E+02	2.0E+02
TA	73	177	7.8E-01	4.7E-01	AU	79	199	8.2E+02	5.5E+02
TA	73	179	3.3E-02	3.2E-02	HG	80	194	2.1E-03	2.0E-03
TA	73	182	7.3E-03	7.2E-03	HG	80	195M	4.4E-01	2.3E-01
TA	73	183	5.0E-01	3.8E-01	HG	80	197	1.1E+00	6.8E-01
W	74	178	2.7E+00	2.6E+00	HG	80	197M	2.5E+00	1.0E+00
W	74	181	1.1E+01	1.1E+01	HG	80	203	4.4E-02	4.2E-02
W	74	185	1.1E+01	1.1E+01	TL	81	200	2.9E-02	1.2E-02
W	74	187	2.9E+02	1.2E+02	TL	81	201	3.7E-02	2.5E-02
W	74	188	1.1E+00	1.0E+00	TL	81	202	3.5E-03	3.1E-03
RE	75	180	5.5E+02	2.0E+02	TL	81	204	4.5E-05	4.5E-05
RE	75	181	6.1E+02	2.2E+02	PB	82	200	1.4E+02	5.0E+01
RE	75	182	1.2E+02	7.6E+01	PB	82	202	1.7E-02	1.7E-02
RE	75	182M	1.4E+03	3.7E+02	PB	82	203	8.0E+01	4.7E+01
RE	75	183	1.3E+01	1.3E+01	PB	82	204	4.0E-03	4.0E-03
RE	75	184	8.5E+00	8.2E+00	PB	82	205	1.2E-01	1.2E-01
RE	75	184M	1.5E+00	1.5E+00	PB	82	210	2.7E-03	2.7E-03
RE	75	186	2.6E+02	1.8E+02	BI	83	205	6.5E-03	5.9E-03
RE	75	187	3.1E+02	3.1E+02	BI	83	206	1.9E-02	1.6E-02
RE	75	188	1.3E+03	4.0E+02	BI	83	207	1.7E-05	1.7E-05
RE	75	189	1.6E+03	6.4E+02	BI	83	208	8.6E-06	8.6E-06
OS	76	182	1.2E+01	4.5E+00	BI	83	210	8.0E-03	6.1E-03
OS	76	183	7.7E+01	1.9E+01	BI	83	210M	4.2E-06	4.2E-06
OS	76	185	1.2E-01	1.2E-01	PO	84	206	5.9E-02	5.0E-02
OS	76	191	3.2E+00	2.9E+00	PO	84	208	1.7E-04	1.7E-04
OS	76	191M	1.9E+02	5.4E+01	PO	84	209	4.0E-05	4.0E-05
OS	76	193	2.9E+01	1.4E+01	PO	84	210	1.9E-03	1.8E-03
OS	76	194	1.9E-03	1.9E-03	RN	86	211	2.8E+02	8.5E+01
IR	77	185	5.6E+00	1.7E+00	RN	86	222	7.5E+00	5.4E+00
IR	77	186	3.3E+00	9.7E-01	RA	88	223	5.9E-01	5.2E-01
IR	77	187	8.5E+00	2.1E+00	RA	88	224	2.3E+00	1.6E+00
IR	77	188	5.5E-01	2.9E-01	RA	88	225	4.5E-01	4.1E-01
IR	77	189	2.7E-01	2.4E-01	RA	88	226	7.3E-04	7.3E-04
IR	77	190	7.5E-02	6.7E-02	RA	88	228	2.3E-03	2.3E-03
IR	77	192	1.5E-02	1.5E-02	AC	89	225	8.4E-02	7.3E-02
IR	77	192M	1.3E-04	1.3E-04	AC	89	227	1.3E-04	1.3E-04
IR	77	193M	1.3E+00	1.2E+00	TH	90	227	1.2E-06	1.1E-06
IR	77	194	3.3E+00	1.1E+00	TH	90	228	2.8E-08	2.8E-08
PT	78	188	3.4E-02	3.0E-02	TH	90	229	2.7E-09	2.7E-09
PT	78	190	3.5E-05	3.5E-05	TH	90	230	2.5E-09	2.5E-09
PT	78	191	7.8E-01	5.2E-01	TH	90	231	3.9E-05	1.6E-05
PT	78	192	4.2E-05	4.2E-05	TH	90	232	2.2E-09	2.2E-09
PT	78	193	1.5E-03	1.5E-03	TH	90	234	7.1E-07	6.7E-07
PT	78	193M	1.1E+00	8.5E-01	PA	91	228	1.6E+00	6.2E-01
PT	78	195M	1.1E+00	7.9E-01	PA	91	229	8.2E-01	4.1E-01
PT	78	197	9.5E+00	3.4E+00	PA	91	230	3.5E-02	3.3E-02
AU	79	193	2.7E+03	9.1E+02	PA	91	231	7.0E-05	7.0E-05
AU	79	194	2.3E+02	1.2E+02	PA	91	232	8.3E-01	3.9E-01
AU	79	195	1.1E+01	1.1E+01	PA	91	233	2.1E-02	2.0E-02
AU	79	196	1.1E+02	9.0E+01	U	92	230	2.7E-02	2.5E-02

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(8) GI tract

TABLE 9A. UNIT-RAD CONTAMINATION FOR GI TRACT

VIA SEAWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.7E-01	1.3E-01	CM	96	240	1.6E-02	1.5E-02
U	92	232	7.9E-05	7.9E-05	CM	96	241	1.2E-02	1.2E-02
U	92	233	7.2E-05	7.2E-05	CM	96	242	2.4E-03	2.4E-03
U	92	234	6.8E-05	6.8E-05	CM	96	243	6.7E-05	6.7E-05
U	92	235	6.3E-05	6.3E-05	CM	96	244	8.3E-05	8.3E-05
U	92	236	6.2E-05	6.2E-05	CM	96	245	5.0E-05	5.0E-05
U	92	237	8.6E-02	7.1E-02	CM	96	246	4.8E-05	4.8E-05
U	92	238	5.9E-05	5.9E-05	CM	96	247	4.5E-05	4.5E-05
U	92	240	2.5E+00	6.9E-01	CM	96	248	4.4E-05	4.4E-05
NP	93	234	1.1E-01	1.1E-01	BK	97	245	9.9E-02	7.6E-02
NP	93	235	1.1E-03	1.1E-03	BK	97	246	3.6E-01	2.0E-01
NP	93	236	5.9E-05	5.9E-05	BK	97	247	4.5E-05	4.5E-05
NP	93	236M	1.3E+00	5.0E-01	BK	97	248	8.9E-01	3.5E-01
NP	93	237	6.3E-05	6.2E-05	BK	97	249	1.1E-03	1.1E-03
NP	93	238	3.6E-01	2.1E-01	CF	98	246	4.7E-01	2.4E-01
NP	93	239	2.9E-01	1.8E-01	CF	98	248	9.6E-04	9.6E-04
PU	94	236	4.4E-04	4.4E-04	CF	98	249	4.6E-05	4.6E-05
PU	94	237	1.1E-02	1.0E-02	CF	98	250	1.0E-04	1.0E-04
PU	94	238	6.6E-05	6.6E-05	CF	98	251	4.1E-05	4.1E-05
PU	94	239	5.6E-05	5.6E-05	CF	98	252	3.2E-04	3.2E-04
PU	94	240	5.5E-05	5.5E-05	CF	98	253	1.7E-02	1.6E-02
PU	94	241	1.1E-04	1.1E-04	ES	99	251	4.1E-01	2.1E-01
PU	94	242	5.3E-05	5.3E-05	ES	99	252	2.2E-03	2.1E-03
PU	94	244	4.8E-05	4.7E-05	ES	99	253	1.6E-02	1.5E-02
PU	94	246	3.7E-02	3.3E-02	ES	99	254	6.1E-04	6.1E-04
AM	95	239	3.3E+00	8.4E-01	ES	99	254M	3.5E-01	1.8E-01
AM	95	240	3.2E-01	1.9E-01	ES	99	255	1.2E-02	1.2E-02
AM	95	241	5.7E-05	5.7E-05	FM	100	252	8.0E-01	3.1E-01
AM	95	242	1.9E+00	5.9E-01	FM	100	253	9.1E-02	6.8E-02
AM	95	242M	5.6E-05	5.6E-05	FM	100	255	9.4E-01	3.4E-01
AM	95	243	5.0E-05	5.0E-05	FM	100	257	3.6E-03	3.5E-03

Table 9A. Unit-rad contamination for selected organs via seawater (cont'd).
(8) GI tract

TABLE 9B. UNIT-RAD CONTAMINATION FOR BONE

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	1.4E+02	1.9E+00
BE	4	7	4.0E-03	4.3E-04	ZN	30	65	5.2E-03	8.2E-04
BE	4	10	5.5E-07	5.1E-07	ZN	30	69M	4.6E+02	2.1E-01
C	6	14	2.5E-03	2.5E-03	ZN	30	72	8.0E+00	1.2E-02
NA	11	22	3.6E-03	3.6E-03	GA	31	67	2.9E+00	6.1E-01
VA	11	24	4.8E+01	2.6E+00	GA	31	72	4.7E+00	2.2E-01
MG	12	28	9.2E+02	4.5E+00	GE	32	68	1.8E-05	1.8E-05
AL	13	26	8.4E-04	8.4E-04	GE	32	69	2.6E-03	2.6E-03
SI	14	32	3.8E-04	3.8E-04	GE	32	71	7.1E-02	7.1E-02
P	15	32	1.8E-02	2.2E-04	AS	33	71	2.0E+03	2.0E+03
P	15	33	6.7E-02	1.4E-03	AS	33	72	1.0E+03	1.0E+03
S	16	35	3.5E+01	4.4E+00	AS	33	73	4.0E+03	4.0E+03
CL	17	36	2.5E-02	2.5E-02	AS	33	74	1.0E+02	1.0E+02
AR	18	37	8.2E+02	8.2E+02	AS	33	76	1.4E+03	1.4E+03
AR	18	39	4.4E-02	4.4E-02	AS	33	77	7.1E+03	7.1E+03
AR	18	42	4.7E-03	4.7E-03	SE	34	72	2.3E-02	2.3E-02
K	19	40	8.0E-04	8.0E-04	SE	34	75	8.7E-03	8.7E-03
K	19	42	3.9E+02	3.5E+00	SE	34	79	1.7E-03	1.7E-03
K	19	43	2.4E+02	3.7E+00	BR	35	76	7.7E+03	6.1E+02
CA	20	41	4.3E-01	7.9E-02	BR	35	77	1.6E+03	3.7E+02
CA	20	45	1.6E+01	1.5E-01	BR	35	82	1.4E+03	2.2E+02
CA	20	47	9.3E+02	2.4E-01	KR	36	76	1.5E+02	1.5E+02
CA	20	48	4.2E-04	7.8E-05	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	2.9E+01	4.3E-02	KR	36	81	1.3E+00	1.3E+00
SC	21	46	3.4E-02	1.7E-03	KR	36	85	2.5E-01	2.5E-01
SC	21	47	1.3E+02	2.8E-01	RB	37	83	4.8E-02	2.4E-02
SC	21	48	4.0E+01	4.6E-02	RB	37	84	6.5E-02	1.9E-02
TI	22	44	1.5E-04	1.5E-04	RB	37	86	3.2E-01	6.0E-02
V	23	48	1.7E+00	1.8E-01	RB	37	87	1.8E-03	1.8E-03
V	23	49	7.7E+00	5.5E+00	SR	38	82	2.8E+00	4.0E-03
V	23	50	9.7E-04	9.5E-04	SR	38	83	3.0E+03	2.3E-01
CR	24	48	9.2E-02	9.2E-02	SR	38	85	2.9E+00	1.0E-02
CR	24	51	3.2E-01	3.2E-01	SR	38	89	3.2E+00	9.0E-03
MN	25	52	4.0E+00	6.2E-02	SR	38	90	2.6E-04	4.2E-05
MN	25	53	2.9E-02	2.8E-02	Y	39	86	4.9E+02	1.7E-02
MN	25	54	1.1E-02	4.9E-03	Y	39	87	7.9E+01	1.5E-02
FE	26	55	9.5E-01	3.5E-01	Y	39	87M	1.8E+03	5.9E-02
FE	26	59	1.5E+00	3.8E-02	Y	39	88	2.4E-02	1.5E-04
FE	26	60	1.4E-04	1.1E-04	Y	39	90	8.0E+01	1.2E-02
CO	27	55	4.9E+00	1.5E-01	Y	39	91	2.7E-01	9.0E-04
CO	27	56	2.2E-03	1.7E-03	ZR	40	86	2.6E+03	1.8E+00
CU	27	57	7.7E-03	7.1E-03	ZR	40	88	2.8E-01	2.2E-02
CO	27	58	5.0E-03	3.8E-03	ZR	40	89	3.0E+02	9.7E-01
CO	27	60	5.6E-05	5.5E-05	ZR	40	93	4.4E-02	3.9E-02
NI	28	56	1.2E+01	9.1E-02	ZR	40	95	8.9E-01	5.4E-02
NI	28	57	3.8E+02	7.1E-01	ZR	40	97	3.8E+03	2.7E+00
NI	28	59	4.1E-02	3.7E-02	NB	41	90	1.3E-01	8.0E-05
NI	28	63	2.0E-02	1.8E-02	NB	41	91	2.2E-06	1.9E-06
VI	28	66	1.8E+02	5.1E-01	NB	41	91M	3.0E-04	1.8E-05
CU	29	64	2.7E+03	7.8E+00	NB	41	92	2.6E-03	2.6E-05

Table 9B. Unit-rad contamination for selected organs via freshwater.
(1) Bone10/22/28: Insert after new "F_A fresh" divider page.

TABLE 9B. UNIT-RAD CONTAMINATION FOR BONE

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	1.1E-05	6.5E-06	SB	51	122	2.8E-01	7.6E-03
NB	41	94	2.2E-08	1.9E-09	SB	51	124	4.5E-04	1.7E-04
NB	41	95	2.7E-04	9.0E-06	SB	51	125	5.0E-05	4.6E-05
NB	41	95M	1.8E-02	6.6E-05	SB	51	126	6.2E-03	6.9E-04
NB	41	96	1.0E-01	9.7E-05	SB	51	127	1.3E-01	4.9E-03
MO	42	93	1.5E-01	1.5E-01	TE	52	118	4.2E-01	7.0E-02
MO	42	99	7.0E+02	9.1E+00	TE	52	119	2.1E+01	4.5E-01
TC	43	95	2.5E+00	8.0E-02	TE	52	119M	4.2E-01	5.7E-02
TC	43	95M	1.2E-03	8.4E-04	TE	52	121	1.6E-01	5.7E-02
TC	43	96	3.4E-02	5.0E-03	TE	52	121M	5.2E-03	4.3E-03
TC	43	97	3.6E-04	3.6E-04	TE	52	123	2.5E-03	2.5E-03
TC	43	97M	6.5E-03	5.1E-03	TE	52	123M	2.6E-02	2.0E-02
TC	43	98	4.8E-06	4.8E-06	TE	52	125M	1.0E-01	6.9E-02
TC	43	99	7.9E-05	7.9E-05	TE	52	127M	2.0E-02	1.6E-02
RU	44	97	1.5E+02	9.6E-01	TE	52	129M	3.6E-02	1.9E-02
RU	44	103	8.7E-01	7.1E-02	TE	52	131M	5.0E+00	1.9E-01
RU	44	106	4.2E-03	1.9E-03	TE	52	132	5.9E-01	5.7E-02
RH	45	99	3.6E-02	1.7E-02	I	53	123	2.2E+04	7.5E+02
RH	45	100	2.0E+00	9.9E-02	I	53	124	4.4E+01	9.6E+00
RH	45	101	2.3E-04	2.3E-04	I	53	125	2.8E+01	2.2E+01
RH	45	101M	4.2E-01	8.9E-02	I	53	126	2.8E+01	1.3E+01
RH	45	102	4.1E-04	3.8E-04	I	53	129	1.6E-01	1.5E-01
RH	45	105	4.5E+00	3.7E-01	I	53	130	2.1E+03	7.0E+01
PD	46	100	6.1E-02	2.2E-02	I	53	131	5.3E+01	1.9E+01
PD	46	103	1.6E-01	1.2E-01	I	53	133	1.5E+03	8.2E+01
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	5.5E+00	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	4.1E-01	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	2.8E+00	3.9E-01	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	2.5E+01	8.0E-01	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	4.4E-03	3.8E-03	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	4.7E-02	2.4E-02	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	1.7E+02	5.0E+00	CS	55	129	7.8E-01	9.1E-03
CD	48	109	4.7E-03	3.8E-03	CS	55	131	2.6E-01	2.1E-02
CD	48	113M	2.5E-04	2.4E-04	CS	55	132	2.8E-02	1.6E-03
CD	48	115	3.7E+00	6.9E-02	CS	55	134	5.6E-06	4.9E-06
CD	48	115M	1.7E-02	4.4E-03	CS	55	135	1.8E-05	1.7E-05
IN	49	111	2.3E-03	1.1E-04	CS	55	136	2.3E-03	2.4E-04
IN	49	114M	4.6E-06	2.1E-06	CS	55	137	1.7E-06	1.6E-06
IN	49	115	8.2E-08	8.1E-08	BA	56	128	1.5E+02	5.3E+00
SN	50	113	1.2E+00	1.7E-01	BA	56	131	1.7E+01	2.5E+00
SN	50	117M	9.8E+01	1.9E+00	BA	56	133	3.4E-02	3.3E-02
SN	50	119M	1.5E+00	3.8E-01	BA	56	133M	1.2E+03	2.9E+01
SN	50	121	3.9E+04	6.2E+01	BA	56	135M	5.5E+03	1.0E+02
SN	50	121M	1.4E-02	1.2E-02	BA	56	140	4.2E+00	6.8E-01
SN	50	123M	6.5E-01	9.7E-02	LA	57	135	6.9E-02	5.6E-05
SN	50	125	3.6E+01	4.7E-01	LA	57	137	1.6E-07	1.4E-07
SN	50	126	3.7E-04	3.4E-04	LA	57	138	4.8E-09	4.2E-09
SB	51	119	1.8E+01	2.9E-01	LA	57	140	4.6E-03	7.7E-06
SB	51	120M	3.0E-02	1.6E-03	CE	58	134	5.2E+01	1.0E-01

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(1) Bone

TABLE 9B. UNIT-RAD CONTAMINATION FOR BONE

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	1.2E+03	6.1E-01	GD	64	159	1.4E+03	1.1E+00
CE	58	137M	8.8E+02	8.4E-01	GD	64	162	2.2E-03	6.0E-04
CE	58	139	1.8E-01	1.5E-02	TE	65	151	9.5E+02	7.1E-01
CE	58	141	2.4E+00	5.2E-02	TB	65	152	2.7E+02	2.1E-01
CE	58	142	6.2E-05	5.0E-05	TB	65	153	1.8E+02	4.6E-01
CE	58	143	2.8E+02	2.6E-01	TB	65	154	1.0E+03	8.8E-01
CE	58	144	2.5E-03	4.1E-04	TB	65	155	4.1E+01	2.3E-01
PR	59	142	8.0E-02	4.3E-05	TE	65	156	1.3E+01	6.8E-02
PR	59	143	8.8E-04	8.0E-06	TB	65	157	1.8E-03	1.5E-03
ND	60	140	4.8E-03	1.1E-05	TB	65	158	7.7E-05	6.6E-05
ND	60	144	3.9E-09	3.2E-09	TB	65	160	8.2E-02	5.5E-03
ND	60	147	1.9E-04	1.4E-05	TB	65	161	5.9E+01	4.0E-01
PM	61	143	2.9E-02	4.3E-03	TB	65	164	1.4E+03	1.4E+00
PM	61	144	2.2E-03	4.2E-04	DY	66	154	6.8E-10	5.9E-10
PM	61	145	2.3E-03	1.7E-03	DY	66	154M	3.7E-02	2.0E-05
PM	61	146	6.1E-04	3.1E-04	DY	66	156	1.1E-09	9.2E-10
PM	61	147	4.8E-04	1.9E-04	DY	66	159	3.0E-05	3.8E-06
PM	61	148	1.4E+01	5.1E-02	DY	66	166	2.8E-03	9.4E-06
PM	61	148M	6.9E-02	1.8E-03	HO	67	163	1.1E-07	9.5E-08
PM	61	149	3.0E+02	4.4E-01	HO	67	166	3.3E-02	3.7E-05
PM	61	151	4.3E+02	3.4E-01	HO	67	166M	4.9E-09	4.2E-09
SM	62	141	5.0E-01	6.6E-03	ER	68	160	9.7E-03	1.2E-05
SM	62	145	5.4E-02	1.0E-02	ER	68	169	4.9E-03	4.6E-05
SM	62	146	3.5E-05	2.8E-05	ER	68	172	7.7E-03	1.6E-05
SM	62	147	4.0E-05	3.2E-05	TM	69	165	1.4E+02	1.7E-01
SM	62	148	2.3E-05	1.8E-05	TM	69	167	1.0E+01	9.6E-02
SM	62	149	4.8E-05	3.9E-05	TM	69	168	5.2E-02	4.1E-03
SM	62	151	6.6E-03	5.2E-03	TM	69	170	1.0E-01	1.2E-02
SM	62	153	6.0E+02	7.8E-01	TM	69	171	9.6E-02	3.9E-02
EU	63	145	4.6E+01	1.8E-01	TM	69	172	8.2E+01	2.2E-01
EU	63	146	1.2E+01	3.7E-02	YB	70	166	2.1E+02	5.2E-01
EU	63	146M	1.5E+02	1.6E-01	YB	70	169	1.8E+00	5.5E-02
EU	63	147	7.0E-01	1.1E-02	YB	70	175	2.1E+02	8.8E-01
EU	63	148	7.6E-01	2.6E-02	LU	71	169	9.5E-03	1.4E-05
EU	63	149	2.0E-01	1.3E-02	LU	71	170	3.2E-03	6.4E-06
EU	63	150	8.0E-04	4.3E-04	LU	71	171	4.2E-03	3.4E-05
EU	63	150M	9.7E+02	3.5E-01	LU	71	172	9.0E-04	6.0E-06
EU	63	152	2.5E-04	1.7E-04	LU	71	173	3.2E-07	1.1E-07
EU	63	154	1.8E-04	1.3E-04	LU	71	174	4.2E-08	2.4E-08
EU	63	155	3.6E-02	1.1E-02	LU	71	174M	3.1E-06	4.4E-07
EU	63	156	3.1E+00	3.1E-02	LU	71	176	8.2E-09	7.1E-09
EU	63	157	2.6E+03	1.1E+00	LU	71	177	5.0E-03	3.4E-05
GD	64	146	2.7E-02	1.2E-03	LU	71	177M	9.3E-06	1.2E-06
GD	64	147	6.4E+01	6.7E-02	HF	72	170	1.3E+01	1.1E-02
GD	64	148	1.8E-05	1.5E-05	HF	72	171	2.6E+01	2.5E-02
GD	64	149	3.3E+00	3.0E-02	HF	72	172	1.5E-05	1.1E-05
GD	64	150	9.4E-06	8.2E-06	HF	72	173	7.9E+00	1.3E-02
GD	64	151	7.2E-02	7.7E-03	HF	72	174	1.3E-06	1.2E-06
GD	64	152	2.3E-05	2.0E-05	HF	72	175	6.5E-03	6.8E-04
GD	64	153	4.6E-02	8.9E-03	HF	72	181	1.1E-02	7.3E-04

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(1) Bone

TABLE 9B. UNIT-RAD CONTAMINATION FOR BONE

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	2.0E-06	1.9E-06	AU	79	198	1.9E-02	1.9E-02
TA	73	177	1.4E+00	1.0E-02	AU	79	199	5.3E-02	5.3E-02
TA	73	179	1.1E-03	7.1E-04	HG	80	194	3.1E-05	3.1E-05
TA	73	182	5.7E-04	1.6E-04	HG	80	195M	3.5E-03	3.5E-03
TA	73	183	5.2E-01	8.4E-03	HG	80	197	1.0E-02	1.0E-02
W	74	178	5.1E-04	3.6E-04	HG	80	197M	1.5E-02	1.5E-02
W	74	181	1.6E-03	1.5E-03	HG	80	203	6.3E-04	6.3E-04
W	74	185	1.7E-03	1.5E-03	TL	81	200	1.3E-01	3.8E-03
W	74	187	1.6E-01	1.6E-02	TL	81	201	9.9E-02	7.7E-03
W	74	188	1.7E-04	1.5E-04	TL	81	202	3.9E-03	9.7E-04
RE	75	180	2.3E+00	4.4E-01	TL	81	204	1.4E-05	1.4E-05
RE	75	181	2.5E+00	4.8E-01	PB	82	200	1.9E+03	4.6E-01
RE	75	182	3.8E-01	1.7E-01	PB	82	202	2.8E-04	1.6E-04
RE	75	182M	6.1E+00	8.2E-01	PB	82	203	7.3E+02	4.3E-01
RE	75	183	3.0E-02	2.9E-02	PB	82	204	6.3E-05	3.6E-05
RE	75	184	2.0E-02	1.8E-02	PB	82	205	1.9E-03	1.1E-03
RE	75	184M	3.3E-03	3.2E-03	PB	82	210	4.9E-05	2.5E-05
RE	75	186	7.8E-01	4.0E-01	BI	83	205	1.5E-05	8.3E-06
RE	75	187	6.8E-01	6.8E-01	BI	83	206	6.8E-05	2.2E-05
RE	75	188	5.3E+00	8.9E-01	BI	83	207	2.4E-08	2.4E-08
RE	75	189	6.6E+00	1.4E+00	BI	83	208	1.2E-08	1.2E-08
OS	76	182	1.2E-02	1.2E-02	BI	83	210	3.1E-05	8.6E-06
OS	76	183	5.2E-02	5.2E-02	BI	83	210M	5.8E-09	5.8E-09
OS	76	185	3.3E-04	3.3E-04	PO	84	206	5.6E-01	1.5E-01
OS	76	191	7.8E-03	7.8E-03	PQ	84	208	5.1E-04	5.0E-04
OS	76	191M	1.5E-01	1.5E-01	PO	84	209	1.2E-04	1.2E-04
OS	76	193	3.7E-02	3.7E-02	PO	84	210	6.5E-03	5.5E-03
OS	76	194	5.1E-06	5.1E-06	RN	86	211	7.4E+01	7.4E+01
IR	77	185	2.0E-01	2.0E-01	RN	86	222	4.7E+00	4.7E+00
IR	77	186	1.2E-01	1.2E-01	RA	88	223	6.5E+01	4.6E-02
IR	77	187	2.5E-01	2.5E-01	RA	88	224	6.5E+02	1.4E-01
IR	77	188	3.5E-02	3.5E-02	RA	88	225	4.0E+01	3.6E-02
IR	77	189	2.9E-02	2.9E-02	RA	88	226	3.3E-04	6.5E-05
IR	77	190	8.0E-03	8.0E-03	RA	88	228	2.0E-03	2.1E-04
IR	77	192	1.8E-03	1.8E-03	AC	89	225	5.3E+02	7.3E-02
IR	77	192M	1.5E-05	1.5E-05	AC	89	227	3.0E-03	1.3E-04
IR	77	193M	1.4E-01	1.4E-01	TH	90	227	2.9E-03	7.3E-07
IR	77	194	1.4E-01	1.4E-01	TH	90	228	2.0E-06	1.9E-08
PT	78	188	1.5E-04	1.5E-04	TH	90	229	3.6E-08	1.8E-09
PT	78	190	1.7E-07	1.7E-07	TH	90	230	3.3E-08	1.7E-09
PT	78	191	2.6E-03	2.6E-03	TH	90	231	7.4E-01	1.1E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	3.0E-08	1.5E-09
PT	78	193	7.3E-06	7.3E-06	TH	90	234	1.3E-03	4.5E-07
PT	78	193M	4.2E-03	4.2E-03	PA	91	228	4.9E+04	6.2E-01
PT	78	195M	3.9E-03	3.9E-03	PA	91	229	2.0E+04	4.1E-01
PT	78	197	1.7E-02	1.7E-02	PA	91	230	1.4E+02	3.3E-02
AU	79	193	8.7E-02	8.7E-02	PA	91	231	1.4E-03	7.0E-05
AU	79	194	1.1E-02	1.1E-02	PA	91	232	2.1E+04	3.9E-01
AU	79	195	1.0E-03	1.0E-03	PA	91	233	5.2E+01	2.0E-02
AU	79	196	8.6E-03	8.6E-03	U	92	230	5.8E-01	3.8E-02

Table 9B. Unit-rad contamination for selected organs via freshwater (could).
(1) Bone

TABLE 9B. UNIT-RAD CONTAMINATION FOR BONE

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.4E+01	1.9E-01	CM	96	240	4.0E+01	1.5E-02
U	92	232	1.2E-04	1.2E-04	CM	96	241	2.5E+01	1.2E-02
U	92	233	1.1E-04	1.1E-04	CM	96	242	1.1E+00	2.4E-03
U	92	234	1.0E-04	1.0E-04	CM	96	243	1.5E-03	6.7E-05
U	92	235	9.7E-05	9.3E-05	CM	96	244	2.0E-03	8.3E-05
U	92	236	9.5E-05	9.1E-05	CM	96	245	1.0E-03	5.0E-05
U	92	237	4.7E+00	1.0E-01	CM	96	246	9.6E-04	4.8E-05
U	92	238	9.1E-05	8.8E-05	CM	96	247	8.9E-04	4.5E-05
U	92	240	5.2E+02	1.0E+00	CM	96	248	8.7E-04	4.4E-05
NP	93	234	4.5E+02	2.7E-02	BK	97	245	1.1E+03	7.6E-02
NP	93	235	5.0E-02	2.8E-04	BK	97	246	8.0E+03	2.0E-01
NP	93	236	2.9E-04	1.4E-05	BK	97	247	9.0E-04	4.5E-05
NP	93	236M	9.6E+03	1.2E-01	BK	97	248	2.6E+04	3.5E-01
NP	93	237	3.0E-04	1.5E-05	BK	97	249	2.5E-01	1.1E-03
NP	93	238	1.8E+03	5.1E-02	CF	98	246	1.2E+04	2.4E-01
NP	93	239	1.3E+03	4.3E-02	CF	98	248	2.0E-01	9.6E-04
PU	94	236	3.1E-02	4.4E-04	CF	98	249	9.3E-04	4.6E-05
PU	94	237	1.7E+01	1.0E-02	CF	98	250	3.0E-03	1.0E-04
PU	94	238	1.4E-03	6.6E-05	CF	98	251	8.3E-04	4.1E-05
PU	94	239	1.1E-03	5.6E-05	CF	98	252	2.6E-02	3.2E-04
PU	94	240	1.1E-03	5.5E-05	CF	98	253	6.2E+01	1.6E-02
PU	94	241	3.0E-03	1.1E-04	ES	99	251	1.0E+04	2.1E-01
PU	94	242	1.1E-03	5.3E-05	ES	99	252	1.1E+00	2.1E-03
PU	94	244	9.5E-04	4.7E-05	ES	99	253	5.6E+01	1.5E-02
PU	94	246	2.2E+02	3.3E-02	ES	99	254	9.4E-02	6.1E-04
AM	95	239	1.2E+05	8.4E-01	ES	99	254M	8.1E+03	1.8E-01
AM	95	240	6.5E+03	1.9E-01	ES	99	255	3.6E+01	1.2E-02
AM	95	241	1.1E-03	5.7E-05	FM	100	252	2.4E+04	3.1E-01
AM	95	242	6.5E+04	5.9E-01	FM	100	253	1.1E+03	6.8E-02
AM	95	242M	1.1E-03	5.6E-05	FM	100	255	2.9E+04	3.4E-01
AM	95	243	1.0E-03	5.0E-05	FM	100	257	3.3E+00	3.5E-03

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd)
(1) Bone

TABLE 9B. UNIT-RAD CONTAMINATION FOR KIDNEYS

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	1.6E+02	4.4E+00
BE	4	7	2.8E+01	8.5E+00	ZN	30	65	1.8E-03	1.1E-03
BE	4	10	1.0E-02	1.0E-02	ZN	30	69M	7.1E+01	2.8E-01
C	6	14	1.3E-03	1.3E-03	ZN	30	72	1.2E+00	1.6E-02
NA	11	22	1.8E-02	1.7E-02	GA	31	67	2.3E+02	6.1E+01
NA	11	24	2.3E+02	1.2E+01	GA	31	72	3.6E+02	2.2E+01
MG	12	28	3.4E+01	3.4E+01	GE	32	68	1.8E-05	1.8E-05
AL	13	26	2.4E-02	2.4E-02	GE	32	69	2.1E-02	2.6E-03
SI	14	32	6.0E-03	6.0E-03	GE	32	71	1.5E-01	7.1E-02
P	15	32	2.0E-02	8.8E-03	AS	33	71	4.2E+05	2.0E+03
P	15	33	9.8E-02	5.7E-02	AS	33	72	5.1E+05	1.0E+03
S	16	35	1.1E+00	1.1E+00	AS	33	73	3.3E+04	4.0E+03
CL	17	36	2.0E-02	2.0E-02	AS	33	74	3.3E+03	1.0E+02
AR	18	37	8.2E+02	8.2E+02	AS	33	76	6.9E+05	1.4E+03
AR	18	39	4.4E-02	4.4E-02	AS	33	77	2.4E+06	7.1E+03
AR	18	42	4.7E-03	4.7E-03	SE	34	72	3.0E+00	1.3E+00
K	19	40	2.2E-03	2.2E-03	SE	34	75	5.3E-01	4.8E-01
K	19	42	1.1E+03	9.4E+00	SE	34	79	9.7E-02	9.6E-02
K	19	43	6.4E+02	1.0E+01	BR	35	76	7.7E+02	6.1E+01
CA	20	41	4.1E+01	4.1E+01	BR	35	77	1.6E+02	3.7E+01
CA	20	45	8.3E+01	7.5E+01	BR	35	82	1.4E+02	2.2E+01
CA	20	47	5.8E+02	1.3E+02	KR	36	76	1.5E+02	1.5E+02
CA	20	48	4.1E-02	4.0E-02	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	1.4E+01	2.2E-02	KR	36	81	1.3E+00	1.3E+00
SC	21	46	1.7E-02	8.5E-04	KR	36	85	2.5E-01	2.5E-01
SC	21	47	6.7E+01	1.4E-01	RB	37	83	3.4E-01	1.7E-01
SC	21	48	2.0E+01	2.3E-02	RB	37	84	4.6E-01	1.4E-01
TI	22	44	2.8E-03	2.8E-03	RB	37	86	2.3E+00	4.3E-01
V	23	48	1.9E+01	3.4E+00	RB	37	87	1.3E-02	1.3E-02
V	23	49	1.3E+02	1.0E+02	SR	38	82	4.6E+00	2.9E+00
V	23	50	1.8E-02	1.8E-02	SR	38	83	2.1E+03	1.6E+02
CR	24	48	5.7E+03	8.8E+00	SR	38	85	9.3E+00	7.4E+00
CR	24	51	7.1E+02	3.1E+01	SR	38	89	8.5E+00	6.5E+00
MN	25	52	4.7E-01	8.7E-02	SR	38	90	3.0E-02	3.0E-02
MN	25	53	3.9E-02	3.9E-02	Y	39	86	1.1E+02	1.7E-02
MN	25	54	7.5E-03	5.9E-03	Y	39	87	1.8E+01	1.5E-02
FE	26	55	3.0E+00	1.8E+00	Y	39	87M	4.2E+02	5.9E-02
FE	26	59	3.2E+00	1.9E-01	Y	39	88	5.8E-03	1.5E-04
FE	26	60	6.1E-04	5.5E-04	Y	39	90	1.9E+01	1.2E-02
CO	27	55	1.1E+03	3.4E+01	Y	39	91	6.5E-02	9.0E-04
CO	27	56	5.0E-01	3.8E-01	ZR	40	86	2.3E+03	1.8E+00
CO	27	57	1.8E+00	1.6E+00	ZR	40	88	2.5E-01	2.2E-02
CO	27	58	1.1E+00	8.5E-01	ZR	40	89	2.7E+02	9.7E-01
CO	27	60	1.3E-02	1.2E-02	ZR	40	93	4.4E-02	3.9E-02
NI	28	56	1.3E+01	1.3E+01	ZR	40	95	8.0E-01	5.4E-02
NI	28	57	9.9E+01	9.9E+01	ZR	40	97	3.4E+03	2.7E+00
NI	28	59	5.1E+00	5.1E+00	NB	41	90	5.3E+01	4.2E-02
NI	28	63	2.5E+00	2.5E+00	NB	41	91	1.1E-03	9.9E-04
NI	28	66	7.0E+01	7.0E+01	NB	41	91M	1.2E-01	9.4E-03
CU	29	64	2.9E+03	1.8E+01	NB	41	92	1.0E+00	1.4E-02

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(2) Kidneys

TABLE 9B. UNIT-RAD CONTAMINATION FOR KIDNEYS

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	5.4E-03	3.5E-03	SB	51	122	2.2E-01	2.2E-01
NB	41	94	1.1E-05	1.0E-05	SB	51	124	4.8E-03	4.8E-03
NB	41	95	1.1E-01	4.8E-03	SB	51	125	1.3E-03	1.3E-03
NB	41	95M	7.1E+00	3.5E-02	SB	51	126	2.0E-02	2.0E-02
NB	41	96	4.0E+01	5.2E-02	SB	51	127	1.4E-01	1.4E-01
MD	42	93	1.4E-01	1.4E-01	TE	52	118	2.1E-02	3.5E-03
MD	42	99	8.0E+01	8.2E+03	TE	52	119	1.0E+00	2.3E-02
TC	43	95	2.0E+00	8.0E-02	TE	52	119M	2.1E-02	2.8E-03
TC	43	95M	1.1E-03	8.4E-04	TE	52	121	7.9E-03	2.9E-03
TC	43	96	2.8E-02	5.0E-03	TE	52	121M	2.6E-04	2.2E-04
TC	43	97	3.6E-04	3.6E-04	TE	52	123	1.3E-04	1.3E-04
TC	43	97M	6.3E-03	5.1E-03	TE	52	123M	1.3E-03	1.0E-03
TC	43	98	4.8E-06	4.8E-06	TE	52	125M	5.2E-03	3.5E-03
TC	43	99	7.9E-05	7.9E-05	TE	52	127M	1.0E-03	8.0E-04
RU	44	97	6.1E+00	9.6E-02	TE	52	129M	1.8E-03	9.3E-04
RU	44	103	3.9E-02	7.1E-03	TE	52	131M	2.5E-01	9.6E-03
RU	44	106	2.8E-04	1.9E-04	TE	52	132	2.9E-02	2.9E-03
RH	45	99	4.8E-02	1.7E-02	I	53	123	1.6E+04	1.1E+03
RH	45	100	3.3E+00	9.9E-02	I	53	124	3.8E+01	1.4E+01
RH	45	101	2.3E-04	2.3E-04	I	53	125	3.7E+01	3.4E+01
RH	45	101M	6.4E-01	8.9E-02	I	53	126	3.0E+01	2.0E+01
RH	45	102	4.4E-04	3.8E-04	I	53	129	2.3E-01	2.3E-01
RH	45	105	7.3E+00	3.7E-01	I	53	130	1.5E+03	1.0E+02
PD	46	100	2.0E-01	2.2E-02	I	53	131	5.2E+01	2.8E+01
PD	46	103	3.2E-01	1.2E-01	I	53	133	1.1E+03	1.2E+02
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	2.4E+01	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	1.7E+00	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	3.9E+00	3.6E+00	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	1.1E+01	7.3E+00	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	3.5E-02	3.5E-02	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	2.2E-01	2.2E-01	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	7.0E+01	4.5E+01	CS	55	129	2.6E+02	3.0E+00
CD	48	109	5.5E-05	3.4E-05	CS	55	131	8.8E+01	7.1E+00
CD	48	113M	2.3E-06	2.2E-06	CS	55	132	9.5E+00	5.3E-01
CD	48	115	8.1E-02	6.2E-04	CS	55	134	1.9E-03	1.6E-03
CD	48	115M	3.2E-04	3.9E-05	CS	55	135	5.9E-03	5.8E-03
IN	49	111	2.4E-03	1.1E-04	CS	55	136	7.6E-01	8.0E-02
IN	49	114M	4.7E-06	2.1E-06	CS	55	137	5.6E-04	5.5E-04
IN	49	115	8.2E-08	8.1E-08	BA	56	128	8.8E+02	1.9E+02
SN	50	113	9.5E+00	1.4E+00	BA	56	131	1.6E+02	9.2E+01
SN	50	117M	7.7E+02	1.6E+01	BA	56	133	1.2E+00	1.2E+00
SN	50	119M	1.2E+01	3.2E+00	BA	56	133M	6.7E+03	1.1E+03
SN	50	121	3.1E+05	5.2E+02	BA	56	135M	2.9E+04	3.7E+03
SN	50	121M	1.1E-01	1.0E-01	BA	56	140	4.1E+01	2.5E+01
SN	50	123M	5.1E+00	8.2E-01	LA	57	135	3.2E+03	3.2E+03
SN	50	125	2.8E+02	4.0E+00	LA	57	137	8.2E+00	8.2E+00
SN	50	126	3.1E-03	2.8E-03	LA	57	138	2.4E-01	2.4E-01
SB	51	119	8.2E+00	8.2E+00	LA	57	140	4.4E+02	4.4E+02
SB	51	120M	4.7E-02	4.7E-02	CE	58	134	9.8E+01	5.2E-01

