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25 of 6 NTS

UCRL-50400
Volume 7 Part B Revisions

**An Integrated System for Production of
Neutronics and Photonics Calculational Constants**

Volume 7 Part B Revision 1

**MAJOR NEUTRON-INDUCED INTERACTIONS (Z > 55):
GRAPHICAL, EXPERIMENTAL DATA**

D. E. Cullen, R. J. Howerton, M. H. MacGregor,
and S. T. Perkins

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July 4, 1976

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MS. date: July 4, 1976

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infringe privately owned rights.

Foreword

The UCRL-50400 series describes an integrated and computer-oriented system for the production and application of neutronics and photonics calculational constants.

The system must supply reliable up-to-date data, select specific types of data on request, provide output in a variety of forms — ultimately in the form of input to other computer codes — and function rapidly and efficiently. The system has now been developed to a point where these goals are being realized.

The UCRL-50400 series, *An Integrated System for Production of Neutronics and Photonics Calculational Constants*, comprises the following volumes:

- Vol. 1 Rev. 3, *ECSIL, A System for Storage, Retrieval and Display of Experimental Neutron Data*, to be published in September 1976.
- Vol. 2 Rev. 2, *Neutron-Induced Interactions: Bibliography of Experimental Data*, July 1976.
- Vol. 3 Rev. 2, *Neutron-Induced Interactions: Index of Experimental Data*, July 1976.
- Vol. 4, *Evaluated Nuclear Cross-Section Library*, April 1971.
- Vol. 5, Rev. 1, *CLYDE: A Code for the Production of Calculational Constants from Nuclear Data*, September 1975.
- Vol. 6, Rev. 1, *Tables and Graphs of Photon Interaction Cross Sections from 1.0 keV to 100 MeV Derived from the LLL Evaluated Nuclear Data Library*, October 1975.
- Vol. 7 Part A Rev. 1, *Major Neutron-Induced Interactions ($Z < 55$): Graphical, Experimental Data*, July 1976.
- Vol. 7 Part B Rev. 1, *Major Neutron-Induced Interactions ($Z > 55$): Graphical, Experimental Data*, July 1976.
- Vol. 8 Rev. 1 Part A, *Supplemental Neutron-Induced Interactions ($Z < 35$): Graphical, Experimental Data*, July 1976.
- Vol. 8 Rev. 1 Part B, *Supplemental Neutron-Induced Interactions ($Z > 35$): Graphical, Experimental Data*, July 1976.
- Vol. 9, *Thresholds of Nuclear Reactions Induced by Neutrons, Photons, Deuterons, Tritons, and Alpha Particles*, September 1970.
- Vol. 10, *Tabulated Experimental Data for Neutron-Induced Interactions*, July 1976.

- Vol. 11, *Experimental Data, Indexes and Techniques of Obtaining a Selected Set of Neutron Resonance Parameters*, May 1972.
- Vol. 12, *An Atlas of Resolved Neutron Resonance Parameters*, July 1972.
- Vol. 13, *An Atlas of Unresolved Neutron Resonance Parameters*, September 1972.
- Vol. 14, *TARTNP: A Coupled Neutron-Photon Monte Carlo Transport Code*, July 1976.
- Vol. 15, Part A, *The LLL Evaluated Nuclear Data Library (ENDL): Evaluation Techniques, Reaction Index, and Descriptions*

of Individual Evaluations, September 1975.

- Vol. 15, Part B, *The LLL Evaluated Nuclear Data Library (ENDL): Graphs of Cross Sections from the Library*, April 1976.
- Vol. 15, Part C, *The LLL Evaluated Nuclear Data Library (ENDL): Translation of ENDL Neutron-Induced Interaction Data into the ENDF/B Format*, April 1976.
- Vol. 16, *Tabular and Graphical Presentation of 175 Neutron Group Constants Derived from the LLL Evaluated Neutron Data Library (ENDL)*, April 1976.

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MAJOR NEUTRON-INDUCED INTERACTIONS (Z>55): GRAPHICAL, EXPERIMENTAL DATA

Abstract

This report (vol. 7) presents graphs of major neutron-induced interaction cross sections in the Experimental Cross Section Information Library (ECSIL) as of July 4, 1976. It consists primarily of interactions where a single data set contains enough points to show cross-section behavior. In contrast, vol. 8 of this UCRL-50400 series consists of interactions where more than one data set is needed to show cross-section behavior. Thus, you can find the

total, elastic, capture, and fission cross sections (along with the parameters $\bar{v}$, α , and η) in vol. 7 and all other reactions in vol. 8.

Data are plotted with associated cross-section error bars (when given) and compared with the Evaluated Nuclear Data Library (ENDL) as of July 4, 1976. We arranged the plots in ascending order of atomic number (Z) and atomic weight (A). Part A contains the plots for $Z = 1$ to 55; Part B contains the plots for $Z > 55$.

Introduction

In 1958, Lawrence Livermore Laboratory (LLL) installed a computerized system for the storage and retrieval of experimental neutron-interaction data. This Experimental Cross Section Information Library has developed gradually and is still being improved.

The present ECSIL system¹ comprises two separate files: a numerical data file and a bibliographic information file. The two files are linked through the use of a four-digit num-

ber uniquely assigned to each reference.

In 1959 and 1960, LLL published tabulations of integrated and differential neutron cross sections below 15 MeV. Since that time, the number of entries in the system has increased by more than an order of magnitude. Consequently, the current library contains too much data (over 1.6 million data points) to publish tabulations; the resulting volumes would be prohibitively expensive and bulky.

However, by presenting the data in graphs^{2,3} and on microfiche,⁴ we can significantly reduce expense and

bulk. Moreover, bulk reduction means that indexes⁵ and bibliographies can be added to help in data manipulation.

Graphical Data

The present ECSIL library contains 1 605 671 points,^{*} of which 1 269 917 are cross sections.[†] Of these points, 1 208 246 (over 45%) are total, elastic, capture, fission, $\bar{\nu}$, α , or η (putting them in vol. 7). The remaining 61 671 points are in vol. 8. Although vol. 7 contains the vast majority of data points, the division of data sets^{**} between the two volumes is more equitable: 5372 in vol. 7 and 4907 in vol. 8.

In this volume each data set is plotted separately. We arranged the plots in ascending atomic number and atomic weight (see "ECSIL Conventions" for compounds and special materials). Within each material, reactions follow the order: total, elastic, fis-

sion, capture, $\bar{\nu}$, α , and η . For each reaction, plots are in ascending least-energy order (identical to the data-index order, vol. 3). Reference number and year of reference appear to the left of each plot (e.g., ECSIL-3327 (68) indicates ECSIL reference number 3327 and reference date 1968).

Any reference containing a large number of points is first plotted as a single entity, then followed by a number of subplots that slightly overlap in energy. We chose each subplot to contain an acceptable number of data points. Master plots do not contain error bars or an ENDL comparison.

Any reference that contains less than six points is not plotted. We listed points from these references at the end of each material (ZA) in the following order: total, elastic, fission, capture, $\bar{\nu}$, α , and η . Within each reaction, they are listed by ascending incident energy.

^{*} As compared with 985 158 in the 1974 ECSIL library.

[†] As opposed to angular and energy distributions.

^{**} A data set in this context is the data from a given reference for a single target and reaction.

1976 Edition

Our present volume, as compared with the 1974 edition, presents 1 208 246 data points, including almost 500 000 new points. Also, this new edition is plotted with associated error bars and compared with the ENDL library.⁶ In general, we base comparisons between ECSIL and ENDL on the same reaction in the same isotope or elemental mixture (i.e., same ZA). However, when ECSIL or ENDL do not contain cross sections for a given ZA, we compare cross sections for the elemental mixture from one library with the most abundant isotope from the other library (e.g., compare ¹⁶O with natural oxygen).

We use only those reactions explicitly contained in ENDL.⁶ For (n,γ), (n,n'), (n,p), (n,d), (n,t), etc.,

only the sum of all level excitations (resolved and continuum) in ENDL is compared with the ECSIL data. As such, ENDL data serve as an upper bound for ECSIL data for any specific level and can be used to indicate when one level dominates.

We scale the plots to contain ECSIL data. Any ENDL data falling in the same energy and cross-section range are then plotted. The reaction is then followed by a plot of ENDL data over the entire energy and cross-section range of the evaluated (ENDL) data.

By using color separation, we allow the experimental (blue) and evaluated (red) data to be easily distinguished.

Relationship to Other Volumes

This volume is closely related to other volumes in the UCKL-50400 series and can be used to determine whether experimental data are available for a given target and reaction. The following volumes provide other paths to the information:

- *Volume 1* describes the format and conventions associated with the library as well as the

supporting system of programs. It also gives the forms (e.g., plots and listings) and the order in which data and bibliographic information may be obtained.

- *Volume 2* contains bibliographic indexes that can be used to determine whether a specific reference is included in the

ECSIL system and which experimental data are associated with the reference.