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(2) Kidneys

TABLE 9B. UNIT-RAD CONTAMINATION FOR KIDNEYS

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	2.3E+03	3.0E+00	GD	64	159	1.8E+03	1.1E+00
CE	58	137M	1.6E+03	4.2E+00	GD	64	162	2.7E-03	6.0E-04
CE	58	139	3.8E-01	7.5E-02	TB	65	151	6.6E+02	7.1E-01
CE	58	141	4.7E+00	2.6E-01	TB	65	152	1.9E+02	2.1E-01
CE	58	142	2.7E-04	2.5E-04	TB	65	153	1.3E+02	4.6E-01
CE	58	143	5.3E+02	1.3E+00	TB	65	154	7.1E+02	8.8E-01
CE	58	144	6.0E-03	2.0E-03	TB	65	155	2.9E+01	2.3E-01
PR	59	142	4.0E-02	4.3E-05	TB	65	156	8.9E+00	6.8E-02
PR	59	143	4.4E-04	8.0E-06	TB	65	157	1.7E-03	1.5E-03
ND	60	140	2.1E-03	1.1E-05	TB	65	158	7.3E-05	6.6E-05
ND	60	144	3.5E-09	3.2E-09	TB	65	160	5.9E-02	5.5E-03
ND	60	147	8.5E-05	1.4E-06	TB	65	161	4.1E+01	4.0E-01
PM	61	143	1.5E-02	4.3E-03	TB	65	164	9.6E+02	1.4E+00
PM	61	144	1.2E-03	4.2E-04	DY	66	154	5.9E-10	5.9E-10
PM	61	145	1.9E-03	1.7E-03	DY	66	154M	2.0E-05	2.0E-05
PM	61	146	4.4E-04	3.1E-04	DY	66	156	9.2E-10	9.2E-10
PM	61	147	3.2E-04	1.9E-04	DY	66	159	3.8E-06	3.8E-06
PM	61	148	6.3E+00	5.1E-02	DY	66	166	9.4E-06	9.4E-06
PM	61	148M	3.1E-02	1.8E-03	HG	67	163	1.1E-07	9.5E-08
PM	61	149	1.3E+02	4.4E-01	HG	67	166	2.6E-02	3.7E-05
PM	61	151	1.9E+02	3.4E-01	HG	67	166M	4.7E-09	4.2E-09
SM	62	141	1.1E+00	3.3E-02	ER	68	160	6.3E-03	1.2E-05
SM	62	145	1.5E-01	5.0E-02	ER	68	169	3.2E-03	4.6E-05
SM	62	146	1.5E-04	1.4E-04	ER	68	172	5.0E-03	1.6E-05
SM	62	147	1.7E-04	1.6E-04	TM	69	165	2.4E+02	8.6E-01
SM	62	148	9.9E-05	9.1E-05	TM	69	167	1.7E+01	4.8E-01
SM	62	149	2.1E-04	1.9E-04	TM	69	168	1.0E-01	2.1E-02
SM	62	151	2.9E-02	2.6E-02	TM	69	170	2.1E-01	5.8E-02
SM	62	153	1.3E+03	3.9E+00	TM	69	171	2.9E-01	2.0E-01
EU	63	145	2.3E+01	9.1E-02	TM	69	172	1.4E+02	1.1E+00
EU	63	146	5.9E+00	1.8E-02	YB	70	166	1.5E+02	5.2E-01
EU	63	146M	7.3E+01	7.8E-02	YB	70	169	1.2E+00	5.5E-02
EU	63	147	3.4E-01	5.5E-03	YB	70	175	1.5E+02	8.8E-01
EU	63	148	3.8E-01	1.3E-02	LU	71	169	7.1E-03	1.4E-05
EU	63	149	9.8E-02	6.5E-03	LU	71	170	2.4E-03	6.4E-06
EU	63	150	4.0E-04	2.2E-04	LU	71	171	3.2E-03	3.4E-05
EU	63	150M	4.8E+02	1.7E-01	LU	71	172	6.8E-04	6.0E-06
EU	63	152	1.2E-04	8.5E-05	LU	71	173	2.7E-07	1.1E-07
EU	63	154	9.0E-05	6.5E-05	LU	71	174	3.7E-08	2.4E-08
EU	63	155	1.8E-02	5.5E-03	LU	71	174M	2.4E-06	4.4E-07
EU	63	156	1.5E+00	1.6E-02	LU	71	176	7.9E-09	7.1E-09
EU	63	157	1.3E+03	5.6E-01	LU	71	177	3.8E-03	3.4E-05
GD	64	146	3.4E-02	1.2E-03	LU	71	177M	7.3E-06	1.2E-06
GD	64	147	8.4E+01	6.7E-02	HF	72	170	1.2E+01	1.1E-02
GD	64	148	1.9E-05	1.5E-05	HF	72	171	2.4E+01	2.5E-02
GD	64	149	4.3E+00	3.0E-02	HF	72	172	1.5E-05	1.1E-05
GD	64	150	9.8E-06	8.2E-06	HF	72	173	7.5E+00	1.3E-02
GD	64	151	9.1E-02	7.7E-03	HF	72	174	1.3E-06	1.2E-06
GD	64	152	2.4E-05	2.0E-05	HF	72	175	6.1E-03	6.8E-04
GD	64	153	5.7E-02	8.9E-03	HF	72	181	1.0E-02	7.3E-04

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(2) Kidneys

TABLE 9B. UNIT-RAD CONTAMINATION FOR KIDNEYS

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	2.0E-06	1.9E-06	AU	79	198	4.5E+01	4.3E-01
TA	73	177	3.6E-01	2.1E-03	AU	79	199	1.1E+02	1.2E+00
TA	73	179	2.4E-04	1.4E-04	HG	80	194	8.4E-04	7.6E-04
TA	73	182	1.4E-04	3.2E-05	HG	80	195M	8.5E-01	8.8E-02
TA	73	183	1.4E-01	1.7E-03	HG	80	197	1.6E+00	2.6E-01
W	74	178	3.6E-04	3.6E-04	HG	80	197M	5.9E+00	3.8E-01
W	74	181	1.5E-03	1.5E-03	HG	80	203	2.1E-02	1.6E-02
W	74	185	1.5E-03	1.5E-03	TL	81	200	1.3E-01	3.8E-03
W	74	187	1.6E-02	1.6E-02	TL	81	201	9.7E-02	7.7E-03
W	74	188	1.5E-04	1.5E-04	TL	81	202	3.8E-03	9.7E-04
RE	75	180	4.4E-01	4.4E-01	TL	81	204	1.4E-05	1.4E-05
RE	75	181	4.8E-01	4.8E-01	PB	82	200	3.9E+03	6.4E+00
RE	75	182	1.7E-01	1.7E-01	PB	82	202	2.4E-03	2.2E-03
RE	75	182M	8.2E-01	8.2E-01	PB	82	203	1.5E+03	6.1E+00
RE	75	183	2.9E-02	2.9E-02	PB	82	204	5.5E-04	5.1E-04
RE	75	184	1.8E-02	1.8E-02	PB	82	205	1.7E-02	1.5E-02
RE	75	184M	3.2E-03	3.2E-03	PB	82	210	3.9E-04	3.5E-04
RE	75	186	4.0E-01	4.0E-01	BI	83	205	2.4E-04	1.8E-04
RE	75	187	6.8E-01	6.8E-01	BI	83	206	9.1E-04	4.6E-04
RE	75	188	8.9E-01	8.9E-01	BI	83	207	5.2E-07	5.2E-07
RE	75	189	1.4E+00	1.4E+00	BI	83	208	2.6E-07	2.6E-07
OS	76	182	7.9E-02	1.2E-02	BI	83	210	4.0E-04	1.8E-04
OS	76	183	5.7E-01	5.2E-02	BI	83	210M	1.2E-07	1.2E-07
OS	76	185	3.4E-04	3.3E-04	PC	84	206	1.3E+00	1.5E-01
OS	76	191	1.0E-02	7.8E-03	PC	84	208	5.3E-04	5.0E-04
OS	76	191M	1.4E+00	1.5E-01	PO	84	209	1.2E-04	1.2E-04
OS	76	193	1.7E-01	3.7E-02	PO	84	210	8.3E-03	5.5E-03
OS	76	194	5.1E-06	5.1E-06	RN	86	211	7.4E+01	7.4E+01
IR	77	185	1.6E+01	2.0E-01	RN	86	222	4.7E+00	4.7E+00
IR	77	186	9.5E+00	1.2E-01	RA	88	223	1.8E-05	9.9E-06
IR	77	187	2.6E+01	2.5E-01	RA	88	224	1.1E-04	3.0E-05
IR	77	188	1.1E+00	3.5E-02	RA	88	225	1.3E-05	7.7E-06
IR	77	189	1.4E-01	2.9E-02	RA	88	226	1.4E-08	1.4E-08
IR	77	190	4.2E-02	8.0E-03	RA	88	228	4.5E-08	4.4E-08
IR	77	192	2.9E-03	1.8E-03	AC	89	225	1.8E+02	7.3E-02
IR	77	192M	1.5E-05	1.5E-05	AC	89	227	1.0E-03	1.3E-04
IR	77	193M	7.3E-01	1.4E-01	TH	90	227	8.9E-04	7.3E-07
IR	77	194	8.7E+00	1.4E-01	TH	90	228	6.1E-07	1.9E-08
PT	78	188	1.0E-03	1.5E-04	TH	90	229	1.2E-08	1.8E-09
PT	78	190	1.8E-07	1.7E-07	TH	90	230	1.1E-08	1.7E-09
PT	78	191	5.4E-02	2.6E-03	TH	90	231	2.2E-01	1.1E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	9.7E-09	1.5E-09
PT	78	193	7.3E-06	7.3E-06	TH	90	234	4.1E-04	4.5E-07
PT	78	193M	6.1E-02	4.2E-03	PA	91	228	3.4E+04	6.2E-01
PT	78	195M	6.0E-02	3.9E-03	PA	91	229	1.4E+04	4.1E-01
PT	78	197	1.2E+00	1.7E-02	PA	91	230	9.8E+01	3.3E-02
AU	79	193	7.4E+02	2.0E+00	PA	91	231	9.8E-04	7.0E-05
AU	79	194	4.5E+01	2.6E-01	PA	91	232	1.5E+04	3.9E-01
AU	79	195	5.9E-02	2.3E-02	PA	91	233	3.6E+01	2.0E-02
AU	79	196	9.0E+00	1.9E-01	U	92	230	6.5E-07	3.8E-07

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(2) Kidneys

TABLE 9B. UNIT-RAD CONTAMINATION FOR KIDNEYS

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	8.5E-06	1.9E-06	CM	96	240	1.3E+01	1.5E-02
U	92	232	1.2E-09	1.2E-09	CM	96	241	8.1E+00	1.2E-02
U	92	233	1.1E-09	1.1E-09	CM	96	242	3.6E-01	2.4E-03
U	92	234	1.0E-09	1.0E-09	CM	96	243	5.2E-04	6.7E-05
U	92	235	9.3E-10	9.3E-10	CM	96	244	7.0E-04	8.3E-05
U	92	236	9.2E-10	9.1E-10	CM	96	245	3.5E-04	5.0E-05
U	92	237	3.4E-06	1.0E-05	CM	96	246	3.4E-04	4.8E-05
U	92	238	8.8E-10	8.8E-10	CM	96	247	3.1E-04	4.5E-05
U	92	240	2.7E-04	1.0E-05	CM	96	248	3.1E-04	4.4E-05
NP	93	234	3.9E+02	2.7E-02	BK	97	245	7.6E-02	7.6E-02
NP	93	235	4.4E-02	2.8E-04	BK	97	246	2.0E-01	2.0E-01
NP	93	236	2.5E-04	1.4E-05	BK	97	247	4.5E-05	4.5E-05
NP	93	236M	8.4E+03	1.2E-01	BK	97	248	3.5E-01	3.5E-01
NP	93	237	2.7E-04	1.5E-05	BK	97	249	1.1E-03	1.1E-03
NP	93	238	1.5E+03	5.1E-02	CF	98	246	2.4E-01	2.4E-01
NP	93	239	1.2E+03	4.3E-02	CF	98	248	9.6E-04	9.6E-04
PU	94	236	1.4E-02	4.4E-04	CF	98	249	4.6E-05	4.6E-05
PU	94	237	7.3E+00	1.0E-02	CF	98	250	1.0E-04	1.0E-04
PU	94	238	6.3E-04	6.6E-05	CF	98	251	4.1E-05	4.1E-05
PU	94	239	5.1E-04	5.6E-05	CF	98	252	3.2E-04	3.2E-04
PU	94	240	5.0E-04	5.5E-05	CF	98	253	1.6E-02	1.6E-02
PU	94	241	1.3E-03	1.1E-04	ES	99	251	2.1E-01	2.1E-01
PU	94	242	4.8E-04	5.3E-05	ES	99	252	2.1E-03	2.1E-03
PU	94	244	4.3E-04	4.7E-05	ES	99	253	1.5E-02	1.5E-02
PU	94	246	9.6E+01	3.3E-02	ES	99	254	6.1E-04	6.1E-04
AM	95	239	4.5E+04	8.4E-01	ES	99	254M	1.8E-01	1.8E-01
AM	95	240	2.4E+03	1.9E-01	ES	99	255	1.2E-02	1.2E-02
AM	95	241	4.5E-04	5.7E-05	FM	100	252	3.1E-01	3.1E-01
AM	95	242	2.4E+04	5.9E-01	FM	100	253	6.8E-02	6.8E-02
AM	95	242M	4.4E-04	5.6E-05	FM	100	255	3.4E-01	3.4E-01
AM	95	243	3.9E-04	5.0E-05	FM	100	257	3.5E-03	3.5E-03

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(2) Kidneys

ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	4.6E+02	9.6E-01
BE	4	7	5.2E+01	8.5E+00	ZN	30	65	1.6E-03	1.1E-03
BE	4	10	1.1E-02	1.0E-02	ZN	30	69M	4.6E+01	2.9E-01
C	6	14	1.3E-03	1.3E-03	ZN	30	72	8.0E-01	1.7E-02
NA	11	22	2.8E-02	2.7E-02	GA	31	67	1.4E+02	5.6E+01
NA	11	24	3.6E+02	2.0E+01	GA	31	72	1.8E+02	2.0E+01
MG	12	28	2.8E+01	2.8E+01	GE	32	68	1.8E-05	1.8E-05
AL	13	26	1.4E-02	1.4E-02	GE	32	69	1.4E-02	2.6E-03
SI	14	32	5.2E-03	5.2E-03	GE	32	71	1.2E-01	7.1E-02
P	15	32	1.8E-02	5.3E-03	AS	33	71	2.6E+05	1.2E+03
P	15	33	8.1E-02	3.4E-02	AS	33	72	3.2E+05	6.3E+02
S	16	35	1.1E+00	1.1E+00	AS	33	73	2.1E+04	2.5E+03
CL	17	36	3.4E-02	3.4E-02	AS	33	74	2.0E+03	6.5E+01
AR	18	37	8.2E+02	8.2E+02	AS	33	76	4.3E+05	8.6E+02
AR	18	39	4.4E-02	4.4E-02	AS	33	77	1.5E+06	4.4E+03
AR	18	42	4.7E-03	4.7E-03	SE	34	72	2.9E+00	7.5E-01
K	19	40	1.5E-03	1.5E-03	SE	34	75	3.4E-01	2.8E-01
K	19	42	7.4E+02	6.6E+00	SE	34	79	5.6E-02	5.6E-02
K	19	43	4.4E+02	7.0E+00	BR	35	76	5.3E+02	4.2E+01
CA	20	41	8.2E+01	8.1E+01	BR	35	77	1.1E+02	2.5E+01
CA	20	45	1.6E+02	1.5E+02	BR	35	82	9.6E+01	1.5E+01
CA	20	47	6.7E+02	2.5E+02	KR	36	76	1.5E+02	1.5E+02
CA	20	48	8.0E-02	8.0E-02	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	3.1E+01	4.3E-02	KR	36	81	1.3E+00	1.3E+00
SC	21	46	3.6E-02	1.7E-03	KR	36	85	2.5E-01	2.5E-01
SC	21	47	1.4E+02	2.8E-01	RB	37	83	1.3E-02	6.6E-03
SC	21	48	4.3E+01	4.6E-02	RB	37	84	1.8E-02	5.1E-03
TI	22	44	7.4E-04	7.4E-04	RB	37	86	8.5E-02	1.6E-02
V	23	48	2.1E+01	3.9E+00	RB	37	87	4.9E-04	4.9E-04
V	23	49	1.4E+02	1.2E+02	SR	38	82	9.2E+00	7.4E+00
V	23	50	2.1E-02	2.0E-02	SR	38	83	2.3E+03	4.3E+02
CR	24	48	9.2E+00	9.2E+00	SR	38	85	2.1E+01	1.9E+01
CR	24	51	3.2E+01	3.2E+01	SR	38	89	1.9E+01	1.7E+01
MN	25	52	6.9E-01	5.1E-02	SR	38	90	7.8E-02	7.8E-02
MN	25	53	2.3E-02	2.3E-02	Y	39	86	1.9E+02	8.3E-02
MN	25	54	5.0E-03	4.1E-03	Y	39	87	3.1E+01	7.3E-02
FE	26	55	1.1E+00	6.8E-01	Y	39	87M	7.0E+02	2.9E-01
FE	26	59	9.8E-01	7.4E-02	Y	39	88	1.0E-02	7.3E-04
FE	26	60	2.3E-04	2.1E-04	Y	39	90	3.1E+01	5.9E-02
CO	27	55	1.9E+02	5.7E+00	Y	39	91	1.1E-01	4.5E-03
CO	27	56	8.5E-02	6.4E-02	ZR	40	86	8.2E+02	1.8E+00
CO	27	57	3.0E-01	2.7E-01	ZR	40	88	1.0E-01	2.2E-02
CO	27	58	1.9E-01	1.4E-01	ZR	40	89	9.6E+01	9.7E-01
CO	27	60	2.1E-03	2.1E-03	ZR	40	93	4.0E-02	3.9E-02
NI	28	56	9.0E+02	1.1E+01	ZR	40	95	3.2E-01	5.4E-02
NI	28	57	2.8E+04	8.5E+01	ZR	40	97	1.2E+03	2.7E+00
NI	28	59	4.7E+00	4.4E+00	NB	41	90	5.3E+01	3.8E-02
NI	28	63	2.3E+00	2.1E+00	NB	41	91	1.0E-03	9.0E-04
NI	28	66	1.3E+04	6.0E+01	NB	41	91M	1.2E-01	8.5E-03
CU	29	64	8.7E+03	3.9E+00	NB	41	92	1.1E+00	1.3E-02

Table 9B. Unit-rad contamination for selected organs via freshwater (3) Liver

TABLE 9B. UNIT-RAD CONTAMINATION FOR LIVER

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	5.1E-03	3.2E-03	SB	51	122	1.2E+00	8.4E-02
NB	41	94	1.0E-05	9.1E-06	SB	51	124	3.0E-03	1.9E-03
NB	41	95	1.1E-01	4.3E-03	SB	51	125	5.3E-04	5.1E-04
NB	41	95M	7.1E+00	3.2E-02	SB	51	126	3.1E-02	7.7E-03
NB	41	96	4.1E+01	4.7E-02	SB	51	127	5.9E-01	5.5E-02
MO	42	93	4.0E-03	4.0E-03	TE	52	118	2.1E-01	3.5E-02
MO	42	99	8.5E+00	2.4E-01	TE	52	119	1.0E+01	2.3E-01
TC	43	95	3.0E+00	8.0E-02	TE	52	119M	2.1E-01	2.8E-02
TC	43	95M	1.3E-03	8.4E-04	TE	52	121	7.9E-02	2.9E-02
TC	43	96	4.0E-02	5.0E-03	TE	52	121M	2.6E-03	2.2E-03
TC	43	97	3.6E-04	3.6E-04	TE	52	123	1.3E-03	1.3E-03
TC	43	97M	6.8E-03	5.1E-03	TE	52	123M	1.3E-02	1.0E-02
TC	43	98	4.8E-06	4.8E-05	TE	52	125M	5.2E-02	3.5E-02
TC	43	99	7.9E-05	7.9E-05	TE	52	127M	1.0E-02	8.0E-03
RU	44	97	2.4E+01	9.6E-01	TE	52	129M	1.8E-02	9.3E-03
RU	44	103	2.0E-01	7.1E-02	TE	52	131M	2.5E+00	9.6E-02
RU	44	106	2.2E-03	1.9E-03	TE	52	132	2.9E-01	2.9E-02
RH	45	99	3.7E-02	1.7E-02	I	53	123	2.8E+03	2.0E+02
RH	45	100	2.2E+00	9.9E-02	I	53	124	7.0E+00	2.6E+00
RH	45	101	2.3E-04	2.3E-04	I	53	125	6.8E+00	6.1E+00
RH	45	101M	4.5E-01	8.9E-02	I	53	126	5.5E+00	3.6E+00
RH	45	102	4.2E-04	3.8E-04	I	53	129	4.2E-02	4.2E-02
RH	45	105	4.9E+00	3.7E-01	I	53	130	2.8E+02	1.9E+01
PD	46	100	1.4E-01	2.2E-02	I	53	131	9.5E+00	5.1E+00
PD	46	103	2.5E-01	1.2E-01	I	53	133	2.0E+02	2.2E+01
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	1.5E+01	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	1.1E+00	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	2.1E+00	9.3E-01	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	1.4E+01	1.9E+00	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	9.4E-03	9.1E-03	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	6.9E-02	5.8E-02	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	9.5E+01	1.2E+01	CS	55	129	3.9E+02	4.5E+00
CD	48	109	6.1E-04	4.3E-04	CS	55	131	1.3E+02	1.1E+01
CD	48	113M	2.9E-05	2.8E-05	CS	55	132	1.4E+01	8.0E-01
CD	48	115	6.9E-01	7.9E-03	CS	55	134	2.8E-03	2.5E-03
CD	48	115M	2.8E-03	5.0E-04	CS	55	135	8.8E-03	8.7E-03
IN	49	111	2.3E-03	1.1E-04	CS	55	136	1.1E+00	1.2E-01
IN	49	114M	4.6E-06	2.1E-06	CS	55	137	8.4E-04	8.2E-04
IN	49	115	8.2E-08	8.1E-08	BA	56	128	1.3E+05	3.1E+02
SN	50	113	1.2E+01	8.5E-01	BA	56	131	1.3E+04	1.5E+02
SN	50	117M	1.1E+03	9.4E+00	BA	56	133	2.8E+00	2.0E+00
SN	50	119M	1.4E+01	1.9E+00	BA	56	133M	1.0E+06	1.7E+03
SN	50	121	4.4E+05	3.1E+02	BA	56	135M	4.8E+06	6.0E+03
SN	50	121M	8.1E-02	6.0E-02	BA	56	140	3.1E+03	4.1E+01
SN	50	123M	6.7E+00	4.9E-01	LA	57	135	7.4E+04	1.5E+02
SN	50	125	4.1E+02	2.4E+00	LA	57	137	4.0E-01	3.8E-01
SN	50	126	2.1E-03	1.7E-03	LA	57	138	1.2E-02	1.1E-02
SB	51	119	8.0E+01	3.2E+00	LA	57	140	4.9E+03	2.1E+01
SB	51	120M	1.4E-01	1.8E-02	CE	58	134	5.1E+01	5.2E-01

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(3) Liver

TABLE 9B. UNIT-RAD CONTAMINATION FOR LIVER

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	1.2E+03	3.0E+00	GD	64	159	3.2E+03	5.3E+00
CE	58	137M	8.6E+02	4.2E+00	GD	64	162	6.7E-03	3.0E-03
CE	58	139	2.3E-01	7.5E-02	TB	65	151	6.4E+02	7.1E+00
CE	58	141	2.6E+00	2.6E-01	TB	65	152	1.9E+02	2.1E+00
CE	58	142	2.6E-04	2.5E-04	TB	65	153	1.3E+02	4.6E+00
CE	58	143	2.8E+02	1.3E+00	TB	65	154	6.9E+02	8.8E+00
CE	58	144	4.1E-03	2.0E-03	TB	65	155	3.0E+01	2.3E+00
PR	59	142	2.0E-02	4.3E-05	TB	65	156	9.1E+00	6.8E-01
PR	59	143	2.3E-04	8.0E-06	TB	65	157	1.5E-02	1.5E-02
ND	60	140	4.3E-04	1.1E-05	TB	65	158	6.7E-04	6.6E-04
ND	60	144	3.2E-09	3.2E-09	TB	65	160	1.1E-01	5.5E-02
ND	60	147	1.8E-05	1.4E-06	TB	65	161	4.3E+01	4.0E+00
PM	61	143	7.5E-02	2.2E-02	TB	65	164	9.3E+02	1.4E+01
PM	61	144	5.9E-03	2.1E-03	DY	66	154	6.3E-10	5.9E-10
PM	61	145	9.6E-03	8.3E-03	DY	66	154M	1.8E-02	2.0E-05
PM	61	146	2.2E-03	1.6E-03	DY	66	156	9.9E-10	9.2E-10
PM	61	147	1.6E-03	9.6E-04	DY	66	159	1.7E-05	3.8E-06
PM	61	148	3.1E+01	2.6E-01	DY	66	166	1.4E-03	9.4E-06
PM	61	148M	1.6E-01	9.1E-03	HO	67	163	1.1E-07	9.5E-08
PM	61	149	6.6E+02	2.2E+00	HO	67	166	2.9E-02	3.7E-05
PM	61	151	9.3E+02	1.7E+00	HO	67	166M	4.8E-09	4.2E-09
SM	62	141	3.4E-01	3.3E-02	ER	68	160	4.2E-03	1.2E-05
SM	62	145	7.8E-02	5.0E-02	ER	68	169	2.1E-03	4.6E-05
SM	62	146	1.4E-04	1.4E-04	ER	68	172	3.3E-03	1.6E-05
SM	62	147	1.6E-04	1.6E-04	TM	69	165	1.0E+03	1.7E+01
SM	62	148	9.3E-05	9.1E-05	TM	69	167	8.0E+01	9.6E+00
SM	62	149	2.0E-04	1.9E-04	TM	69	168	7.5E-01	4.1E-01
SM	62	151	2.7E-02	2.6E-02	TM	69	170	1.8E+00	1.2E+00
SM	62	153	3.8E+02	3.9E+00	TM	69	171	4.3E+00	3.9E+00
EU	63	145	2.0E+01	9.1E-01	TM	69	172	5.9E+02	2.2E+01
EU	63	146	5.3E+00	1.8E-01	YB	70	166	7.7E+02	2.6E+01
EU	63	146M	6.4E+01	7.8E-01	YB	70	169	8.8E+00	2.8E+00
EU	63	147	3.5E-01	5.5E-02	YB	70	175	7.8E+02	4.4E+01
EU	63	148	4.4E-01	1.3E-01	LU	71	169	1.4E-05	1.4E-05
EU	63	149	1.4E-01	6.5E-02	LU	71	170	6.4E-06	6.4E-06
EU	63	150	2.3E-03	2.2E-03	LU	71	171	3.4E-05	3.4E-05
EU	63	150M	4.1E+02	1.7E+00	LU	71	172	6.0E-06	6.0E-06
EU	63	152	8.8E-04	8.5E-04	LU	71	173	1.1E-07	1.1E-07
EU	63	154	6.7E-04	5.5E-04	LU	71	174	2.4E-08	2.4E-08
EU	63	155	6.6E-02	5.5E-02	LU	71	174M	4.4E-07	4.4E-07
EU	63	156	1.5E+00	1.6E-01	LU	71	176	7.1E-09	7.1E-09
EU	63	157	1.1E+03	5.6E+00	LU	71	177	3.4E-05	3.4E-05
GD	64	146	6.4E-02	6.1E-03	LU	71	177M	1.2E-06	1.2E-06
GD	64	147	1.5E+02	3.3E-01	HF	72	170	1.4E+00	1.1E-03
GD	64	148	8.1E-05	7.5E-05	HF	72	171	2.7E+00	2.5E-03
GD	64	149	7.8E+00	1.5E-01	HF	72	172	1.5E-06	1.1E-06
GD	64	150	4.3E-05	4.1E-05	HF	72	173	8.3E-01	1.3E-03
GD	64	151	1.9E-01	3.8E-02	HF	72	174	1.4E-07	1.2E-07
GD	64	152	1.1E-04	1.0E-04	HF	72	175	6.7E-04	6.8E-05
GD	64	153	1.3E-01	4.5E-02	HF	72	181	1.1E-03	7.3E-05

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(3) Liver

TABLE 9B. UNIT-RAD CONTAMINATION FOR LIVER

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	2.1E-07	1.9E-07	AU	79	198	3.2E+01	2.8E-01
TA	73	177	1.8E-01	1.0E-03	AU	79	199	7.4E+01	7.7E-01
TA	73	179	1.2E-04	7.1E-05	HG	80	194	1.1E-03	1.0E-03
TA	73	182	7.1E-05	1.6E-05	HG	80	195M	1.1E+00	1.2E-01
TA	73	183	6.8E-02	8.4E-04	HG	80	197	2.0E+00	3.4E-01
W	74	178	4.2E-04	3.6E-04	HG	80	197M	7.3E+00	5.0E-01
W	74	181	1.6E-03	1.5E-03	HG	80	203	2.7E-02	2.1E-02
W	74	185	1.6E-03	1.5E-03	TL	81	200	8.3E-02	3.4E-03
W	74	187	8.1E-02	1.6E-02	TL	81	201	6.5E-02	7.0E-03
W	74	188	1.5E-04	1.5E-04	TL	81	202	2.7E-03	8.8E-04
RE	75	180	8.3E+00	4.4E-01	TL	81	204	1.3E-05	1.3E-05
RE	75	181	9.1E+00	4.8E-01	PB	82	200	1.0E+04	4.7E+00
RE	75	182	1.1E+00	1.7E-01	PB	82	202	2.2E-03	1.6E-03
RE	75	182M	2.3E+01	8.2E-01	PB	82	203	4.0E+03	4.4E+00
RE	75	183	3.5E-02	2.9E-02	PB	82	204	5.0E-04	3.7E-04
RE	75	184	2.5E-02	1.8E-02	PB	82	205	1.5E-02	1.1E-02
RE	75	184M	3.5E-03	3.2E-03	PB	82	210	3.8E-04	2.6E-04
RE	75	186	2.0E+00	4.0E-01	BI	83	205	1.8E-03	9.1E-04
RE	75	187	6.8E-01	6.8E-01	BI	83	206	8.2E-03	2.4E-03
RE	75	188	2.0E+01	8.9E-01	BI	83	207	2.7E-06	2.7E-06
RE	75	189	2.3E+01	1.4E+00	BI	83	208	1.3E-06	1.3E-06
OS	76	182	8.5E-02	1.2E-02	BI	83	210	3.8E-03	9.4E-04
OS	76	183	6.2E-01	5.2E-02	BI	83	210M	6.4E-07	6.4E-07
OS	76	185	3.5E-04	3.3E-04	PO	84	206	8.5E-01	1.5E-01
OS	76	191	1.1E-02	7.8E-03	PO	84	208	5.2E-04	5.0E-04
OS	76	191M	1.5E+00	1.5E-01	PO	84	209	1.2E-04	1.2E-04
OS	76	193	1.9E-01	3.7E-02	PO	84	210	7.2E-03	5.5E-03
OS	76	194	5.1E-06	5.1E-05	RN	86	211	7.4E+01	7.4E+01
IR	77	185	8.8E+00	2.0E-01	RN	86	222	4.7E+00	4.7E+00
IR	77	186	5.2E+00	1.2E-01	RA	88	223	1.8E-05	9.9E-06
IR	77	187	1.4E+01	2.5E-01	RA	88	224	1.1E-04	3.0E-05
IR	77	188	5.9E-01	3.5E-02	RA	88	225	1.3E-05	7.7E-06
IR	77	189	8.8E-02	2.9E-02	RA	88	226	1.4E-08	1.4E-08
IR	77	190	2.6E-02	8.0E-03	RA	88	228	4.5E-08	4.4E-08
IR	77	192	2.4E-03	1.8E-03	AC	89	225	1.8E+01	7.3E-02
IR	77	192M	1.5E-05	1.5E-05	AC	89	227	2.0E-04	1.3E-04
IR	77	193M	4.6E-01	1.4E-01	TH	90	227	2.3E-03	7.3E-07
IR	77	194	4.8E+00	1.4E-01	TH	90	228	1.6E-06	1.9E-08
PT	78	188	4.4E-04	1.5E-04	TH	90	229	2.8E-08	1.8E-09
PT	78	190	1.7E-07	1.7E-07	TH	90	230	2.6E-08	1.7E-09
PT	78	191	2.0E-02	2.6E-03	TH	90	231	5.8E-01	1.1E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	2.3E-08	1.5E-09
PT	78	193	7.3E-06	7.3E-06	TH	90	234	1.1E-03	4.5E-07
PT	78	193M	2.3E-02	4.2E-03	PA	91	228	3.9E+04	6.2E-01
PT	78	195M	2.3E-02	3.9E-03	PA	91	229	1.6E+04	4.1E-01
PT	78	197	4.2E-01	1.7E-02	PA	91	230	1.1E+02	3.3E-02
AU	79	193	5.1E+02	1.3E+00	PA	91	231	1.1E-03	7.0E-05
AU	79	194	3.1E+01	1.7E-01	PA	91	232	1.7E+04	3.9E-01
AU	79	195	4.0E-02	1.5E-02	PA	91	233	4.1E+01	2.0E-02
AU	79	196	6.2E+00	1.3E-01	U	92	230	3.8E-07	3.8E-07

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(3) Liver

TABLE 9B. UNIT-RAD CONTAMINATION FOR LIVER

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.9E-06	1.9E-06	CM	96	240	1.7E+00	1.5E-02
U	92	232	1.2E-09	1.2E-09	CM	96	241	1.0E+00	1.2E-02
U	92	233	1.1E-09	1.1E-09	CM	96	242	4.7E-02	2.4E-03
U	92	234	1.0E-09	1.0E-09	CM	96	243	1.1E-04	6.7E-05
U	92	235	9.3E-10	9.3E-10	CM	96	244	1.5E-04	8.3E-05
U	92	236	9.1E-10	9.1E-10	CM	96	245	7.9E-05	5.0E-05
U	92	237	1.0E-06	1.0E-06	CM	96	246	7.6E-05	4.8E-05
U	92	238	8.8E-10	8.8E-10	CM	96	247	7.0E-05	4.5E-05
U	92	240	1.0E-05	1.0E-05	CM	96	248	6.9E-05	4.4E-05
NP	93	234	3.3E+02	2.7E-02	BK	97	245	7.6E-02	7.6E-02
NP	93	235	3.7E-02	2.8E-04	BK	97	246	2.0E-01	2.0E-01
NP	93	236	2.1E-04	1.4E-05	BK	97	247	4.5E-05	4.5E-05
NP	93	236M	7.1E+03	1.2E-01	BK	97	248	3.5E-01	3.5E-01
NP	93	237	2.3E-04	1.5E-05	BK	97	249	1.1E-03	1.1E-03
NP	93	238	1.3E+03	5.1E-02	CF	98	246	2.4E-01	2.4E-01
NP	93	239	9.9E+02	4.3E-02	CF	98	248	9.6E-04	9.6E-04
PU	94	236	1.3E-02	4.4E-04	CF	98	249	4.6E-05	4.6E-05
PU	94	237	6.8E+00	1.0E-02	CF	98	250	1.0E-04	1.0E-04
PU	94	238	5.9E-04	6.6E-05	CF	98	251	4.1E-05	4.1E-05
PU	94	239	4.8E-04	5.6E-05	CF	98	252	3.2E-04	3.2E-04
PU	94	240	4.7E-04	5.5E-05	CF	98	253	1.6E-02	1.6E-02
PU	94	241	1.3E-03	1.1E-04	ES	99	251	2.1E-01	2.1E-01
PU	94	242	4.6E-04	5.3E-05	ES	99	252	2.1E-03	2.1E-03
PU	94	244	4.1E-04	4.7E-05	ES	99	253	1.5E-02	1.5E-02
PU	94	246	9.0E+01	3.3E-02	ES	99	254	6.1E-04	6.1E-04
AM	95	239	5.8E+03	8.4E-01	ES	99	254M	1.8E-01	1.8E-01
AM	95	240	3.1E+02	1.9E-01	ES	99	255	1.2E-02	1.2E-02
AM	95	241	9.6E-05	5.7E-05	FM	100	252	3.1E-01	3.1E-01
AM	95	242	3.1E+03	5.9E-01	FM	100	253	6.8E-02	6.8E-02
AM	95	242M	9.5E-05	5.6E-05	FM	100	255	3.4E-01	3.4E-01
AM	95	243	8.4E-05	5.0E-05	FM	100	257	3.5E-03	3.5E-03

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(3) Liver

TABLE 9B. UNIT-RAD CONTAMINATION FOR OVARIES

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	6.2E+01	9.0E+00
BE	4	7	8.5E+00	8.5E+00	ZN	30	65	4.7E-03	3.3E-03
BE	4	10	1.0E-02	1.0E-02	ZN	30	69M	1.5E+02	8.3E-01
C	6	14	1.3E-03	1.3E-03	ZN	30	72	2.7E+00	4.8E-02
NA	11	22	1.9E-02	1.9E-02	GA	31	67	6.8E+01	6.8E+01
NA	11	24	2.6E+02	1.4E+01	GA	31	72	2.4E+01	2.4E+01
MG	12	28	5.3E+01	5.3E+01	GE	32	68	1.8E-05	1.8E-05
AL	13	26	1.5E-02	1.5E-02	GE	32	69	2.6E-03	2.6E-03
SI	14	32	7.4E-03	7.4E-03	GE	32	71	7.1E-02	7.1E-02
P	15	32	2.7E-02	1.5E-02	AS	33	71	2.0E+03	2.0E+03
P	15	33	1.4E-01	9.5E-02	AS	33	72	1.0E+03	1.0E+03
S	16	35	1.1E+00	1.1E+00	AS	33	73	4.0E+03	4.0E+03
CL	17	36	2.2E-02	2.1E-02	AS	33	74	1.0E+02	1.0E+02
AR	18	37	8.2E+02	8.2E+02	AS	33	76	1.4E+03	1.4E+03
AR	18	39	4.4E-02	4.4E-02	AS	33	77	7.1E+03	7.1E+03
AR	18	42	4.7E-03	4.7E-03	SE	34	72	2.3E-02	2.3E-02
K	19	40	3.0E-03	2.9E-03	SE	34	75	8.7E-03	8.7E-03
K	19	42	1.4E+03	1.3E+01	SE	34	79	1.7E-03	1.7E-03
K	19	43	8.6E+02	1.4E+01	BR	35	76	7.0E+03	5.6E+02
CA	20	41	2.1E+01	2.1E+01	BR	35	77	1.4E+03	3.3E+02
CA	20	45	4.7E+01	3.9E+01	BR	35	82	1.3E+03	2.0E+02
CA	20	47	5.8E+02	6.5E+01	KR	36	76	1.5E+02	1.5E+02
CA	20	48	2.1E-02	2.1E-02	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	4.3E-04	4.3E-04	KR	36	81	1.3E+00	1.3E+00
SC	21	46	1.7E-05	1.7E-05	KR	36	85	2.5E-01	2.5E-01
SC	21	47	2.8E-03	2.8E-03	RB	37	83	1.0E+00	5.2E-01
SC	21	48	4.6E-04	4.6E-04	RB	37	84	1.4E+00	4.0E-01
TI	22	44	1.2E-03	1.2E-03	RB	37	86	6.7E+00	1.3E+00
V	23	48	2.8E+01	2.8E+01	RB	37	87	3.9E-02	3.8E-02
V	23	49	8.2E+02	8.2E+02	SR	38	82	2.9E+00	1.0E+00
V	23	50	1.4E-01	1.4E-01	SR	38	83	2.0E+03	5.9E+01
CR	24	48	2.9E-01	2.9E-01	SR	38	85	4.6E+00	2.7E+00
CR	24	51	1.0E+00	1.0E+00	SR	38	89	4.5E+00	2.4E+00
MN	25	52	5.4E-01	4.6E-01	SR	38	90	1.1E-02	1.1E-02
MN	25	53	2.1E-01	2.1E-01	Y	39	86	1.7E-02	1.7E-02
MN	25	54	3.7E-02	3.7E-02	Y	39	87	1.5E-02	1.5E-02
FE	26	55	3.3E+00	2.2E+00	Y	39	87M	5.9E-02	5.9E-02
FE	26	59	2.7E+00	2.4E-01	Y	39	88	1.5E-04	1.5E-04
FE	26	60	7.5E-04	7.0E-04	Y	39	90	1.2E-02	1.2E-02
CO	27	55	6.1E+02	1.8E+01	Y	39	91	9.0E-04	9.0E-04
CO	27	56	2.7E-01	2.1E-01	ZR	40	86	2.0E+00	2.0E+00
CO	27	57	9.7E-01	8.9E-01	ZR	40	88	2.4E-02	2.4E-02
CO	27	58	6.3E-01	4.7E-01	ZR	40	89	1.1E+00	1.1E+00
CO	27	60	6.9E-03	6.9E-03	ZR	40	93	4.3E-02	4.3E-02
NI	28	56	8.9E+00	8.9E+00	ZR	40	95	6.0E-02	6.0E-02
NI	28	57	7.0E+01	7.0E+01	ZR	40	97	3.0E+00	3.0E+00
NI	28	59	3.6E+00	3.6E+00	NB	41	90	4.7E-02	4.7E-02
NI	28	63	1.7E+00	1.7E+00	NB	41	91	1.1E-03	1.1E-03
NI	28	66	5.0E+01	5.0E+01	NB	41	91M	1.0E-02	1.0E-02
CU	29	64	1.1E+03	3.6E+01	NB	41	92	1.5E-02	1.5E-02

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(4) Ovaries

TABLE 9B. UNIT-RAD CONTAMINATION FOR OVARIES

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	3.9E-03	3.9E-03	SB	51	122	5.1E-02	5.1E-02
NB	41	94	1.1E-05	1.1E-05	SB	51	124	1.1E-03	1.1E-03
NB	41	95	5.3E-03	5.3E-03	SB	51	125	3.0E-04	3.0E-04
NB	41	95M	3.9E-02	3.9E-02	SB	51	126	4.6E-03	4.6E-03
NB	41	96	5.7E-02	5.7E-02	SB	51	127	3.3E-02	3.3E-02
MO	42	93	1.8E+00	1.8E+00	TE	52	118	4.2E-02	7.0E-03
MO	42	99	7.8E+02	1.1E+02	TE	52	119	2.1E+00	4.5E-02
TC	43	95	8.0E-02	8.0E-02	TE	52	119M	4.2E-02	5.7E-03
TC	43	95M	8.4E-04	8.4E-04	TE	52	121	1.6E-02	5.7E-03
TC	43	96	5.0E-03	5.0E-03	TE	52	121M	5.2E-04	4.3E-04
TC	43	97	3.6E-04	3.6E-04	TE	52	123	2.5E-04	2.5E-04
TC	43	97M	5.1E-03	5.1E-03	TE	52	123M	2.6E-03	2.0E-03
TC	43	98	4.8E-06	4.8E-06	TE	52	125M	1.0E-02	6.9E-03
TC	43	99	7.9E-05	7.9E-05	TE	52	127M	2.0E-03	1.6E-03
RU	44	97	2.4E+01	9.6E-01	TE	52	129M	3.6E-03	1.9E-03
RU	44	103	2.0E-01	7.1E-02	TE	52	131M	5.0E-01	1.9E-02
RU	44	106	2.2E-03	1.9E-03	TE	52	132	5.9E-02	5.7E-03
RH	45	99	1.7E-02	1.7E-02	I	53	123	2.5E+02	2.5E+02
RH	45	100	9.9E-02	9.9E-02	I	53	124	3.2E+00	3.2E+00
RH	45	101	2.3E-04	2.3E-04	I	53	125	7.5E+00	7.5E+00
RH	45	101M	8.9E-02	8.9E-02	I	53	126	4.4E+00	4.4E+00
RH	45	102	3.8E-04	3.8E-04	I	53	129	5.2E-02	5.2E-02
RH	45	105	3.7E-01	3.7E-01	I	53	130	2.3E+01	2.3E+01
PD	46	100	2.2E-02	2.2E-02	I	53	131	6.2E+00	6.2E+00
PD	46	103	1.2E-01	1.2E-01	I	53	133	2.7E+01	2.7E+01
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	4.4E-01	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	4.9E-02	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	3.8E+00	3.6E+00	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	9.9E+00	7.3E+00	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	3.5E-02	3.5E-02	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	2.2E-01	2.2E-01	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	6.4E+01	4.5E+01	CS	55	129	3.6E+01	4.2E-01
CD	48	109	2.7E-03	2.4E-03	CS	55	131	1.2E+01	9.9E-01
CD	48	113M	1.6E-04	1.6E-04	CS	55	132	1.3E+00	7.4E-02
CD	48	115	1.3E+00	4.4E-02	CS	55	134	2.6E-04	2.3E-04
CD	48	115M	7.1E-03	2.8E-03	CS	55	135	8.2E-04	8.0E-04
IN	49	111	1.1E-04	1.1E-04	CS	55	136	1.1E-01	1.1E-02
IN	49	114M	2.1E-06	2.1E-06	CS	55	137	7.7E-05	7.6E-05
IN	49	115	8.1E-08	8.1E-08	BA	56	128	3.0E+02	9.7E+01
SN	50	113	5.4E-01	3.9E-01	BA	56	131	6.6E+01	4.6E+01
SN	50	117M	1.8E+01	4.3E+00	BA	56	133	6.1E-01	6.1E-01
SN	50	119M	1.0E+00	8.7E-01	BA	56	133M	2.2E+03	5.4E+02
SN	50	121	5.8E+00	1.4E+02	BA	56	135M	9.3E+03	1.8E+03
SN	50	121M	2.8E-02	2.7E-02	BA	56	140	1.7E+01	1.3E+01
SN	50	123M	3.0E-01	2.2E-01	LA	57	135	2.5E-01	2.5E-01
SN	50	125	6.3E+00	1.1E+00	LA	57	137	6.4E-04	6.4E-04
SN	50	126	7.7E-04	7.7E-04	LA	57	138	1.8E-05	1.8E-05
SB	51	119	1.9E+00	1.9E+00	LA	57	140	3.4E-02	3.4E-02
SB	51	120M	1.1E-02	1.1E-02	CE	58	134	1.0E-02	1.0E-02

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(4) Ovaries

TABLE 9B. UNIT-RAD CONTAMINATION FOR OVARIES

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	6.1E-02	6.1E-02	GD	64	159	1.1E-01	1.1E-01
CE	58	137M	8.4E-02	8.4E-02	GD	64	162	6.0E-05	6.0E-05
CE	58	139	1.5E-03	1.5E-03	TB	65	151	7.1E-02	7.1E-02
CE	58	141	5.2E-03	5.2E-03	TB	65	152	2.1E-02	2.1E-02
CE	58	142	5.0E-06	5.0E-06	TB	65	153	4.6E-02	4.6E-02
CE	58	143	2.6E-02	2.6E-02	TB	65	154	8.8E-02	8.8E-02
CE	58	144	4.1E-05	4.1E-05	TB	65	155	2.3E-02	2.3E-02
PR	59	142	4.3E-05	4.3E-05	TB	65	156	6.8E-03	6.8E-03
PR	59	143	8.0E-06	8.0E-06	TB	65	157	1.5E-04	1.5E-04
ND	60	140	1.1E-05	1.1E-05	TB	65	158	6.6E-06	6.6E-06
ND	60	144	3.2E-09	3.2E-09	TB	65	160	5.5E-04	5.5E-04
ND	60	147	1.4E-06	1.4E-06	TB	65	161	4.0E-02	4.0E-02
PM	61	143	4.3E-04	4.3E-04	TB	65	164	1.4E-01	1.4E-01
PM	61	144	4.2E-05	4.2E-05	DY	66	154	5.9E-10	5.9E-10
PM	61	145	1.7E-04	1.7E-04	DY	66	154M	2.0E-05	2.0E-05
PM	61	146	3.1E-05	3.1E-05	DY	66	156	9.2E-10	9.2E-10
PM	61	147	1.9E-05	1.9E-05	DY	66	159	3.8E-06	3.8E-06
PM	61	148	5.1E-03	5.1E-03	DY	66	166	9.4E-06	9.4E-06
PM	61	148M	1.8E-04	1.8E-04	HO	67	163	9.5E-08	9.5E-08
PM	61	149	4.4E-02	4.4E-02	HO	67	166	3.7E-05	3.7E-05
PM	61	151	3.4E-02	3.4E-02	HO	67	166M	4.2E-09	4.2E-09
SM	62	141	6.6E-03	6.6E-03	ER	68	160	1.2E-05	1.2E-05
SM	62	145	1.0E-02	1.0E-02	ER	68	169	4.6E-05	4.6E-05
SM	62	146	2.8E-05	2.8E-05	ER	68	172	1.6E-05	1.6E-05
SM	62	147	3.2E-05	3.2E-05	TM	69	165	1.7E-02	1.7E-02
SM	62	148	1.8E-05	1.8E-05	TM	69	167	9.6E-03	9.6E-03
SM	62	149	3.9E-05	3.9E-05	TM	69	168	4.1E-04	4.1E-04
SM	62	151	5.2E-03	5.2E-03	TM	69	170	1.2E-03	1.2E-03
SM	62	153	7.8E-01	7.8E-01	TM	69	171	3.9E-03	3.9E-03
EU	63	145	1.8E-01	1.8E-01	TM	69	172	2.2E-02	2.2E-02
EU	63	146	3.7E-02	3.7E-02	YB	70	166	5.2E-02	5.2E-02
EU	63	146M	1.6E-01	1.6E-01	YB	70	169	5.5E-03	5.5E-03
EU	63	147	1.1E-02	1.1E-02	YB	70	175	8.8E-02	8.8E-02
EU	63	148	2.6E-02	2.6E-02	LU	71	169	1.4E-05	1.4E-05
EU	63	149	1.3E-02	1.3E-02	LU	71	170	6.4E-06	6.4E-06
EU	63	150	4.3E-04	4.3E-04	LU	71	171	3.4E-05	3.4E-05
EU	63	150M	3.5E-01	3.5E-01	LU	71	172	6.0E-06	6.0E-06
EU	63	152	1.7E-04	1.7E-04	LU	71	173	1.1E-07	1.1E-07
EU	63	154	1.3E-04	1.3E-04	LU	71	174	2.4E-08	2.4E-08
EU	63	155	1.1E-02	1.1E-02	LU	71	174M	4.4E-07	4.4E-07
EU	63	156	3.1E-02	3.1E-02	LU	71	176	7.1E-09	7.1E-09
EU	63	157	1.1E+00	1.1E+00	LU	71	177	3.4E-05	3.4E-05
GD	64	146	1.2E-04	1.2E-04	LU	71	177M	1.2E-06	1.2E-06
GD	64	147	6.7E-03	6.7E-03	HF	72	170	6.2E-02	5.5E-05
GD	64	148	1.5E-06	1.5E-06	HF	72	171	1.2E-01	1.3E-04
GD	64	149	3.0E-03	3.0E-03	HF	72	172	7.5E-08	5.7E-08
GD	64	150	8.2E-07	8.2E-07	HF	72	173	3.7E-02	6.6E-05
GD	64	151	7.7E-04	7.7E-04	HF	72	174	6.7E-09	6.2E-09
GD	64	152	2.0E-06	2.0E-06	HF	72	175	3.1E-05	3.4E-06
GD	64	153	8.9E-04	8.9E-04	HF	72	181	5.0E-05	3.7E-06

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(4) Ovaries

TABLE 9B. UNIT-RAD CONTAMINATION FOR OVARIES

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	1.0E-08	9.4E-09	AU	79	198	2.1E-01	2.1E-01
TA	73	177	2.1E-02	1.0E-04	AU	79	199	5.7E-01	5.7E-01
TA	73	179	1.3E-05	7.1E-06	HG	80	194	3.1E-05	3.1E-05
TA	73	182	7.9E-06	1.6E-06	HG	80	195M	3.5E-03	3.5E-03
TA	73	183	7.9E-03	8.4E-05	HG	80	197	1.0E-02	1.0E-02
W	74	178	3.6E-04	3.6E-04	HG	80	197M	1.5E-02	1.5E-02
W	74	181	1.5E-03	1.5E-03	HG	80	203	6.3E-04	6.3E-04
W	74	185	1.5E-03	1.5E-03	TL	81	200	4.2E-03	4.2E-03
W	74	187	1.6E-02	1.6E-02	TL	81	201	8.6E-03	8.6E-03
W	74	188	1.5E-04	1.5E-04	TL	81	202	1.1E-03	1.1E-03
RE	75	180	4.4E-01	4.4E-01	TL	81	204	1.6E-05	1.6E-05
RE	75	181	4.8E-01	4.8E-01	PB	82	200	5.7E+01	5.7E+01
RE	75	182	1.7E-01	1.7E-01	PB	82	202	2.0E-02	2.0E-02
RE	75	182M	8.2E-01	8.2E-01	PB	82	203	5.4E+01	5.4E+01
RE	75	183	2.9E-02	2.9E-02	PB	82	204	4.5E-03	4.5E-03
RE	75	184	1.8E-02	1.8E-02	PB	82	205	1.4E-01	1.4E-01
RE	75	184M	3.2E-03	3.2E-03	PB	82	210	3.2E-03	3.2E-03
RE	75	186	4.0E-01	4.0E-01	BI	83	205	4.1E-03	4.1E-03
RE	75	187	6.8E-01	6.8E-01	BI	83	206	1.1E-02	1.1E-02
RE	75	188	8.9E-01	8.9E-01	BI	83	207	1.2E-05	1.2E-05
RE	75	189	1.4E+00	1.4E+00	BI	83	208	6.0E-06	6.0E-06
OS	76	182	1.2E-02	1.2E-02	BI	83	210	4.3E-03	4.3E-03
OS	76	183	5.2E-02	5.2E-02	BI	83	210M	2.9E-06	2.9E-06
OS	76	185	3.3E-04	3.3E-04	PO	84	206	1.5E-01	1.5E-01
OS	76	191	7.8E-03	7.8E-03	PO	84	208	5.0E-04	5.0E-04
OS	76	191M	1.5E-01	1.5E-01	PO	84	209	1.2E-04	1.2E-04
OS	76	193	3.7E-02	3.7E-02	PO	84	210	5.5E-03	5.5E-03
OS	76	194	5.1E-06	5.1E-05	RN	86	211	7.4E+01	7.4E+01
IR	77	185	2.0E-01	2.0E-01	RN	86	222	4.7E+00	4.7E+00
IR	77	186	1.2E-01	1.2E-01	RA	88	223	9.9E-06	9.9E-06
IR	77	187	2.5E-01	2.5E-01	RA	88	224	3.0E-05	3.0E-05
IR	77	188	3.5E-02	3.5E-02	RA	88	225	7.7E-06	7.7E-06
IR	77	189	2.9E-02	2.9E-02	RA	88	226	1.4E-08	1.4E-08
IR	77	190	8.0E-03	8.0E-03	RA	88	228	4.4E-08	4.4E-08
IR	77	192	1.8E-03	1.8E-03	AC	89	225	7.3E-02	7.3E-02
IR	77	192M	1.5E-05	1.5E-05	AC	89	227	1.3E-04	1.3E-04
IR	77	193M	1.4E-01	1.4E-01	TH	90	227	7.3E-07	7.3E-07
IR	77	194	1.4E-01	1.4E-01	TH	90	228	1.9E-08	1.9E-08
PT	78	188	1.5E-04	1.5E-04	TH	90	229	1.8E-09	1.8E-09
PT	78	190	1.7E-07	1.7E-07	TH	90	230	1.7E-09	1.7E-09
PT	78	191	2.6E-03	2.6E-03	TH	90	231	1.1E-05	1.1E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	1.5E-09	1.5E-09
PT	78	193	7.3E-06	7.3E-06	TH	90	234	4.5E-07	4.5E-07
PT	78	193M	4.2E-03	4.2E-03	PA	91	228	6.2E-01	6.2E-01
PT	78	195M	3.9E-03	3.9E-03	PA	91	229	4.1E-01	4.1E-01
PT	78	197	1.7E-02	1.7E-02	PA	91	230	3.3E-02	3.3E-02
AU	79	193	9.4E-01	9.4E-01	PA	91	231	7.0E-05	7.0E-05
AU	79	194	1.2E-01	1.2E-01	PA	91	232	3.9E-01	3.9E-01
AU	79	195	1.1E-02	1.1E-02	PA	91	233	2.0E-02	2.0E-02
AU	79	196	9.3E-02	9.3E-02	U	92	230	3.8E-07	3.8E-07

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(4) Ovaries

TABLE 9B. UNIT-RAD CONTAMINATION FOR OVARIES

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.9E-06	1.9E-06
U	92	232	1.2E-09	1.2E-09
U	92	233	1.1E-09	1.1E-09
U	92	234	1.0E-09	1.0E-09
U	92	235	9.3E-10	9.3E-10
U	92	236	9.1E-10	9.1E-10
U	92	237	1.0E-06	1.0E-06
U	92	238	8.8E-10	8.8E-10
U	92	240	1.0E-05	1.0E-05
NP	93	234	2.7E-02	2.7E-02
NP	93	235	2.8E-04	2.8E-04
NP	93	236	1.4E-05	1.4E-05
NP	93	236M	1.2E-01	1.2E-01
NP	93	237	1.5E-05	1.5E-05
NP	93	238	5.1E-02	5.1E-02
NP	93	239	4.3E-02	4.3E-02
PU	94	236	4.4E-04	4.4E-04
PU	94	237	1.0E-02	1.0E-02
PU	94	238	6.6E-05	6.6E-05
PU	94	239	5.6E-05	5.6E-05
PU	94	240	5.5E-05	5.5E-05
PU	94	241	1.1E-04	1.1E-04
PU	94	242	5.3E-05	5.3E-05
PU	94	244	4.7E-05	4.7E-05
PU	94	246	3.3E-02	3.3E-02
AM	95	239	8.4E-01	8.4E-01
AM	95	240	1.9E-01	1.9E-01
AM	95	241	5.7E-05	5.7E-05
AM	95	242	5.9E-01	5.9E-01
AM	95	242M	5.6E-05	5.6E-05
AM	95	243	5.0E-05	5.0E-05

ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
CM	96	240	1.5E-02	1.5E-02
CM	96	241	1.2E-02	1.2E-02
CM	96	242	2.4E-03	2.4E-03
CM	96	243	6.7E-05	6.7E-05
CM	96	244	8.3E-05	8.3E-05
CM	96	245	5.0E-05	5.0E-05
CM	96	246	4.8E-05	4.8E-05
CM	96	247	4.5E-05	4.5E-05
CM	96	248	4.4E-05	4.4E-05
BK	97	245	7.6E-02	7.6E-02
BK	97	246	2.0E-01	2.0E-01
BK	97	247	4.5E-05	4.5E-05
BK	97	248	3.5E-01	3.5E-01
BK	97	249	1.1E-03	1.1E-03
CF	98	246	2.4E-01	2.4E-01
CF	98	248	9.6E-04	9.6E-04
CF	98	249	4.6E-05	4.6E-05
CF	98	250	1.0E-04	1.0E-04
CF	98	251	4.1E-05	4.1E-05
CF	98	252	3.2E-04	3.2E-04
CF	98	253	1.6E-02	1.6E-02
ES	99	251	2.1E-01	2.1E-01
ES	99	252	2.1E-03	2.1E-03
ES	99	253	1.5E-02	1.5E-02
ES	99	254	6.1E-04	6.1E-04
ES	99	254M	1.8E-01	1.8E-01
ES	99	255	1.2E-02	1.2E-02
FM	100	252	3.1E-01	3.1E-01
FM	100	253	6.8E-02	6.8E-02
FM	100	255	3.4E-01	3.4E-01
FM	100	257	3.5E-03	3.5E-03

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(4) Ovaries

TABLE 9B. UNIT-RAD CONTAMINATION FOR SPLEEN

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	5.5E+01	9.7E+00
BE	4	7	9.5E+01	8.5E+00	ZN	30	65	3.3E-03	3.3E-03
BE	4	10	1.1E-02	1.0E-02	ZN	30	69M	8.3E-01	8.3E-01
C	6	14	1.3E-03	1.3E-03	ZN	30	72	4.8E-02	4.8E-02
NA	11	22	3.2E-02	3.2E-02	GA	31	67	1.7E+02	6.1E+01
NA	11	24	4.3E+02	2.3E+01	GA	31	72	2.5E+02	2.2E+01
MG	12	28	3.0E+01	3.0E+01	GE	32	68	1.8E-05	1.8E-05
AL	13	26	1.4E-02	1.3E-02	GE	32	69	2.6E-03	2.6E-03
SI	14	32	3.7E-03	3.7E-03	GE	32	71	7.1E-02	7.1E-02
P	15	32	1.8E-02	6.5E-03	AS	33	71	9.8E+02	9.8E+02
P	15	33	8.4E-02	4.2E-02	AS	33	72	5.0E+02	5.0E+02
S	16	35	1.1E+00	1.1E+00	AS	33	73	2.0E+03	2.0E+03
CL	17	36	2.8E-02	2.8E-02	AS	33	74	5.2E+01	5.2E+01
AR	18	37	8.2E+02	8.2E+02	AS	33	76	6.9E+02	6.9E+02
AR	18	39	4.4E-02	4.4E-02	AS	33	77	3.5E+03	3.5E+03
AR	18	42	4.7E-03	4.7E-03	SE	34	72	7.3E-02	2.3E-02
K	19	40	1.3E-03	1.3E-03	SE	34	75	1.0E-02	8.7E-03
K	19	42	6.3E+02	5.5E+00	SE	34	79	1.7E-03	1.7E-03
K	19	43	3.8E+02	6.0E+00	BR	35	76	5.5E+02	4.4E+01
CA	20	41	6.7E+01	6.7E+01	BR	35	77	1.1E+02	2.6E+01
CA	20	45	1.3E+02	1.2E+02	BR	35	82	1.0E+02	1.6E+01
CA	20	47	6.0E+02	2.1E+02	KR	36	76	1.5E+02	1.5E+02
CA	20	48	6.6E-02	6.6E-02	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	1.3E+01	2.2E-02	KR	36	81	1.3E+00	1.3E+00
SC	21	46	1.5E-02	8.5E-04	KR	36	85	2.5E-01	2.5E-01
SC	21	47	6.0E+01	1.4E-01	RB	37	83	1.1E-02	5.7E-03
SC	21	48	1.8E+01	2.3E-02	RB	37	84	1.5E-02	4.4E-03
TI	22	44	8.2E-04	7.7E-04	RB	37	86	7.4E-02	1.4E-02
V	23	48	1.4E+02	2.1E+01	RB	37	87	4.2E-04	4.2E-04
V	23	49	8.0E+02	6.3E+02	SR	38	82	6.0E+00	4.1E+00
V	23	50	1.1E-01	1.1E-01	SR	38	83	2.3E+03	2.3E+02
CR	24	48	9.8E+00	9.8E+00	SR	38	85	1.3E+01	1.1E+01
CR	24	51	3.4E+01	3.4E+01	SR	38	89	1.1E+01	9.2E+00
MN	25	52	2.1E+00	5.5E-01	SR	38	90	4.3E-02	4.3E-02
MN	25	53	2.5E-01	2.4E-01	Y	39	86	2.7E+03	1.7E-01
MN	25	54	4.6E-02	4.4E-02	Y	39	87	4.4E+02	1.5E-01
FE	26	55	5.7E-01	3.6E-01	Y	39	87M	1.0E+04	5.9E-01
FE	26	59	5.5E-01	3.9E-02	Y	39	88	1.4E-01	1.5E-03
FE	26	60	1.2E-04	1.1E-04	Y	39	90	4.4E+02	1.2E-01
CO	27	55	2.4E+02	7.4E+00	Y	39	91	1.5E+00	9.0E-03
CO	27	56	1.1E-01	8.4E-02	ZR	40	86	2.1E+03	1.7E+00
CO	27	57	3.9E-01	3.5E-01	ZR	40	88	2.3E-01	2.0E-02
CO	27	58	2.5E-01	1.9E-01	ZR	40	89	2.4E+02	8.8E-01
CO	27	60	2.8E-03	2.7E-03	ZR	40	93	4.0E-02	3.5E-02
NI	28	56	2.2E+01	2.2E+01	ZR	40	95	7.3E-01	4.9E-02
NI	28	57	1.7E+02	1.7E+02	ZR	40	97	3.1E+03	2.4E+00
NI	28	59	8.7E+00	8.7E+00	NB	41	90	6.0E+01	3.8E-02
NI	28	63	4.2E+00	4.2E+00	NB	41	91	1.0E-03	9.0E-04
NI	28	66	1.2E+02	1.2E+02	NB	41	91M	1.4E-01	8.5E-03
CU	29	64	9.1E+02	3.9E+01	NB	41	92	1.2E+00	1.3E-02

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(5) Spleen

TABLE 9B. UNIT-RAD CONTAMINATION FOR SPLEEN

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	5.4E-03	3.2E-03	SB	51	122	1.5E-02	1.5E-02
NB	41	94	1.0E-05	9.1E-06	SB	51	124	3.3E-04	3.3E-04
NB	41	95	1.2E-01	4.3E-03	SB	51	125	9.1E-05	9.1E-05
NB	41	95M	8.0E+00	3.2E-02	SB	51	126	1.4E-03	1.4E-03
NB	41	96	4.6E+01	4.7E-02	SB	51	127	9.9E-03	9.9E-03
MO	42	93	1.3E+00	1.3E+00	TE	52	118	4.2E-02	7.0E-03
MO	42	99	3.0E+02	7.8E+01	TE	52	119	2.1E+00	4.5E-02
TC	43	95	8.0E-02	8.0E-02	TE	52	119M	4.2E-02	5.7E-03
TC	43	95M	8.4E-04	8.4E-04	TE	52	121	1.6E-02	5.7E-03
TC	43	96	5.0E-03	5.0E-03	TE	52	121M	5.2E-04	4.3E-04
TC	43	97	3.6E-04	3.6E-04	TE	52	123	2.5E-04	2.5E-04
TC	43	97M	5.1E-03	5.1E-03	TE	52	123M	2.6E-03	2.0E-03
TC	43	98	4.8E-06	4.8E-06	TE	52	125M	1.0E-02	6.9E-03
TC	43	99	7.9E-05	7.9E-05	TE	52	127M	2.0E-03	1.6E-03
RU	44	97	2.7E+01	4.8E-01	TE	52	129M	3.6E-03	1.9E-03
RU	44	103	1.8E-01	3.6E-02	TE	52	131M	5.0E-01	1.9E-02
RU	44	106	1.3E-03	9.3E-04	TE	52	132	5.9E-02	5.7E-03
RH	45	99	4.0E-02	1.7E-02	I	53	123	6.3E+00	4.5E-01
RH	45	100	2.5E+00	9.9E-02	I	53	124	1.5E-02	5.7E-03
RH	45	101	2.3E-04	2.3E-04	I	53	125	1.5E-02	1.3E-02
RH	45	101M	5.0E-01	8.9E-02	I	53	126	1.2E-02	7.9E-03
RH	45	102	4.2E-04	3.8E-04	I	53	129	9.3E-05	9.3E-05
RH	45	105	5.5E+00	3.7E-01	I	53	130	6.1E-01	4.2E-02
PD	46	100	1.1E-01	2.2E-02	I	53	131	2.1E-02	1.1E-02
PD	46	103	2.2E-01	1.2E-01	I	53	133	4.4E-01	4.9E-02
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	1.2E+01	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	8.9E-01	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	8.7E+00	5.6E+00	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	4.2E+01	1.1E+01	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	5.5E-02	5.5E-02	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	3.8E-01	3.5E-01	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	2.8E+02	7.1E+01	CS	55	129	7.8E+00	9.1E-02
CD	48	109	3.9E-03	2.7E-03	CS	55	131	2.6E+00	2.1E-01
CD	48	113M	1.8E-04	1.7E-04	CS	55	132	2.8E-01	1.6E-02
CD	48	115	4.8E+00	4.9E-02	CS	55	134	5.6E-05	4.9E-05
CD	48	115M	1.9E-02	3.2E-03	CS	55	135	1.8E-04	1.7E-04
IN	49	111	2.0E-03	1.1E-04	CS	55	136	2.3E-02	2.4E-03
IN	49	114M	4.2E-06	2.1E-06	CS	55	137	1.7E-05	1.6E-05
IN	49	115	8.2E-08	8.1E-03	BA	56	128	1.2E+03	1.8E+02
SN	50	113	1.4E+01	1.7E+00	BA	56	131	1.9E+02	8.8E+01
SN	50	117M	1.2E+03	1.9E+01	BA	56	133	1.2E+00	1.2E+00
SN	50	119M	1.7E+01	3.7E+00	BA	56	133M	9.2E+03	1.0E+03
SN	50	121	4.8E+05	6.1E+02	BA	56	135M	4.1E+04	3.5E+03
SN	50	121M	1.4E-01	1.2E-01	BA	56	140	4.8E+01	2.4E+01
SN	50	123M	7.7E+00	9.5E-01	LA	57	135	2.0E-01	2.0E-01
SN	50	125	4.4E+02	4.7E+00	LA	57	137	5.2E-04	5.2E-04
SN	50	126	3.7E-03	3.3E-03	LA	57	138	1.5E-05	1.5E-05
SB	51	119	5.8E-01	5.8E-01	LA	57	140	2.8E-02	2.8E-02
SB	51	120M	3.3E-03	3.3E-03	CE	58	134	1.5E+03	5.2E+00

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(5) Spleen

TABLE 9B. UNIT-RAD CONTAMINATION FOR SPLEEN

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	3.4E+04	3.0E+01	GD	64	159	5.4E+03	1.1E+01
CE	58	137M	2.5E+04	4.2E+01	GD	64	162	1.2E-02	6.0E-03
CE	58	139	5.3E+00	7.5E-01	TB	65	151	3.2E+03	7.1E+00
CE	58	141	7.0E+01	2.6E+03	TB	65	152	9.3E+02	2.1E+00
CE	58	142	2.8E-03	2.5E-03	TR	65	153	6.2E+02	4.6E+00
CE	58	143	8.0E+03	1.3E+01	TB	65	154	3.4E+03	8.8E+00
CE	58	144	8.0E-02	2.0E-02	TB	65	155	1.4E+02	2.3E+00
PR	59	142	4.3E-05	4.3E-05	TB	65	156	4.4E+01	6.8E-01
PR	59	143	8.0E-06	8.0E-06	TB	65	157	1.6E-02	1.5E-02
ND	60	140	1.1E-05	1.1E-05	TB	65	158	7.0E-04	6.6E-04
ND	60	144	3.2E-09	3.2E-09	TB	65	160	3.1E-01	5.5E-02
ND	60	147	1.4E-06	1.4E-06	TB	65	161	2.0E+02	4.0E+00
PM	61	143	1.6E-01	4.3E-02	TB	65	164	4.7E+03	1.4E+01
PM	61	144	1.3E-02	4.2E-03	DY	66	154	5.9E-10	5.9E-10
PM	61	145	1.9E-02	1.7E-02	DY	66	154M	2.0E-05	2.0E-05
PM	61	146	4.5E-03	3.1E-03	DY	66	156	9.2E-10	9.2E-10
PM	61	147	3.3E-03	1.9E-03	DY	66	159	3.8E-06	3.8E-06
PM	61	148	7.0E+01	5.1E-01	DY	66	166	9.4E-06	9.4E-06
PM	61	148M	3.5E-01	1.8E-02	HO	67	163	9.5E-08	9.5E-08
PM	61	149	1.5E+03	4.4E+03	HO	67	166	3.7E-05	3.7E-05
PM	61	151	2.1E+03	3.4E+00	HO	67	166M	4.2E-09	4.2E-09
SM	62	141	2.4E+00	6.6E-02	ER	68	160	1.2E-05	1.2E-05
SM	62	145	3.1E-01	1.0E-01	ER	68	169	4.6E-05	4.6E-05
SM	62	146	3.1E-04	2.8E-04	ER	68	172	1.6E-05	1.6E-05
SM	62	147	3.5E-04	3.2E-04	TM	69	165	5.7E+01	1.7E-01
SM	62	148	2.0E-04	1.8E-04	TM	69	167	4.1E+00	9.6E-02
SM	62	149	4.3E-04	3.9E-04	TM	69	168	2.3E-02	4.1E-03
SM	62	151	5.9E-02	5.2E-02	TM	69	170	4.9E-02	1.2E-02
SM	62	153	2.9E+03	7.8E+00	TM	69	171	6.2E-02	3.9E-02
EU	63	145	1.4E+02	1.8E+00	TM	69	172	3.3E+01	2.2E-01
EU	63	146	3.6E+01	3.7E-01	YB	70	166	8.8E+02	5.2E+00
EU	63	146M	4.4E+02	1.6E+00	YB	70	169	7.6E+00	5.5E-01
EU	63	147	2.1E+00	1.1E-01	YB	70	175	8.7E+02	8.8E+00
EU	63	148	2.4E+00	2.6E-01	LU	71	169	1.4E-05	1.4E-05
EU	63	149	6.8E-01	1.3E-01	LU	71	170	6.4E-06	6.4E-06
EU	63	150	5.4E-03	4.3E-03	LU	71	171	3.4E-05	3.4E-05
EU	63	150M	2.9E+03	3.5E+00	LU	71	172	6.0E-06	6.0E-06
EU	63	152	1.9E-03	1.7E-03	LU	71	173	1.1E-07	1.1E-07
EU	63	154	1.4E-03	1.3E-03	LU	71	174	2.4E-08	2.4E-08
EU	63	155	1.8E-01	1.1E-01	LU	71	174M	4.4E-07	4.4E-07
EU	63	156	9.5E+00	3.1E-01	LU	71	176	7.1E-09	7.1E-09
EU	63	157	7.8E+03	1.1E+01	LU	71	177	3.4E-05	3.4E-05
GD	64	146	1.1E-01	1.2E-02	LU	71	177M	1.2E-06	1.2E-06
GD	64	147	2.5E+02	6.7E-01	HF	72	170	7.8E-01	1.1E-03
GD	64	148	1.6E-04	1.5E-04	HF	72	171	1.5E+00	2.5E-03
GD	64	149	1.3E+01	3.0E-01	HF	72	172	1.4E-06	1.1E-06
GD	64	150	8.6E-05	8.2E-05	HF	72	173	4.6E-01	1.3E-03
GD	64	151	3.2E-01	7.7E-02	HF	72	174	1.3E-07	1.2E-07
GD	64	152	2.1E-04	2.0E-04	HF	72	175	4.1E-04	6.8E-05
GD	64	153	2.3E-01	8.9E-02	HF	72	181	6.5E-04	7.3E-05

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(5) Spleen

TABLE 9B. UNIT-RAD CONTAMINATION FOR SPLEEN

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	2.0E-07	1.9E-07	AU	79	198	4.3E+01	4.8E-01
TA	73	177	2.2E-01	2.1E-03	AU	79	199	1.0E+02	1.3E+00
TA	73	179	2.0E-04	1.4E-04	HG	80	194	2.5E-04	2.3E-04
TA	73	182	9.7E-05	3.2E-05	HG	80	195M	1.9E-01	2.7E-02
TA	73	183	8.3E-02	1.7E-03	HG	80	197	3.7E-01	7.8E-02
W	74	178	3.6E-04	3.6E-04	HG	80	197M	1.3E+00	1.2E-01
W	74	181	1.5E-03	1.5E-03	HG	80	203	5.9E-03	4.9E-03
W	74	185	1.5E-03	1.5E-03	TL	81	200	8.3E-02	3.4E-03
W	74	187	1.6E-02	1.6E-02	TL	81	201	6.5E-02	7.0E-03
W	74	188	1.5E-04	1.5E-04	TL	81	202	2.7E-03	8.8E-04
RE	75	180	4.4E-01	4.4E-01	TL	81	204	1.3E-05	1.3E-05
RE	75	181	4.8E-01	4.8E-01	PB	82	200	1.2E+01	1.2E+01
RE	75	182	1.7E-01	1.7E-01	PB	82	202	4.1E-03	4.1E-03
RE	75	182M	8.2E-01	8.2E-01	PB	82	203	1.1E+01	1.1E+01
RE	75	183	2.9E-02	2.9E-02	PB	82	204	9.4E-04	9.4E-04
RE	75	184	1.8E-02	1.8E-02	PB	82	205	2.8E-02	2.8E-02
RE	75	184M	3.2E-03	3.2E-03	PB	82	210	6.5E-04	6.5E-04
RE	75	186	4.0E-01	4.0E-01	BI	83	205	2.6E-03	1.6E-03
RE	75	187	6.8E-01	6.8E-01	BI	83	206	1.1E-02	4.2E-03
RE	75	188	8.9E-01	8.9E-01	BI	83	207	4.7E-06	4.7E-06
RE	75	189	1.4E+00	1.4E+00	BI	83	208	2.3E-06	2.3E-06
OS	76	182	1.2E-02	1.2E-02	BI	83	210	4.9E-03	1.6E-03
OS	76	183	5.2E-02	5.2E-02	BI	83	210M	1.1E-06	1.1E-06
OS	76	185	3.3E-04	3.3E-04	PO	84	206	1.2E+00	1.5E-01
OS	76	191	7.8E-03	7.8E-03	PO	84	208	5.3E-04	5.0E-04
OS	76	191M	1.5E-01	1.5E-01	PO	84	209	1.2E-04	1.2E-04
OS	76	193	3.7E-02	3.7E-02	PO	84	210	7.9E-03	5.5E-03
OS	76	194	5.1E-06	5.1E-06	RN	86	211	7.4E+01	7.4E+01
IR	77	185	1.6E+01	2.0E-01	RN	86	222	4.7E+00	4.7E+00
IR	77	186	9.5E+00	1.2E-01	RA	88	223	9.9E-06	9.9E-06
IR	77	187	2.6E+01	2.5E-01	RA	88	224	3.0E-05	3.0E-05
IR	77	188	1.1E+00	3.5E-02	RA	88	225	7.7E-06	7.7E-06
IR	77	189	1.4E-01	2.9E-02	RA	88	226	1.4E-08	1.4E-08
IR	77	190	4.2E-02	8.0E-03	RA	88	228	4.4E-08	4.4E-08
IR	77	192	2.9E-03	1.8E-03	AC	89	225	7.3E-02	7.3E-02
IR	77	192M	1.5E-05	1.5E-05	AC	89	227	1.3E-04	1.3E-04
IR	77	193M	7.3E-01	1.4E-01	TH	90	227	7.3E-07	7.3E-07
IR	77	194	8.7E+00	1.4E-01	TH	90	228	1.9E-08	1.9E-08
PT	78	188	1.0E-03	1.5E-04	TH	90	229	1.8E-09	1.8E-09
PT	78	190	1.8E-07	1.7E-07	TH	90	230	1.7E-09	1.7E-09
PT	78	191	5.4E-02	2.6E-03	TH	90	231	1.1E-05	1.1E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	1.5E-09	1.5E-09
PT	78	193	7.3E-06	7.3E-05	TH	90	234	4.5E-07	4.5E-07
PT	78	193M	6.1E-02	4.2E-03	PA	91	228	6.2E-01	6.2E-01
PT	78	195M	6.0E-02	3.9E-03	PA	91	229	4.1E-01	4.1E-01
PT	78	197	1.2E+00	1.7E-02	PA	91	230	3.3E-02	3.3E-02
AU	79	193	7.0E+02	2.2E+00	PA	91	231	7.0E-05	7.0E-05
AU	79	194	4.2E+01	2.9E-01	PA	91	232	3.9E-01	3.9E-01
AU	79	195	5.9E-02	2.6E-02	PA	91	233	2.0E-02	2.0E-02
AU	79	196	8.5E+00	2.1E-01	U	92	230	3.8E-07	3.8E-07

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(5) Spleen

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(5) Spleen

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TABLE 9B. UNIT-RAD CONTAMINATION FOR SPLEEN					VIA FRESHWATER.				
ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.9E-06	1.9E-06	CM	96	240	1.5E-02	1.5E-02
U	92	232	1.2E-09	1.2E-09	CM	96	241	1.2E-02	1.2E-02
U	92	233	1.1E-09	1.1E-09	CM	96	242	2.4E-03	2.4E-03
U	92	234	1.0E-09	1.0E-09	CM	96	243	6.7E-05	6.7E-05
U	92	235	9.3E-10	9.3E-10	CM	96	244	8.3E-05	8.3E-05
U	92	236	9.1E-10	9.1E-10	CM	96	245	5.0E-05	5.0E-05
U	92	237	1.0E-06	1.0E-06	CM	96	246	4.8E-05	4.8E-05
U	92	238	8.8E-10	8.8E-10	CM	96	247	4.5E-05	4.5E-05
U	92	240	1.0E-05	1.0E-05	CM	96	248	4.4E-05	4.4E-05
NP	93	234	2.7E-02	2.7E-02	BK	97	245	7.6E-02	7.6E-02
NP	93	235	2.8E-04	2.8E-04	BK	97	246	2.0E-01	2.0E-01
NP	93	236	1.4E-05	1.4E-05	BK	97	247	4.5E-05	4.5E-05
NP	93	236M	1.2E-01	1.2E-01	BK	97	248	3.5E-01	3.5E-01
NP	93	237	1.5E-05	1.5E-05	BK	97	249	1.1E-03	1.1E-03
NP	93	238	5.1E-02	5.1E-02	CF	98	246	2.4E-01	2.4E-01
NP	93	239	4.3E-02	4.3E-02	CF	98	248	9.6E-04	9.6E-04
PU	94	236	4.4E-04	4.4E-04	CF	98	249	4.6E-05	4.6E-05
PU	94	237	1.0E-02	1.0E-02	CF	98	250	1.0E-04	1.0E-04
PU	94	238	6.6E-05	6.6E-05	CF	98	251	4.1E-05	4.1E-05
PU	94	239	5.6E-05	5.6E-05	CF	98	252	3.2E-04	3.2E-04
PU	94	240	5.5E-05	5.5E-05	CF	98	253	1.6E-02	1.6E-02
PU	94	241	1.1E-04	1.1E-04	ES	99	251	2.1E-01	2.1E-01
PU	94	242	5.3E-05	5.3E-05	ES	99	252	2.1E-03	2.1E-03
PU	94	244	4.7E-05	4.7E-05	ES	99	253	1.5E-02	1.5E-02
PU	94	246	3.3E-02	3.3E-02	ES	99	254	6.1E-04	6.1E-04
AM	95	239	8.4E-01	8.4E-01	ES	99	254M	1.8E-01	1.8E-01
AM	95	240	1.9E-01	1.9E-01	ES	99	255	1.2E-02	1.2E-02
AM	95	241	5.7E-05	5.7E-05	FM	100	252	3.1E-01	3.1E-01
AM	95	242	5.9E-01	5.9E-01	FM	100	253	6.8E-02	6.8E-02
AM	95	242M	5.6E-05	5.6E-05	FM	100	255	3.4E-01	3.4E-01
AM	95	243	5.0E-05	5.0E-05	FM	100	257	3.5E-03	3.5E-03