- *Volume 3* lists data indexes that may be used to determine the data in the library for a given isotope or reaction.
- *Volume 8* presents graphs of all other integrated (as opposed to angular distribution) cross sections, including (n,n') and (n,p), etc.
- *Volume 10* contains the ECSIL library contents tabulated on

microfiche.

- *Volume 11* lists the indexes and tabulated resonance parameters in ECSIL.
- *Volume 12* lists selected tabulated resolved resonance parameters.
- *Volume 13* lists selected tabulated unresolved resonance parameters.

See this volume's foreword for a list of associated volumes on evaluated data.

Production of Graphs

Program EXSPLT¹ produced the graphs in this volume. This program required a series of noninteractive passes through the ECSIL data library. These

passes used 24 min of CDC-7600 time (for Parts A and B) to produce 35 mm film containing all plots in correct order, ready for photo-offset printing.

Corrections and Suggestions

Users of these volumes have been a major aid in detecting and reporting erroneous data that have crept into ECSIL. They have also suggested improvements in the format and scope of these volumes. Please communicate

all corrections and suggestions to:

M. H. MacGregor
L-71
University of California
Lawrence Livermore Laboratory
P.O. Box 808
Livermore, CA 94550

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York; the European Nuclear Energy Agency's center for collection of neutron data at Saclay, France; the International Atomic Energy Agency Nuclear Data Section at Vienna, Austria; and the Nuclear Data Center at Obninsk, USSR. The National Neutron Cross Section Center has routinely supplied us with experimental data collected at the four centers.

Many experimenters have furnished us with their data before publication. To them, especially, we offer our grateful thanks. Finally, we would like to express our sincere gratitude to Violet Gamble and Sally Mooney for their efforts in maintaining the bibliographic file and to Kenneth Hill for ensuring that the numerous computer runs were satisfactorily completed.

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1. D. E. Cullen, R. J. Howerton, M. H. MacGregor, and S. T. Perkins, *ECSIL, A System for Storage, Retrieval and Display of Experimental Neutron Data*, Lawrence Livermore Laboratory, Rept. UCRL-50400, Vol. 1 (Rev. 3 to be published in 1976).
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6. R. J. Howerton, D. E. Cullen, R. C. Haight, M. H. MacGregor, S. T. Perkins, and E. F. Plechaty, *The LLL Evaluated Nuclear Data Library (ENDL): Evaluation Techniques, Reaction Index, and Descriptions of Individual Evaluations*, Lawrence Livermore Laboratory, Rept. UCRL-50400, Vol. 15, Part A (1975).

Appendix:

ECSIL Conventions

The ECSIL data system describes experimental neutron-induced cross sections and related information by indicating:

- *Target.* The ZA number describes the target. There are several special conventions. For example, A is set at zero for elemental mixtures. For compounds, the Z of the element that appears first in the molecular formula is used, and A is defined as 300 plus the molecular weight (e.g., H_2O is assigned $Z = 1$ and $A = 318$). For unstable targets, the longest-lived isomer is assigned the ZA number of the target. Short-lived isomers are assigned the Z of the target, and A is defined as 600 plus the atomic weight of the target (e.g., $^{242}g_{Am}$ is assigned $Z = 95$ and $A = 842$). See Table 1 for a complete list of compounds and special isotopes.
- *Interaction.* A numerical equivalent is used to designate the interaction: total, elastic, capture, etc. In ECSIL, this numerical equivalent becomes the basic C number. Table 2

gives a complete list of all basic C numbers.

- *Interaction Property.* A numerical equivalent designates the interaction properties that are measured, such as cross section, angular distribution, or energy distribution. In ECSIL, this numerical equivalent becomes the C-increment number. The total C number used to describe the interaction and its property is the sum of the C-number increment and the basic C number [e.g., 11 indicates the total (n,n') cross section, while 311 indicates the (n,n') secondary neutron energy spectrum]. Table 3 gives a complete list of all C-number increments. Table 4 lists miscellaneous quantities not included in the basic C-number, C-number-increment scheme.
- *Interaction Modifier.* A numerical equivalent is used to further qualify or describe the interaction. This quantity indicates conditions such as target temperature, the cross

section for excitation of one or more levels of the residual nucleus, and the cross section for production of one or more

photons. In ECSIL, this numerical equivalent becomes the S number. Table 5 gives a complete list of all S numbers.

Table 1. Compounds and special isotopes (assigned ZA's).