TABLE 9B. UNIT-RAD CONTAMINATION FOR TESTES

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	6.6E+01	1.3E+01
BE	4	7	8.5E+00	8.5E+00	ZN	30	65	7.7E-03	3.7E-03
BE	4	10	1.0E-02	1.0E-02	ZN	30	69M	4.3E+02	9.3E-01
C	6	14	1.3E-03	1.3E-03	ZN	30	72	7.5E+00	5.4E-02
NA	11	22	1.8E-02	1.8E-02	GA	31	67	6.8E+01	6.8E+01
NA	11	24	2.4E+02	1.3E+01	GA	31	72	2.4E+01	2.4E+01
MG	12	28	3.8E+01	3.8E+01	GE	32	68	1.8E-05	1.8E-05
AL	13	26	2.5E-02	2.5E-02	GE	32	69	2.6E-03	2.6E-03
SI	14	32	4.1E-03	4.0E-03	GE	32	71	7.1E-02	7.1E-02
P	15	32	2.2E-02	9.8E-03	AS	33	71	4.9E+02	4.9E+02
P	15	33	1.1E-01	6.3E-02	AS	33	72	2.5E+02	2.5E+02
S	16	35	8.6E+00	1.1E+00	AS	33	73	1.0E+03	1.0E+03
CL	17	36	1.8E-02	1.8E-02	AS	33	74	2.6E+01	2.6E+01
AR	18	37	8.2E+02	8.2E+02	AS	33	76	3.4E+02	3.4E+02
AR	18	39	4.4E-02	4.4E-02	AS	33	77	1.8E+03	1.8E+03
AR	18	42	4.7E-03	4.7E-03	SE	34	72	2.3E-02	2.3E-02
K	19	40	1.9E-03	1.9E-03	SE	34	75	8.7E-03	8.7E-03
K	19	42	9.4E+02	8.3E+00	SE	34	79	1.7E-03	1.7E-03
K	19	43	5.6E+02	8.9E+00	BR	35	76	7.0E+03	5.6E+02
CA	20	41	5.0E+01	4.9E+01	BR	35	77	1.4E+03	3.3E+02
CA	20	45	1.0E+02	9.1E+01	BR	35	82	1.3E+03	2.0E+02
CA	20	47	7.0E+02	1.5E+02	KR	36	76	1.5E+02	1.5E+02
CA	20	48	4.9E-02	4.9E-02	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	4.3E-03	4.3E-03	KR	36	81	1.3E+00	1.3E+00
SC	21	46	1.7E-04	1.7E-04	KR	36	85	2.5E-01	2.5E-01
SC	21	47	2.8E-02	2.8E-02	RB	37	83	4.0E-02	2.0E-02
SC	21	48	4.6E-03	4.6E-03	RB	37	84	5.4E-02	1.6E-02
TI	22	44	1.4E-03	1.4E-03	RB	37	86	2.6E-01	5.0E-02
V	23	48	6.9E+00	6.9E+00	RB	37	87	1.5E-03	1.5E-03
V	23	49	2.1E+02	2.1E+02	SR	38	82	4.4E+00	2.4E+00
V	23	50	3.6E-02	3.6E-02	SR	38	83	2.2E+03	1.4E+02
CR	24	48	6.4E+00	6.4E+00	SR	38	85	8.3E+00	6.4E+00
CR	24	51	2.2E+01	2.2E+01	SR	38	89	7.7E+00	5.5E+00
MN	25	52	3.6E+00	6.4E-01	SR	38	90	2.6E-02	2.6E-02
MN	25	53	2.9E-01	2.9E-01	Y	39	86	2.3E+03	1.7E-01
MN	25	54	5.6E-02	5.1E-02	Y	39	87	3.7E+02	1.5E-01
FE	26	55	5.2E+00	4.2E+00	Y	39	87M	8.4E+03	5.9E-01
FE	26	59	2.9E+00	4.6E-01	Y	39	88	1.1E-01	1.5E-03
FE	26	60	1.4E-03	1.3E-03	Y	39	90	3.7E+02	1.2E-01
CO	27	55	8.7E+00	2.6E-01	Y	39	91	1.3E+00	9.0E-03
CO	27	56	3.9E-03	3.0E-03	ZR	40	86	2.6E+03	2.3E+00
CO	27	57	1.4E-02	1.3E-02	ZR	40	88	2.9E-01	2.7E-02
CO	27	58	9.0E-03	6.7E-03	ZR	40	89	3.0E+02	1.2E+00
CO	27	60	9.9E-05	9.8E-05	ZR	40	93	5.4E-02	4.8E-02
NI	28	56	8.4E+00	8.4E+00	ZR	40	95	9.0E-01	6.8E-02
NI	28	57	6.6E+01	6.6E+01	ZR	40	97	3.8E+03	3.3E+00
NI	28	59	3.4E+00	3.4E+00	NB	41	90	4.7E-02	4.7E-02
NI	28	63	1.6E+00	1.6E+00	NB	41	91	1.1E-03	1.1E-03
NI	28	66	4.7E+01	4.7E+01	NB	41	91M	1.0E-02	1.0E-02
CU	29	64	1.1E+03	5.4E+01	NB	41	92	1.5E-02	1.5E-02

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(6) Testes

TABLE 9B. UNIT-RAD CONTAMINATION FOR TESTES

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	3.9E-03	3.9E-03	SB	51	122	3.0E-02	3.0E-02
NB	41	94	1.1E-05	1.1E-05	SB	51	124	6.7E-04	6.7E-04
NB	41	95	5.3E-03	5.3E-03	SB	51	125	1.8E-04	1.8E-04
NB	41	95M	3.9E-02	3.9E-02	SB	51	126	2.8E-03	2.8E-03
NB	41	96	5.7E-02	5.7E-02	SB	51	127	2.0E-02	2.0E-02
MO	42	93	1.6E+00	1.6E+00	TE	52	118	4.2E-02	7.0E-03
MO	42	99	7.5E+02	9.9E+01	TE	52	119	2.1E+00	4.5E-02
TC	43	95	8.0E-02	8.0E-02	TE	52	119M	4.2E-02	5.7E-03
TC	43	95M	8.4E-04	8.4E-04	TE	52	121	1.6E-02	5.7E-03
TC	43	96	5.0E-03	5.0E-03	TE	52	121M	5.2E-04	4.3E-04
TC	43	97	3.6E-04	3.6E-04	TE	52	123	2.5E-04	2.5E-04
TC	43	97M	5.1E-03	5.1E-03	TE	52	123M	2.6E-03	2.0E-03
TC	43	98	4.8E-06	4.8E-06	TE	52	125M	1.0E-02	6.9E-03
TC	43	99	7.9E-05	7.9E-05	TE	52	127M	2.0E-03	1.6E-03
RU	44	97	6.1E+01	9.6E-01	TE	52	129M	3.6E-03	1.9E-03
RU	44	103	3.9E-01	7.1E-02	TE	52	131M	5.0E-01	1.9E-02
RU	44	106	2.8E-03	1.9E-03	TE	52	132	5.9E-02	5.7E-03
RH	45	99	1.7E-02	1.7E-02	I	53	123	6.3E+00	4.5E-01
RH	45	100	9.9E-02	9.9E-02	I	53	124	1.5E-02	5.7E-03
RH	45	101	2.3E-04	2.3E-04	I	53	125	1.5E-02	1.3E-02
RH	45	101M	8.9E-02	8.9E-02	I	53	126	1.2E-02	7.9E-03
RH	45	102	3.8E-04	3.8E-04	I	53	129	9.3E-05	9.3E-05
RH	45	105	3.7E-01	3.7E-01	I	53	130	6.1E-01	4.2E-02
PD	46	100	2.2E-02	2.2E-02	I	53	131	2.1E-02	1.1E-02
PD	46	103	1.2E-01	1.2E-01	I	53	133	4.4E-01	4.9E-02
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	4.4E-01	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	4.9E-02	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	8.4E+00	7.1E+00	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	2.7E+01	1.5E+01	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	7.0E-02	7.0E-02	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	4.5E-01	4.4E-01	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	1.8E+02	9.1E+01	CS	55	129	1.6E+01	1.8E-01
CD	48	109	3.4E-03	3.4E-03	CS	55	131	5.3E+00	4.3E-01
CD	48	113M	2.2E-04	2.2E-04	CS	55	132	5.7E-01	3.2E-02
CD	48	115	6.3E-02	6.3E-02	CS	55	134	1.1E-04	9.8E-05
CD	48	115M	4.0E-03	4.0E-03	CS	55	135	3.5E-04	3.5E-04
IN	49	111	1.1E-04	1.1E-04	CS	55	136	4.6E-02	4.8E-03
IN	49	114M	2.1E-06	2.1E-06	CS	55	137	3.3E-05	3.3E-05
IN	49	115	8.1E-08	8.1E-08	BA	56	128	7.6E+02	2.1E+02
SN	50	113	3.4E+00	2.3E+00	BA	56	131	1.6E+02	1.0E+02
SN	50	117M	1.3E+02	2.5E+01	BA	56	133	1.3E+00	1.3E+00
SN	50	119M	6.3E+00	5.1E+00	BA	56	133M	5.7E+03	1.2E+03
SN	50	121	4.5E+04	8.3E+02	BA	56	135M	2.5E+04	4.0E+03
SN	50	121M	1.6E-01	1.6E-01	BA	56	140	4.1E+01	2.7E+01
SN	50	123M	1.9E+00	1.3E+00	LA	57	135	2.5E-01	2.5E-01
SN	50	125	4.7E+01	6.3E+00	LA	57	137	6.4E-04	6.4E-04
SV	50	126	4.5E-03	4.5E-03	LA	57	138	1.8E-05	1.8E-05
SB	51	119	1.2E+00	1.2E+00	LA	57	140	3.4E-02	3.4E-02
SB	51	120M	6.6E-03	6.6E-03	CE	58	134	1.2E+01	1.0E-01

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(6) Testes

TABLE 9B. UNIT-RAD CONTAMINATION FOR TESTES

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	2.8E+02	6.1E-01	GD	64	159	4.7E+02	1.1E+00
CE	58	137M	2.0E+02	8.4E-01	GD	64	162	1.1E-03	6.0E-04
CE	58	139	5.2E-02	1.5E-02	TB	65	151	3.8E+02	7.1E-01
CE	58	141	5.9E-01	5.2E-02	TB	65	152	1.1E+02	2.1E-01
CE	58	142	5.2E-05	5.0E-05	TB	65	153	7.2E+01	4.6E-01
CE	58	143	6.5E+01	2.6E-01	TB	65	154	4.1E+02	8.8E-01
CE	58	144	8.9E-04	4.1E-04	TB	65	155	1.7E+01	2.3E-01
PR	59	142	4.3E-05	4.3E-05	TB	65	156	5.1E+00	6.8E-02
PR	59	143	8.0E-06	8.0E-06	TB	65	157	1.6E-03	1.5E-03
ND	60	140	1.1E-05	1.1E-05	TB	65	158	7.0E-05	6.6E-05
ND	60	144	3.2E-09	3.2E-09	TB	65	160	3.6E-02	5.5E-03
ND	60	147	1.4E-06	1.4E-06	TB	65	161	2.4E+01	4.0E-01
PM	61	143	1.1E-02	4.3E-03	TB	65	164	5.5E+02	1.4E+00
PM	61	144	8.8E-04	4.2E-04	DY	66	154	5.9E-10	5.9E-10
PM	61	145	1.8E-03	1.7E-03	DY	66	154M	2.0E-05	2.0E-05
PM	61	146	3.9E-04	3.1E-04	DY	66	156	9.2E-10	9.2E-10
PM	61	147	2.7E-04	1.9E-04	DY	66	159	3.8E-06	3.8E-06
PM	61	148	3.8E+00	5.1E-02	DY	66	166	9.4E-06	9.4E-06
PM	61	148M	2.0E-02	1.8E-03	HO	67	163	9.5E-08	9.5E-08
PM	61	149	8.0E+01	4.4E-01	HO	67	166	3.7E-05	3.7E-05
PM	61	151	1.1E+02	3.4E-01	HO	67	166M	4.2E-09	4.2E-09
SM	62	141	1.4E+00	6.6E-02	ER	68	160	1.2E-05	1.2E-05
SM	62	145	2.2E-01	1.0E-01	ER	68	169	4.6E-05	4.6E-05
SM	62	146	3.0E-04	2.8E-04	ER	68	172	1.6E-05	1.6E-05
SM	62	147	3.4E-04	3.2E-04	TM	69	165	2.9E+01	8.6E-02
SM	62	148	1.9E-04	1.8E-04	TM	69	167	2.1E+00	4.8E-02
SM	62	149	4.1E-04	3.9E-04	TM	69	168	1.2E-02	2.1E-03
SM	62	151	5.6E-02	5.2E-02	TM	69	170	2.4E-02	5.8E-03
SM	62	153	1.6E+03	7.8E+00	TM	69	171	3.1E-02	2.0E-02
EU	63	145	1.2E+02	1.8E+00	TM	69	172	1.6E+01	1.1E-01
EU	63	146	3.1E+01	3.7E-01	YB	70	166	4.4E+01	2.6E-01
EU	63	146M	3.8E+02	1.6E+00	YB	70	169	3.8E-01	2.8E-02
EU	63	147	1.8E+00	1.1E-01	YB	70	175	4.4E+01	4.4E-01
EU	63	148	2.1E+00	2.6E-01	LU	71	169	1.4E-05	1.4E-05
EU	63	149	6.0E-01	1.3E-01	LU	71	170	6.4E-06	6.4E-06
EU	63	150	5.2E-03	4.3E-03	LU	71	171	3.4E-05	3.4E-05
EU	63	150M	2.5E+03	3.5E+00	LU	71	172	6.0E-06	6.0E-06
EU	63	152	1.9E-03	1.7E-03	LU	71	173	1.1E-07	1.1E-07
EU	63	154	1.4E-03	1.3E-03	LU	71	174	2.4E-08	2.4E-08
EU	63	155	1.7E-01	1.1E-01	LU	71	174M	4.4E-07	4.4E-07
EU	63	156	8.1E+00	3.1E-01	LU	71	176	7.1E-09	7.1E-09
EU	63	157	6.7E+05	1.1E+01	LU	71	177	3.4E-05	3.4E-05
GD	64	146	9.6E-03	1.2E-03	LU	71	177M	1.2E-06	1.2E-06
GD	64	147	2.1E+01	6.7E-02	HF	72	170	1.2E+02	1.1E-01
GD	64	148	1.6E-05	1.5E-05	HF	72	171	2.4E+02	2.5E-01
GD	64	149	1.1E+00	3.0E-02	HF	72	172	1.5E-04	1.1E-04
GD	64	150	8.5E-06	8.2E-06	HF	72	173	7.5E+01	1.3E-01
GD	64	151	2.9E-02	7.7E-03	HF	72	174	1.3E-05	1.2E-05
GD	64	152	2.1E-05	2.0E-05	HF	72	175	6.1E-02	6.8E-03
GD	64	153	2.1E-02	8.9E-03	HF	72	181	1.0E-01	7.3E-03

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(6) Testes

TABLE 9B. UNIT-RAD CONTAMINATION FOR TESTES

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	2.0E-05	1.9E-05	AU	79	198	4.3E-01	4.3E-01
TA	73	177	2.1E-01	1.0E-03	AU	79	199	1.2E+00	1.2E+00
TA	73	179	1.3E-04	7.1E-05	HG	80	194	3.1E-05	3.1E-05
TA	73	182	7.9E-05	1.6E-05	HG	80	195M	3.5E-03	3.5E-03
TA	73	183	7.9E-02	8.4E-04	HG	80	197	1.0E-02	1.0E-02
W	74	178	3.6E-04	3.6E-04	HG	80	197M	1.5E-02	1.5E-02
W	74	181	1.5E-03	1.5E-03	HG	80	203	6.3E-04	6.3E-04
W	74	185	1.5E-03	1.5E-03	TL	81	200	4.7E-03	4.7E-03
W	74	187	1.6E-02	1.6E-02	TL	81	201	9.7E-03	9.7E-03
W	74	188	1.5E-04	1.5E-04	TL	81	202	1.2E-03	1.2E-03
RE	75	180	4.4E-01	4.4E-01	TL	81	204	1.7E-05	1.7E-05
RE	75	181	4.8E-01	4.8E-01	PB	82	200	5.2E+01	5.2E+01
RE	75	182	1.7E-01	1.7E-01	PB	82	202	1.8E-02	1.8E-02
RE	75	182M	8.2E-01	8.2E-01	PB	82	203	4.9E+01	4.9E+01
RE	75	183	2.9E-02	2.9E-02	PB	82	204	4.1E-03	4.1E-03
RE	75	184	1.8E-02	1.8E-02	PB	82	205	1.2E-01	1.2E-01
RE	75	184M	3.2E-03	3.2E-03	PB	82	210	2.8E-03	2.8E-03
RE	75	186	4.0E-01	4.0E-01	BI	83	205	4.1E-04	4.1E-04
RE	75	187	6.8E-01	6.8E-01	BI	83	206	1.1E-03	1.1E-03
RE	75	188	8.9E-01	8.9E-01	BI	83	207	1.2E-06	1.2E-06
RE	75	189	1.4E+00	1.4E+00	BI	83	208	6.0E-07	6.0E-07
OS	76	182	1.2E-02	1.2E-02	BI	83	210	4.3E-04	4.3E-04
OS	76	183	5.2E-02	5.2E-02	BI	83	210M	2.9E-07	2.9E-07
OS	76	185	3.3E-04	3.3E-04	PO	84	206	1.5E-01	1.5E-01
OS	76	191	7.8E-03	7.8E-03	PO	84	208	5.0E-04	5.0E-04
OS	76	191M	1.5E-01	1.5E-01	PO	84	209	1.2E-04	1.2E-04
OS	76	193	3.7E-02	3.7E-02	PO	84	210	5.5E-03	5.5E-03
OS	76	194	5.1E-06	5.1E-06	RN	86	211	7.4E+01	7.4E+01
IR	77	185	2.0E-01	2.0E-01	RN	86	222	4.7E+00	4.7E+00
IR	77	186	1.2E-01	1.2E-01	RA	88	223	9.9E-06	9.9E-06
IR	77	187	2.5E-01	2.5E-01	RA	88	224	3.0E-05	3.0E-05
IR	77	188	3.5E-02	3.5E-02	RA	88	225	7.7E-06	7.7E-06
IR	77	189	2.9E-02	2.9E-02	RA	88	226	1.4E-08	1.4E-08
IR	77	190	8.0E-03	8.0E-03	RA	88	228	4.4E-08	4.4E-08
IR	77	192	1.8E-03	1.8E-03	AC	89	225	7.3E-02	7.3E-02
IR	77	192M	1.5E-05	1.5E-05	AC	89	227	1.3E-04	1.3E-04
IR	77	193M	1.4E-01	1.4E-01	TH	90	227	7.3E-07	7.3E-07
IR	77	194	1.4E-01	1.4E-01	TH	90	228	1.9E-08	1.9E-08
PT	78	188	1.5E-04	1.5E-04	TH	90	229	1.8E-09	1.8E-09
PT	78	190	1.7E-07	1.7E-07	TH	90	230	1.7E-09	1.7E-09
PT	78	191	2.6E-03	2.6E-03	TH	90	231	1.1E-05	1.1E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	1.5E-09	1.5E-09
PT	78	193	7.3E-06	7.3E-06	TH	90	234	4.5E-07	4.5E-07
PT	78	193M	4.2E-03	4.2E-03	PA	91	228	6.2E-01	6.2E-01
PT	78	195M	3.9E-03	3.9E-03	PA	91	229	4.1E-01	4.1E-01
PT	78	197	1.7E-02	1.7E-02	PA	91	230	3.3E-02	3.3E-02
AU	79	193	2.0E+00	2.0E+00	PA	91	231	7.0E-05	7.0E-05
AU	79	194	2.6E-01	2.6E-01	PA	91	232	3.9E-01	3.9E-01
AU	79	195	2.3E-02	2.3E-02	PA	91	233	2.0E-02	2.0E-02
AU	79	196	1.9E-01	1.9E-01	U	92	230	3.8E-07	3.8E-07

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(b) Testes

TABLE 9B. UNIT-RAD CONTAMINATION FOR TESTES

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.9E-06	1.9E-06	CM	96	240	1.5E-02	1.5E-02
U	92	232	1.2E-09	1.2E-09	CM	96	241	1.2E-02	1.2E-02
U	92	233	1.1E-09	1.1E-09	CM	96	242	2.4E-03	2.4E-03
U	92	234	1.0E-09	1.0E-09	CM	96	243	6.7E-05	6.7E-05
U	92	235	9.3E-10	9.3E-10	CM	96	244	8.3E-05	8.3E-05
U	92	236	9.1E-10	9.1E-10	CM	96	245	5.0E-05	5.0E-05
U	92	237	1.0E-06	1.0E-06	CM	96	246	4.8E-05	4.8E-05
U	92	238	8.8E-10	8.8E-10	CM	96	247	4.5E-05	4.5E-05
U	92	240	1.0E-05	1.0E-05	CM	96	248	4.4E-05	4.4E-05
NP	93	234	2.7E-02	2.7E-02	BK	97	245	7.6E-02	7.6E-02
NP	93	235	2.8E-04	2.8E-04	BK	97	246	2.0E-01	2.0E-01
NP	93	236	1.4E-05	1.4E-05	BK	97	247	4.5E-05	4.5E-05
NP	93	236M	1.2E-01	1.2E-01	BK	97	248	3.5E-01	3.5E-01
NP	93	237	1.5E-05	1.5E-05	BK	97	249	1.1E-03	1.1E-03
NP	93	238	5.1E-02	5.1E-02	CF	98	246	2.4E-01	2.4E-01
NP	93	239	4.3E-02	4.3E-02	CF	98	248	9.6E-04	9.6E-04
PU	94	236	4.4E-04	4.4E-04	CF	98	249	4.6E-05	4.6E-05
PU	94	237	1.0E-02	1.0E-02	CF	98	250	1.0E-04	1.0E-04
PU	94	238	6.6E-05	6.6E-05	CF	98	251	4.1E-05	4.1E-05
PU	94	239	5.6E-05	5.6E-05	CF	98	252	3.2E-04	3.2E-04
PU	94	240	5.5E-05	5.5E-05	CF	98	253	1.6E-02	1.6E-02
PU	94	241	1.1E-04	1.1E-04	ES	99	251	2.1E-01	2.1E-01
PU	94	242	5.3E-05	5.3E-05	ES	99	252	2.1E-03	2.1E-03
PU	94	244	4.7E-05	4.7E-05	ES	99	253	1.5E-02	1.5E-02
PU	94	246	3.3E-02	3.3E-02	ES	99	254	6.1E-04	6.1E-04
AM	95	239	8.4E-01	8.4E-01	ES	99	254M	1.8E-01	1.8E-01
AM	95	240	1.9E-01	1.9E-01	ES	99	255	1.2E-02	1.2E-02
AM	95	241	5.7E-05	5.7E-05	FM	100	252	3.1E-01	3.1E-01
AM	95	242	5.9E-01	5.9E-01	FM	100	253	6.8E-02	6.8E-02
AM	95	242M	5.6E-05	5.6E-05	FM	100	255	3.4E-01	3.4E-01
AM	95	243	5.0E-05	5.0E-05	FM	100	257	3.5E-03	3.5E-03

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(6) Testes

TABLE 9B. UNIT-RAD CONTAMINATION FOR WHOLE BODY VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	1.2E+03	1.3E+01
BE	4	7	8.6E+03	2.0E+03	ZN	30	65	1.3E-02	2.8E-03
BE	4	10	2.4E+00	2.4E+00	ZN	30	69M	1.1E+03	7.1E-01
C	6	14	1.3E-03	1.3E-03	ZN	30	72	2.0E+01	4.1E-02
NA	11	22	1.9E-02	1.9E-02	GA	31	67	5.8E+04	2.0E+04
NA	11	24	2.6E+02	1.4E+01	GA	31	72	8.2E+04	7.3E+03
MG	12	28	4.5E+03	2.2E+01	GE	32	68	1.8E-05	1.8E-05
AL	13	26	2.4E-02	2.2E-02	GE	32	69	4.2E-03	2.6E-03
SI	14	32	4.2E-03	4.2E-03	GE	32	71	7.7E-02	7.1E-02
P	15	32	2.9E-02	1.5E-03	AS	33	71	1.5E+03	1.4E+01
P	15	33	1.1E-01	9.9E-03	AS	33	72	1.9E+03	7.2E+00
S	16	35	8.6E+00	4.2E+00	AS	33	73	1.4E+02	2.9E+01
CL	17	36	2.2E-02	2.1E-02	AS	33	74	1.2E+01	7.4E-01
AR	18	37	8.2E+02	8.2E+02	AS	33	76	2.5E+03	9.8E+00
AR	18	39	4.4E-02	4.4E-02	AS	33	77	8.8E+03	5.1E+01
AR	18	42	4.7E-03	4.7E-03	SE	34	72	1.1E+00	4.6E-01
K	19	40	2.5E-03	2.5E-03	SE	34	75	1.9E-01	1.7E-01
K	19	42	1.2E+03	1.1E+01	SE	34	79	3.5E-02	3.5E-02
K	19	43	7.3E+02	1.2E+01	BR	35	76	6.0E+03	4.7E+02
CA	20	41	2.9E+00	5.9E-01	BR	35	77	1.2E+03	2.8E+02
CA	20	45	1.1E+02	1.1E+00	BR	35	82	1.1E+03	1.7E+02
CA	20	47	6.3E+03	1.8E+00	KR	36	76	1.5E+02	1.5E+02
CA	20	48	2.9E-03	5.8E-04	KR	36	79	1.9E+02	1.9E+02
SC	21	44M	1.3E+02	2.2E-01	KR	36	81	1.3E+00	1.3E+00
SC	21	46	1.5E-01	8.5E-03	KR	36	85	2.5E-01	2.5E-01
SC	21	47	6.0E+02	1.4E+00	RB	37	83	1.0E-01	5.1E-02
SC	21	48	1.8E+02	2.3E-01	RB	37	84	1.4E-01	4.0E-02
TI	22	44	4.2E-04	4.0E-04	RB	37	86	6.7E-01	1.3E-01
V	23	48	6.6E+01	1.8E+01	RB	37	87	3.8E-03	3.8E-03
V	23	49	6.2E+02	5.5E+02	SR	38	82	4.4E+01	8.6E-02
V	23	50	9.6E-02	9.5E-02	SR	38	83	4.6E+04	4.9E+00
CR	24	48	1.4E+03	2.2E+00	SR	38	85	4.5E+01	2.2E-01
CR	24	51	1.8E+02	7.7E+00	SR	38	89	5.0E+01	1.9E-01
MN	25	52	2.9E+00	3.9E-01	SR	38	90	4.2E-03	8.9E-04
MN	25	53	1.8E-01	1.8E-01	Y	39	86	3.8E+03	1.7E-01
MN	25	54	3.5E-02	3.1E-02	Y	39	87	6.2E+02	1.5E-01
FE	26	55	5.6E+00	3.1E+00	Y	39	87M	1.4E+04	5.9E-01
FE	26	59	6.3E+00	2.4E-01	Y	39	88	1.9E-01	1.5E-03
FE	26	60	1.1E-03	9.8E-04	Y	39	90	6.2E+02	1.2E-01
CO	27	55	9.9E+02	3.0E+01	Y	39	91	2.1E+00	9.0E-03
CO	27	56	4.5E-01	3.4E-01	ZR	40	86	1.3E+04	2.1E+01
CO	27	57	1.6E+00	1.4E+00	ZR	40	88	1.6E+00	2.6E-01
CO	27	58	1.0E+00	7.7E-01	ZR	40	89	1.6E+03	1.1E+01
CO	27	60	1.1E-02	1.1E-02	ZR	40	93	4.8E-01	4.5E-01
NI	28	56	8.4E+02	7.6E+00	ZR	40	95	5.0E+00	6.3E-01
NI	28	57	2.6E+04	5.9E+01	ZR	40	97	2.0E+04	3.1E+01
NI	28	59	3.3E+00	3.0E+00	NB	41	90	7.5E+01	6.0E-02
NI	28	63	1.6E+00	1.5E+00	NB	41	91	1.6E-03	1.4E-03
NI	28	66	1.2E+04	4.2E+01	NB	41	91M	1.8E-01	1.3E-02
CU	29	64	2.3E+04	5.0E+01	NB	41	92	1.5E+00	2.0E-02

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(7) Whole body

TABLE 9B. UNIT-RAD CONTAMINATION FOR WHOLE BODY VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	7.8E-03	5.0E-03	SB	51	122	4.4E-01	3.0E-02
NB	41	94	1.6E-05	1.4E-05	SB	51	124	1.1E-03	6.7E-04
NB	41	95	1.5E-01	6.8E-03	SB	51	125	1.9E-04	1.8E-04
NB	41	95M	1.0E+01	5.0E-02	SB	51	126	1.1E-02	2.8E-03
NB	41	96	5.8E+01	7.4E-02	SB	51	127	2.1E-01	2.0E-02
MO	42	93	4.2E-01	4.1E-01	TE	52	118	2.4E-01	7.0E-02
MO	42	99	9.3E+02	2.5E+01	TE	52	119	1.1E+01	4.5E-01
TC	43	95	7.4E+00	1.6E+00	TE	52	119M	2.4E-01	5.7E-02
TC	43	95M	1.8E-02	1.7E-02	TE	52	121	1.1E-01	5.7E-02
TC	43	96	1.7E-01	1.0E-01	TE	52	121M	4.8E-03	4.3E-03
TC	43	97	7.1E-03	7.1E-03	TE	52	123	2.5E-03	2.5E-03
TC	43	97M	1.1E-01	1.0E-01	TE	52	123M	2.3E-02	2.0E-02
TC	43	98	9.6E-05	9.6E-05	TE	52	125M	8.7E-02	6.9E-02
TC	43	99	1.6E-03	1.6E-03	TE	52	127M	1.8E-02	1.6E-02
RU	44	97	2.2E+02	4.8E+00	TE	52	129M	2.7E-02	1.9E-02
RU	44	103	1.5E+00	3.6E-01	TE	52	131M	2.6E+00	1.9E-01
RU	44	106	1.3E-02	9.3E-03	TE	52	132	3.2E-01	5.7E-02
RH	45	99	2.9E-02	1.7E-02	I	53	123	1.1E+05	4.3E+02
RH	45	100	1.3E+00	9.9E-02	I	53	124	1.9E+02	5.5E+00
RH	45	101	2.3E-04	2.3E-04	I	53	125	4.3E+01	1.3E+01
RH	45	101M	2.9E-01	8.9E-02	I	53	126	8.7E+01	7.6E+00
RH	45	102	4.0E-04	3.8E-04	I	53	129	9.1E-02	8.9E-02
RH	45	105	3.0E+00	3.7E-01	I	53	130	1.1E+04	4.0E+01
PD	46	100	5.2E-02	2.2E-02	I	53	131	2.0E+02	1.1E+01
PD	46	103	1.5E-01	1.2E-01	I	53	133	7.5E+03	4.8E+01
PD	46	107	1.5E-02	1.5E-02	XE	54	122	2.1E+02	2.1E+02
PD	46	109	4.3E+00	4.4E-01	XE	54	125	1.1E+03	1.1E+03
PD	46	112	3.3E-01	4.9E-02	XE	54	127	5.3E+01	5.3E+01
AG	47	105	4.7E+00	2.1E+00	XE	54	129M	2.4E+02	2.4E+02
AG	47	106M	3.1E+01	4.2E+00	XE	54	131M	2.3E+02	2.3E+02
AG	47	108M	2.1E-02	2.0E-02	XE	54	133	4.6E+02	4.6E+02
AG	47	110M	1.5E-01	1.3E-01	XE	54	133M	4.7E+02	4.7E+02
AG	47	111	2.1E+02	2.6E+01	CS	55	129	3.2E+02	3.8E+00
CD	48	109	3.7E-03	2.6E-03	CS	55	131	1.1E+02	8.9E+00
CD	48	113M	1.8E-04	1.7E-04	CS	55	132	1.2E+01	6.6E-01
CD	48	115	4.2E+00	4.8E-02	CS	55	134	2.3E-03	2.0E-03
CD	48	115M	1.7E-02	3.1E-03	CS	55	135	7.3E-03	7.2E-03
IN	49	111	2.0E-03	1.1E-04	CS	55	136	9.4E-01	1.0E-01
IN	49	114M	4.2E-06	2.1E-06	CS	55	137	6.9E-04	6.8E-04
IN	49	115	8.2E-08	8.1E-03	BA	56	128	3.3E+02	1.2E+01
SN	50	113	7.6E+00	2.8E+00	BA	56	131	3.7E+01	5.6E+00
SN	50	117M	4.8E+02	3.1E+01	BA	56	133	7.6E-02	7.4E-02
SN	50	119M	1.1E+01	6.3E+00	BA	56	133M	2.7E+03	6.5E+01
SN	50	121	1.8E+05	1.0E+03	BA	56	135M	1.2E+04	2.2E+02
SN	50	121M	2.1E-01	2.0E-01	BA	56	140	9.2E+00	1.5E+00
SN	50	123M	4.2E+00	1.6E+00	LA	57	135	2.0E+02	3.2E-01
SN	50	125	1.8E+02	7.9E+00	LA	57	137	8.8E-04	8.2E-04
SN	50	126	5.7E-03	5.6E-03	LA	57	138	2.5E-05	2.4E-05
SB	51	119	2.9E+01	1.2E+00	LA	57	140	1.3E+01	4.4E-02
SB	51	120M	5.0E-02	6.6E-03	CE	58	134	2.0E+02	1.0E+00

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(7) Whole body

TABLE 9B. UNIT-RAD CONTAMINATION FOR WHOLE BODY VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	4.6E+03	6.1E+00	GD	64	159	7.8E+03	1.1E+01
CE	58	137M	3.3E+03	8.4E+00	GD	64	162	1.5E-02	6.0E-03
CE	58	139	7.5E-01	1.5E-01	TB	65	151	6.3E+03	7.1E+00
CE	58	141	9.5E+00	5.2E-01	TB	65	152	1.8E+03	2.1E+00
CE	58	142	5.4E-04	5.0E-04	TB	65	153	1.2E+03	4.6E+00
CE	58	143	1.1E+03	2.6E+00	TB	65	154	6.8E+03	8.8E+00
CE	58	144	1.2E-02	4.1E-03	TB	65	155	2.8E+02	2.3E+00
PR	59	142	4.0E-02	4.3E-05	TB	65	156	8.5E+01	6.8E-01
PR	59	143	4.4E-04	8.0E-05	TB	65	157	1.7E-02	1.5E-02
ND	60	140	2.1E-03	1.1E-05	TB	65	158	7.3E-04	6.6E-04
ND	60	144	3.5E-09	3.2E-09	TB	65	160	5.6E-01	5.5E-02
ND	60	147	8.5E-05	1.4E-06	TB	65	161	4.0E+02	4.0E+00
PM	61	143	1.5E-01	4.3E-02	TB	65	164	9.2E+03	1.4E+01
PM	61	144	1.2E-02	4.2E-03	DY	66	154	6.5E-10	5.9E-10
PM	61	145	1.9E-02	1.7E-02	DY	66	154M	2.6E-02	2.0E-05
PM	61	146	4.4E-03	3.1E-03	DY	66	156	1.0E-09	9.2E-10
PM	61	147	3.2E-03	1.9E-03	DY	66	159	2.2E-05	3.8E-06
PM	61	148	6.3E+01	5.1E-01	DY	66	166	1.9E-03	9.4E-06
PM	61	148M	3.1E-01	1.8E-02	HO	67	163	1.5E-02	1.3E-02
PM	61	149	1.3E+03	4.4E+00	HO	67	166	3.4E+03	5.2E+00
PM	61	151	1.9E+03	3.4E+00	HO	67	166M	6.6E-04	5.9E-04
SM	62	141	2.2E+00	6.6E-02	ER	68	160	6.3E-03	1.2E-05
SM	62	145	2.9E-01	1.0E-01	ER	68	169	3.2E-03	4.6E-05
SM	62	146	3.1E-04	2.8E-04	ER	68	172	5.0E-03	1.6E-05
SM	62	147	3.5E-04	3.2E-04	TM	69	165	9.7E+02	1.7E+00
SM	62	148	2.0E-04	1.8E-04	TM	69	167	6.9E+01	9.6E-01
SM	62	149	4.2E-04	3.9E-04	TM	69	168	3.7E-01	4.1E-02
SM	62	151	5.8E-02	5.2E-02	TM	69	170	7.5E-01	1.2E-01
SM	62	153	2.6E+03	7.8E+00	TM	69	171	7.7E-01	3.9E-01
EU	63	145	2.0E+02	1.8E+00	TM	69	172	5.5E+02	2.2E+00
EU	63	146	5.1E+01	3.7E-01	YE	70	166	1.5E+03	5.2E+00
EU	63	146M	6.3E+02	1.6E+00	YB	70	169	1.2E+01	5.5E-01
EU	63	147	3.0E+00	1.1E-01	YB	70	175	1.5E+03	8.8E+00
EU	63	148	3.4E+00	2.6E-01	LU	71	169	1.0E+03	2.0E+00
EU	63	149	9.1E-01	1.3E-01	LU	71	170	3.4E+02	9.0E-01
EU	63	150	5.9E-03	4.3E-03	LU	71	171	4.5E+02	4.8E+00
EU	63	150M	4.1E+03	3.5E+00	LU	71	172	9.5E+01	8.4E-01
EU	63	152	2.0E-03	1.7E-03	LU	71	173	3.7E-02	1.5E-02
EU	63	154	1.5E-03	1.3E-03	LU	71	174	5.2E-03	3.3E-03
EU	63	155	2.2E-01	1.1E-01	LU	71	174M	3.4E-01	6.1E-02
EU	63	156	1.3E+01	3.1E-01	LU	71	176	1.1E-03	9.9E-04
EU	63	157	1.1E+04	1.1E+01	LU	71	177	5.3E+02	4.8E+00
GD	64	146	1.5E-01	1.2E-02	LU	71	177M	1.0E+00	1.7E-01
GD	64	147	3.5E+02	6.7E-01	HF	72	170	6.2E+01	5.5E-02
GD	64	148	1.6E-04	1.5E-04	HF	72	171	1.2E+02	1.3E-01
GD	64	149	1.9E+01	3.0E-01	HF	72	172	7.5E-05	5.7E-05
GD	64	150	8.8E-05	8.2E-05	HF	72	173	3.7E+01	6.6E-02
GD	64	151	4.3E-01	7.7E-02	HF	72	174	6.7E-06	6.2E-06
GD	64	152	2.1E-04	2.0E-04	HF	72	175	3.1E-02	3.4E-03
GD	64	153	2.9E-01	8.9E-02	HF	72	181	5.0E-02	3.7E-03

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(7) Whole body

TABLE 9B. UNIT-RAD CONTAMINATION FOR WHOLE BODY VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	1.0E-05	9.4E-06	AU	79	198	1.5E+01	3.3E-01
TA	73	177	2.2E+00	2.1E-02	AU	79	199	3.5E+01	9.1E-01
TA	73	179	2.0E-03	1.4E-03	HG	80	194	6.5E-04	6.1E-04
TA	73	182	9.7E-04	3.2E-04	HG	80	195M	4.9E-01	7.0E-02
TA	73	183	8.3E-01	1.7E-02	HG	80	197	9.6E-01	2.0E-01
W	74	178	3.8E-04	3.6E-04	HG	80	197M	3.3E+00	3.0E-01
W	74	181	1.5E-03	1.5E-03	HG	80	203	1.5E-02	1.3E-02
W	74	185	1.5E-03	1.5E-03	TL	81	200	1.1E-01	4.4E-03
W	74	187	3.2E-02	1.6E-02	TL	81	201	8.3E-02	9.0E-03
W	74	188	1.5E-04	1.5E-04	TL	81	202	3.5E-03	1.1E-03
RE	75	180	4.1E+00	4.4E-01	TL	81	204	1.7E-05	1.6E-05
RE	75	181	4.5E+00	4.8E-01	PB	82	200	1.5E+04	8.8E+00
RE	75	182	6.0E-01	1.7E-01	PB	82	202	3.8E-03	3.1E-03
RE	75	182M	1.1E+01	8.2E-01	PB	82	203	5.6E+03	8.3E+00
RE	75	183	3.2E-02	2.9E-02	PB	82	204	8.7E-04	7.0E-04
RE	75	184	2.1E-02	1.8E-02	PB	82	205	2.6E-02	2.1E-02
RE	75	184M	3.3E-03	3.2E-03	PB	82	210	6.5E-04	4.9E-04
RE	75	186	1.2E+00	4.0E-01	BI	83	205	7.6E-03	5.7E-03
RE	75	187	6.8E-01	6.8E-01	BI	83	206	2.7E-02	1.5E-02
RE	75	188	9.6E+00	8.9E-01	BI	83	207	1.7E-05	1.7E-05
RE	75	189	1.2E+01	1.4E+00	BI	83	208	8.3E-06	8.3E-06
OS	76	182	3.9E-02	1.2E-02	BI	83	210	1.2E-02	5.9E-03
OS	76	183	2.6E-01	5.2E-02	BI	83	210M	4.0E-06	4.0E-06
OS	76	185	3.3E-04	3.3E-04	PO	84	206	6.6E-01	1.5E-01
OS	76	191	8.8E-03	7.8E-03	PO	84	208	5.1E-04	5.0E-04
OS	76	191M	6.5E-01	1.5E-01	PO	84	209	1.2E-04	1.2E-04
OS	76	193	9.1E-02	3.7E-02	PO	84	210	6.7E-03	5.5E-03
OS	76	194	5.1E-06	5.1E-06	RN	86	211	7.4E+01	7.4E+01
IR	77	185	6.6E+02	2.0E+01	RN	86	222	4.7E+00	4.7E+00
IR	77	186	3.9E+02	1.2E+01	RA	88	223	1.3E+03	1.8E+00
IR	77	187	1.0E+03	2.5E+01	RA	88	224	1.3E+04	5.7E+00
IR	77	188	4.4E+01	3.5E+00	RA	88	225	7.8E+02	1.4E+00
IR	77	189	7.3E+00	2.9E+00	RA	88	226	7.3E-03	2.6E-03
IR	77	190	2.1E+00	8.0E-01	RA	88	228	4.3E-02	8.3E-03
IR	77	192	2.2E-01	1.8E-01	AC	89	225	1.8E+02	7.3E-02
IR	77	192M	1.5E-03	1.5E-03	AC	89	227	1.0E-03	1.3E-04
IR	77	193M	3.8E+01	1.4E+01	TH	90	227	2.3E-03	7.3E-07
IR	77	194	3.6E+02	1.4E+01	TH	90	228	1.6E-06	1.9E-08
PT	78	188	4.9E-04	1.5E-04	TH	90	229	2.8E-08	1.8E-09
PT	78	190	1.7E-07	1.7E-07	TH	90	230	2.6E-08	1.7E-09
PT	78	191	2.3E-02	2.6E-03	TH	90	231	5.8E-01	1.1E-05
PT	78	192	2.1E-07	2.1E-07	TH	90	232	2.3E-08	1.5E-09
PT	78	193	7.3E-06	7.3E-06	TH	90	234	1.1E-03	4.5E-07
PT	78	193M	2.7E-02	4.2E-03	PA	91	228	2.8E+04	6.2E-01
PT	78	195M	2.6E-02	3.9E-03	PA	91	229	1.1E+04	4.1E-01
PT	78	197	4.9E-01	1.7E-02	PA	91	230	7.9E+01	3.3E-02
AU	79	193	2.4E+02	1.5E+00	PA	91	231	8.0E-04	7.0E-05
AU	79	194	1.5E+01	2.0E-01	PA	91	232	1.2E+04	3.9E-01
AU	79	195	2.9E-02	1.8E-02	PA	91	233	2.9E+01	2.0E-02
AU	79	196	3.0E+00	1.5E-01	U	92	230	7.5E-01	1.3E-01