Assigned ZA number	Material	Assigned ZA number	Material
1302	B ₂ (gas)	14360	SiO ₂
1306	H ₂ C	16364	SO ₂
1320	D ₂ O	22349	TiH _{0.6}
5370	B ₂ O ₃	22350	TiH _{1.9}
6328	C ₂ H ₄	26460	Fe ₂ O ₃
6331	CH ₃ OH	27660	60mCo
6376	C ₆ H ₆	40391	ZrH _{0.63}
6384	C ₆ H ₁₂	40392	ZrH _{0.98}
6386	C ₆ H ₁₄	40393	ZrH _{1.5}
6392	C ₃ H ₈ O ₃	40394	ZrH _{1.96}
6404	C ₈ H ₈	40395	Zircaloy-2
6492	C ₁₀ H ₈ O ₄	40423	ZrO ₂
6652	C ₂₅ H ₅₂	52723	123mTe
7328	N ₂ (gas)	60636	Nd ₂ O ₃
7353	NH ₄ Cl	61748	148gPm
7398	NH ₄ Br	82999	RADIO-Pb
7445	NH ₄ I	92570	UO ₂
8332	O ₂ (gas)	95842	242gAm
12340	MgO	95844	244gAm
13402	Al ₂ O ₃	99854	254mEs

Table 2. Basic reaction designator (basic C).

Basic C number	Cross-section type	Basic C number	Cross-section type
1	Total	25	(n,X) charged-particle emission
2	Elastic	26	(n,p)
3	Nonelastic	27	(n,Xp)
4	Neutron emission (elastic + nonelastic)	28	(n,d)
5	Total scattering (inelastic + elastic)	29	(n,Xd)
6	Neutron nonelastic emission	30	(n,t)
7	Removal	31	(n,Xt)
8	—	32	(n, ^3He)
9	—	33	(n, X ^3He)
10	—	34	(n, α)
11	(n, n')	35	(n, X α)
12	(n, 2n)	36	Activation
13	(n, 3n)	37	(n, 2 α)
14	(n, n'p)	38	—
15	(n, n'd)	39	—
16	(n, n't)	40	—
17	(n, n', ^3He)	41	Bound atom
18	(n, n', α)	42	Free atom
19	(n, 4n)	43	Coherent scattering
20	—	44	Incoherent scattering
21	Absorption	45	Potential scattering
22	(n, fission)	46	$\bar{\nu}_p$, prompt neutrons per fission (average)
23	(n, γ)	47	$\bar{\nu}_d$, delayed neutrons per fission (average)
24	(n, X γ) gamma-ray production	48	η , neutrons produced per nonelastic
		49	α , capture-to-fission ratio

Table 3. Reaction designator increments (C increment).

C increment number	Reaction property (units)	Definition
0	Integrated cross sections (b) or related parameters σ	
50	Spectrum-averaged cross sections (b)	$\bar{\sigma}$
100 ^a	Angular distributions (b/sr)	$\sigma(E, \theta)$
200	Energy distributions (b/MeV)	$\sigma(E, E')$
250 ^a	Angular distributions integrated between fixed angular limits (b)	$\sigma(E, \theta_{\min}, \theta_{\max})_{\text{lab}}$
300 ^a	Differential energy distributions (b/sr MeV)	$\sigma(E, E', \theta)_{\text{lab}}$
350 ^a	Partial distributions integrated between fixed energy and angular limits (b)	$\sigma(E, E'_{\min}, E'_{\max}, \theta_{\min}, \theta_{\max})_{\text{lab}}$
400	Energy distributions integrated between fixed energy limits (b)	$\sigma(E, E'_{\min}, E'_{\max})$
450 ^a	Legendre expansion of angular distributions - $g_{\ell}(E)$ (dimensionless)	$\sigma(E, \theta) = \sigma(E) \sum_{\ell=0}^{\infty} \frac{2\ell+1}{4\pi} g_{\ell}(E) P_{\ell}(\cos\theta)$
500	Resonance integrals (b)	$R.I. = \int_{E_{\min}}^{E_{\max}} \sigma(E) \frac{dE}{E}$
550 ^a	Polarization (dimensionless)	$P(E, \theta)$
600 ^a	Partial distributions integrated between fixed-energy limits (b/sr)	$\sigma(E, E'_{\min}, E'_{\max}, \theta)_{\text{lab}}$
650 ^a	Partial distributions integrated between fixed angular limits (b/MeV)	$\sigma(E, E', \theta_{\min}, \theta_{\max})_{\text{lab}}$
850	C/S ratios (dimensionless)	
900	Miscellaneous quantities	See Table 4

^aAngular distributions for all unique *two-body* reactions are expressed in the center-of-mass system. Multibody reactions are expressed in the laboratory frame of reference.

Table 4. Reaction designator for miscellaneous quantities.

C	Spectra parameters			
901	Nuclear temperature, nonelastic (excluding fission)			
902	Nuclear temperature, total nonelastic			
903	Nuclear temperature, fission			
904	Nuclear temperature, inelastic (first neutron)			
905	Nuclear temperature (second neutron)			
Thermal parameters				
911	Thermal scattering law, $S(\alpha, \beta)$			
Average resonance parameters				
941	$\bar{D}_{\text{observed}}$	944	$\bar{\Gamma}_n^2$	
942	$\bar{\Gamma}_\gamma$	945	$\bar{D}_l$	
943	$\bar{\Gamma}_f$	946	$\bar{S}_l$	
Resolved resonance parameters				
951	E_o (energy only)	966	$g\Gamma_n$	981 $\sigma_o \Gamma_f / \Gamma_t$
952	J, π	967	$g\Gamma_n^o$	982 $\sigma_o \Gamma_\gamma / \Gamma_t$
953	l	968	$g\Gamma_\gamma$	983 $\sigma_o \Gamma_a / \Gamma_t$
954	g	969	Γ_n / Γ_t	984 $\sigma_o \Gamma_\gamma \Gamma_f / \Gamma_t$
955	σ_o	970	Γ_a / Γ_t	985 $\sigma_o \Gamma_f^2 / \Gamma_t$
956	Γ_t	971	Γ_γ / Γ_t	986 $g\Gamma_\gamma \Gamma_n / \Gamma_t$
957	Γ_n	972	Γ_n / Γ_a	987 $2g\Gamma_n^2 / \Gamma_t$
958	Γ_n^o	973	Γ_f / Γ_t	988 $\Gamma_t^2 \sigma_o$
959	Γ_γ	974	Γ_f / Γ_a	989 $g\Gamma_n^o \Gamma_f$
960	Γ_f	975	Γ_γ / Γ_f	990 $g\Gamma_f \Gamma_n / \Gamma_t$
961	Γ_a	976	$\Gamma_t \sigma_o$	991 $\sigma_o \Gamma_f \Gamma_t$
962	Γ_α	977	$\Gamma_f \sigma_o$	992 $\Gamma_n^o \Gamma_f / \Gamma_t$
963	Γ_p	978	$\Gamma_\gamma \sigma_o$	993 $g(\Gamma_n)^2$
964	$g\Gamma_n^1$	979	$\Gamma_n \sigma_o$	994 $g\Gamma_n \Gamma_\gamma$
965	$g\Gamma_n^2$	980	$\sigma_o \Gamma_n / \Gamma_t$	

Table 5. Reaction designator modifier^a (S number).

S number	Modification (units)
1	Level excitation (MeV)
2	Isomer production (sec)
3	Isomer production (min)
4	Isomer production (hr)
5	Isomer production (d)
6	Isomer production (yr)
7	Photon production (MeV)
8	Unresolved level excitation (MeV)
9	Material temperature (K)
10	Unresolved photon production (MeV)
11	Spin state (dimensionless)
12	Isotope bound in material (dimensionless)
13	Oriented crystal (Miller number)
14	Electron production (MeV)
20	Transmission measurement (b/atom)

^aS + 80 indicates relative distribution.

07/04/76

Total
Cross Section

56-Ba-Nat
56-Ba-138 ENDL-7151

7-1

Mev

56-Ba-Nat -1

Barns

07/04/76

Total
Cross Section

56-Ba-Nat

07/04/76

Total
Cross Section

56-Ba-Nat
56-Ba-138 ENDL-7151

ECSIL-750 (67)

ECSIL-817 (57)

ENDL-7151

Barns

07/04/76

Total
Cross Section

56-Ba-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60	576 4.1000+ 0	1.0000- 1	4.3000+ 0	1.0000- 1	58	324 1.5600+ 1	1.3000- 1	4.9700+ 0	1.0000- 1
58	324 1.3140+ 1	5.0000- 2	5.0110+ 0	9.0010- 2	61	232 2.8400+ 1		4.0900+ 0	4.0000- 1
52	81 1.4000+ 1		5.1710+ 0	1.0000- 1	50	281 4.2000+ 1	1.0000+ 0	3.5700+ 0	1.2000- 1
58	324 1.4100+ 1	4.0000- 2	5.0210+ 0	7.0010- 2					

07/04/76

Elastic
Cross Section

56-Ba-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64	870 5.0000- 1	5.0000- 2	6.2800+ 0	3.4000- 1	54	103 1.0000+ 0	2.0000- 2	6.6000+ 0	9.9000- 1
63	1750 6.5000- 1		5.9400+ 0	2.6000- 1	65	1509 2.0000+ 0	5.0000- 2	6.6000+ 0	
64	870 8.0000- 1	5.0000- 2	5.4900+ 0	2.8000- 1	60	576 4.1000+ 0	1.0000- 1	2.5000+ 0	3.0000- 1
72	3546 8.8450- 1	2.0000- 1	6.6982+ 0						