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(7) Whole body

TABLE 9B. UNIT-RAD CONTAMINATION FOR WHOLE BODY VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.6E+01	6.4E-01	CM	96	240	1.3E+01	1.5E-02
U	92	232	4.1E-04	4.0E-04	CM	96	241	8.1E+00	1.2E-02
U	92	233	3.7E-04	3.7E-04	CM	96	242	3.6E-01	2.4E-03
U	92	234	3.5E-04	3.5E-04	CM	96	243	5.2E-04	6.7E-05
U	92	235	3.2E-04	3.2E-04	CM	96	244	7.0E-04	8.3E-05
U	92	236	3.2E-04	3.2E-04	CM	96	245	3.5E-04	5.0E-05
U	92	237	5.7E+00	3.6E-01	CM	96	246	3.4E-04	4.8E-05
U	92	238	3.1E-04	3.0E-04	CM	96	247	3.1E-04	4.5E-05
U	92	240	6.0E+02	3.5E+00	CM	96	248	3.1E-04	4.4E-05
NP	93	234	2.4E+02	2.7E-02	BK	97	245	9.9E+02	7.6E-02
NP	93	235	2.7E-02	2.8E-04	BK	97	246	7.2E+03	2.0E-01
NP	93	236	1.6E-04	1.4E-05	BK	97	247	8.1E-04	4.5E-05
NP	93	236M	5.1E+03	1.2E-01	BK	97	248	2.4E+04	3.5E-01
NP	93	237	1.7E-04	1.5E-05	BK	97	249	2.3E-01	1.1E-03
NP	93	238	9.4E+02	5.1E-02	CF	98	246	1.0E+04	2.4E-01
NP	93	239	7.2E+02	4.3E-02	CF	98	248	1.8E-01	9.6E-04
PU	94	236	2.8E-02	4.4E-04	CF	98	249	8.3E-04	4.6E-05
PU	94	237	1.5E+01	1.0E-02	CF	98	250	2.7E-03	1.0E-04
PU	94	238	1.2E-03	6.6E-05	CF	98	251	7.4E-04	4.1E-05
PU	94	239	9.9E-04	5.6E-05	CF	98	252	2.3E-02	3.2E-04
PU	94	240	9.8E-04	5.5E-05	CF	98	253	5.5E+01	1.6E-02
PU	94	241	2.6E-03	1.1E-04	ES	99	251	9.0E+03	2.1E-01
PU	94	242	9.4E-04	5.3E-05	ES	99	252	1.0E+00	2.1E-03
PU	94	244	8.5E-04	4.7E-05	ES	99	253	5.0E+01	1.5E-02
PU	94	246	2.0E+02	3.3E-02	ES	99	254	8.3E-02	6.1E-04
AM	95	239	3.3E+04	8.4E-01	ES	99	254M	7.2E+03	1.8E-01
AM	95	240	1.8E+03	1.9E-01	ES	99	255	3.2E+01	1.2E-02
AM	95	241	3.4E-04	5.7E-05	FM	100	252	2.1E+04	3.1E-01
AM	95	242	1.8E+04	5.9E-01	FM	100	253	9.8E+02	6.8E-02
AM	95	242M	3.4E-04	5.6E-05	FM	100	255	2.6E+04	3.4E-01
AM	95	243	3.0E-04	5.0E-05	FM	100	257	2.9E+00	3.5E-03

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(7) Whole body

TABLE 9B. UNIT-RAD CONTAMINATION FOR GI TRACT

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
H	1	3	6.4E+02	6.4E+02	CU	29	67	3.4E+01	2.1E+01
BE	4	7	1.8E+01	1.7E+01	ZN	30	65	9.7E-03	9.6E-03
BE	4	10	2.1E-02	2.1E-02	ZN	30	69M	8.7E+00	2.4E+00
C	6	14	1.0E-03	1.0E-03	ZN	30	72	2.5E-01	1.4E-01
NA	11	22	1.2E-02	1.2E-02	GA	31	67	1.2E+01	8.0E+00
NA	11	24	3.0E+01	8.8E+00	GA	31	72	1.0E+01	2.9E+00
MG	12	28	7.5E+01	2.8E+01	GE	32	68	1.5E-03	1.5E-03
AL	13	26	1.5E-03	1.5E-03	GE	32	69	4.1E-01	2.2E-01
SI	14	32	4.6E-02	4.6E-02	GE	32	71	6.7E+00	5.9E+00
P	15	32	1.6E-02	1.5E-02	AS	33	71	4.5E+01	2.8E+01
P	15	33	1.0E-01	9.5E-02	AS	33	72	3.5E+01	1.5E+01
S	16	35	1.8E+01	1.7E+01	AS	33	73	6.0E+01	5.9E+01
CL	17	36	8.2E-03	8.2E-03	AS	33	74	1.6E+00	1.5E+00
AR	18	37	1.4E+05	1.4E+05	AS	33	76	4.7E+01	2.0E+01
AR	18	39	7.3E+00	7.3E+00	AS	33	77	2.0E+02	1.0E+02
AR	18	42	7.9E-01	7.9E-01	SE	34	72	9.4E-01	8.0E-01
K	19	40	2.2E-03	2.2E-03	SE	34	75	3.0E-01	3.0E-01
K	19	42	3.7E+01	9.4E+00	SE	34	79	6.0E-02	6.0E-02
K	19	43	2.6E+01	1.0E+01	BR	35	76	4.5E+01	1.4E+01
CA	20	41	9.6E+00	9.6E+00	BR	35	77	1.4E+01	8.5E+00
CA	20	45	1.8E+01	1.8E+01	BR	35	82	1.0E+01	5.0E+00
CA	20	47	3.9E+01	3.0E+01	KR	36	76	1.7E+04	5.1E+03
CA	20	48	9.5E-03	9.5E-03	KR	36	79	1.3E+04	6.4E+03
SC	21	44M	4.9E-01	3.0E-01	KR	36	81	4.2E+01	4.2E+01
SC	21	46	1.2E-02	1.2E-02	KR	36	85	8.2E+00	8.2E+00
SC	21	47	2.9E+00	2.0E+00	RB	37	83	2.1E-01	2.0E-01
SC	21	48	5.9E-01	3.3E-01	RB	37	84	1.7E-01	1.6E-01
TI	22	44	5.0E-04	5.0E-04	RB	37	86	5.4E-01	5.0E-01
V	23	48	2.0E-01	1.8E-01	RB	37	87	1.5E-02	1.5E-02
V	23	49	5.5E+00	5.5E+00	SR	38	82	3.6E-01	3.4E-01
V	23	50	9.5E-04	9.5E-04	SR	38	83	4.1E+01	2.0E+01
CR	24	48	3.7E+00	1.4E+00	SR	38	85	9.1E-01	8.9E-01
CR	24	51	5.2E+00	4.9E+00	SR	38	89	8.0E-01	7.8E-01
MN	25	52	6.0E-02	4.8E-02	SR	38	90	3.6E-03	3.6E-03
MN	25	53	2.1E-02	2.1E-02	Y	39	86	2.9E+00	8.3E-01
MN	25	54	3.8E-03	3.8E-03	Y	39	87	1.1E+00	7.3E-01
FE	26	55	1.8E+01	1.8E+01	Y	39	87M	1.0E+01	2.9E+00
FE	26	59	2.0E+00	1.9E+00	Y	39	88	7.4E-03	7.3E-03
FE	26	60	5.5E-03	5.5E-03	Y	39	90	9.3E-01	5.9E-01
CO	27	55	1.5E+01	4.9E+00	Y	39	91	4.6E-02	4.5E-02
CO	27	56	5.7E-02	5.6E-02	ZR	40	86	9.4E+01	3.0E+01
CO	27	57	2.4E-01	2.4E-01	ZR	40	88	3.7E-01	3.7E-01
CO	27	58	1.3E-01	1.3E-01	ZR	40	89	2.4E+01	1.6E+01
CO	27	60	1.8E-03	1.8E-03	ZR	40	93	6.4E-01	6.4E-01
NI	28	56	8.2E+00	6.6E+00	ZR	40	95	9.2E-01	9.0E-01
NI	28	57	1.0E+02	5.1E+01	ZR	40	97	1.4E+02	4.5E+01
NI	28	59	2.7E+00	2.7E+00	NB	41	90	3.2E-01	9.2E-02
NI	28	63	1.3E+00	1.3E+00	NB	41	91	2.2E-03	2.2E-03
NI	28	66	6.1E+01	3.7E+01	NB	41	91M	2.1E-02	2.0E-02
CU	29	64	3.2E+02	8.5E+01	NB	41	92	3.4E-02	3.0E-02

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(8) GI tract

TABLE 9B. UNIT-RAD CONTAMINATION FOR GI TRACT

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
NB	41	93M	7.6E-03	7.5E-03	SB	51	122	1.1E-01	6.9E-02
NB	41	94	2.2E-05	2.2E-05	SB	51	124	1.6E-03	1.5E-03
NB	41	95	1.1E-02	1.0E-02	SB	51	125	4.2E-04	4.2E-04
NB	41	95M	1.1E-01	7.5E-02	SB	51	126	7.1E-03	6.3E-03
NB	41	96	2.9E-01	1.1E-01	SB	51	127	6.2E-02	4.5E-02
MO	42	93	9.4E-01	9.4E-01	TE	52	118	2.0E-01	1.6E-01
MO	42	99	8.7E+01	5.6E+01	TE	52	119	3.3E+00	1.0E+00
TC	43	95	1.5E+01	5.3E+00	TE	52	119M	1.7E-01	1.3E-01
TC	43	95M	5.8E-02	5.6E-02	TE	52	121	1.4E-01	1.3E-01
TC	43	96	4.5E-01	3.4E-01	TE	52	121M	1.0E-02	9.9E-03
TC	43	97	2.4E-02	2.4E-02	TE	52	123	5.7E-03	5.7E-03
TC	43	97M	3.5E-01	3.4E-01	TE	52	123M	4.6E-02	4.6E-02
TC	43	98	3.2E-04	3.2E-04	TE	52	125M	1.6E-01	1.6E-01
TC	43	99	5.3E-03	5.3E-03	TE	52	127M	3.7E-02	3.6E-02
RU	44	97	2.7E+01	1.8E+01	TE	52	129M	4.4E-02	4.2E-02
RU	44	103	1.4E+00	1.3E+00	TE	52	131M	9.8E-01	4.4E-01
RU	44	106	3.5E-02	3.4E-02	TE	52	132	1.9E-01	1.3E-01
RH	45	99	1.4E-01	1.2E-01	I	53	123	1.1E+04	2.9E+03
RH	45	100	1.9E+00	7.1E-01	I	53	124	5.1E+01	3.7E+01
RH	45	101	1.6E-03	1.6E-03	I	53	125	8.9E+01	8.7E+01
RH	45	101M	8.5E-01	6.3E-01	I	53	126	5.7E+01	5.2E+01
RH	45	102	2.8E-03	2.7E-03	I	53	129	6.0E-01	6.0E-01
RH	45	105	5.3E+00	2.7E+00	I	53	130	1.1E+03	2.7E+02
PD	46	100	5.2E-01	3.7E-01	I	53	131	8.6E+01	7.3E+01
PD	46	103	2.1E+00	1.9E+00	I	53	133	8.7E+02	3.2E+02
PD	46	107	2.4E-01	2.4E-01	XE	54	122	5.9E+03	2.1E+03
PD	46	109	2.7E+01	7.3E+00	XE	54	125	3.2E+04	1.1E+04
PD	46	112	2.2E+00	8.2E-01	XE	54	127	5.5E+02	5.3E+02
AG	47	105	1.3E+00	1.3E+00	XE	54	129M	2.8E+03	2.4E+03
AG	47	106M	3.0E+00	2.6E+00	XE	54	131M	2.6E+03	2.3E+03
AG	47	108M	1.2E-02	1.2E-02	XE	54	133	5.9E+03	4.6E+03
AG	47	110M	7.9E-02	7.8E-02	XE	54	133M	7.7E+03	4.7E+03
AG	47	111	1.9E+01	1.6E+01	CS	55	129	1.5E+01	7.1E+00
CD	48	109	1.3E-02	1.3E-02	CS	55	131	1.9E+01	1.7E+01
CD	48	113M	8.1E-04	8.1E-04	CS	55	132	1.5E+00	1.2E+00
CD	48	115	3.8E-01	2.3E-01	CS	55	134	3.8E-03	3.8E-03
CD	48	115M	1.5E-02	1.5E-02	CS	55	135	1.4E-02	1.4E-02
IN	49	111	7.5E-02	4.9E-02	CS	55	136	2.1E-01	1.9E-01
IN	49	114M	1.0E-03	9.7E-04	CS	55	137	1.3E-03	1.3E-03
IN	49	115	3.7E-05	3.7E-05	BA	56	128	1.1E+01	6.5E+00
SN	50	113	3.6E-01	3.6E-01	BA	56	131	3.5E+00	3.1E+00
SN	50	117M	4.4E+00	3.9E+00	BA	56	133	4.1E-02	4.1E-02
SN	50	119M	8.0E-01	7.9E-01	BA	56	133M	7.0E+01	3.6E+01
SN	50	121	3.0E+02	1.3E+02	BA	56	135M	2.8E+02	1.2E+02
SN	50	121M	2.5E-02	2.5E-02	BA	56	140	9.4E-01	8.4E-01
SN	50	123M	2.1E-01	2.0E-01	LA	57	135	8.3E+00	2.9E+00
SN	50	125	1.1E+00	9.9E-01	LA	57	137	7.4E-03	7.4E-03
SN	50	126	7.0E-04	7.0E-04	LA	57	138	2.2E-04	2.2E-04
SB	51	119	5.1E+00	2.6E+00	LA	57	140	7.6E-01	4.0E-01
SB	51	120M	1.9E-02	1.5E-02	CE	58	134	7.8E-01	5.2E-01

Table 9B. Unit-rad contamination for selected organs via freshwater (contd).
(8) GI tract

TABLE 9B. UNIT-RAD CONTAMINATION FOR GI TRACT

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO. (Z)	ISOTOPE MASS (A)	ADULT UC/M**3	INFANT UC/M**3
CE	58	135	9.1E+00	3.0E+00	GD	64	159	1.9E+01	6.2E+00
CE	58	137M	8.6E+00	4.2E+00	GD	64	162	3.5E-03	3.5E-03
CE	58	139	7.6E-02	7.5E-02	TB	65	151	7.1E+00	2.4E+00
CE	58	141	2.7E-01	2.6E-01	TB	65	152	2.1E+00	6.8E-01
CE	58	142	2.5E-04	2.5E-04	TB	65	153	2.4E+00	1.5E+00
CE	58	143	2.7E+00	1.3E+00	TB	65	154	8.0E+00	2.9E+00
CE	58	144	2.0E-03	2.0E-03	TB	65	155	9.7E-01	7.7E-01
PR	59	142	5.9E+00	2.0E+00	TB	65	156	2.9E-01	2.3E-01
PR	59	143	4.2E-01	3.8E-01	TB	65	157	5.1E-03	5.1E-03
ND	60	140	7.6E-01	5.2E-01	TB	65	158	2.2E-04	2.2E-04
ND	60	144	1.6E-04	1.6E-04	TB	65	160	1.9E-02	1.8E-02
ND	60	147	7.9E-02	7.0E-02	TB	65	161	1.6E+00	1.3E+00
PM	61	143	1.1E-02	1.1E-02	TB	65	164	1.1E+01	4.6E+00
PM	61	144	1.1E-03	1.1E-03	DY	66	154	2.8E-05	2.8E-05
PM	61	145	4.2E-03	4.2E-03	DY	66	154M	3.6E+00	9.6E-01
PM	61	146	7.8E-04	7.8E-04	DY	66	156	4.5E-05	4.5E-05
PM	61	147	4.8E-04	4.8E-04	DY	66	159	1.8E-01	1.8E-01
PM	61	148	1.6E+01	1.3E-01	DY	66	166	6.5E-01	4.5E-01
PM	61	148M	4.7E-03	4.6E-03	HO	67	163	4.5E-03	4.5E-03
PM	61	149	1.9E+00	1.1E+00	HO	67	166	4.0E+00	1.7E+00
PM	61	151	1.9E+00	8.4E-01	HO	67	166M	2.0E-04	2.0E-04
SM	62	141	2.7E-02	2.5E-02	ER	68	160	1.3E+00	5.9E-01
SM	62	145	3.9E-02	3.8E-02	ER	68	169	2.6E+00	2.3E+00
SM	62	146	1.1E-04	1.1E-04	ER	68	172	1.4E+00	7.8E-01
SM	62	147	1.2E-04	1.2E-04	TM	69	165	1.3E+00	5.8E-01
SM	62	148	7.0E-05	7.0E-05	TM	69	167	3.7E-01	3.2E-01
SM	62	149	1.5E-04	1.5E-04	TM	69	168	1.4E-02	1.4E-02
SM	62	151	2.0E-02	2.0E-02	TM	69	170	3.9E-02	3.9E-02
SM	62	153	5.3E+00	3.0E+00	TM	69	171	1.3E-01	1.3E-01
EU	63	145	5.4E-01	4.3E-01	TM	69	172	1.1E+00	7.2E-01
EU	63	146	1.2E-01	8.8E-02	YB	70	166	2.6E+00	1.6E+00
EU	63	146M	7.3E-01	3.7E-01	YB	70	169	1.8E-01	1.7E-01
EU	63	147	2.8E-02	2.6E-02	YB	70	175	3.7E+00	2.8E+00
EU	63	148	6.5E-02	6.3E-02	LU	71	169	1.3E+00	6.6E-01
EU	63	149	3.1E-02	3.1E-02	LU	71	170	5.2E-01	3.0E-01
EU	63	150	1.0E-03	1.0E-03	LU	71	171	1.9E+00	1.6E+00
EU	63	150M	3.1E+00	8.2E-01	LU	71	172	3.4E-01	2.8E-01
EU	63	152	4.1E-04	4.1E-04	LU	71	173	5.1E-03	5.1E-03
EU	63	154	3.1E-04	3.1E-04	LU	71	174	1.1E-03	1.1E-03
EU	63	155	2.6E-02	2.6E-02	LU	71	174M	2.1E-02	2.0E-02
EU	63	156	8.2E-02	7.5E-02	LU	71	176	3.3E-04	3.3E-04
EU	63	157	8.9E+00	2.6E+00	LU	71	177	1.9E+00	1.6E+00
GD	64	146	7.4E-03	7.2E-03	LU	71	177M	5.9E-02	5.8E-02
GD	64	147	9.6E-01	3.9E-01	HF	72	170	4.1E+00	1.0E+00
GD	64	148	8.9E-05	8.9E-05	HF	72	171	8.3E+00	2.3E+00
GD	64	149	2.0E-01	1.8E-01	HF	72	172	1.1E-03	1.1E-03
GD	64	150	4.8E-05	4.8E-05	HF	72	173	3.1E+00	1.2E+00
GD	64	151	4.6E-02	4.5E-02	HF	72	174	1.1E-04	1.1E-04
GD	64	152	1.2E-04	1.2E-04	HF	72	175	6.4E-02	6.3E-02
GD	64	153	5.3E-02	5.3E-02	HF	72	181	7.0E-02	6.8E-02

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(8) GI tract

TABLE 9B. UNIT-RAD CONTAMINATION FOR GI TRACT

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
HF	72	182	1.7E-04	1.7E-04	AU	79	198	3.0E+02	1.9E+02
TA	73	177	7.8E-01	4.7E-01	AU	79	199	7.8E+02	5.3E+02
TA	73	179	3.3E-02	3.2E-02	HG	80	194	2.1E-03	2.0E-03
TA	73	182	7.3E-03	7.2E-03	HG	80	195M	4.4E-01	2.3E-01
TA	73	183	5.0E-01	3.8E-01	HG	80	197	1.1E+00	6.8E-01
W	74	178	2.7E+00	2.6E+00	HG	80	197M	2.5E+00	1.0E+00
W	74	181	1.1E+01	1.1E+01	HG	80	203	4.4E-02	4.2E-02
W	74	185	1.1E+01	1.1E+01	TL	81	200	2.9E-02	1.2E-02
W	74	187	2.9E+02	1.2E+02	TL	81	201	3.7E-02	2.5E-02
W	74	188	1.1E+00	1.0E+00	TL	81	202	3.5E-03	3.1E-03
RE	75	180	5.5E+02	2.0E+02	TL	81	204	4.5E-05	4.5E-05
RE	75	181	6.1E+02	2.2E+02	PB	82	200	1.4E+02	5.0E+01
RE	75	182	1.2E+02	7.6E+01	PB	82	202	1.7E-02	1.7E-02
RE	75	182M	1.4E+03	3.7E+02	PB	82	203	8.0E+01	4.7E+01
RE	75	183	1.3E+01	1.3E+01	PB	82	204	4.0E-03	4.0E-03
RE	75	184	8.5E+00	8.2E+00	PB	82	205	1.2E-01	1.2E-01
RE	75	184M	1.5E+00	1.5E+00	PB	82	210	2.7E-03	2.7E-03
RE	75	186	2.6E+02	1.8E+02	BI	83	205	6.5E-03	5.9E-03
RE	75	187	3.1E+02	3.1E+02	BI	83	206	1.9E-02	1.6E-02
RE	75	188	1.3E+03	4.0E+02	BI	83	207	1.7E-05	1.7E-05
RE	75	189	1.6E+03	6.4E+02	BI	83	208	8.6E-06	8.6E-06
OS	76	182	1.2E+01	4.5E+00	BI	83	210	8.0E-03	6.1E-03
OS	76	183	7.7E+01	1.9E+01	BI	83	210M	4.2E-06	4.2E-06
OS	76	185	1.2E-01	1.2E-01	PO	84	206	1.8E-01	1.5E-01
OS	76	191	3.2E+00	2.9E+00	PO	84	208	5.0E-04	5.0E-04
OS	76	191M	1.9E+02	5.4E+01	PO	84	209	1.2E-04	1.2E-04
OS	76	193	2.9E+01	1.4E+01	PO	84	210	5.6E-03	5.5E-03
OS	76	194	1.9E-03	1.9E-03	RN	86	211	6.9E+03	2.1E+03
IR	77	185	5.6E+00	1.7E+00	RN	86	222	1.9E+02	1.3E+02
IR	77	186	3.3E+00	9.7E-01	RA	88	223	5.9E-01	5.3E-01
IR	77	187	8.5E+00	2.1E+00	RA	88	224	2.3E+00	1.6E+00
IR	77	188	5.5E-01	2.9E-01	RA	88	225	4.5E-01	4.1E-01
IR	77	189	2.7E-01	2.4E-01	RA	88	226	7.3E-04	7.3E-04
IR	77	190	7.5E-02	6.7E-02	RA	88	228	2.4E-03	2.4E-03
IR	77	192	1.5E-02	1.5E-02	AC	89	225	8.4E-02	7.3E-02
IR	77	192M	1.3E-04	1.3E-04	AC	89	227	1.3E-04	1.3E-04
IR	77	193M	1.3E+00	1.2E+00	TH	90	227	7.9E-07	7.3E-07
IR	77	194	3.3E+00	1.1E+00	TH	90	228	1.9E-08	1.9E-08
PT	78	188	3.4E-02	3.0E-02	TH	90	229	1.8E-09	1.8E-09
PT	78	190	3.5E-05	3.5E-05	TH	90	230	1.7E-09	1.7E-09
PT	78	191	7.8E-01	5.2E-01	TH	90	231	2.6E-05	1.1E-05
PT	78	192	4.2E-05	4.2E-05	TH	90	232	1.5E-09	1.5E-09
PT	78	193	1.5E-03	1.5E-03	TH	90	234	4.7E-07	4.5E-07
PT	78	193M	1.1E+00	8.5E-01	PA	91	228	1.6E+00	6.2E-01
PT	78	195M	1.1E+00	7.9E-01	PA	91	229	8.2E-01	4.1E-01
PT	78	197	9.5E+00	3.4E+00	PA	91	230	3.5E-02	3.3E-02
AU	79	193	2.6E+03	8.7E+02	PA	91	231	7.0E-05	7.0E-05
AU	79	194	2.2E+02	1.1E+02	PA	91	232	8.3E-01	3.9E-01
AU	79	195	1.0E+01	1.0E+01	PA	91	233	2.1E-02	2.0E-02
AU	79	196	1.1E+02	8.6E+01	U	92	230	2.7E-02	2.5E-02

Table 9B. Unit-rad contamination for selected organs via freshwater (cont'd).
(8) GI tract

TABLE 9B. UNIT-RAD CONTAMINATION FOR GI TRACT

VIA FRESHWATER.

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ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3	ELEMENT SYMBOL	ATOMIC NO.(Z)	ISOTOPE MASS(A)	ADULT UC/M**3	INFANT UC/M**3
U	92	231	1.7E-01	1.2E-01	CM	96	240	1.6E-02	1.5E-02
U	92	232	7.8E-05	7.8E-05	CM	96	241	1.2E-02	1.2E-02
U	92	233	7.1E-05	7.1E-05	CM	96	242	2.4E-03	2.4E-03
U	92	234	6.7E-05	6.7E-05	CM	96	243	6.7E-05	6.7E-05
U	92	235	6.2E-05	6.2E-05	CM	96	244	8.3E-05	8.3E-05
U	92	236	6.1E-05	6.1E-05	CM	96	245	5.0E-05	5.0E-05
U	92	237	8.5E-02	6.9E-02	CM	96	246	4.8E-05	4.8E-05
U	92	238	5.8E-05	5.8E-05	CM	96	247	4.5E-05	4.5E-05
U	92	240	2.4E+00	6.8E-01	CM	96	248	4.4E-05	4.4E-05
NP	93	234	3.6E-02	2.7E-02	BK	97	245	9.9E-02	7.6E-02
NP	93	235	2.8E-04	2.8E-04	BK	97	246	3.6E-01	2.0E-01
NP	93	236	1.4E-05	1.4E-05	BK	97	247	4.5E-05	4.5E-05
NP	93	236M	3.2E-01	1.2E-01	BK	97	248	8.9E-01	3.5E-01
NP	93	237	1.5E-05	1.5E-05	BK	97	249	1.1E-03	1.1E-03
NP	93	238	8.7E-02	5.1E-02	CF	98	246	4.7E-01	2.4E-01
NP	93	239	7.1E-02	4.3E-02	CF	98	248	9.6E-04	9.6E-04
PU	94	236	4.4E-04	4.4E-04	CF	98	249	4.6E-05	4.6E-05
PU	94	237	1.1E-02	1.0E-02	CF	98	250	1.0E-04	1.0E-04
PU	94	238	6.6E-05	6.6E-05	CF	98	251	4.1E-05	4.1E-05
PU	94	239	5.6E-05	5.6E-05	CF	98	252	3.2E-04	3.2E-04
PU	94	240	5.5E-05	5.5E-05	CF	98	253	1.7E-02	1.6E-02
PU	94	241	1.1E-04	1.1E-04	ES	99	251	4.1E-01	2.1E-01
PU	94	242	5.3E-05	5.3E-05	ES	99	252	2.2E-03	2.1E-03
PU	94	244	4.8E-05	4.7E-05	ES	99	253	1.6E-02	1.5E-02
PU	94	246	3.7E-02	3.3E-02	ES	99	254	6.1E-04	6.1E-04
AM	95	239	3.3E+00	8.4E-01	ES	99	254M	3.5E-01	1.8E-01
AM	95	240	3.2E-01	1.9E-01	ES	99	255	1.2E-02	1.2E-02
AM	95	241	5.7E-05	5.7E-05	FM	100	252	8.0E-01	3.1E-01
AM	95	242	1.9E+00	5.9E-01	FM	100	253	9.1E-02	6.8E-02
AM	95	242M	5.6E-05	5.6E-05	FM	100	255	9.4E-01	3.4E-01
AM	95	243	5.0E-05	5.0E-05	FM	100	257	3.6E-03	3.5E-03

Table 9B. Unit-rad contamination for selected organs via freshwater (contd)
(8) GI tract

10. CONCENTRATION IN TERRESTRIAL
FOODSTUFFS

Rules for estimating C_P

C_P : Concentration in Plants

The values listed in Table 10A for C_P are intended to approximate the average concentration in that portion of the human diet derived from plants. These C_P values are not necessarily consistent with the worst-case values derived in the Appendix. Although the concentrations are normally given as dry weight in the literature and are quoted as such in the Appendix, all values have been converted to wet weight in the table assuming the water concentration to be 75%. The values were assigned according to the procedures and code numbers shown below.

Code #

- 1 The C_P was assumed to be the average concentration in plants reported by Bowen (5306, 6105).
- 2 The C_P was estimated from values reported in the literature.
- 3 The C_P was estimated following the procedure described in the Appendix for actinium.
- 4 The C_P (of inert gases) was assumed to be the C_A for freshwater (Table 7B).
- 5 The C_P was estimated following the procedures described in the Appendix for cerium.
- 99 The C_P was estimated from collateral data as described in the Appendix

TABLE 10A. CONCENTRATION IN TERRESTRIAL PLANTS

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ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _p (PPM)	CODE	REFERENCE(S)				ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _p (PPM)	CODE	REFERENCE(S)			
H	1	9.70E+04	1	5306				SB	51	2.50E-02	2	5340	6088	6089	
HE	2	5.00E-06	4					TE	52	1.30E-03	99				
LI	3	2.50E-02	2	5306	5604			I	53	1.00E-01	2	72	2855	4162	
BE	4	2.50E-03	2	5796	6083	6098		XE	54	1.00E-04	4				
B	5	2.50E+00	2	2564	2579			CS	55	5.00E-02	2	5306	5340	6088	6145
C	6	1.10E+05	2	1182	1716	5306	6105	BA	56	2.50E+00	2	2027	5608	6088	
N	7	7.50E+03	1	5306				LA	57	1.00E-01	5				
O	8	7.60E+05	2	5306	6105			CE	58	1.30E-01	5				
F	9	1.30E-01	1	5306				PR	59	1.70E-02	5				
NE	10	1.40E-04	4					ND	60	6.00E-02	5				
NA	11	3.30E+02	2	2564	5306			PM	61	2.50E-21	5				
MG	12	8.00E+02	2	2564	5306			SM	62	1.60E-02	5				
AL	13	1.30E+01	2	2564	5306	6105		EU	63	2.50E-03	5				
SI	14	5.00E+01	2	5306	6088			GO	64	1.10E-02	5				
P	15	8.80E+02	2	2564	5306			TB	65	1.80E-03	5				
S	16	5.00E+02	2	2892	4162			DY	66	7.50E-03	5				
CL	17	5.00E+02	1	5306				HO	67	1.80E-03	5				
AR	18	6.00E-01	4					ER	68	2.00E-03	5				
K	19	5.00E+03	2	2564	5306			TM	69	1.80E-03	5				
CA	20	5.00E+02	2	2564	5306			YB	70	2.00E-03	5				
SC	21	7.50E-03	2	5306	5340	6088	6089	LU	71	1.80E-03	5				
TI	22	2.50E-01	2	2215	2562	5306	6088	HF	72	1.00E-03	99				
V	23	1.30E-01	2	2213	5605	5708		TA	73	6.30E-03	99				
CR	24	5.00E-02	2	5217	5306	6088		W	74	1.80E-02	2	2819	5306	5340	5776
MN	25	2.50E+01	2	2564	5125	5306		RE	75	2.50E-04	99				
FE	26	2.50E+01	2	2564	5306			OS	76	5.00E-05	99				
CO	27	7.50E-02	2	5306	6105	6112		IR	77	1.30E-04	99				
NI	28	7.50E-01	2	2214	5306			PT	78	5.00E-03	99				
CU	29	2.50E+00	2	2544	5306	6088		AU	79	2.50E-04	2	2858	5340	6086	6088
ZN	30	2.00E+01	2	1451	5306	6105		HG	80	3.80E-03	1	5306			
GA	31	7.50E-03	2	2567	5306	5340	6104	TL	81	2.50E-02	99				
GE	32	1.00E-01	2	2621	5480	6088	6105	PB	82	6.80E-01	2	2876	5217	5600	5605
AS	33	5.00E-02	2	1993	2928	5306		BI	83	1.50E-02	2	5306	6088	6098	
SE	34	1.30E-01	2	2767	5306	5599	6088	PO	84	1.00E-11	2	6099	6243	6244	
BR	35	3.80E+00	2	1451	1921	5306		AT	85	2.50E-20	99				
KR	36	3.00E-04	4					RN	86	3.50E-13	4				
RB	37	1.30E+01	2	2617	5306	6088	6145	FR	87	1.00E-20	99				
SR	38	5.00E+00	2	371		2027		RA	88	2.50E-10	2	244	4947	5306	
Y	39	1.30E-01	5					AC	89	2.50E-13	3				
ZR	40	5.00E-02	2	5126	5217	6088	6098	TH	90	2.50E-02	2	6095	6097		
NB	41	5.00E-02	2	2219	5777	6083	6088	PA	91	2.50E-10	3				
MO	42	2.50E-01	2	2561	2579	2626	5605	U	92	2.50E-03	2	5306	5605	6095	6097
TC	43	2.50E-14	99					NP	93	2.50E-15	3				
RU	44	5.00E-05	99					PU	94	2.50E-17	99				
RH	45	1.30E-02	99					AM	95	2.50E-34	99				
PD	46	5.00E-03	99					CM	96	2.50E-33	3				
AG	47	1.50E-02	2	2560	5306	6036	6088	BK	97	2.50E-33	3				
CD	48	1.50E-01	2	5217	5306	5340	6088	CF	98	2.50E-33	3				
IN	49	2.50E-02	99					ES	99	2.50E-33	3				
SN	50	2.50E-02	2	2560	5217	5340	5608	FM	100	2.50E-33	3				

Table 10A. Concentration in terrestrial plants.

10. CONCENTRATION IN TERRESTRIAL
FOODSTUFFS (contd)

C_{meat}: Concentration in Meat

The values of C_{meat} listed in Table 10B
give the average concentrations in meat.

The values were assigned according to the
procedures and code numbers shown below.

Rules for estimating C_{meat}

Code #

- 1 The C_{meat} was estimated from the
concentrations reported in the
literature for meats (beef, pork,
mutton, fowl, etc.).

- 2 The C_{meat} was assumed to be con-
centration in bovine heart.

- 3 The C_{meat} was assumed to be C_B^{TB}.

- 4 The C_{meat} was assumed to be
100 C_S.

- 5 The C_{meat} (of inert gases) was
assumed to be C_A for freshwater
(Table 7B).

- 6 The C_{meat} was estimated following
the procedure described in the
Appendix for yttrium.

- 99 The C_{meat} was estimated from
collateral data as described in the
Appendix.

TABLE 10B. CONCENTRATION IN MEAT

10/09/68

ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _{MEAT} (PPM)	CODE	REFERENCE(S)				ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. C _{MEAT} (PPM)	CODE	REFERENCE(S)	
H	1	1.00E+05	3					SB	51	5.00E-03	2	1745	2538
HE	2	5.00E-06	5					TE	52	5.00E-03	1	4941	
LI	3	1.30E-02	3					I	53	5.20E-01	3		
BE	4	1.30E-04	3					XE	54	1.00E-04	5		
B	5	1.00E-01	1	2538	5164			CS	55	1.00E-02	1	4941	
C	6	1.70E+05	3					BA	56	4.00E-01	1	2538	4941
V	7	2.90E+04	3					LA	57	1.00E-03	2	1745	
O	8	6.00E+05	3					CE	58	8.00E-03	2	1745	2538 4941
F	9	1.00E+00	1	6093				PR	59	4.00E-03	6		
NE	10	1.40E-04	5					ND	60	1.00E-02	6		
NA	11	5.00E+02	1	2538	5164			PM	61	6.00E-22	6		
MG	12	2.00E+02	1	2538	5164			SM	62	4.00E-03	2	1745	
AL	13	1.00E+00	3					EJ	63	6.00E-04	6		
SI	14	1.00E-01	1	2538				GD	64	2.00E-03	6		
P	15	2.00E+03	1	2538	2817	4941	5164	TB	65	4.00E-04	6		
S	16	2.50E+03	3					DY	66	2.00E-03	6		
CL	17	2.00E+03	3					HO	67	4.00E-04	6		
AR	18	6.00E-01	5					ER	68	4.00E-04	6		
K	19	3.00E+03	1	2538	5164			TM	69	4.00E-04	6		
CA	20	1.00E+02	1	2817	5164	6110		YB	70	4.00E-04	6		
SC	21	6.00E-03	1	4941				LJ	71	4.00E-04	6		
TI	22	3.90E-01	3					HF	72	2.00E-02	1	4941	
V	23	1.50E-02	3					TA	73	5.00E-01	3		
CR	24	6.00E-03	2	1745	2538			W	74	1.20E-03	2	1745	2538
MN	25	1.00E+00	1	2538	2817	5164		RE	75	1.00E-04	99		
FE	26	5.00E+01	1	2538	2817	4941	5164	OS	76	1.00E-03	99		
CO	27	5.00E-02	1	2538	2817	4941		IR	77	1.00E-05	1	4941	
NI	28	2.00E-01	3					PT	78	1.00E-03	1	4941	
CU	29	1.00E+00	1	2538	2817	4941	5164	AJ	79	1.00E-04	2	1745	2538
ZN	30	3.00E+01	1	2538	2817	4941	5164	HG	80	5.00E-02	2	1745	2538
GA	31	5.00E-01	99					TL	81	5.00E-02	99		
GE	32	1.00E+02	4					PB	82	1.00E-02	1	2538	
AS	33	5.00E-03	2	1745	2538			BI	83	1.00E-02	1	2538	
SE	34	1.00E-01	2	1745	4941			PO	84	1.00E-09	4		
BR	35	5.00E+00	1	2542				AT	85	1.00E-17	4		
KR	36	3.00E-04	5					RN	86	3.50E-13	5		
RB	37	2.00E+01	1	2617	4941			FR	87	1.00E-16	4		
SR	38	1.50E-01	1	2538	4941			RA	88	4.30E-10	3		
Y	39	3.00E-02	6					AC	89	1.00E-08	4		
ZR	40	8.60E+02	3					TH	90	6.00E+02	4		
NB	41	7.00E-01	3					PA	91	1.00E-05	4		
MO	42	1.00E-01	1	2538	2817	5164		U	92	5.00E-03	1	4941	
TC	43	5.00E-13	3					NP	93	1.00E-10	4		
RU	44	1.00E-03	1	4941				PJ	94	1.00E-11	4		
RH	45	1.00E-03	99					AM	95	1.00E-28	4		
PD	46	1.00E-03	1	4941				CM	96	1.00E-28	4		
AG	47	1.30E-02	1	2538				BK	97	1.00E-28	4		
CD	48	4.00E-03	2	1745	2538			CF	98	1.00E-28	4		
IN	49	1.00E-02	1	2538	4941			ES	99	1.00E-28	4		
SN	50	1.00E-01	1	2538	4941			FM	100	1.00E-28	4		

Table 10B. Concentration in meat.