07/04/76

(n,γ)
Cross Section

56-Ba-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1 3.0000- 2	8.0010- 3	6.1010- 2	5.5010- 3
63	1 6.5000- 2	2.1000- 2	3.3000- 2	3.0000- 3
69	2220 1.4100+ 1	6.7500- 1	1.6000- 3	2.9000- 4

37/04/76

(n, γ)

56-Ba-130

Cross Section

(Expanded Below)
ECSIL-3594 (72)

ECSIL-3594 (72)

ECSIL-3594 (72)

56-Ba-130 -1

Barns

07/04/76

(n, γ)

56-Ba-130

Cross Section

07/04/76

(n, γ)
Cross Section

56-Ba-138
ENDL-7151

ECISL-715 (61)

ECISL-663 (591)

ENDL-7151

56-Ba-138 -1

7-7

07/04/76

(n,y)

56-Ba-138

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN	
47	888	2.5300-8	5	1.100-1.1.0220-1	68	3375	2.9000-0	2.0000-1	3.0000-3	4.0000-4
58	43	2.1000-2	4	4.0000-3	67	1991	3.0000-0	2.0000-1	1.2000-3	2.0000-4
66	1788	2.4000-2	7	1.0000-3	58	1044	3.1000-0	1.0000-1	1.0000-3	4.0000-4
57	305	2.4000-2	5	1.0000-3	58	1044	4.0000-0	7.4000-4	3.0000-4	4.0000-4
59	526	1.9500-1	1	1.5000-2	58	363	4.0000-0	7.8000-4	3.0000-4	4.0000-4
58	363	2.0000-1	1	1.5000-2	72	3863	1.4400-1	1.0000-3	3.1000-4	4.0000-4
58	1044	2.5000-0	0	1.1000-3	57	521	1.4500-1	1.3000-3	3.4.0000-4	4.0000-4
58	363	2.7000-0	0	1.1400-3						

REFERENCE ENERGY DELTA X-SEC DELTA HALF-LIFE
MEV MEV BARN BARN MINUTES
70 4008 1.4800-1 8.0000-2 1.1200-3 2.2400-4 8.4000-1

07/04/76

(n,y)

56-Ba-140

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
67	3533	2.5300-8	1.5700-0	3.0000-1

07/04/76

Total

57-La-Nat

Cross Section

10⁷

5

10⁶

5

10⁵

5

10⁴

5

10³

7-8

Mev

57-La-Nat -1

Parns

07/04/76

Total
Cross Section

57-La-Nat

07/04/76

57-La-Nat

Total
Cross Section

7-10

57-La-Nat -3

07/04/76

Total
Cross Section

57-La-Nat

07/04/76

Total
Cross Section

57-La-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
52 81	1.4000+ 1		5.1810+ 0	1.0000- 1	58 324	1.5120+ 1	1.3000- 1	4.7300+ 0	8.0000- 2
58 324	1.4590+ 1	1.1000- 1	4.7700+ 0	7.0000- 2	58 324	1.5600+ 1	1.3000- 1	4.6900+ 0	8.0000- 2

07/04/76

(n,γ)
Cross Section

57-La-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1 3.0000- 2	8.0010- 3	5.5010- 2	1.1000- 2
63	1 6.5000- 2	2.1000- 2	1.8000- 2	4.0000- 3

07/04/76

57-La-139

Total
Cross Section

7-12

57-La-139 - 1

07/04/76

57-La-139

Total
Cross Section

Barns

Mev

7-13

57-La-139 -C

07/04/76

Elastic
Cross Section

57-La-139

07/04/76

(n, γ)
Cross Section

57-La-139

07/04/76

(n,γ)
Cross Section

57-La-139

07/04/76

Total
Cross Section

57-La-139

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 324	1.3140	1 5.0000	2 4.8100	0 8.0010
58 324	1.3600	1 7.0010	2 4.7800	0 7.0010
58 324	1.4100	1 4.0000	2 4.7900	0 7.0010

07/04/76

(n,γ)
Cross Section

57-La-139

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5200	8	8.4000	0 1.6800	59 526	1.9500	1 1.5000	2 1.0000	2 2.0000
67 3494	2.5300	8	9.5000	0 5.0000	59 663	4.8000	1 2.0000	2 5.9010	3
57 23	2.1000	2 4.0000	3 4.8000	2 1.5000	59 663	6.2000	1 4.0000	2 6.0010	3
66 1788	2.4000	2	5.0000	2 1.0000	48 327	1.0000	0	5.0000	3
57 305	2.4000	2 5.0000	3 5.0000	2 7.0010	59 663	2.0000	0 1.0000	1 5.0000	3
61 677	3.0000	2 7.0010	3 5.5010	2 1.0000	67 1991	3.0000	0 2.0000	1 4.6000	3 7.0000
61 677	6.5000	2 2.0000	2 1.8000	2 3.0000	65 2216	1.4000	1 4.0000	1 3.6000	3 6.0000
59 663	1.8000	1 2.0000	2 1.8000	2	72 3963	1.4400	1	2.4000	3 2.0000

7-15

57-La-139 -4

07/04/76

(n,γ)

57-La-139

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 521	1.4500+ 1		1.5000- 3	1.0000- 4
67 1695	1.4700+ 1		1.4000- 3	3.0000- 4
60 572	1.4800+ 1	8.0010- 1	1.1000- 3	2.0000- 4

07/04/76

Total
Cross Section

58-Ce-Nat

7-16

58-Ce-Nat -1

07/04/76

58-Ce-Nat

Total
Cross Section

7-17

Mev

58-Ce-Nat

Barns

07/04/76

58-Ce-Nat

Total
Cross Section

ECSIL-748 (63)

ECSIL-750 (67)

7-18

MeV

58-Ce-Nat -3

Barns

07/04/76

Total
Cross Section

58-Ce-Nat

07/04/76

Total
Cross Section

58-Ce-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 844	1.1500- 4	1.1500- 5	5.7710+ 0	0	71 3850	1.4700+ 1		5.1600+ 0	1.5000- 1
49 844	3.0000- 4	3.0000- 5	4.8000+ 0	0	58 324	1.5600+ 1	1.3000- 1	5.0000+ 0	9.0000- 2
58 324	1.3140+ 1	5.0000- 2	4.9900+ 0	8.0010- 2	60 673	1.7500+ 1	3.0000- 1	4.8800+ 0	5.0000- 2
52 81	1.4000+ 1		5.0810+ 0	1.0000- 1	60 673	2.0500+ 1	2.0000- 1	4.5300+ 0	6.0010- 2
58 324	1.4100+ 1	4.0000- 2	5.0100+ 0	7.0000- 2	60 673	2.4100+ 1	2.0000- 1	4.2700+ 0	5.0000- 2
71 3815	1.4700+ 1		5.1600+ 0	1.0000- 1	60 673	2.7800+ 1	3.0000- 1	3.8900+ 0	5.0000- 2

07/04/76

Elastic
Cross Section

58-Ce-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3546	2.7970- 1	2.0000- 1	6.5902+ 0	
54 103	1.0000+ 0	8.0000- 2	6.7000+ 0	1.0050+ 0

07/04/76

(n,y)

58-Ce-NaI

Cross Section

REF	PENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	
61	677	3.0000- 2	7.9010- 3	3.5000- 2	5.0000- 3	63	1	6.5000- 2	2.1000- 2	8.0010- 3	3.0000- 3
63	1	3.0000- 2	8.0010- 3	3.5000- 2	6.0010- 3	60	674	4.0000- 1	9.0010- 2	8.0010- 3	3.0000- 3
61	677	6.5000- 2	2.0000- 2	8.0010- 3	2.0000- 3						

07/04/76

Total
Cross Section

58-Ce-140

07/04/76

Total
Cross Section

58-Ce-140

REFERENCE	ENERGY	DELTA	X-SEC	DELTA	REFERENCE	ENERGY	DELTA	X-SEC	DELTA
	MEV	MEV	BARNs	BARNs		MEV	MEV	BARNs	BARNs
59 534	3.1000- 3	2.0000- 4	0.0000+ 0	3.0000+ 0	59 534	4.5000- 3	2.0000- 4	0.0000+ 0	3.0000+ 0
59 534	3.3000- 3	2.0000- 4	0.0000+ 0	3.0000+ 0	59 534	4.8000- 3	2.0000- 4	0.0000+ 0	3.0000+ 0

7-20

58-Ce-140 -1

07/04/76

(n,y)
Cross Section

58-Ce-140

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57	305	2.4000- 2	3.0000- 3	3.1000- 2
				4.0000- 3

07/04/76

Total
Cross Section

58-Ce-142

07/04/76

(n,y)
Cross Section

58-Ce-142

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66	1788	2.4000- 2	5.2500- 1	5.0000- 2	67	1991	3.0000+ 0	2.0000- 1	3.3400- 2
57	305	2.4000- 2	4.2500- 1	4.3000- 2					6.0000- 3
59	526	1.9500- 1	1.5000- 2	2.2000- 2	57	521	1.4500+ 1		7.5010- 3
				5.0000- 3					