11. CONCENTRATIONS IN SEAWATER FOODSTUFFS

The concentrations in seawater foodstuffs are meant to be representative of the edible portions. Whenever one species tended to have a higher concentration than other species, this value was selected. Usually this occurred when oysters (which were higher) were compared with other invertebrates. The concentrations were assigned according to the procedures and code numbers shown below.

Rules for estimating concentrations in seawater foodstuffs

Code

- 1 The value was taken from the measured values in the literature.
- 2 The inert gas concentration was assumed to be the same as in seawater.
- 3 The concentration was assumed to be equal to $10^5 (C_A)$.

- 4 The concentrations for scandium, yttrium, lanthanum and the rare earths were based upon a composite of all the data on these elements as discussed in the Appendix under cerium.
- 5 The concentration was determined by multiplying the seawater concentration by the concentration factors reported in the literature.
- 8 The concentrations for the platinum metals were based upon ruthenium as discussed in the Appendix under rhodium.
- 9 The concentrations for the actinide elements were based upon plutonium as discussed in the Appendix under actinium.
- 99 The concentration was estimated from collateral data as described in the Appendix.

TABLE 11A. CONCENTRATION IN SEAWATER PLANTS

10/09/68

ELEMENT SYMBOL	ATOMIC NO. (Z)	CONC. (PPM)	CODE	REFERENCE(S)			ELEMENT SYMBOL	ATOMIC NO. (Z)	CONC. (PPM)	CODE	REFERENCE(S)		
H	1	1.00E+05	1				SB	51	5.00E+01	3			
HE	2	5.00E-06	2				IE	52	1.00E+00	3			
LI	3	6.00E-01	1	1848			I	53	2.00E+02	1	6003	5998	
BE	4	1.00E-03	1	5306	5997	6010	XE	54	1.00E-04	2			
B	5	9.00E+00	1	1907	983	5973	CS	55	1.00E-02	1	1930	6012	
C	6	5.00E+04	1	5306	5998		BA	56	5.00E+00	1	1848	6011	1657
N	7	5.00E+03	1	1307	5998		LA	57	3.00E+00	4			
O	8	8.20E+05	1				CE	58	4.00E+00	99	5335	506	2475 2715
F	9	2.00E+00	1	6003			PR	59	5.00E-01	4			
NE	10	1.40E-04	2				ND	60	2.00E+00	4			
NA	11	6.00E+03	1	5998	6003	5973	PM	61	4.00E-20	4			
MG	12	1.00E+03	1	5306	6004	5973	SM	62	5.00E-01	4			
AL	13	3.00E+02	1	6002	5998		EU	63	8.00E-02	4			
SI	14	2.00E+02	1	5998	6009		GD	64	3.00E-01	4			
P	15	1.50E+02	1	5998	6004	6009	TB	65	5.00E-02	4			
S	16	4.00E+02	1	5998	6009		DY	66	2.00E-01	4			
CL	17	6.00E+03	1	5998	6009		HO	67	5.00E-02	4			
AR	18	6.00E-01	2				ER	68	6.00E-02	4			
K	19	5.50E+03	1	1405	5306	5998	TM	69	5.00E-02	4			
CA	20	2.00E+03	1	6009	5998	6004	YB	70	6.00E-02	4			
SC	21	5.00E-01	4	6001	1406		LU	71	5.00E-02	4			
TI	22	2.00E+00	1	1848	5306	983	HF	72	6.00E-02	99			
V	23	2.00E-01	1	1848	983	6000	TA	73	2.00E-03	99			
CR	24	1.00E-01	1	1848	983	6001	W	74	3.00E-03	1	6000		
MN	25	2.00E+01	1	5329	1848	6001	RE	75	2.00E-03	1	6000	6219	
FE	26	5.00E+02	1	1848	6001	6007	OS	76	2.00E-03	8			
CO	27	1.00E-01	1	1848	5335	6005	IR	77	2.00E-05	8			
VI	28	5.00E-01	1	1848	5329	983	PT	78	2.00E-02	8			
CU	29	3.00E+00	1	1848	983	6003	AU	79	1.00E-03	1	6000		
ZN	30	1.00E+01	1	2716	1848	6003	HG	80	3.00E-02	1	5998		
GA	31	5.00E-02	1	5306	6002	983	TL	81	1.00E-01	3			
GE	32	2.00E-02	5	6012			PB	82	1.00E+00	1	1848	983	
AS	33	1.00E+00	1	2015	6000	5998	BI	83	2.00E+01	3			
SE	34	8.00E-01	1	6005			PO	84	8.00E-11	99	6012		
BR	35	1.00E+02	1	5998			AT	85	4.00E-18	99			
KR	36	3.00E-04	2				RN	86	1.40E-14	2			
RB	37	2.00E+00	1	1930	5329	5998	FR	87	8.00E-22	99			
SR	38	1.00E+02	1	1848	1657	6011	RA	88	1.00E-08	1	1989	5998	
Y	39	4.00E+00	4	6012	5464	2475	AC	89	7.00E-06	9			
ZR	40	3.00E+00	99				TH	90	3.00E-02	9			
NB	41	1.00E-02	5	6012	5813		PA	91	7.00E-03	9			
MD	42	1.00E-01	1	1848	5306	6003	U	92	3.00E+00	9			
TC	43	4.00E-12	99				NP	93	7.00E-08	9			
RU	44	2.00E-03	5	5335	6012	6048	PU	94	7.00E-09	5	1299	6012	
RH	45	2.00E-03	8				AM	95	7.00E-26	9			
PD	46	2.00E-03	8				CM	96	7.00E-26	9			
AG	47	6.00E-02	1	1848			BK	97	7.00E-26	9			
CD	48	1.00E-01	1	1918	5998	2843	CF	98	7.00E-26	9			
IN	49	1.00E-02	3				ES	99	7.00E-26	9			
SN	50	1.00E-01	1	1848	983	5998	FM	100	7.00E-26	9			

Table 11A. Concentration in seawater plants.

TABLE 11B. CONCENTRATION IN SEAWATER INVERTEBRATES

10/09/68

ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. (PPM)	CODE	REFERENCE(S)				ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. (PPM)	CODE	REFERENCE(S)			
H	1	1.00E+05	1					SB	51	8.00E+00	1	5999	6060		
HE	2	5.00E-06	2					TE	52	1.00E+00	3	5243			
LI	3	1.00E-01	1	5524				I	53	2.50E+00	1	5998	2843		
BE	4	1.00E-03	99					XE	54	1.00E-04	2				
B	5	2.00E+00	1	5998	983			CS	55	1.00E-02	1	5524	6012		
C	6	4.00E+04	1	5306	5998			BA	56	2.00E+00	1	6011	1965		
N	7	8.50E+03	1	5306	5998			LA	57	3.00E-01	4				
O	8	8.20E+05	1					CE	58	4.00E-01	99	5335	2715	2475	6026
F	9	5.00E+00	1	983	2003			PR	59	5.00E-02	4				
NE	10	1.40E-04	2					ND	60	2.00E-01	4				
NA	11	2.00E+03	1	5524	5306	5998		PM	61	4.00E-21	4				
MG	12	1.00E+03	1	5306	5998	6009		SM	62	5.00E-02	4	5581			
AL	13	3.00E+01	1	6002	5998			EJ	63	8.00E-03	4				
SI	14	1.00E+02	1	5998	6009			GD	64	3.00E-02	4				
P	15	2.00E+03	1	5998	6009			TB	65	5.00E-03	4				
S	16	4.00E+02	1	5998	6009			DY	66	2.00E-02	4				
CL	17	1.50E+03	1	5998	6009			HO	67	5.00E-03	4				
AR	18	6.00E-01	2					ER	68	6.00E-03	4				
K	19	2.50E+03	1	5524	5998	5306	6009	TM	69	5.00E-03	4				
CA	20	5.00E+03	1	6009	5998	1851	6011	YB	70	6.00E-03	4				
SC	21	5.00E-02	4	6001	1308	5581		LJ	71	5.00E-03	4				
TI	22	2.00E+00	1	5998	983			HF	72	6.00E-03	99				
V	23	1.00E-01	1	1966	983	6000	2213	TA	73	2.00E-04	99				
CR	24	1.00E-01	1	6006	5999	6001	6007	W	74	3.00E-03	1	6000			
MN	25	1.00E+01	1	5335	5999	6001	5125	RE	75	5.00E-04	1	6000			
FE	26	2.00E+02	1	5999	6002	6001	6007	OS	76	2.00E-03	8				
CO	27	1.00E-01	1	6085	2006	2520	983	IR	77	2.00E-05	8				
NI	28	5.00E-01	1	5999	5998	983	2520	PT	78	2.00E-02	8				
CU	29	5.00E+00	1	1916	5999	5333	6307	AJ	79	1.00E-03	1	6000	1308		
ZN	30	1.00E+03	1	1415	5999	5479	6307	HG	80	3.00E+00	99				
GA	31	2.00E-02	1	6002				TL	81	1.50E-01	1	6054			
GE	32	1.00E+00	1	6012	5480			PB	82	1.00E+00	1	5999	983	6307	
AS	33	1.00E+00	1	2015	6000	6054	2928	BI	83	2.00E+01	3				
SE	34	4.00E-01	1	6054				PO	84	4.00E-11	99				
BR	35	2.00E+02	1	5998				AT	85	5.00E-20	99				
KR	36	3.00E-04	2					RN	86	1.40E-14	2				
RB	37	2.00E+00	1	5524	5306	983		FR	87	2.00E-21	99				
SR	38	5.00E+01	1	5998	6011			RA	88	1.00E-08	1	6012	6049	6091	
Y	39	4.00E-01	4	2475				AC	89	2.00E-06	9				
ZR	40	3.00E-01	99					IH	90	9.00E-03	9				
NB	41	1.00E-03	5	6012				PA	91	2.00E-03	9				
MO	42	1.00E-01	1	5999	5306	6000	5998	U	92	1.00E+00	9				
TC	43	5.00E-14	99					NP	93	2.00E-08	9				
RU	44	2.00E-03	5	5335	6012	6048	506	PJ	94	2.00E-09	5	1299	6049		
RH	45	2.00E-03	8					AM	95	2.00E-26	9				
PD	46	2.00E-03	8					CM	96	2.00E-26	9				
AG	47	1.00E+00	1	5999	6060			BK	97	2.00E-26	9				
CD	48	2.50E+01	1	1918	5999	5479	6307	CF	98	2.00E-26	9				
IN	49	1.00E-02	3					ES	99	2.00E-26	9				
SN	50	2.00E+00	1	5998				FM	100	2.00E-26	9				

Table 11B. Concentration in seawater invertebrates.

10/22/68: Insert after new p. 198.

TABLE 11C. CONCENTRATION IN SEAWATER FISH

10/09/68

ELEMENT SYMBOL	ATOMIC NO. (Z)	CONC. (PPM)	CODE	REFERENCE(S)			ELEMENT SYMBOL	ATOMIC NO. (Z)	CONC. (PPM)	CODE	REFERENCE(S)		
H	1	1.00E+05	1				SB	51	2.00E-02	1	5998	6060	6353
HE	2	5.00E-06	2				TE	52	1.00E+00	3			
LI	3	1.00E-01	1	5524			I	53	5.00E-01	1	5998	2843	
BE	4	1.00E-03	99				XE	54	1.00E-04	2			
B	5	3.00E+00	1	2702	983	5998	CS	55	1.50E-02	1	5524	2151	6012
C	6	5.00E+04	1	5306	5998		BA	56	1.00E-01	1	2702		
N	7	3.00E+04	1	1307	5998		LA	57	3.00E-02	4			
O	8	8.20E+05	1				CE	58	4.00E-02	99	5335	6026	6012
F	9	5.00E+00	1	983	5998	2003	PR	59	5.00E-03	4			
NE	10	1.40E-04	2				ND	60	2.00E-02	4			
NA	11	7.00E+02	1	5524	5306	5993	PM	61	4.00E-22	4			
MG	12	1.00E+03	1	1307	5998	2702	SM	62	5.00E-03	4			
AL	13	5.00E+00	1	5306	2702	5998	EU	63	8.00E-04	4			
SI	14	7.00E+00	1	5306	5998	2702	GD	64	3.00E-03	4			
P	15	2.00E+03	1	2702	5306	5998	TB	65	5.00E-04	4			
S	16	1.50E+03	1	5998			UY	66	2.00E-03	4			
CL	17	1.00E+03	1	5998	5306		HO	67	5.00E-04	4			
AR	18	6.00E-01	2				ER	68	6.00E-04	4			
K	19	4.00E+03	1	1405	5998	5306	TM	69	5.00E-04	4			
CA	20	6.00E+02	1	5998	2702	6011	YB	70	6.00E-04	4			
SC	21	5.00E-03	4	6060			LU	71	5.00E-04	4			
TI	22	1.00E+00	1	1935	2215		HF	72	6.00E-04	99			
V	23	2.00E-02	1	2702	5306	1966	TA	73	2.00E-04	99			
CR	24	2.00E-02	1	983	6007	2702	W	74	3.00E-03	1	6000	6353	
MN	25	6.00E-01	1	1935	2702	5125	RE	75	4.00E-05	1	6000		
FE	26	3.00E+01	1	5236	2702	6007	OS	76	1.00E-04	8			
CO	27	5.00E-02	1	2006	5306	6085	IR	77	1.00E-06	8			
NI	28	2.00E-01	1	2702	5998	983	PT	78	1.00E-03	8			
CU	29	2.00E+00	1	2702	5998	983	AU	79	1.00E-03	1	6000	1935	6012
ZN	30	2.00E+01	1	2716	2702	5479	HG	80	5.00E-02	1	5998	6353	
GA	31	1.00E-02	1	1935			TL	81	1.00E-01	1	6054		
GE	32	2.00E-01	1	1935	6012	5480	PB	82	3.00E-01	1	2702	5998	1935
AS	33	1.00E+00	1	6000	5998	6054	BI	83	3.00E-03	1	1935		6307
SE	34	4.00E-01	1	6054	6353		PO	84	4.00E-11	99			
BR	35	2.00E+02	99				AT	85	1.00E-20	99			
KR	36	3.00E-04	2				RN	86	1.40E-14	2			
RB	37	1.00E+00	1	5524			FR	87	3.00E-21	99			
SR	38	4.00E+00	1	2702	6011		RA	88	5.00E-09	1	5998	6012	6091
Y	39	4.00E-02	4	6012			AC	89	7.00E-08	9			
ZR	40	3.00E-02	99				GH	90	3.00E-04	9			
NB	41	3.00E-01	1	2219			PA	91	7.00E-05	9			
MO	42	1.00E-01	1	6000	5998	6353	U	92	3.00E-02	9	6050		
TC	43	1.00E-14	99				NP	93	7.00E-10	9			
RU	44	1.00E-04	5	5335	506	6048	PU	94	7.00E-11	5	1299	6050	
RH	45	1.00E-04	8				AM	95	7.00E-28	9			
PD	46	1.00E-04	8				CM	96	7.00E-28	9			
AG	47	1.00E+00	1	2702	1935		BK	97	7.00E-28	9			
CD	48	3.00E-01	1	5998	1935	5479	CF	98	7.00E-28	9			
IN	49	1.00E-02	3				ES	99	7.00E-28	9			
SN	50	3.00E+00	1	5998	2217	1935	FM	100	7.00E-28	9			

Table 11C. Concentration in seawater fish.

12. CONCENTRATION IN FRESHWATER FOODSTUFFS

The concentrations in freshwater foodstuffs are meant to be representative of the edible portions. Whenever one species tended to have a higher concentration than other species, this value was selected. Usually this occurred when mollusks (which were higher) were compared with other invertebrates. The concentrations were assigned according to the procedures and code numbers shown below.

Rules for estimating concentrations in freshwater foodstuffs

Code

- 1 The value was taken from the measured values in the literature.
- 2 The inert gas concentration was assumed to be the same as in seawater.
- 3 The concentration was assumed to be equal to $10^5 (C_A)$.
- 4 The concentrations for scandium, yttrium, lanthanum and the rare

earths were based upon a composite of all the data on these elements as discussed in the Appendix under cerium.

- 5 The concentration was determined by multiplying the freshwater concentration by the concentration factors reported in the literature.
- 6 The ratio (foodstuff/ C_A) was assumed to be the same in freshwater as in seawater.
- 7 The concentration in freshwater foodstuffs was assumed to be equal to the concentration in seawater foodstuffs.
- 8 The concentrations for the platinum metals were based upon ruthenium as discussed in the Appendix under rhodium.
- 9 The concentrations for the actinide elements were based upon plutonium as discussed in the Appendix under actinium.
- 99 The concentration was estimated from collateral data as described in the Appendix.

TABLE 12A. CONCENTRATION IN FRESHWATER PLANTS

10/09/68

ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. (PPM)	CODE	REFERENCE(S)		ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. (PPM)	CODE	REFERENCE(S)	
H	1	1.00E+05	1			SB	51	5.00E+01	3		
HE	2	5.00E-06	2			TE	52	3.00E+00	3		
LI	3	9.00E-03	6			I	53	2.00E-01	5	6012	
BE	4	5.00E-03	1	6010		XE	54	1.00E-04	2		
B	5	2.60E-02	6			CS	55	4.00E-03	1	2722	6051
C	6	5.00E+04	1			BA	56	2.50E+01	6		
N	7	5.00E+03	7			LA	57	3.00E+00	4		
O	8	8.20E+05	1			CE	58	4.00E+00	99		
F	9	2.00E-01	6			PR	59	5.00E-01	4		
NE	10	1.40E-04	2			ND	60	2.00E+00	4		
NA	11	1.00E+03	1	6051	1679	PM	61	4.00E-20	4		
MG	12	1.00E+03	7			SM	62	5.00E-01	4		
AL	13	2.00E+02	1			EU	63	8.00E-02	4		
SI	14	2.00E+02	7			GD	64	3.00E-01	4		
P	15	2.00E+03	5	1679		TB	65	5.00E-02	4		
S	16	4.00E+02	7			DY	66	2.00E-01	4		
CL	17	6.00E+03	7			HO	67	5.00E-02	4		
AR	18	6.00E-01	2			ER	68	6.00E-02	4		
K	19	5.50E+03	7			TM	69	5.00E-02	4		
CA	20	2.00E+03	7			YB	70	6.00E-02	4		
SC	21	5.00E-01	4	6051		LU	71	5.00E-02	4		
TI	22	2.00E+01	6			HF	72	6.00E-01	99		
V	23	1.00E-01	6			TA	73	2.00E-03	99		
CR	24	2.00E+01	5	5312		W	74	3.00E-03	7		
MN	25	1.00E+02	1	6051		RE	75	2.00E-03	7		
FE	26	5.00E+02	7			OS	76	2.00E-03	8		
CO	27	1.00E-01	1	6051	2520	IR	77	2.00E-05	8		
NI	28	5.00E-01	1	2520		PT	78	2.00E-02	8		
CU	29	1.00E+01	1	6051	1679	AU	79	1.00E-03	7		
ZN	30	4.00E+01	1	1784	6051	HG	80	1.00E-01	5	6012	
GA	31	5.00E-02	7			TL	81	1.00E-01	7		
GE	32	2.00E-02	7	6012		PB	82	1.00E+00	6		
AS	33	1.00E+00	6			BI	83	2.00E+01	3		
SE	34	2.40E+00	6			PO	84	2.40E-10	99		
BR	35	1.50E+01	99			AT	85	4.00E-21	99		
KR	36	3.00E-04	2			RN	86	3.50E-13	2		
RB	37	2.00E+00	1	6051		FR	87	8.00E-22	99		
SR	38	5.00E+01	1	6051	1784 4278 6012	RA	88	4.00E-08	6	1301	
Y	39	4.00E+00	4			AC	89	7.00E-06	9		
ZR	40	3.00E+01	99			TH	90	3.00E-02	9		
NB	41	1.00E-02	7	6012		PA	91	7.00E-03	9		
MO	42	1.00E-01	7			U	92	1.00E+00	9		
TC	43	4.00E-15	99			NP	93	7.00E-08	9		
RU	44	2.00E-03	7	5335	5309 6012	PU	94	7.00E-09	9		
RH	45	2.00E-03	8			AM	95	7.00E-26	9		
PD	46	2.00E-03	8			CM	96	7.00E-26	9		
AG	47	2.60E-02	6			BK	97	7.00E-26	9		
CD	48	5.00E-01	6			CF	98	7.00E-26	9		
IN	49	1.00E-02	3			ES	99	7.00E-26	9		
SN	50	1.00E-01	7			FM	100	7.00E-26	9		

Table 12A. Concentration in freshwater plants.

TABLE 12B. CONCENTRATION IN FRESHWATER INVERTEBRATES

10/09/68

ELEMENT SYMBOL	ATOMIC NO. (Z)	CONC. (PPM)	CODE	REFERENCE(S)				ELEMENT SYMBOL	ATOMIC NO. (Z)	CONC. (PPM)	CODE	REFERENCE(S)			
H	1	1.00E+05	1					SB	51	8.00E+00	7				
HE	2	5.00E-06	2					TE	52	3.00E+00	3				
LI	3	1.50E-03	6					I	53	5.00E-02	5	6012			
BE	4	5.00E-03	1	6010				XE	54	1.00E-04	2				
B	5	1.00E-02	6					CS	55	2.00E-02	5	2722			
C	6	4.00E+04	7					BA	56	1.00E+01	6				
N	7	8.50E+03	7					LA	57	3.00E-01	4				
O	8	8.20E+05	1					CE	58	4.00E-01	99				
F	9	3.00E-01	6					PR	59	5.00E-02	4				
NE	10	1.40E-04	2					ND	60	2.00E-01	4				
NA	11	1.70E+02	1	6051				PM	61	4.00E-21	4				
MG	12	1.00E+03	7					SM	62	5.00E-02	4				
AL	13	1.50E+01	6					EJ	63	8.00E-03	4				
SI	14	1.00E+02	7					GD	64	3.00E-02	4				
P	15	2.00E+03	7					TB	65	5.00E-03	4				
S	16	4.00E+02	7					DY	66	2.00E-02	4				
CL	17	1.50E+03	7					HO	67	5.00E-03	4				
AR	18	6.00E-01	2					ER	68	6.00E-03	4				
K	19	2.50E+03	7					TM	69	5.00E-03	4				
CA	20	5.00E+03	7					YB	70	6.00E-03	4				
SC	21	5.00E-02	4	6051	1308			LJ	71	5.00E-03	4				
TI	22	2.00E+01	6					HF	72	6.00E-02	99				
V	23	5.00E-02	6					TA	73	2.00E-04	99				
CR	24	1.00E+01	5	1308	5312			W	74	3.00E-03	7				
MN	25	4.00E+02	1	6051	1308	5943	2666	RE	75	5.00E-04	7				
FE	26	3.20E+02	1	6051	1308	6012		OS	76	2.00E-03	8				
CO	27	1.50E-01	1	6051	1308			IR	77	2.00E-05	8				
NI	28	5.00E-01	7					PT	78	2.00E-02	8				
CU	29	1.00E+01	1	6051	1679			AJ	79	1.50E-03	1	1308			
ZN	30	4.00E+02	1	1308	6051	5943		HG	80	1.00E+01	99	1308			
GA	31	2.00E-02	7					TL	81	1.50E-01	7				
GE	32	1.00E+00	7					PB	82	1.00E+00	6				
AS	33	1.00E+00	7					BI	83	2.00E+01	3				
SE	34	1.20E+00	6					PO	84	1.20E-10	99				
BR	35	2.00E+00	1	5998				AT	85	1.00E-21	99				
KR	36	3.00E-04	2					RN	86	3.50E-13	2				
RB	37	4.00E+00	99					FR	87	4.00E-21	99				
SR	38	7.00E+01	1	4278	6051	1308		RA	88	2.00E-08	6	1301			
Y	39	4.00E-01	4					AC	89	2.00E-06	9				
ZR	40	3.00E+00	99					TH	90	7.50E-03	1	1308			
NB	41	1.00E-03	7	6012				PA	91	2.00E-03	9				
MO	42	1.00E-01	7					U	92	3.00E-01	9				
TC	43	1.00E-15	99					NP	93	2.00E-08	9				
RU	44	2.00E-03	7	5309	6012			PJ	94	2.00E-09	9				
RH	45	2.00E-03	8					AM	95	2.00E-26	9				
PD	46	2.00E-03	8					CM	96	2.00E-26	9				
AG	47	4.00E-01	6	1308				BK	97	2.00E-26	9				
CD	48	2.00E+00	1	1308	5999			CF	98	2.00E-26	9				
IN	49	1.00E-02	3					ES	99	2.00E-26	9				
SN	50	2.00E+00	7					FM	100	2.00E-26	9				

Table 12B. Concentration in freshwater invertebrates.

TABLE 12C. CONCENTRATION IN FRESHWATER FISH

10/09/68

ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. (PPM)	CODE	REFERENCE(S)		ELEMENT SYMBOL	ATOMIC NO.(Z)	CONC. (PPM)	CODE	REFERENCE(S)	
H	1	1.00E+05	1			SB	51	2.00E-02	7		
HE	2	5.00E-06	2			TE	52	3.00E+00	3		
LI	3	1.50E-03	6			I	53	2.00E-03	5	6012	
BE	4	5.00E-03	99			XE	54	1.00E-04	2		
B	5	1.00E-02	6			CS	55	2.00E-02	1	6051 2722 3636 6146	
C	6	5.00E+04	7			BA	56	5.00E-01	6		
N	7	3.00E+04	7			LA	57	3.00E-02	4		
O	8	8.20E+05	1			CE	58	4.00E-02	99		
F	9	3.00E-01	6			PR	59	5.00E-03	4		
NE	10	1.40E-04	2			ND	60	2.00E-02	4		
NA	11	2.00E+02	1	6051		PM	61	4.00E-22	4		
MG	12	1.00E+03	7			SM	62	5.00E-03	4		
AL	13	2.40E+00	6			EU	63	8.00E-04	4		
SI	14	7.00E+00	7			GD	64	3.00E-03	4		
P	15	2.00E+03	5	4081 1679		TB	65	5.00E-04	4		
S	16	1.50E+03	7			DY	66	2.00E-03	4		
CL	17	1.00E+03	7			HO	67	5.00E-04	4		
AR	18	6.00E-01	2			ER	68	6.00E-04	4		
K	19	3.00E+03	1	5001 6146 6149		TM	69	5.00E-04	4		
CA	20	6.00E+02	1			YB	70	6.00E-04	4		
SC	21	5.00E-03	4	6051		LU	71	5.00E-04	4		
TI	22	1.00E+01	6			HF	72	6.00E-03	99		
V	23	1.00E-02	6			TA	73	6.00E-02	99		
CR	24	1.00E+00	5	5312		W	74	3.00E-03	7		
MN	25	2.50E-01	1	6051 5335		RE	75	4.00E-05	7		
FE	26	3.00E+01	7			OS	76	1.00E-04	8		
CO	27	5.00E-02	7	6051 6147		IR	77	1.00E-06	8		
NI	28	2.00E-01	7			PT	78	1.00E-03	8		
CU	29	2.00E+00	1	6051 1679 5998		AU	79	1.00E-03	7		
ZN	30	1.00E+01	1	1784 6051		HG	80	1.00E-01	1	5998	
GA	31	1.00E-02	7			TL	81	1.00E-01	7		
GE	32	2.00E-01	7	6012 1935		PB	82	3.00E-01	6		
AS	33	1.00E+00	1	1926		BI	83	3.00E-03	7		
SE	34	1.20E+00	6			PO	84	1.20E-10	99		
BR	35	2.50E+00	99			AT	85	4.00E-23	99		
KR	36	3.00E-04	2			RN	86	3.50E-13	2		
RB	37	4.00E+00	1	6051		FR	87	4.00E-21	99		
SR	38	4.00E+00	5	4278 1784 3636 6150		RA	88	2.00E-08	6		
Y	39	4.00E-02	4			AC	89	7.00E-08	9		
ZR	40	3.00E-01	99			TH	90	3.00E-04	9		
NB	41	3.00E-01	7			PA	91	7.00E-05	9		
MO	42	1.00E-01	7			U	92	1.00E-02	9		
TC	43	4.00E-17	99			NP	93	7.00E-07	9		
RU	44	1.00E-04	7	6012		PJ	94	7.00E-11	9		
RH	45	1.00E-04	8			AM	95	7.00E-28	9		
PD	46	1.00E-04	8			CM	96	7.00E-28	9		
AG	47	4.00E-01	6			BK	97	7.00E-28	9		
CD	48	1.50E+00	6			CF	98	7.00E-28	9		
IN	49	1.00E-02	3			ES	99	7.00E-28	9		
SN	50	3.00E+00	7			FM	100	7.00E-28	9		

Table 12C. Concentration in freshwater fish.

Appendix: Estimates of Input Parameters Using Collateral Data

INTRODUCTION

Collateral data on the behavior of elements in the biological exchangeable pool have been utilized to make conservative estimates of input parameters that are more reasonable than the initially assumed worst-case values. This approach was attempted whenever a worst-case assumption led to a m^2 -rad estimate which

was within the first three orders of magnitude (5574). It is important to note that this procedure was carried out only when sufficient data were available so that the estimates could be made with assurance, and that the resulting estimates, while lower and more reasonable than the initial ones, are still meant to be values which do not compromise the conservative aspects of the analysis.

1. General Equations

The basic assumptions are (1) that the daily diet is constant, (2) that there is a steady state with respect to uptake and turnover, (3) that the turnover rate is first-order so that retention can be described by a simple exponential function, and (4) that rates of uptake and turnover are basically similar in man and in other mammals that contribute to his diet or serve as subjects in experiments.

In the steady state the daily rate of ingestion I is related to the concentration in an organ by Eq. (1) and to the concentration in the total body by Eq. (2):

$$f_B I = \frac{0.693}{T_B} m C_B \quad (1)$$

$$f_1 I = \frac{0.693}{T_B^{TB}} m^{TB} C_B^{TB} \quad (2)$$

Eqs. (1) and (2) can be rearranged a number of ways:

$$I = \frac{0.693}{f_B T_B} m C_B \quad (3)$$

$$I = \frac{0.693}{f_1 T_B^{TB}} m^{TB} C_B^{TB} \quad (4)$$

$$f_B = \frac{0.693}{I T_B} m C_B \quad (5)$$

$$f_1 = \frac{0.693}{I T_B^{TB}} m^{TB} C_B^{TB} \quad (6)$$

$$T_B = \frac{0.693}{f_B I} m C_B \quad (7)$$

$$T_B^{TB} = \frac{0.693}{f_1 I} m^{TB} C_B^{TB} \quad (8)$$

$$C_B = \frac{f_B I T_B}{0.693 m} \quad (9)$$

$$C_B^{TB} = \frac{f_1 I T_B^{TB}}{0.693 m^{TB}} \quad (10)$$

2. Estimation of the Daily Intake

Daily Intake of Man

Man is assumed to ingest daily 300 g of meat, 1 liter of milk and 1 kg of food derived from plants (5219). In the absence of data on the concentration or uptake in plants contributing to man's diet, it is assumed that cattle and man have a common dietary plant source and that the kilogram of food derived from plants is equivalent to 250 g dry weight of plants. Thus, if I is the daily intake in grams, C_{meat} the concentration in meat (g/g), C_M the concentration in milk (g/liter), and C_P the concentration in plants (g/g),

$$I = (3 \times 10^2)C_{\text{meat}} + C_M + (2.5 \times 10^2)C_P. \quad (11)$$

Since a cow ingests 10 kg of dry forage daily (1759),

$$C_M = f_M I_{\text{cow}} = f_M \times 10^4 C_P, \\ I = (3 \times 10^2)C_{\text{meat}} + 10^4 f_M C_P + (2.5 \times 10^2)C_P. \quad (12)$$

Daily Intake of Cattle

Cattle are assumed to ingest 10 kg of dry forage daily. If I_{cattle} is the daily intake in grams and C_P is the concentration in forage (g/g),

$$I_{\text{cattle}} = 10^4 C_P. \quad (13)$$

Concentration in Meat

The concentration in meat C_{meat} is assumed to the highest value found in meats (beef, pork, mutton, fowl, etc.). When concentrations in meats are deficient, C_{meat} is assumed to be a conservative estimate of C_{beef} , the concentration in beef. The estimation of C_{beef} is based on a standard 500-kg steer whose muscle mass is 200 kg.*

Concentration in Plants

The concentration in plants C_P can be estimated from the plant-to-soil concentration ratio C_P/C_S , which is obtained from tracer experiments:

$$C_P = (C_P/C_S)C_S. \quad (14)$$

The concentration in plants can also be estimated from the daily intake of cattle using Eq. (13):

$$C_P = I_{\text{cattle}}/10^4. \quad (15)$$

The daily intake is determined by Eq. (3) or (4).

---

*In this section we have assumed implicitly that "beef" refers to steer skeletal muscle. Collateral data for other animal tissues are designated in the same way as in the original reference.

3. Estimation of f_B : Fractional Uptake by Ingestion

The uptake in an organ by ingestion f_B is by definition the fraction absorbed f_1 times the uptake from blood f_2' :

$$f_B = f_1 f_2'. \quad (16)$$

Data on uptake in organs of rats and other animals are often reported per gram of tissue. These data can sometimes be utilized for estimation of f_2' and f_B . For example, if the f_2'/m in organ a were equal to the f_2'/m in organ b, we assume that the f_2'/m are also equal in organs a and b of man. The f_2' in organ a of man can then be estimated from the f_2' in organ b of man and the respective organ masses as follows:

$$(f_2')^a = m^a \left(\frac{(f_2')^b}{m^b} \right). \quad (16a)$$

Similarly

$$(f_B)^a = m^a \left(\frac{(f_B)^b}{m^b} \right). \quad (16b)$$

If the appropriate f_2' or f_B for man is unknown, then we use the above equations together with the organ masses of the animal to calculate f_2' or f_B for the animal and assume this value for man.

Data have often been reported on uptake and distribution in the gonads of mixed groups of male and female subjects (usually rats). In keeping with our worst case approach, the f_2' in the ovaries and testes are estimated assuming that the observed f_2' is attributable to males and females separately. Thus if there were N subjects composed of M males and F females and the average uptake from blood to the gonads was $\overline{f_2'}$,

$$f_2' \text{ (ovaries)} = N \overline{f_2'} / F \quad (17)$$

$$f_2' \text{ (testes)} = N \overline{f_2'} / M.$$

If M and F were not stated, the f_2' in the ovaries and testes would each be

$$f_2' = N \overline{f_2'}. \quad (18)$$

If N was not specified, it is assumed to be 5.

4. Estimation of T_B : Biological Half-Life

The biological half-life in an organ can be estimated from the fraction of the total body content in the organ (f_2), the uptake in the organ following absorption (f_2') and the biological half-life in the whole body (T_B^{TB}). The relationship below is obtained when Eq. (7) is divided by Eq. (8):

$$\frac{T_B}{T_B^{TB}} = \frac{f_1}{f_B} \frac{m C_B}{m^{TB} C_B^{TB}} .$$

Since $\frac{m C_B}{m^{TB} C_B^{TB}} = f_2$ and $f_B = f_1 f_2'$,

$$T_B = (f_2/f_2') T_B^{TB} . \quad (19)$$

It follows from Eq. (19) that the biological half-life of organ a can be estimated from that of organ b and the (f_2/f_2') ratios of organs a and b, that is,

$$T_B^a = \frac{(f_2/f_2')^a}{(f_2/f_2')^b} T_B^b . \quad (20)$$

5. Estimation of C_B : Concentration

The fraction of the total body content in an organ f_2 is related to the concentrations in the organ and in the total body by Eq. (21):

$$f_2 = \frac{mC_B}{m^{TB}C_B^{TB}} \quad (21)$$

Equation (21) can be rearranged to yield expressions for C_B and C_B^{TB} :

$$C_B = \frac{f_2 m^{TB} C_B^{TB}}{m} \quad (22)$$

$$C_B^{TB} = \frac{mC_B}{f_2 m^{TB}} \quad (23)$$

The f_2 in the ovaries and testes can conservatively be estimated from distribution in the gonads of a mixed group of males and females. We follow an approach similar to that for derivation of Eqs. (17-18). If there were N subjects composed of F females and M males and $\bar{f}_2$ was the average f_2 in the gonads,

$$f_2 \text{ (ovaries)} = N \bar{f}_2 / F, \quad (24)$$

$$f_2 \text{ (testes)} = N \bar{f}_2 / M.$$

If M and F were not stated, the f_2 in the ovaries and testes would each be

$$f_2 = N \bar{f}_2. \quad (25)$$

If N was not specified, it is assumed to be 5.

The concentration in an organ can be estimated from the concentration in plasma and the tissue-to-plasma concentration ratio:

$$C_B = (C_B / C_{\text{plasma}}) C_{\text{plasma}} \quad (26)$$

The tissue-to-plasma ratio can be determined from tracer experiments.

The concentration in the total body can be determined from the total body content estimated as the sum of the contents of each organ. Thus

$$C_B^{TB} = \frac{\sum (mC_B)}{m^{TB}} \quad (27)$$

6. Special Considerations in Estimation of f_B , T_B and C_B

Functional Dependence of Unit-Rad Deposition on f_B , T_B and C_B

Examination of the equations for the unit rad deposition F_1 (5571) shows that, if T_B is less than a few years, the dependency on f_B , T_B and C_B is as follows.

Via milk:

$$F_1 \propto \frac{1}{f_B T_E T_P} \propto \frac{(T_B + T_R)}{f_B T_B T_P T_R}, \quad (28)$$

Via soil:

$$F_1 \propto \frac{1}{C_B \left[T_R \left(1 - e^{-20.8/T_R} \right) - T_E \right]} \propto \frac{(T_B + T_R)}{C_B T_R \left[T_R - (T_B + T_R) e^{-20.8/T_R} \right]}. \quad (29)$$

For convenience in comparing the dependency on the biological parameters, let us also assume that T_R is less than a few years. Then since by Eq. (9)

$$C_B \propto f_B T_B,$$

Equation (29) can be written

$$F_1 \propto \frac{(T_B + T_R)}{f_B T_B T_R}. \quad (30)$$

Thus, the functional dependence by the two pathways is the same.

The estimated maximum dose is greatest when F_1 is a minimum. In keeping with the conservative nature of these calculations, our estimates of f_B , T_B and C_B must conform to the following rules: If C_B is known, it sets an upper limit on the product $f_B T_B$; and then, f_B must be maximized and T_B minimized. If C_B is not known, f_B , T_B and C_B must be maximized individually. Thus f_B , T_B and C_B are not necessarily consistent with each other in this Handbook.

When f_B , T_B and C_B are maximized independently, the resulting F_1 via the soil-root pathway may not be a minimum. However, the fetus, the newborn, and the infant should be regarded as the critical members of the population. This group experiences extremely rapid growth and development; accordingly, we have assumed that body tissues in this group very rapidly (instantaneously) equilibrate with the terrestrial environment (soil), from which the diet is derived. Thus, we estimate the dosage to this group via soil assuming that $T_B = 0$ for all elements, which serves to minimize F_1 and maximize the estimate of dosage.

7. Estimation of C_S

C_S of Naturally Occurring Radioisotopes

The concentration in soil (C_S) of naturally occurring radioisotopes can sometimes be estimated from that of the parent isotopes assuming secular equilibrium. Consider the general scheme:

1. Isotope X can decay into isotope Y.
2. A fraction f of the disintegrations of X results in the production of Y.
3. X and Y represent the number of atoms of X and Y per gram of soil.
4. T_X and T_Y represent their half-lives, A_X and A_Y represent their masses.

If $T_X \gg T_Y$, then X and Y can come to secular equilibrium, whence

$$Y/T_Y = fX/T_X \quad (31)$$

Isotopes Produced by Spontaneous

Fission—In the situation where Y is produced by spontaneous fission of X, f is the fission yield. Since

$$(C_S)_Y = YA_Y/N_o \text{ and } (C_S)_X = XA_X/N_o \quad (32)$$

$$(C_S)_Y = \frac{fA_Y T_Y}{A_X T_X} (C_S)_X$$

Isotopes of Natural Radioactive

Series—In the situation where X and Y are members of natural radioactive series, f is the branching fraction. X

and Y are isotopes of high Z and high A, so that $A_Y \approx A_X$. Since $A_Y/A_X \approx 1$, Eq. (32) reduces to

$$(C_S)_Y = f(T_Y/T_X)(C_S)_X \quad (33)$$

All half-lives used in the calculations were taken from the Chart of the Nuclides (5969) or the Table of Isotopes (5968).

Unless otherwise indicated, the branching ratios are also from the Table of Isotopes (5968). The best known member of the chain was chosen as X.

In following this approach we focused on the daughter isotopes which would be expected to have the highest concentrations. Thus we considered those isotopes whose half-lives were relatively long and whose parents in the decay chain were relatively high in natural abundance.

When the contribution of one isotope to C_S exceeded the sum of the contributions of the other isotopes by a factor of 10 or more, we considered only this isotope. (This is consistent with our conservative approach.)

In the absence of concentrations in soil, we assumed that the ratios of the concentrations of parent and daughter are similar in soils, rocks and ores. Thus the C_S of Y can be estimated from the C_S of X, the parent, and the ratio of the concentrations of Y and X in rock.

$$(C_S)_Y = \frac{(C_{\text{ore}})_Y}{(C_{\text{ore}})_X} (C_S)_X \quad (34)$$

ESTIMATES OF INPUT PARAMETERS BY ELEMENT

This section describes the estimation of input parameters using collateral data (Code 99 entries). Data used in the calculations include values listed in the Handbook tables. It is to be noted that the data required in the calculations are listed as "Collateral Data" only if they

are not found in the Handbook tables. The parameters are covered in the order of their appearance in the tables, i. e., C_S , f_B , T_B , C_B .

The estimates calculated by these procedures are rounded off in the direction yielding a more conservative F_1 . These final values are the values listed in the Handbook tables.

1^1H Estimation of C_S

The C_S of H was estimated by considering its presence in (1) liquid phase, (2) organic matter, and (3) mineral matter. We assumed

1. Concentration of the liquid phase is 25% by volume (5804).
2. Density of soil water is 1 g/cm^3 .
3. Bulk density of plow layer is 1.5 g/cm^3 (2062).

If C_W is the concentration of H in water in g/cm^3 , the C_S from soil water is

$$C_S = \frac{0.25 C_W}{1.5} = 0.17 C_W.$$

- (1) Estimate of C_S from soil water:

$$C_W = 0.11 \text{ g/cm}^3,$$

$$C_S = 1.8 \times 10^{-2} \text{ g/g}.$$

- (2) Estimate of C_S from soil organic matter:

$$C_S = 2.5 \times 10^{-3} \text{ g/g (5223)}.$$

- (3) Estimate of C_S from soil mineral matter:

$$C_S = 2.5 \times 10^{-3} \text{ g/g (5223)}.$$

- (4) The final estimate of C_S was determined by summing the C_S of (1), (2) and (3).

 2^4He Estimation of C_S C_S of Helium and Other Inert Gases

The C_S of the inert gases were assumed to be the concentrations resulting from their presence in the soil atmosphere which is taken to be the normal atmosphere under STP. We assumed

1. Concentration of soil atmosphere is 25% by volume (5804).
2. Bulk density of plow layer is 1.5 g/cm^3 (2062).

Then if C_a is the concentration in air in g/cm^3 ,

$$C_S = 0.25 C_a / 1.5 = 0.17 C_a.$$

The C_a of radon was estimated as that of Rn^{222} from the activity in the soil atmosphere (5770) and the specific activity (5938):

Concentration of Rn^{222} in soil atmosphere:

$$5 \times 10^{-10} \text{ Ci/liter}.$$

Specific activity of Rn^{222} :

$$1.5 \times 10^5 \text{ Ci/g}.$$

Hence

$$\begin{aligned} C_a &= 5 \times 10^{-10} / 1.5 \times 10^5 \\ &= 3.3 \times 10^{-15} \text{ g/liter.} \end{aligned}$$

(continued)

⁴Be

Estimation of C_B

Estimation of Aquatic Data

Individual Organs

(1) Estimation of daily intake by Eq. (4):

$$I = 2 \times 10^{-5} \text{ g/day}$$

(2) C_B (of the gastrointestinal tract contents) was then estimated using a total intake of 1.3 kg/day.

Estimation of Concentration in Foodstuffs

The concentration was assumed to be the same in plants, invertebrates, and fish. Plants and invertebrates are shown to be the same in reference 6010.

Estimation of C_S of inert gases

Element	C_a ($\mu\text{g}/\text{m}^3$, STP)	Ref.	C_S (g/g)
2 He	9.2×10^2	5761	1.5×10^{-10}
10 Ne	1.6×10^4	5761	2.7×10^{-9}
18 Ar	1.6×10^7	5761	2.7×10^{-6}
36 Kr	4.1×10^3	5761	7.5×10^{-10}
54 Xe	5.0×10^2	5761	8.3×10^{-11}
86 Rn	3.3×10^{-6}		5.4×10^{-19}

15^P

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Bone			0.5	ICRP
I (g/day)	1.18	1.80		3869A

Estimation of f_B Individual Organs

The uptake per gram in ovaries, kidneys, liver, spleen and testes of rats were shown to be less than or comparable to the uptake per gram in bone (2413, 5275, 5295). Therefore we have assumed that f_2'/m in these tissues is

the same as f_2'/m in bone. The f_B in these organs were calculated using f_2'/m in bone by Eqs. (16) and (16a).

Estimation of T_B Individual Organs

The T_B were estimated by Eq. (7) using an I equal to 1.2 g/day.

16^S

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_B				
Bone			0.03	ICRP
Testes			0.0013	ICRP
Rat kidneys			0.0025	5294
Rat liver			0.005	5294
Rat spleen			0.0003	5294

Estimation of f_B Individual Organs

In the absence of other data the f_B for rat have been assumed for man. Sulfur is most concentrated in the structural and protective tissues (e. g., bone, connective tissue, skin, hair). Since the S-containing substances would be expected to have a general distribution among soft tissues, we have assumed that the uptake in ovaries is comparable to that in kidneys, liver,

spleen and testes. The f_B/m in the testes, 2.2×10^{-5} , is the highest for the organs listed, and this was assumed for the ovaries. The f_B in ovaries was estimated by Eq. (16b).

Estimation of C_B Individual Organs

Since sulfur is most concentrated in tissues such as skin, we have assumed values of C_B comparable to that in skin, $10^4 \mu\text{g/g}$ (ICRP).

20^{Ca}

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Bone			0.9	ICRP
I (g/day)	0.76	1.31		3869A

(continued)

Estimation of f_B Individual Organs

The f_2'/m in the soft tissues of the rat were shown to be more than a factor of ten lower than that in bone (1798, 3970, 5171). Therefore, in estimating f_B , we have made the conservative assumption that the f_2'/m in organs other than bone

is equal to 1.4×10^{-5} , which is 1/10 of the f_2'/m in bone. The estimates of f_B were then made using Eqs. (16a) and (16).

Estimation of T_B Individual Organs

The T_B were estimated by Eq. (7) using an I equal to 0.76 g/day.

21^{Sc}

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Human heart	3.1×10^{-6}	1.08×10^{-4}		1294
Cattle bone	2×10^{-3}	5×10^{-3}		4752
Cow heart	1.8×10^{-5}	9.8×10^{-5}		1745
Beef			5.5×10^{-3}	4941
Pork			2.6×10^{-3}	4941
Ham			2.4×10^{-3}	4941
Chicken			7.4×10^{-3}	4941
Kale tops			8.35×10^{-3}	5340
Uptake relationships				
f_2'				
Rat spleen	0.0077	0.053		5180, 5181
Rat gonads	0.0008	0.0053		5180, 5181
f_2/f_2'				
Bone			1.1	ICRP
Liver			1.2	ICRP
Rat kidneys	0.7	1.1		5181
Rat spleen			0.85	5181
f_2				
Bone			0.22	ICRP
Kidneys			0.05	ICRP
Liver			0.18	ICRP
Rat spleen	0.027	0.041		5181
Rat gonads	0.016	0.017		5181

(continued)

Estimation of f_B

Individual Organs

The f_B in the ovaries and testes were estimated from f_2^I in the gonads by Eqs. (18) and (16). The f_B in spleen was estimated by Eq. (16).

Estimation of T_B

Individual Organs

The T_B were estimated by Eq. (19).

Estimation of C_B

Whole Body

Scandium is thought to be rather strongly excluded from plants with $C_P/C_S < 0.01$ (5227, 5306). The C_P/C_S of Sc^{46} in food crops irrigated with Columbia River water was less than 0.1 except in lettuce and beet tops, where the likelihood of foliar absorption was high (5237). In experiments on the uptake of Sc^{46} and W^{185} in leaves and stems of bush beans grown on various soils, the quotient of the C_P/C_S ratio of scandium and that of tungsten varied from 0.03 to 0.23, but for the most part the quotient was less than 0.1 (5229). In another series of experiments the greatest C_P/C_S ratio of

W^{185} in beans or barley grown on different soils was 3.8 (2697, 5570); the other ratios were less than 1. On the basis of these relationships a conservative estimate of the maximum C_P/C_S ratio of scandium would be 3.8 times 0.23, the product of the maximum C_P/C_S ratio of tungsten and the maximum quotient of the C_P/C_S ratios of scandium and tungsten. Accordingly

$$C_P/C_S = 1.0.$$

(1) Estimation of C_P by Eq. (14):

$$C_P = 7 \times 10^{-6} \text{ g/g.}$$

(2) Estimation of I by Eq. (12):

$$C_{\text{meat}} = 10^{-8} \text{ g/g.}$$

$$I = 1.8 \times 10^{-3} \text{ g/day.}$$

(3) C_B^{TB} was then estimated by Eq. (10) using the I above.

Individual Organs

The f_2 in the ovaries and testes were estimated from f_2 in the gonads by Eq. (25) and are based on data from 3 rats (5181). The C_B were estimated by Eq. (22).

25Mn

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Kidneys			0.05	ICRP
Liver			0.24	ICRP
Rat bone	0.055	0.083		5180, 5181, 5273
Rat spleen	0.0038	0.006		5180, 5181, 5273
Rat testes			0.01	5273
I (g/day)	3.45×10^{-3}	4.39×10^{-3}		3869A

Estimation of f_B Individual Organs

In the absence of uptake data in humans we have estimated f_B from uptake in rats.

We have assumed further that the uptake in rat testes and ovaries are similar.

This would be conservative since the mass

of the testes in rat is a disproportionately large fraction of the total body mass. The f_B were estimated by Eq. (16).

Estimation of T_B Individual Organs

The T_B were estimated by Eq. (7) using an I equal to 3.5×10^{-5} g/day.

26Fe

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Bone			0.1	ICRP
Liver			0.13	ICRP
Spleen			0.02	ICRP
Rat kidneys			0.03	5193
I (g/day)	1.2×10^{-2}	1.5×10^{-2}		3869A

(continued)

Estimation of f_B Individual Organs

The C_B of iron in bone, kidneys, liver, and spleen are greater than the C_B in ovaries or testes. This indicates that f_B/m or T_B , or both, are smaller in the ovaries and testes. As the discussion of Eq. (30) indicates, we should maximize f_B in this case. Accordingly we set f_2'/m in ovaries and testes equal to 1.2×10^{-4} ,

which is the f_2'/m for spleen and the highest of the tissues. Then f_B was estimated using Eqs. (16) and (16a). The f_B in kidneys was estimated by Eq. (16).

Estimation of T_B Individual Organs

The T_B were calculated by Eq. (7) using an I equal to 1.2×10^{-2} g/day.

27^{Co}

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Kidneys			0.002	ICRP
Liver			0.04	ICRP
Spleen			0.0014	ICRP
I (g/day)			1.65×10^{-4}	3869A

Estimation of f_B Individual Organs

The f_2'/m in femur of rats was less than that in kidneys and liver by about an order of magnitude (2207, 5936). The f_2'/m in reproductive organs of young calves was less than that in kidneys, liver, and spleen. The f_2'/m in kidneys, liver, and spleen are approximately 10^{-5} g⁻¹. We have used this value as a conservative estimate of the f_2'/m in bone, ovaries, and testes. The f_B were estimated by Eqs. (16) and (16a).

Estimation of T_B Whole Body

The T_B^{TB} was estimated by Eq. (8).

Individual Organs

The half-lives of cobalt in the whole body and various organs of rat were comparable (3331, 5936). Cobalt does not concentrate in bone, ovaries or testes (1798, 3868, 4756). We therefore feel justified in adopting T_B^{TB} as T_B for all the organs of interest.

29Cu

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Brain			0.01	ICRP
Heart			0.01	ICRP
Kidneys			0.05	ICRP
Liver			0.08	ICRP
Spleen			0.07	ICRP
I (g/day)	9.1×10^{-4}	1.04×10^{-3}		5869A

Estimation of f_B Individual Organs

Copper is most concentrated in liver, brain, heart and kidneys, and mean C_B in bone, ovaries, and testes (1798, 3868) are equal to or less than C_B^{TB} . Thus copper does not normally concentrate in bone, ovaries, and testes. In accordance with the discussion of Eq. (30) we should maximize f_B . We therefore assumed that f_2'/m in ovaries and testes are equal to $4 \times 10^{-4} \text{ g}^{-1}$, the f_2'/m in spleen, which is the greatest in any of the organs listed.

The f_B were then estimated by Eqs. (16) and (16a). The f_2' in bone was assumed to be 0.8, the fraction not known to be taken up in other organs of the rat (5220). The f_B was then calculated by Eq. (16).

Estimation of T_B Whole Body

The T_B^{TB} was estimated by Eq. (8) using an I equal to $9 \times 10^{-4} \text{ g/day}$.

Individual Organs

The T_B were estimated by Eq. (7) using an I equal to $9 \times 10^{-4} \text{ g/day}$.

³¹Ga

Estimation of C_B

Individual Organs

The daily intake was assumed to be equal to the daily excretion of 110 $\mu\text{g/day}$ (6094). The C_B of the GI tract (contents) was estimated assuming a total intake of 1.3 kg/day.

Estimation of C_{meat}

The daily intake of gallium was assumed to be the daily excretion, 110 μg (6094). Since the dietary gallium is mostly of animal origin (6094), C_{meat} was set equal to 100 μg divided by the daily intake of meat.

³⁴Se

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Human bone	2.1×10^{-2}	9.8×10^{-1}		2986
Human heart	4×10^{-3}	2.5×10^{-1}		1294, 2986
Human kidneys	1.4×10^{-2}	2.7×10^{-1}		893, 2986
Human large intestine			4×10^{-2}	893
Human liver	1.1×10^{-2}	3.1×10^{-1}		893, 2986
Human lungs	6×10^{-3}	1.1×10^{-2}		2986
Human muscle	1.4×10^{-2}	2.3×10^{-1}		2986
Human pancreas	2.1×10^{-2}	2.6×10^{-1}		2986
Human skin	1.2×10^{-2}	1.2×10^{-1}		2986
Human spleen	1.4×10^{-2}	1.4×10^{-1}		2986

Estimation of C_B

Whole Body

The tissues whose concentrations are listed account for the major fraction of

the total body mass. We therefore estimated C_B^{TB} by Eq. (27) assuming a C_B of 10^{-6} g/g in bone and a C_B of 3×10^{-7} g/g in all the other tissues.

35^{Br}Estimation of Aquatic DataEstimation of Concentration in Seawater Fish

The concentration in fish was assumed to be the same as in invertebrates.

Estimation of Concentration in Fresh-water Foodstuffs

The ratio (foodstuffs/ C_A) for chlorine was assumed to apply for bromine.

37^{Rb}Estimation of Aquatic DataEstimation of Concentration in Fresh-water Invertebrates

The concentration in invertebrates was assumed to be the same as that in fish.

38^{Sr}

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
I (g/day)	1.24×10^{-3}	1.37×10^{-3}		3869A

Estimation of f_B Individual Organs

Clearance from the soft tissues of rat is very rapid; the uptake from blood to kidneys, liver, and spleen and other soft tissues is less than m/m^{TB} except at very early times (2873). We have there-

fore simply assumed that $f_2^1 = m/m^{TB}$. The f_B were calculated using Eq. (16).

Estimation of T_B Individual Organs

The T_B were estimated by Eq. (7) using an I equal to 1.24×10^{-3} g/day.

39^Y

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Cattle bone	3×10^{-3}	10^{-2}		4752
Mouse ash			2.4×10^{-1}	5225
Uptake relationships				
f_2'				
Rat kidneys	0.026	0.028		5166A, 5173
Rat liver	0.096	0.17		5166A, 5173
Rat spleen	0.002	0.0035		5166A, 5173
Rat testes			0.0014	5166A
Rat gonads			<0.0002	5173
f_2/f_2'				
Rat kidneys			0.3	5166A
Rat liver			0.1	5166A
Rat spleen			0.75	5166A
Rat testes			0.6	5166A
f_2				
Bone			0.97	ICRP
Rat kidneys	0.007	0.013		5166A, 5173
Rat liver	0.0056	0.044		5166A, 5173
Rat spleen	0.0018	0.0027		5166A, 5173
Rat testes			0.00084	5166A
Rat gonads			<0.00016	5173

Estimation of f_B Individual Organs

The f_2' in ovaries was estimated from f_2' in the gonads by Eq. (18). The f_B in the ovaries and other organs were estimated by Eq. (16).

Estimation of T_B Individual Organs

The T_B were estimated by Eq. (19).

Estimation of C_B Whole Body

The maximum C_P/C_S ratio of the lanthanides* collectively is about 0.1 in crop plants (2540), and individual lanthanides appear to distribute in plants in essentially the same proportions as in

---

* Yttrium is included among the lanthanides.

(continued)

soil (5225). The C_P/C_S ratios of cerium in edible parts of plants have been found to vary between 10^{-5} and 1 (1521, 5219). While the average and most probable value of C_P/C_S would be less than 0.1, we have adopted the upper limit

$$C_P/C_S = 1$$

which is in keeping with the conservative aspects of the analysis.

Yttrium is a bone-seeker with f_2' and f_2 in bone both exceeding 0.5 (5593). Also the f_2' of lanthanides in muscle is relatively low (2114). Accordingly we have conservatively assumed that

$$C_{\text{beef}} = C_{\text{steer}}^{\text{TB}}$$

(1) Estimation of C_P by Eq. (14):

$$C_P = 5 \times 10^{-5} \text{ g/g.}$$

(2) Estimation of I_{steer} by Eq. (13):

$$I_{\text{steer}} = 5 \times 10^{-1} \text{ g/day.}$$

(3) Estimation of $C_{\text{steer}}^{\text{TB}}$ by Eq. (10):

$$C_{\text{steer}}^{\text{TB}} = 2 \times 10^{-7} \text{ g/g.}$$

(4) Estimation of I by Eq. (12):

$$C_{\text{meat}} = 2 \times 10^{-7} \text{ g/g,}$$

$$I = 1.3 \times 10^{-2} \text{ g/day.}$$

(5) C_B^{TB} was then estimated by Eq. (10).

Individual Organs

The f_2 in ovaries was estimated from f_2 in the gonads by Eq. (25). The C_B in the ovaries and other organs were then estimated by Eq. (22).

Estimation of C_{meat}

Since no data for yttrium in meat have been found, we have assumed that

C_{meat}/C_S is the same as C_{meat}/C_S of samarium, which is the highest value reported for the lanthanides. The value of C_{meat} was then estimated from the product of the ratio and C_S .

40^{Zr}

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Rat testes	0.01	0.02		5166A, 5170
f_2				
Bone			0.8	ICRP
f_2/f_2'				
Rat testes			1.8	5170, 5171

Estimation of f_B Individual Organs

The f_B in testes was estimated by Eq. (16).

Estimation of T_B Individual Organs

The T_B in testes was estimated by Eq. (19).

Estimation of C_B Individual Organs

The concentrations of zirconium in human tissues reported by Schroeder (5126) exceed other reported concentra-

tions of zirconium in animals and man (2541, 4941, 5593).^{*} Schroeder's concentrations seem to be inconsistent with these others and with the uptake and retention behavior of zirconium. We therefore have chosen not to adopt Schroeder's values. If we had adopted his values, our estimate of C_B in bone would be greater by about a factor of 50 and C_B in the other organs would be greater by about a factor of 10. F_1 values via soil would then decrease proportionately.

The C_B in bone was estimated by Eq. (22).

^{*}Also L. Anspaugh, Bio-Medical Division, Lawrence Radiation Laboratory, Livermore, Calif., unpublished data.

(continued)

Estimation of Aquatic Data

Known Data

	Min	Max	Av	Ref.
Concentration				
Seawater			4×10^{-3}	6013
			3×10^{-5}	5996
Freshwater	5×10^{-5}	2×10^{-2}	3×10^{-3}	5779
Seawater plankton			4.0	5997
Seawater invertebrates	2×10^{-1}	1.3	6×10^{-1}	5126
Seawater fish	5×10^{-1}	8×10^{-1}	7×10^{-1}	5126
			2×10^1	2702
Concentration factors				
Seawater plants	400	1000		5335
	76	222	153	5318
	200	>3000		6012
			1000	506
Freshwater plants	400	8000		5335
	200	3000	1000	6012
Seawater invertebrates			1000	5335
			1500	506
Freshwater invertebrates	10	160	70	6012
Seawater fish	1	30		5335
			10	1528
Freshwater fish			6	6012

Estimation of C_A for Seawater

The Ti/Zr ratio in soil and in freshwater is roughly equal to 10. This value was also adopted for seawater. This leads to a value of 3×10^{-4} which is in the middle of the range of measured values.

Estimation of Concentration in Seawater Foodstuffs

The following concentration factors are suggested by the known data

Plants	10,000
Invertebrates	1,000
Fish	100

The concentrations in seawater foodstuffs were determined by multiplying these

factors by the seawater concentration.

This leads to values that are lower than the Schroeder values (5126), particularly for fish. However, as stated under "Estimation for C_B " above, there is reason to believe that his values are high by at least a factor of 10. The concentration of $20 \mu\text{g/g}$ for fish in Ref. 2702 is based upon a single fish.

Estimation of Concentration in Freshwater Foodstuffs

These concentrations were determined by using the concentration factors above and the concentration in freshwater.

41Nb

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Bone			0.38	ICRP
Kidneys			0.02	ICRP
Liver			0.09	ICRP
Spleen			0.008	ICRP

Estimation of f_B Whole Body

We should take into account that the f_1 of niobium may be greater than the ICRP value, $f_1 = 10^{-4}$. Niobium and tantalum are second- and third-transition group congeners with very similar atomic and ionic dimensions, and the two elements are very closely associated in nature. According to Schroeder (2219) over half

the niobium present in the diet is absorbed. In other study 5% of an initial Ta^{182} deposition in the abdominal region had not been eliminated after 5 days (1485), so that the f_1 may be of the order of 5%. We therefore have assumed that f_1 and f_B^{TB} are equal to 0.05.

Individual Organs

The f_B were estimated by Eq. (16).

Collateral Data

	Min	Max	Av	Ref.
Uptake relationship				
I (g/day)			1.0×10^{-4}	3869

Estimation of f_B Individual Organs

A major fraction of molybdenum absorbed in the gastrointestinal tract is very rapidly excreted (5181, 5182, 5275). We have estimated f_2' based on early deposition in rats (see below, 5181, 5182). Because of the very rapid excretion these values are over-conservative. These f_2' are assumed to apply to man.

Estimation of f_2' and f_2'/m

Organs	f_2'	f_2'/m (g^{-1})
Bone	0.12	1.9×10^{-5}
Kidneys	0.06	1.9×10^{-4}
Liver	0.30	1.7×10^{-5}
Spleen	0.01	5.7×10^{-5}

The f_2'/m in the ovaries and testes have been shown to be comparable and less than f_2'/m in bone, kidneys, liver,

and spleen.* The f_2'/m in the ovaries and testes were therefore assumed to be $2 \times 10^{-5} g^{-1}$, which compares with the lowest values for the organs above. The f_2' in ovaries and testes were calculated by Eq. (16a); the f_B in the organs of interest were then estimated by Eq. (16).

Estimation of T_B Whole Body

The T_B^{TB} estimated by Eq. (8) was about 100 days. The T_B^{TB} was also estimated from excretion data of patients given intravenous Mo^{99} (5274). The T_B^{TB} in 2 patients who were studied for 10 days was about 25 days. Our final choice of T_B^{TB} , 100 days, minimizes the F_1 of Mo^{93} via milk and influences only slightly its F_1 via soil, and has little effect on the F_1 of Mo^{99} (via milk).

Individual Organs

The T_B were estimated by Eq. (7).

*J. Barr and B. Shore, Bio-Medical Division, Lawrence Radiation Laboratory, Livermore, Calif., unpublished data.

43Tc

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Bone			0.002	ICRP
Kidneys			0.01	ICRP
Liver			0.003	ICRP

Estimation of C_S

The technetium occurring in nature is assumed to be the Tc^{99} derived from uranium. Other isotopes have not been found in nature. The C_S was estimated by Eq. (34) from the following concentrations of Tc^{99} and U in pitchblende (5763):

43 Tc ⁹⁹	$10^{-7} \mu g/g$
92 U	$4.2 \times 10^5 \mu g/g$

Estimation of f_B Whole Body

The fraction of technetium absorbed in man following ingestion was about 0.95 (5443). We therefore have assumed that f_1 and f_B^{TB} are equal to 1.

Individual Organs

The f_B in bone, kidneys and liver were estimated by Eq. (16).

Estimation of T_B Whole Body

The apparent biological half-life in man calculated from human retention data (5443) was about 3 days. The apparent biological half-life is the half-life

associated with the simple exponential biological retention curve whose integral is equal to that of the experimental retention curve.

Estimation of C_B Whole Body

An analysis of studies on uptake into plants including those cited by Menzel (5227) and those in the table on p. 13 leads to the conclusion that the greatest C_P/C_S ratio that can be assigned to an element in a broad spectrum of crop plants is about 100. In the absence of data on the uptake of technetium into plants we have conservatively assumed that

$$C_P/C_S = 100.$$

The concentration in meat C_{meat} is assumed to be equal to a conservative C_{beef} . The f_2'/m and f_2/m of Tc in muscle are both relatively low (5170), so that conservatively

$$C_{beef} = C_{steer}^{TB}$$

(1) Estimation of C_P by Eq. (14) :

(continued)

$$C_P = 10^{-17} \text{ g/g.}$$

(2) Estimation of I_{steer} by Eq. (13):

$$I_{\text{steer}} = 10^{-13} \text{ g/day.}$$

(3) Estimation of $C_{\text{steer}}^{\text{TB}}$ by Eq. (10):

$$C_{\text{steer}}^{\text{TB}} = 8.7 \times 10^{-19} \text{ g/g.}$$

(4) Estimation of I by Eq. (12):

$$I = 7.8 \times 10^{-15} \text{ g/day.}$$

(5) C_B^{TB} was then estimated by Eq. (10)

Estimation of C_P

The pertechnetate ion, a soluble and stable form of technetium, competes with

the iodide ion in active transport to the thyroid (947,6352). In the absence of plant data, we have assumed that the C_P/C_S ratios of technetium and iodine are comparable. A similar C_P/C_S ratio is noted for manganese, the first transition series element related to technetium. We therefore adopted a C_P/C_S value of 1.0. The C_P was then estimated by Eq. (14).

Estimation of Aquatic Data

In all cases technetium was assumed to be similar to iodine and all values were determined by multiplying the iodine values by 2×10^{-14} , the Tc/I ratio in soil.

44Ru

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Beef			7×10^{-4}	4941
Pork			5×10^{-4}	4941
Ham			2×10^{-3}	4941
Chicken			6×10^{-4}	4941
Uptake relationships				
f_2'				
Rat bone	0.05	0.11		4293, 5166, 5182, 5909
Rat kidneys	0.03	0.06		4293, 5166, 5182, 5909
Rat liver	0.027	0.21		4293, 5166, 5182, 5909
Rat ovaries			0.0003	5909
Rat spleen	0.005	0.013		4293, 5166, 5182, 5909
Rat testes	0.0044	0.0085		4293

Estimation of C_S

The f_2 in muscle is equal to the ratio of organ to total body weight, so that

$$C_{\text{steer}}^{\text{TB}} = C_{\text{beef}}$$

(See "Estimation of C_B " for this element below.)

The C_P/C_S ratio of ruthenium in leaves and stems of crop plants at or approaching maturity varied between 0.02 and 0.7 (1521, 5219). In order to minimize C_S using Eq. (14), we assumed a C_P/C_S ratio of 0.7.

(1) Estimation of I_{steer} by Eq. (4):

$$C_{\text{steer}}^{\text{TB}} = 10^{-9} \text{ g/g,}$$

$$I_{\text{steer}} = 8.9 \times 10^{-5} \text{ g/day.}$$

(2) Estimation of C_P by Eq. (15):

$$C_P = 8.9 \times 10^{-9} \text{ g/g.}$$

(3) C_S was then estimated using Eq. (14).

The C_S estimated by Eq. (14) is greater than the concentration in basic rocks (5799) by a factor of 10. It is difficult to conceive of a mechanism which could result in a 10-fold increase in the concentration of Ru during the process of soil formation. The ICRP uptake parameters therefore may not be appropriate for cattle and man. This is further discussed in the next section, "Estimation of f_B ." We have adopted the concentration in basic rocks as the value for C_S .

Estimation of f_B Whole Body

As shown in the preceding section, the ICRP value of f_1 would lead to a 10-fold overestimate of C_S . A similar discrepancy was noted by Iwashima (6048), who

(continued)

found that the ICRP uptake parameters led to underestimates of the Ru^{106} burden in human muscle by a factor of 10 to 100. Part of this discrepancy observed by Iwashima could be accounted for by his use of the ICRP value of T_B , 7.3 days. As shown in the section, "Estimation of T_B ," this appears to be low by a factor of 10. Considering Iwashima's results and the results obtained from the estimation of C_S , it seems possible that the ICRP value for f_1 is in error by an order of magnitude. It may be that the Ru incorporated in food chains is more available than the Ru isotopes introduced in tracer experiments. We therefore have adopted a value for f_B^{TB} and f_1 that is 10 times greater than the ICRP value.

Individual Organs

In the absence of human data the f_2' for rat organs are assumed to apply to man, and the f_B were estimated by Eqs. (16) and (16a).

Estimation of T_B

Whole Body

In long-term measurements on the retention of Ru^{106} , the apparent biological half-life in the total body was about 110 days in the rat (2396) and about 120 days in the dog (2397). The apparent biological half-life is the half-life associated with the simple exponential biological retention curve whose integral is equal to that of the experimental retention curve. The T_B^{TB} in man would be

expected to exceed that in dog and rat (4419). Therefore, a T_B^{TB} of 130 days has been adopted.

Individual Organs

The f_2/f_2' ratios were calculated from the f_2 adopted for estimating C_B and the f_2' adopted for estimating f_B . The T_B were then estimated by Eq. (19).

Estimation of C_B

Whole Body

The C_B^{TB} was estimated by Eq. (23) from the f_2 and C_B in muscle. In the absence of human data the C_B in muscle was assumed to be $10^{-3} \mu\text{g/g}$, the concentration in beef. The mass of muscle was $2.7 \times 10^4 \text{ g}$ (5307) and the f_2 in muscle was the value derived below.

Individual Organs

Relative organ burdens in rats following chronic ruthenium feeding are shown below (5911).

Estimates of f_2/m from studies on rats chronically fed Ru (5911)

	f_2/m (relative units)
Bone	130
Kidneys	580
Liver	140
Spleen	200
Testes	43
Muscle	32

(continued)

In a similar set of experiments the f_2 in testes was shown to exceed that in ovaries by about a factor of 15 (5910). Since in rats weight of testes exceeds weight of ovaries by about the same factor (3276),* we have assumed that the f_2/m are equal in ovaries and testes. In the absence of human data the relative f_2/m values from rat were assumed for man. The relative f_2 values below were determined as the product of f_2/m and the respective human organ masses. The relative f_2 were then normalized to 1.0 using the sum of the relative f_2 .

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*Also, A. Silva and D. Fleshman, Bio-Medical Division, Lawrence Radiation Laboratory, Livermore, Calif., personal communication.

(1) Estimation of f_2 in man from f_2/m :

	f_2 (relative units)	f_2
Bone	8.3×10^5	0.385
Kidneys	1.8×10^5	0.083
Liver	2.5×10^5	0.12
Ovaries	3.4×10^2	0.00016
Spleen	3.5×10^4	0.016
Testes	2.6×10^3	0.0012
Muscle	8.6×10^5	0.40
Total	2.2×10^6	1.0

(2) The C_B were then estimated by Eq. (22).

Estimation of C_P

The C_P/C_S ratio of ruthenium in crop plants was estimated to be 0.2 (1521, 5219). The C_P was estimated by Eq. (14).

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Rat gonads			0.0055	5182

Estimation of C_S

Rhodium has not been reported in soil. Its concentration in soil-forming rocks and shales ranges from 2×10^{-4} to $2 \times 10^{-2} \mu\text{g/g}$ (5778, 5799) averaging $4 \times 10^{-3} \mu\text{g/g}$ (5222). Rhodium is resistant to weathering and may be expected to concentrate in some soils (5309).

Estimation of f_B Individual Organs

In the absence of human values, the rat values are assumed to apply to man. The f_2' in the ovaries and testes were estimated from f_2' in the gonads by Eq. (18). The f_B values were then estimated by Eq. (16).

Estimation of C_P

Rhodium and iridium were assumed to behave similarly. The C_P/C_S ratio of

rhodium was assumed to be that of iridium. The C_P was then estimated by Eq. (14).

Estimation of C_{meat}

In the absence of data, the C_{meat}/C_S ratios of rhodium and iridium were assumed to be comparable. The C_{meat}/C_S was assumed to be 1 so that the C_{meat} equals C_S .

Estimation of Aquatic Data

The ratio of X/Ru in soil for the platinum metals is:

X	Ratio	X	Ratio
Ru	1.0	Os	1.0
Rh	1.0	Ir	0.01
Pd	1.0	Pt	10.0

These ratios were multiplied by the ruthenium values to obtain the values for the other elements.

46^{Pd}

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Rat bone			0.02	5182
Rat gonads			0.002	5182
f_2/f_2'				
Rat bone			1.3	5182

Estimation of C_S

Palladium has not been reported in soil. Its concentration in soil-forming rocks and shales ranges from 1×10^{-4} to 4×10^{-2} $\mu\text{g/g}$ (5778, 5779, 5792) averaging 2×10^{-3} $\mu\text{g/g}$ (5222). Palladium is resistant to weathering and may be expected to concentrate in some soils (5309).

Estimation of f_B Individual Organs

In the absence of human data, the rat values are assumed to apply to man. The f_2' in the ovaries and testes were estimated from f_2' in the gonads by Eq. (18) and are based

on data from 3 rats (5182). The f_B in these organs and bone were then estimated by Eq. (16).

Estimation of T_B Individual Organs

The T_B in bone was estimated by Eq. (19) using the data for rat bone.

Estimation of C_P

Palladium and platinum were assumed to behave similarly. Their concentrations in meat were comparable (4941). The C_P of palladium, therefore, was assumed to be that of platinum.

^{47}Ag

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f'_2				
Bone			0.05	ICRP
Kidneys			0.02	ICRP
Liver			0.03	ICRP
Rat ovaries			0.0006	2324, 5169
Rat spleen			0.0011	2324, 5169
I (g/day)	3.5×10^{-5}	4.4×10^{-5}		3869

Estimation of f_B Whole Body

There are data indicating that the f_1 in humans is greater than the ICRP value, $f_1 = 0.01$. A minimum value for f_1 in humans based on the ratio of the average daily urinary excretion and the average daily intake is 0.25 (3869A). The f_1 exceeds this minimum value, since the major fraction of the absorbed isotope is secreted in bile and excreted in feces (2324, 3869A, 5169). Therefore, we have assumed that f_1 and f_B^{TB} are equal to 1.0.

Individual Organs

In the absence of human data, the f'_2 in rat are assumed to apply to man. The uptake per gram in rat testes at 4 days was comparable to the uptake per gram in liver (2324). We therefore have assumed that the f'_2/m in human testes is equal to the f'_2/m in liver and estimated f'_2 by Eq. (16a). The f_B were estimated by Eq. (16).

Estimation of T_B Individual Organs

The T_B were estimated by Eq. (7) using an I of 3.5×10^{-5} g/day.

48^{Cd}

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f'_2				
Rat bone			0.036	5170
Rat ovaries			0.00076	5170
Rat spleen			0.0037	5170
f_2				
Rat bone			0.022	5170
Rat ovaries			0.00025	5170
Rat spleen			0.0041	5170

Estimation of f_B Individual Organs

In the absence of data from humans we have assumed that the rat data apply to man. The f_B in bone, ovaries, and spleen were estimated using Eq. (16).

The C_B in testes is substantially lower than that in liver. Thus either f'_2/m or T_B , or both, are lower in testes than in liver. In accordance with the discussion of Eq. (30), we have chosen to maximize f_B and therefore set f'_2/m in the testes equal to that in liver. Then f_B in the

testes was estimated by Eqs. (16) and (16a). The f_B in bone, ovaries and spleen were estimated by Eq. (16).

Estimation of T_B Individual Organs

The T_B were estimated by Eq. (19) using the rat data.

Estimation of C_B Individual Organs

The C_B in bone was estimated by Eq. (22).

49In

Estimation of C_S

Indium has not been reported in soil. Its concentration in soil-forming rocks and shales ranges from 3×10^{-3} to $1.0 \mu\text{g/g}$ (5231, 5792). Its average concentration in the earth's crust is $2.5 \times 10^{-1} \mu\text{g/g}$ (5801).

Estimation of C_P

The C_P/C_S ratio of indium has been found to be less than 2.5 in mustard leaves (5206) and between 0.64 and 2.1

in citrus leaves (2826). The C_P of indium in kale leaves was $<0.3 \text{ ppm}$ (6089). We have assumed a C_P/C_S ratio for indium of 1. The C_P was estimated from Eq. (14).

Estimation of Aquatic DataEstimation of C_A for Seawater and Freshwater

The ratio of In/Ga in soil is 1/300. This ratio was multiplied by the gallium concentration to obtain the indium concentration.

50Sn

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f'_2				
Rat kidneys			0.022	5173
Rat spleen			0.0009	5173
Rat gonads			0.0007	5173
I (g/day)	1.49×10^{-3}	2.48×10^{-3}		3869A

Estimation of f_B Individual Organs

In the absence of human data, the rat data are assumed to apply to man. The f'_2 in the ovaries and testes were estimated from f'_2 in the gonads by Eq. (18). The f_B values were estimated by Eq. (16).

Estimation of T_B Whole Body

The T_B^{TB} was calculated by Eq. (8) using an I equal to $1.5 \times 10^{-3} \text{ g/day}$.

Individual Organs

The T_B values were estimated by Eq. (7) using an I equal to $1.5 \times 10^{-3} \text{ g/day}$.

51^{Sb}

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Bovine heart	1.7×10^{-3}	4.8×10^{-3}		1745
Uptake relationships				
f_2'				
Rat kidneys			1.6×10^{-3}	5169
Rat spleen			2.8×10^{-4}	5169
Rat gonads			5.3×10^{-5}	5169

Estimation of f_B

Eq. (18). The f_B were estimated by
Eq. (16).

Individual Organs

In the absence of human data, we have
assumed that the rat data apply to man.

The f_2' in the ovaries and testes were
estimated from f_2' in the gonads by

Estimation of C_B Whole Body

The C_B^{TB} was estimated by Eq. (27).
The C_B in muscle was assumed to be the
 C_B in bovine heart.

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Beef			5×10^{-3}	4941
Chicken			6×10^{-3}	4941
Ham			2×10^{-2}	4941
Pork			3×10^{-3}	4941
Uptake relationships				
f_2				
Bone			0.18	ICRP
Kidneys			0.14	ICRP
Liver			0.1	ICRP
Spleen			0.02	ICRP
Testes			0.006	ICRP

Estimation of C_S

Schroeder et al. (5243) report soil concentrations of tellurium ranging from 13.5 to 46.1 $\mu\text{g/g}$. Vinogradov (2532) proposed that "its content is probably ten times less than that of selenium." Our more conservative estimate is based on the concentration in soil-forming rocks, which average 4×10^{-3} $\mu\text{g/g}$ (5801).

Estimation of f_B Individual Organs

In sheep the f_2'/m in the ovaries was comparable to that in spleen (874). We have assumed that the same relationship applies to man and estimated the f_B in ovaries using Eq. (16) and (16a).

Estimation of T_B Individual Organs

The retention of tellurium in the ovaries was similar to that in bone, kidneys, liver, and spleen (874). We therefore assigned to the ovaries the same T_B in these other organs.

Estimation of C_B Whole Body

Since tellurium does not localize significantly in the skeleton or in any other organ (4510), a reasonable assumption is that

$$C_{\text{steer}}^{\text{TB}} = C_{\text{beef}}$$

(continued)

- (1) Estimation of I_{steer} by Eq. (4):

$$C_{\text{steer}}^{\text{TB}} = 10^{-8} \text{ g/g,}$$

$$I_{\text{steer}} = 9.2 \times 10^{-4} \text{ g/day.}$$

- (2) Estimation of C_P by Eq. (15):

$$C_P = 9.2 \times 10^{-8} \text{ g/g.}$$

- (3) Estimation of I by Eq. (12):

$$C_{\text{meat}} = 10^{-8} \text{ g/g,}$$

$$I = 2.7 \times 10^{-5} \text{ g/day.}$$

- (4) C_B^{TB} was then estimated by Eq. (10).

A recent publication by Schroeder on tellurium in man should be noted (5243). Data were presented in this publication that suggest that the total tellurium content in the body is about 600 mg and that concentrations in soil vary between 10 and 50 $\mu\text{g/g}$. While the concentrations reported by Schroeder for tissues and crustal materials are much higher than those previously reported, it is noteworthy that our estimate of C_B^{TB}/C_S is greater than those that are based on his study. Since the F_1 via soil is inversely proportional to C_B/C_S , we have adopted, at least for

the present, our more conservative set of values for C_B^{TB} and C_S .

Individual Organs

The f_2 in the ovaries was estimated by Eq. (19) from values derived in previous sections. The C_B in the ovaries and other tissues were then estimated by Eq. (22).

Estimation of C_P

Discrepancies exist between concentrations of tellurium in plants that have been reported in the literature (5243, 6088, 6089). A wide range of C_P/C_S values have also been reported from 1×10^{-3} to 5×10^1 (4105, 5244). We have assumed a C_P/C_S of tellurium equal to that of selenium, its congener. The C_P was estimated by Eq. (14).

Estimation of Aquatic Data

Estimation of C_A for Seawater and Freshwater

The ratio of Te/Se in soils is 0.01. This ratio was multiplied by the C_A of selenium to obtain the C_A for tellurium.

58Ce

Collateral Data

	Min	Max	Av	Ref.
Concentrations* ($\mu\text{g/g}$)				
Human heart	1.2×10^{-3}	8.2×10^{-3}		1294
Cattle bone			6.8×10^{-3}	4752
Bovine heart	2.5×10^{-3}	8×10^{-3}		1745
Beef			3.8×10^{-6}	4941
Pork			1.8×10^{-5}	4941
Ham			1.5×10^{-5}	4941
Chicken			1.1×10^{-5}	4941
Mouse ash			5.8×10^{-1}	5225
Uptake relationships				
f_2'				
Mouse spleen	0.001	0.03		2325
Rat spleen	0.001	0.036		1185, 2064, 2114, 5166A, 5172, 5194, 5204
(Y) Rat testes			0.0014	5166A
(La) Rat ovaries			0.00018	5166A
(La) Rat testes			0.0002	5166A
(La) Rat gonads			0.0016	5177
(Pr) Rat testes			<0.0007	5166A
(Pr) Rat gonads	0.0002	0.0017		5171, 5175
f_2/f_2'				
Rat spleen			1.5	5194
(Y) Rat testes			0.6	5166A
f_2				
Bone			0.8	ICRP
Kidneys			0.02	ICRP
Liver			0.13	ICRP
Rat spleen			0.0015	5194
(Y) Rat testes			0.00084	5166A
(Pr) Rat gonads			0.0026	5175

* See footnote on p. A.3.

(continued)

Estimation of f_B

Individual Organs

In the absence of human data, the animal data are assumed to apply to man. The f_2' in the ovaries and testes are based on those of the neighboring lanthanides and were chosen not to be exceeded by the f_2' in the gonads. The f_2' in the testes was also chosen not to be exceeded by that of Y, the only other lanthanide for which a value has been noted. The maximum value of f_2' in rat spleen was chosen for spleen. The f_B were then estimated by Eq. (16).

Estimation of T_B

Individual Organs

The f_2/f_2' ratio in the testes is based on that of Y, the only lanthanide for which an f_2/f_2' ratio in the testes has been noted. The T_B in the testes and spleen were then estimated by Eq. (19).

Estimation of C_B

Whole Body

The maximum C_P/C_S ratio of the rare earth elements collectively is about 0.1 in crop plants (2540), and individual lanthanides appear to distribute in plants in essentially the same proportions as in soil (5225). In the case of cerium, C_P/C_S ratios in edible parts of plants have been measured and found to vary between 10^{-5} and 1 (1521, 5219). While the average and most probable value of

C_P/C_S would be less than 0.1, our objectives require us to adopt the maximum, not-to-be-exceeded value,

$$C_P/C_S = 1.$$

(1) Estimation of C_P by Eq. (14):

$$C_P = 5.3 \times 10^{-5} \text{ g/g.}$$

(2) Estimation of I by Eq. (12):

$$C_{\text{meat}} = 10^{-8} \text{ g/g,}$$

$$I = 1.3 \times 10^{-2} \text{ g/day.}$$

(3) C_B^{TB} was then estimated by Eq. (10).

Estimation of C_B

Individual Organs

The f_2 in the ovaries and testes were estimated by Eq. (25) from the f_2 in the gonads for Pr, the adjacent lanthanide. The C_B in these and the other organs were then estimated by Eq. (22).

Estimation of C_P

The average C_P/C_S ratio of radio-cerium in crop plants is about 10^{-2} (1521, 1945, 5219, 5601). The C_P/C_S ratios of Y^{91} (1521, 6106) and Pm^{147} (3493, 5601) agree with this value. Available plant concentrations of the lanthanides (2540, 5306, 6045, 6098) are also consistent with this ratio. We have assumed that the C_P/C_S ratios of the individual lanthanides (including yttrium) are also 10^{-2} . The C_P was then estimated by Eq. (14).

(continued)

Estimation of Aquatic Data

Known Data				
	Min	Max	Av	Ref.
Concentrations				
Seawater				
Sc			4×10^{-5}	5992
			2×10^{-5}	6001
			1×10^{-6}	6060
Y			3×10^{-4}	5992
			1×10^{-5}	5995
			6×10^{-6}	5464
La			3×10^{-6}	6052
			4×10^{-6}	5995
			1×10^{-5}	5992
Ce			3×10^{-4}	1835,6058
			5×10^{-6}	5992
			8×10^{-6}	5995
			1×10^{-6}	6052
			4×10^{-4}	6058
Pr	1×10^{-5}	8×10^{-4}		6026
			6×10^{-7}	6052
			3×10^{-6}	5992
Nd			2×10^{-6}	6052
			9×10^{-6}	5992
Sm			4×10^{-7}	6052
			2×10^{-6}	5992
			7×10^{-7}	5995
Eu			1×10^{-7}	6052
			5×10^{-7}	5992
			2×10^{-7}	5995
Gd			6×10^{-7}	6052
			2×10^{-6}	5992
Others			$10^{-6} - 10^{-7}$	5992,5995, 6052

(continued)

Known Data (cont.)

	Min	Max	Av	Ref.
Concentrations				
Freshwater				
Sc	1×10^{-6}	4×10^{-5}	1×10^{-5}	4576
La	1×10^{-6}	2×10^{-3}	6×10^{-4}	4576
Marine plants				
Sc	4×10^{-1}	7×10^{-1}	5×10^{-1}	6001
			2×10^{-4}	6060
Freshwater plants				
Sc	1×10^{-3}	6×10^{-2}	2×10^{-2}	6051
Marine invertebrates				
Sc			1×10^{-4}	6060
	2×10^{-2}	1×10^{-1}	5×10^{-2}	6001
	1×10^{-2}	8×10^{-2}	5×10^{-2}	5581
La (includes shell)			3×10^1	6056
Ce	3×10^{-2}	5×10^{-1}		6026
Freshwater invertebrates				
Sc	1×10^{-2}	1×10^{-1}	5×10^{-2}	6051
	3×10^{-3}	3×10^{-2}	1×10^{-2}	1308
Marine fish				
Sc	6×10^{-5}	1.6×10^{-3}	5×10^{-4}	6060
La	3×10^{-3}	4×10^{-3}	3×10^{-3}	6056
Ce			$<1 \times 10^{-2}$	6026
Pr	2×10^{-4}	1×10^{-3}	6×10^{-4}	6056
Eu			5×10^{-4}	6056
Dy			4×10^{-4}	6056
Freshwater fish				
Sc	2×10^{-4}	4×10^{-4}	3×10^{-4}	6051
Concentration factors (foodstuff/ C_A)				
Marine plants				
Sc ⁴⁶	1.5×10^3	2.6×10^3	2×10^3	1406
Y ⁹¹	1.6×10^2	9.0×10^2	5×10^2	6012, 2475
La			8×10^3	5306
Ce ¹⁴⁴	2×10^2	3×10^3	1×10^3	6012
	3×10^2	9×10^2		5335
	2.5×10^3	4.5×10^3		2715
	2×10^3	4.5×10^3		2717
			7×10^2	506

(continued)

Known Data (contd)				
	Min	Max	Av	Ref.
Concentration factors (foodstuff/C _A) (contd)				
Freshwater plants				
Y ⁹¹	1×10^2	1×10^4	1×10^3	6012
Ce ¹⁴⁴	1×10^2	4×10^3	1×10^3	6012
	2×10^3	1×10^4		5335
	2×10^4	5×10^4	3×10^4	5395
	4×10^3	1×10^4		3606
Pm ¹⁴⁷	1×10^4	3×10^4	2×10^4	5991
	3×10^2	6×10^2	5×10^2	6012
Marine invertebrates				
Y ⁹¹			12	2475
Ce ¹⁴⁴			350	2475
	1×10^2	1×10^3		6026
	1×10^2	2×10^3		5335
			3×10^3	2715
			2×10^3	506
Freshwater invertebrates				
Y ⁹¹			2×10^2	6012
Ce ¹⁴⁴	4×10^1	7×10^2	4×10^2	6012
Pm ¹⁴⁷	3×10^1	2×10^2	1×10^2	6012
Marine fish				
Y	2.0	1×10^1		6012
Ce ¹⁴⁴			2×10^1	6026
Freshwater fish				
Ce ¹⁴⁴			8×10^1	6012
Rare earths				
			1×10^2	1679
Concentration ratios				
Marine				
La ¹⁴⁰ (plants/ invertebrates)			10	6064
La ¹⁴⁰ (plants/fish)			100	6064
Sc (plants/fish)			50	6051

(continued)

Estimation of C_A for Seawater

As the known data demonstrate, there is a wide range in the values reported for the rare earths. Much of this is accounted for by the difference between the open ocean and estuarine areas. We selected the value of 4×10^{-4} for the cerium concentration, since this is the middle of the range in the data presented in Ref. 6026. The concentrations of scandium, yttrium, lanthanum, and the other rare earths were then based upon this value and their abundance in soil relative to cerium.

Estimation of C_A in Freshwater

The concentrations of scandium, yttrium, lanthanum, and the rare earths were assumed to be the same as in seawater. This assumption is supported by the Columbia River data reported in Ref. 4576.

Estimation of Concentration in Seawater Foodstuffs

The following concentration factors were chosen for scandium, yttrium, lanthanum, and the rare earths:

Plants	10^4
Invertebrates	10^3
Fish	10^2

The values are at or near the top of the range reported in the literature. The concentrations in the foodstuffs were then determined as the product of these factors and the concentration in seawater. The values determined in this manner are consistent with the measured values.

Estimation of Concentration in Freshwater Foodstuffs

These were determined in the same manner as for seawater foodstuffs.

61Pm

Collateral Data

	Min	Max	Av	Ref
Uptake relationships				
f'_2				
Rat spleen			0.0009	5195, 5197
(Nd) Rat gonads	0.0009	0.0018		5174
f_2/f'_2				
Rat spleen			1.1	5197
f_2				
Bone			0.8	ICRP
Kidneys			0.02	ICRP
Liver			0.06	ICRP
Rat spleen			0.001	5197
(Nd) Rat gonads	0.00064	0.0018		5174

Estimation of C_S

No naturally occurring isotopes of promethium have been detected. The existence of Pm^{147} as a product of spontaneous fission of U^{238} has been predicted by Kuroda and Edwards (5764). The C_S was therefore estimated by Eq. (32) with $f = 0.026$ (5764).

Estimation of f_B Individual Organs

The f'_2 in the ovaries and testes are assumed to be comparable to those of the neighboring lanthanide neodymium and were estimated by Eq. (18). The f_B in ovaries, spleen and testes were estimated by Eq. (16).

Estimation of T_B Individual Organs

The f_2/f'_2 ratio in the testes is based on that of Y, the only lanthanide for which

an f_2/f'_2 ratio in the testes has been noted. The T_B in the testes and spleen were estimated by Eq. (19).

Estimation of C_B Whole Body

Since C_B of promethium have not been reported, we have assumed a C_B^{TB}/C_S ratio for Pm equal to 4×10^{-4} , the maximum C_B^{TB}/C_S estimated for any lanthanide. The C_B^{TB} was obtained as the product of C_S and the C_B^{TB}/C_S ratio.

Individual Organs

The f_2 in the ovaries and testes are assumed to be comparable to those of the neighboring lanthanide neodymium and were estimated by Eq. (25). The C_B were estimated by Eq. (22).

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Human heart	2×10^{-4}	2.3×10^{-2}		1294
Cattle bone			6×10^{-4}	4752
Cow heart	1.9×10^{-3}	3.6×10^{-3}		1745
Mouse ash			4.3×10^{-2}	5225
Uptake relationships				
f_2'				
Rat spleen	0.0009	0.0026		5173, 5196
Rat gonads			0.0002	5173
f_2				
Bone			0.80	ICRP
Kidneys			0.02	ICRP
Liver			0.1	ICRP

Estimation of f_B Individual Organs

The f_2' in the ovaries and testes were estimated from f_2' in the gonads by Eq. (18), and f_B in these organs and spleen were estimated by Eq. (16).

Estimation of T_B Individual Organs

The f_2/f_2' ratios and T_B in spleen and testes are assumed to be comparable to those of the neighboring lanthanides promethium and europium. The T_B were estimated using Eq. (19).

Estimation of C_B Whole Body

The maximum C_P/C_S ratio of the rare earth elements collectively is about 0.1

in crop plants (2540), and individual lanthanides appear to distribute in plants in essentially the same proportions as in soil (5225). The C_P/C_S ratios of cerium in edible parts of plants have been found to vary between 10^{-5} and 1 (1521, 5219). While the average and most probable C_P/C_S would be less than 0.1, we have adopted the upper limit,

$$C_P/C_S = 1.0$$

which is in keeping with the conservative aspects of the analysis. We have also assumed a C_{meat} equal to 5×10^{-9} g/g, roughly the concentration in cow heart.

(1) Estimation of C_P by Eq. (14):

$$C_P = 6.4 \times 10^{-6} \text{ g/g.}$$

(2) Estimation of I by Eq. (12).

$$I = 1.6 \times 10^{-3} \text{ g/day.}$$

(continued)

(3) C_B^{TB} Was then estimated by Eq. (10).

lanthanides, promethium and europium; the f_2 in the ovaries and testes are assumed to be comparable to those of europium. The C_B were estimated by Eq. (22).

Individual Organs

The f_2 in spleen is assumed to be comparable to those of the neighboring

63Eu

Collateral Data

	Min	Max	Av	Ref
Concentrations ($\mu\text{g/g}$)				
Beef			7×10^{-5}	4941
Pork			5×10^{-6}	4941
Ham			2×10^{-5}	4941
Chicken			6×10^{-5}	4941
Mouse ash			1.6×10^{-2}	5225
Uptake relationships				
f_2'				
Rat spleen	0.0015	0.0027		5172, 5173, 5196
Rat gonads	0.0006	0.0009		5172, 5173
f_2/f_2'				
Rat spleen			0.7	5196
(Y) Rat testes			0.6	5166A
f_2				
Bone			0.85	ICRP
Kidneys			0.07	ICRP
Liver			0.05	ICRP
Rat spleen	0.0011	0.0018		5175, 5196
Rat gonads			<0.0003	5175

Estimation of f_B

Individual Organs

The f_2' in the ovaries and testes were estimated from f_2' in the gonads by Eq. (18), and f_B in these organs and spleen were estimated by Eq. (16).

Estimation of T_B

Individual Organs

The f_2/f_2' ratio in the testes is based on that of yttrium, the only lanthanide for which an f_2/f_2' ratio in the testes has been noted. The T_B in spleen and testes were estimated by Eq. (19).

(continued)

Estimation of C_B Whole Body

The maximum C_P/C_S ratio of the lanthanides collectively is about 0.1 in crop plants (2540), and individual lanthanides appear to distribute in plants in essentially the same proportions as in soil (5225). In the case of cerium, C_P/C_S ratios in edible parts of plants have been found to vary between 10^{-5} and 1 (1521, 5219). While the average and most probable value of C_P/C_S would be less than 0.1, we have adopted the maximum, not to be exceeded values,

$$C_P/C_S = 1.0$$

which is in keeping with the conservative aspects of the analysis.

(1) Estimation of C_P by Eq. (14):

$$C_P = 10^{-6} \text{ g/g.}$$

(2) Estimation of I by Eq. (12):

$$C_{\text{meat}} = 10^{-10} \text{ g/g,}$$

$$I = 2.5 \times 10^{-4} \text{ g/day.}$$

(3) C_B^{TB} was then estimated by Eq. (10).

Individual Organs

The f_2 in the ovaries and testes were estimated from f_2 in the gonads by Eq. (25). The C_B in these and the other organs were then estimated by Eq. (22).

64Gd

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Cattle bone			1.5×10^{-3}	4752
Mouse ash			4.9×10^{-2}	5225
Uptake relationships				
f_2'				
Rat kidneys			0.019	5197
Rat spleen			0.0015	5197
f_2/f_2'				
(Eu) Kidneys			2.3	ICRP
(Tb) Kidneys			1.0	ICRP
f_2				
Bone			0.8	ICRP
Liver			0.1	ICRP

(continued)

Estimation of f_B Individual Organs

The f_2^1 in the ovaries and testes are based on those of the neighboring lanthanides, Eu and Tb, and were estimated by Eq. (18). The f_B in these and the other organs were estimated by Eq. (16).

Estimation of T_B Individual Organs

The f_2/f_2^1 ratios and T_B are assumed to be comparable to those of the neighboring lanthanides europium and terbium. The T_B were estimated by Eq. (19).

Estimation of C_B Whole Body

Since concentrations of gadolinium have not been reported in tissues other than cattle bone and mouse whole body, we have assumed a C_B^{TB}/C_S ratio for Gd equal to 4×10^{-4} , the maximum C_B^{TB}/C_S estimated for any lanthanide. The C_B^{TB} was obtained as the product of C_S and the C_B^{TB}/C_S ratio. The value thus selected compares with the concentrations in cattle bone and mouse whole body.

Individual Organs

The f_2 in kidneys, ovaries, spleen, and testes were adopted from those of the neighboring lanthanides europium and terbium. The C_B for all the organs of interest were estimated by Eq. (22).

65Tb

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Mouse ash			1.2×10^{-2}	5225
Uptake relationships				
f_2^1				
Rat Liver	0.098	0.19		5180, 5197, 5204
Rat spleen	0.0009	0.003		5180, 5197, 5204
Rat gonads	0.0011	0.002		5180
f_2/f_2^1				
Rat liver			0.1	5197
Rat spleen			0.5	5197
f_2				
Bone			0.9	ICRP
Kidneys			0.03	ICRP
Rat liver	0.0045	0.0066		5182, 5197
Rat spleen	0.0006	0.0015		5182, 5197
Rat gonads	0.0012	0.0043		5182

Estimation of f_B Individual Organs

The f_2' in the ovaries and testes were estimated from f_2' in the gonads by Eq. (18). The f_B in these and the other organs were estimated by Eq. (16).

Estimation of T_B Individual Organs

The f_2/f_2' ratio in the testes is based on that found for yttrium, the only lanthanide for which an f_2/f_2' ratio in the testes has been noted. The T_B in the testes and other organs were estimated by Eq. (19).

Estimation of C_B Whole Body

Since concentrations of terbium have not been reported in tissues other than mouse whole body, we have assumed a C_B^{TB}/C_S ratio for Tb equal to 4×10^{-4} , the maximum C_B^{TB}/C_S estimated for any lanthanide. The C_B^{TB} was obtained as the product of C_S and the C_B^{TB}/C_S ratio. The value thus selected compares with the concentration in mouse whole body.

Individual Organs

The f_2 in the ovaries and testes were estimated from f_2 in the gonads by Eq. (25) and are based on data from 3 rats (5182). The C_B in the organs of interest were estimated by Eq. (22).

67Ho

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Mouse ash			1.7×10^{-2}	5225

Estimation of C_B Whole Body

Since concentrations of holmium have not been reported in tissues other than mouse whole body, we have assumed a

C_B^{TB}/C_S ratio for Ho equal to 4×10^{-4} , the maximum C_B^{TB}/C_S estimated for any lanthanide. The C_B^{TB} was obtained as the product of C_S and the C_B^{TB}/C_S ratio. The value thus selected compares with the concentration in mouse whole body.

69Tm

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Beef			7×10^{-6}	4941
Pork			5×10^{-6}	4941
Ham			2×10^{-5}	4941
Chicken			6×10^{-6}	4941
Mouse ash			10^{-2}	5225
Uptake relationships				
f_2'				
Rat liver	0.029	0.089		5181, 5195, 5204
Rat spleen	0.0011	0.009		5181, 5195, 5204
Rat gonads	0.0013	0.0025		5181
f_2/f_2'				
Rat liver			0.6	5195
Rat spleen			0.1	5195
f_2				
Bone			0.95	ICRP
Kidneys			0.01	ICRP
Rat liver	0.0025	0.005		5184, 5195
Rat spleen	0.0007	0.0035		5184, 5195
Rat gonads	0.0023	0.0035		5184

Estimation of f_B Individual Organs

The f_2' in the ovaries and testes were estimated from f_2' in the gonads by Eq. (18) and are based on data from 3 rats (5181). The f_B in the various organs were estimated by Eq. (16).

Estimation of T_B Individual Organs

The f_2/f_2' ratio in the testes is based on that found for yttrium, the only

lanthanide for which an f_2/f_2' ratio in the testes has been noted. The T_B in liver, spleen and testes were estimated by Eq. (19).

Estimation of C_B Whole body

The maximum C_P/C_S ratio of the lanthanides collectively is about 0.1 in crop plants (2540), and individual lanthanides appear to distribute in plants in essentially the same proportions as in soil (5225). The C_P/C_S ratios of

cerium in edible parts of plants have been found to vary between 10^{-5} and 1 (1521, 5219). While the average and most probable C_P/C_S would be less than 0.1, we have adopted the upper limit,

$$C_P/C_S = 1.0$$

which is in keeping with the conservative aspects of the analysis.

(1) Estimation of C_P by Eq. (14):

$$C_P = 7 \times 10^{-7} \text{ g/g.}$$

(2) Estimation of I by Eq. (12):

$$C_{\text{meat}} = 2 \times 10^{-11} \text{ g/g,}$$

$$I = 1.8 \times 10^{-4} \text{ g/day.}$$

(3) C_B^{TB} was then estimated by Eq. (10).

Individual Organs

The f_2 in the ovaries and testes were estimated from f_2 in the gonads by Eq. (25). The C_B in the various organs were then estimated by Eq. (22).

70^{Yb}

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Beef			7×10^{-5}	4941
Pork			5×10^{-6}	4941
Ham			2×10^{-5}	4941
Chicken			6×10^{-5}	4941
Mouse ash			2.6×10^{-2}	5225
Uptake relationships				
f_2'				
Rat liver			0.041	5196
Rat spleen			0.0052	5196
(La) Rat gonads	0.0015	0.003		5177
f_2				
Bone			0.85	ICRP
Kidneys			0.05	ICRP

Estimation of f_B

Individual Organs

The f_2' in the ovaries and testes are based on f_2' in the gonads for the neigh-

boring lanthanides thulium and lutetium and were estimated by Eq. (18). The f_B for the various organs were then estimated by Eq. (16).

Estimation of T_B Individual Organs

The f_2/f_2' ratios and T_B in liver, spleen and testes are assumed to be comparable to those of the neighboring lanthanide thulium. The T_B in the various organs were estimated by Eq. (19).

Estimation of C_B Whole Body

The maximum C_P/C_S ratio of the lanthanides collectively is about 0.1 in crop plants (2540), and individual lanthanides appear to distribute in plants in essentially the same proportions as in soil (5225). The C_P/C_S ratios of cerium in edible parts of plants have been found to vary between 10^{-5} and 1 (1521, 5219). While the average and most probable C_P/C_S would be less than 0.1, we have adopted the upper limit,

$$C_P/C_S = 1.0$$

which is in keeping with the conservative aspects of the analysis.

(1) Estimation of C_P by Eq. (14):

$$C_P = 8 \times 10^{-7} \text{ g/g.}$$

(2) Estimation of I by Eq. (12):

$$C_{\text{meat}} = 10^{-10} \text{ g/g,}$$

$$I = 2 \times 10^{-4} \text{ g/day.}$$

(3) C_B^{TB} was then estimated by Eq. (10).

Individual Organs

The f_2 in the liver, ovaries, spleen and testes are assumed to be comparable to those for the neighboring lanthanide thulium. The C_B in the various organs were estimated by Eq. (22).

71Lu

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Beef			7×10^{-5}	4941
Pork			5×10^{-6}	4941
Ham			2×10^{-5}	4941
Chicken			6×10^{-5}	4941
Mouse ash			7.5×10^{-3}	5225

Estimation of C_B Whole Body

The maximum C_P/C_S ratio of the lanthanides collectively is about 0.1 in

crop plants (2540), and individual lanthanides appear to distribute in plants in essentially the same proportions as in soil (5225). The C_P/C_S ratios of cerium in edible parts of plants have

(continued)

been found to vary between 10^{-5} and 1 (1521, 5219). While the average and most probable C_P/C_S would be less than 0.1, we have adopted the upper limit,

$$C_P/C_S = 1.0$$

which is in keeping with the conservative aspects of the analysis.

(1) Estimation of C_P by Eq. (14):

$$C_P = 7 \times 10^{-7} \text{ g/g.}$$

(2) Estimation of I by Eq. (12):

$$C_{\text{meat}} = 10^{-10} \text{ g/g,}$$

$$I = 1.8 \times 10^{-4} \text{ g/day.}$$

(3) C_B^{TB} was then estimated by Eq. (10).

72^{Hf}

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Beef			2×10^{-2}	4941
Pork			1.9×10^{-2}	4941
Ham			1.2×10^{-2}	4941
Chicken			1.9×10^{-2}	4941
Uptake relationships				
f_2'				
Bone			0.15	ICRP
Kidneys			0.02	ICRP
Liver			0.45	ICRP
Spleen			0.13	ICRP
f_2				
Bone			0.16	ICRP
Kidneys			0.02	ICRP
Liver			0.5	ICRP
Spleen			0.08	ICRP

Estimation of f_B

Individual Organs

The f_2'/m in testes of rats was noted to be exceeded by that in kidneys (5261). We have therefore assumed that the f_2'/m in

testes equals the f_2'/m in kidneys and estimated f_2' in testes by Eq. (16a).

Since 90% of the hafnium is taken up in tissues other than the gonads, we

assumed an f_2' in ovaries equal to 0.1.

The f_B were then estimated by Eq. (16).

(continued)

Estimation of T_B

Individual Organs

The f_2/f_2' in the various organs are approximately unity. We therefore assumed an f_2/f_2' ratio of 1.0 for the ovaries and testes and estimated T_B by Eq. (19).

Estimation of C_B

Whole Body

Since hafnium is very poorly absorbed ($f_1 < 10^{-4}$), a conservative assumption would be that concentrations in man and cattle are the same. We therefore estimated C_B^{TB} in man from the concentration in beef. A conservative f_2 in muscle, 0.1, was estimated from distribution in rats (5261). The C_B^{TB} was estimated by Eq. (23) from the mass of muscle, 2.7×10^4 g (5307).

Individual Organs

The C_B in the various organs were

estimated by Eq. (22). The f_2 in the ovaries and testes were those used to estimate T_B .

Estimation of C_P

The C_P values of hafnium found in the literature were 3.5×10^{-3} ppm for "dry plant" (6105), <0.2 ppm for sugar beets (6088), and <0.07 ppm in kale leaves (6089). A value of 0.01 ppm has been suggested for land plants (5306). We assume that hafnium and zirconium behave similarly. The C_P/C_S of hafnium is assumed to be that of zirconium. The C_P was estimated by Eq. (14). The C_P estimated by this approach compares with the values cited above.

Estimation of Aquatic Data

The ratio of Hf/Zr in soil is 0.02. This value was multiplied by the zirconium concentrations to obtain the hafnium concentrations.

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Bone			0.2	ICRP
Kidneys			0.03	ICRP
Liver			0.3	ICRP
Spleen			0.01	ICRP
Rat gonads			0.01	5178
f_2				
Bone			0.25	ICRP
Kidneys			0.05	ICRP
Liver			0.5	ICRP
Spleen			0.01	ICRP
Rat gonads	0.0013	0.032		5181

Estimation of C_S

Tantalum has not been reported in soils. Its concentration in Russian clays averaged $2.0 \mu\text{g/g}$ (5797). Soil-forming rocks average $2.5 \mu\text{g/g}$ (5801).

Estimation of f_B Whole Body

We should take into account that the f_1 of tantalum may be greater than the ICRP value, $f_1 = 10^{-4}$. Niobium and tantalum are second- and third-transition-group congeners with very similar atomic and ionic dimensions, and the two elements are very closely associated in nature. According to Schroeder (2219), over half the niobium present in the diet is absorbed. In another study 5% of an initial Ta¹⁸²

deposition in the abdominal region had not been eliminated after 5 days (1485), so that the f_1 may be of the order of 5%. We therefore have assumed that f_1 and f_B^{TB} are equal to 0.05.

Individual Organs

The f_2' in the ovaries and testes were estimated from f_2' in the gonads by Eq. (18). The f_B were then estimated by Eq. (16).

Estimation of T_B Individual Organs

The f_2/f_2' for the gonads was calculated using the higher f_2 value. The T_B in the ovaries and testes were then estimated by Eq. (19) using this value.

(continued)

Estimation of C_B Whole Body

In experiments on the uptake of Ta^{182} and W^{185} in leaves and stems of bush beans grown on various soils, the quotient of the C_P/C_S ratios of tantalum and tungsten varied from 0.08 to 0.8 (5229). The uptake of tantalum did not vary in the 3 soils tested (pH 5.7 - 8.6), while that of tungsten was greater in the more alkaline soils. In another series of experiments the greatest C_P/C_S ratio of W^{185} in beans or barley grown on different soils was 3.8 (2697, 5570), which was obtained in the most alkaline soil. On the basis of the above relationships, we have estimated a conservative C_P/C_S ratio of tantalum to be the greatest quotient of the C_P/C_S ratios of tantalum and tungsten times the greatest C_P/C_S ratio of tungsten, that is,

$$C_P/C_S = 0.8 \times 3.8 = 3$$

The uptake of Ta^{182} in rats was less per gram of muscle than per gram of total body at times up to 256 days (5178, 5179, 5181). On this basis we can conservatively assume that

$$C_{beef} = C_{steer}^{TB}$$

(1) Estimation of C_P by Eq. (14):

$$C_P = 9 \times 10^{-6} \text{ g/g.}$$

(2) Estimation of I_{steer} by Eq. (13):

$$I_{steer} = 9 \times 10^{-2} \text{ g/day.}$$

(3) Estimation of C_{steer}^{TB} by Eq. (10);

$$C_{steer}^{TB} = 3.1 \times 10^{-6} \text{ g/g.}$$

(4) Estimation of I by Eq. (12):

$$I = 3.4 \times 10^{-3} \text{ g/day.}$$

(5) The C_B^{TB} was then estimated by Eq. (10).

Individual Organs

The C_B in bone, kidneys, liver and spleen were estimated by Eq. (22).

Estimation of C_P

The C_P of tantalum in kale leaves was given as <0.1 ppm (6089). The C_P/C_S value of tantalum derived from tracer data was given as one-half to one-twelfth that of tungsten (5229). The C_P/C_S of tungsten from tracer data is about 0.1 (2697, 5570). We assumed that C_P/C_S of tantalum is one-fourth that of tungsten. The C_P value was estimated by Eq. (14).

Estimation of Aquatic Data

The Ta/Nb ratio in soil is 0.2. This ratio was multiplied by the niobium concentrations to obtain the tantalum concentrations.

75Re

Estimation of C_S

Rhenium has not been reported in soil. Standard granite contains $6.7 \times 10^{-3} \mu\text{g/g}$ and standard diabase $5.6 \times 10^{-3} \mu\text{g/g}$ (5765).

Estimation of C_P

Perrhenate, a soluble and stable form of rhenium, like iodide, is actively transported to the thyroid (947, 6352). In the absence of definitive plant data, we assumed that the C_P/C_S ratio of rhenium

equals that of iodine. The C_P value was estimated by Eq. (14).

Estimation of C_{meat}

Rhenium does not concentrate in any particular tissue (5182) except skin and thyroid. It is therefore reasonable to assume that C_{meat} equals $C_{\text{steer}}^{\text{TB}}$.

(1) Estimation of I_{steer} by Eq. (13):

$$I_{\text{steer}} = 10 \mu\text{g/day}$$

(2) C_{beef} was then estimated by Eq. (10).

76Os

Estimation of C_S

Osmium has not been reported in soils. Its concentration in standard granite is 6.5×10^{-4} to $2 \times 10^{-3} \mu\text{g/g}$, and in standard diabase, 2.6×10^{-3} to $4.6 \times 10^{-3} \mu\text{g/g}$. Other soil forming rocks range from 4×10^{-5} to $4 \times 10^{-2} \mu\text{g/g}$ (5799).

Estimation of C_P

Osmium and ruthenium were assumed to behave similarly.

The C_P/C_S of osmium was assumed to be that of ruthenium. The C_P value was then estimated by Eq. (14.)

Estimation of C_{meat}

The C_{meat}/C_S of osmium was assumed to be that of ruthenium. The C_{meat} was estimated from the product of the ratio and C_S .

^{77}Ir

Collateral Data

	Min	Max	Av	Ref
Concentrations ($\mu\text{g/g}$)				
Beef			7×10^{-6}	4941
Pork			5×10^{-6}	4941
Ham			2×10^{-5}	4941
Chicken			6×10^{-6}	4941
Uptake relationships				
f_2'				
Rat muscle			0.053	5183
f_2				
Rat muscle			0.16	5183

Estimation of C_B Whole Body

The uptake parameters for rat muscle are assumed to apply to the steer.

(1) Estimation of f_B and T_B in beef (muscle) by Eqs. (16) and (19):

$$f_B = 5.3 \times 10^{-3},$$

$$T_B = 6 \times 10^1 \text{ day.}$$

(2) Estimation of I_{steer} by Eq. (3):

$$C_{\text{beef}} = 10^{-11} \text{ g/g,}$$

$$I_{\text{steer}} = 5.4 \times 10^{-6} \text{ g/day.}$$

(3) Estimation of C_P by Eq. (15):

$$C_P = 5.4 \times 10^{-10} \text{ g/g.}$$

(4) Estimation of I by Eq. (12):

$$C_{\text{meat}} = 2 \times 10^{-11} \text{ g/g.}$$

$$I = 1.7 \times 10^{-7} \text{ g/day.}$$

(5) C_B^{TB} was then estimated by Eq. (10).

Estimation of C_P

The C_P was assumed to be that derived above under Estimation of C_B for Whole Body.

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Beef			7×10^{-4}	4941
Uptake relationships				
f_2				
Rat muscle			0.22	5183

Estimation of C_P

The uptake parameters for rat muscle are assumed to apply to the steer. The value of C_P calculated below does not contradict the value for tea leaves (6087).

(1) Estimation of $C_{\text{steer}}^{\text{TB}}$ by Eq. (23):

$$C_{\text{steer}}^{\text{TB}} = 1.3 \times 10^{-9} \text{ g/g}$$

(2) Estimation of I_{steer} by Eq. (4):

$$I_{\text{steer}} = 1.84 \times 10^{-4} \text{ g/day}$$

(3) C_P was then estimated by Eq. (15).

⁸⁰Hg

Collateral Data

	Min	Max	Av	Ref.
Concentrations ($\mu\text{g/g}$)				
Human adipose tissue			8×10^{-3}	4756
Human heart	4.3×10^{-2}	5.2×10^{-2}		1294, 4756
Human kidneys			4×10^{-2}	893
Human liver	5×10^{-3}	3.3×10^{-2}		893, 4756
Human muscle			2×10^{-2}	4756
Bovine heart	2.9×10^{-3}		6.1×10^{-2}	1745

Estimation of C_B Whole Body

The f_2/m of mercury in the kidneys, liver, spleen and lungs of rat were much higher than the f_2/m in other soft tissues and bone. We therefore estimated C_B^{TB} by Eq. (27) using a C_B of $2 \times 10^{-2} \mu\text{g/g}$ for muscle and the maximum known C_B of $5 \times 10^{-2} \mu\text{g/g}$ for the other soft tissues and bone.

Estimation of Aquatic DataEstimation of Concentration in Invertebrates

Although Ref. 1308 gives a concentration of $4 \times 10^{-2} \mu\text{g/g}$ in molluscs, mercury was assumed to behave like zinc and cadmium where a concentration ratio over seawater of 10^5 applies for oysters. The concentration in seawater and freshwater invertebrates was therefore set equal to $10^5 (C_A)$.

81^{Tl}

Collateral Data

	Min	Max	Av	Ref.
Uptake relationships				
f_2'				
Rat spleen			0.004	5163B, 5184, 5185
Rat gonads	0.0004	0.0006		5184, 5185
f_2/f_2'				
Bone			1.45	ICRP
Kidneys			1.4	ICRP
Liver			1	ICRP
Rat spleen			1	5184, 5185
f_2				
Bone			0.08	ICRP
T_B^{TB} (day)				
Rat	4.8	8.8	6	5416
Dog	4.6	25		5416

Estimation of C_S

Thallium has not been reported in soils. Its average concentration in soil-forming rocks is $7.0 \times 10^{-1} \mu\text{g/g}$ (5788).

Estimation of f_B Individual Organs

The f_2' in the ovaries and testes were estimated from f_2' in the gonads by Eq. (18). The f_B in these organs and spleen were then estimated by Eq. (16).

Estimation of T_B Whole Body

In the absence of human data the maximum T_B^{TB} observed in the dog is assumed to apply to man.

Individual Organs

The T_B were estimated by Eq. (19).

Estimation of C_B Individual Organs

The C_B in bone was estimated by Eq. (22).

Estimation of C_P

We have assumed that the C_P/C_S of thallium is comparable to that of potassium and rubidium (5416, 6352), $C_P/C_S \sim 1$. The value of C_P was estimated by Eq. (14).

Estimation of C_{meat}

In the absence of any meat data, we have assumed that both the uptake and

(continued)

retention are similar from one mammal to another. The f_B in muscle is 0.24 (5593). Since T_B in muscle is comparable to T_B^{TB} (5593), we have assumed that T_B in muscle is equal to T_B^{TB} .

(1) Estimation of I_{steer} by Eq. (13):

$$I_{\text{steer}} = 10^{-3} \text{ g/day}$$

(2) C_{meat} was then estimated by Eq. (9).

Estimation of Aquatic Data

Estimation of C_A for Seawater

Reference 1935 states that thallium is present in less than $10^{-5} \mu\text{g/g}$.

Reference 6054 gives concentrations in fish and invertebrates of about $1 \times 10^{-1} \mu\text{g/g}$. It was assumed that these food-stuff values represent a concentration ratio over seawater of 10^5 , and hence a seawater C_A of $10^{-6} \mu\text{g/g}$.

⁸³Bi

Estimation of C_S

Bismuth has not been reported in

soils. Its average concentration in soil-forming rocks is $1.7 \times 10^{-1} \mu\text{g/g}$ (5788).

⁸⁴Po

Estimation of C_S

Of the polonium isotopes, only those of the uranium decay chain have half-lives greater than one second, so that we can regard uranium as the parent element of naturally occurring polonium (5840). The C_S was estimated by Eq. (34) from the following concentrations of polonium and uranium in igneous rock (2532):

$$(c_{\text{rock}})_{\text{Po}} = 2 \times 10^{-10} \mu\text{g/g}.$$

$$(c_{\text{rock}})_{\text{U}} = 4 \mu\text{g/g}.$$

Estimation of Aquatic Data

The ratio of Po/Se in soil is 10^{-10} . This ratio was multiplied by the selenium concentrations to obtain the polonium values.

85^{At}Estimation of C_S

At²¹⁸ from the decay of U²³⁸ is the major contribution to the C_S of astatine. C_S was estimated by Eq. (33) with $f = 0.02$.

Estimation of C_P

Astatide ion, like iodide, is concentrated well by thyroid tissue (947). We have assumed that the C_P/C_S ratios of

astatine and iodine are comparable and adopted a C_P/C_S ratio of 1. The C_P value was estimated by Eq. (14).

Estimation of Aquatic Data

The ratio of At/I in soil is a 2×10^{-20} . This ratio was multiplied by the iodine concentration to obtain the astatine values.

87^{Fr}Estimation of C_S

The C_S of francium was estimated as Fr²²³ derived from Ac²²⁷ (4n + 3 series). C_S was estimated by Eq. (33) with $f = 0.012$.

assumed to be that of cesium. The C_P value was estimated by Eq. (14).

Estimation of Aquatic Data

The ratio of Fr/Cs in soil is 2×10^{-19} . This ratio was multiplied by the cesium concentrations to obtain the francium values.

Estimation of C_P

Francium is assumed to behave like cesium. The C_P/C_S of francium was

89^{Ac}Estimation of C_S

The C_S of actinium was estimated as Ac²²⁷ derived from Pa²³¹ (4n + 3 series) and Ac²²⁸ derived from Ra²²⁸ (4n series). The C_S were estimated by Eq. (33) with $f = 1.0$ for both series, and then summed to yield the total C_S.

Estimation of Aquatic Data

If the concentration of an actinide element was not known for seawater and/or freshwater, all aquatic values for the element were based upon the ratio of actinide to plutonium in soil. This ratio was multiplied by the plutonium concentrations to obtain the actinide element values.

Estimation of C_P

The C_P/C_S of actinium was assumed to be 10^{-2} , the greatest C_P/C_S ratio found for any actinide. The C_P was estimated by Eq. (14).

If the concentration in seawater or freshwater was known, then the ratio C_A (actinide)/C_A (Pu) was multiplied by the plutonium concentration in foodstuffs to obtain the actinide element values.

$_{91}\text{Pa}$

Estimation of C_S

The C_S of protactinium was estimated

as Pa^{231} derived from U^{235} (4n + 3 series).

C_S was estimated by Eq. (33) with $f = 1.0$.

$_{93}\text{Np}$

Estimation of C_S

Neptunium isotopes have been isolated from uranium ores where they are formed by neutron capture. Np^{237} is the

most abundant (5759). The ratio of the concentrations of Np^{237} to U^{238} in uranium ore is 1.8×10^{-12} (5757). The C_S was estimated from this ratio by Eq. (34).

$_{94}\text{Pu}$

Estimation of C_S

Plutonium has been qualitatively identified in soils (5780). Its concentration was estimated from the ratio of the concentrations of Pu^{239} to U in ores: $<4 \times 10^{-13}$ to 1.5×10^{-11} (5758). The C_S

was estimated by Eq. (34) assuming a concentration ratio of 10^{-13} .

Estimation of C_P

The C_P/C_S of plutonium ranged from 10^{-3} to 10^{-4} (2697, 5570, 6079). The C_P value was estimated by Eq. (14) using a C_P/C_S value of 10^{-3} .

$_{95}\text{Am}$

Estimation of C_P

The C_P/C_S of americium in crop plants was about 3×10^{-3} (6079).

The C_P value was estimated by Eq. (14) using a C_P/C_S value of 10^{-3} .

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