7-21

58-Ce-142 -1

07/04/76

Total
Cross Section

59-Pr-141

7-22

Mev

59-Pr-141 -1

07/04/76

59-Pr-141

Total
Cross Section

4 6 8 10⁻⁵ 2 4 6 8 10⁻⁴ 2 4 6 8 10⁻³ 2 4 6 8 10⁻² 2

6 9 10⁻³ 2 3 4 5 6 7 8 9 10⁻² 2

2 3 4 5 6 7 8 9 10⁻¹ 2

MeV

7-23

59-Pr-141 -2

Barns

07/04/76

59-Pr-141

Total
Cross Section

Barns

07/04/76

Total
Cross Section

59-Pr-141

Barns

7-25

May

59-Pr-141 -4

07/04/76

Total
Cross Section

59-Pr-141

07/04/76

Elastic
Cross Section

59-Pr-141

07/04/76

59-P-141

(h.v)
Cross Section

7-27

59-P-141 -6

07/04/76

(n, γ)
Cross Section

59-Pr-141

07/04/76

Total
Cross Section

59-Pr-141

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3968	1.3350+ 1	6.0000- 2	5.5300+ 0	1.3000- 1
70 3968	1.3480+ 1	5.0000- 2	4.8700+ 0	8.0000- 2
52 81	1.4000+ 1		4.9300+ 0	2.5000- 1

07/04/76

Elastic
Cross Section

59-Pr-141

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3546	8.7880- 1	2.0000- 1	6.4320+ 0	0

07/04/76

(n,y)

59-Pr-141

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 880	2.5300- 8		1.0100+ 1	2.0200+ 0	67 2694	1.8600+ 0	5.2000- 2	2.2400- 2	1.3000- 3
67 2256	2.5300- 8		1.1500+ 1	1.0000+ 0	59 663	2.0670+ 0	1.0000- 1	1.7000- 2	
57 23	2.1000- 2	4.0000- 3	1.6000- 1	4.0000- 2	67 2694	2.0600+ 0	5.4000- 2	2.0500- 2	1.1000- 3
66 1788	2.4000- 2		1.0000- 1	1.5000- 2	67 2694	2.2590+ 0	5.7000- 2	1.7600- 2	1.0000- 3
57 305	2.4000- 2	5.0000- 3	5.4710- 1	5.5010- 2	67 2694	2.4570+ 0	6.0000- 2	1.6200- 2	9.0000- 4
59 526	2.5000- 2	5.0000- 3	1.9500- 1	1.5000- 2	58 1044	2.5000+ 0		8.6000- 3	4.0000- 4
63 1	3.0000- 2	8.0110- 3	1.1500- 1	1.0000- 2	67 1991	3.0000+ 0	2.0000- 1	1.2200- 2	2.4000- 3
63 1	6.5000- 2	2.1000- 2	5.9010- 2	5.3010- 3	58 1044	3.1000+ 0		7.1000- 3	3.0000- 4
59 663	1.7000- 1	2.0300- 2	3.5000- 2		58 1044	4.0000+ 0		6.3000- 3	2.0000- 4
59 663	1.8000- 1	2.0000- 2	3.5000- 2		72 3963	1.4400+ 1		2.3000- 3	3.0000- 4
59 526	1.9500- 1	1.5000- 2	3.1000- 2	4.0000- 3	57 521	1.4500+ 1		3.3000- 3	3.0000- 4
59 663	2.3000- 1	2.0000- 2	1.9000- 2		63 756	1.4800+ 1	2.0000- 1	2.3000- 3	1.1000- 3
48 327	1.0000+ 0		1.1000- 2		60 672	1.4800+ 1	8.0010- 1	2.1000- 3	1.0000- 3
67 2694	1.7650+ 0	5.0000- 2	2.4100- 2	1.3000- 3					

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs MINUTES
68 2345	3.0000+ 0	2.0000- 1	2.9000- 4	5.0000- 4 1.4600+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs HOURS
68 2345	3.0000+ 0	2.0000- 1	1.0900- 2	9.0000- 4 9.2000+ 0
70 4008	1.4800+ 1	8.0000- 2	2.1900- 3	3.0660- 4 1.9200+ 1

07/04/76

(n,y)

59-Pr-143

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
59 2957	2.5300- 8		8.9000+ 1	1.0000+ 1

7-29

59-Pr-143 -1

07/04/76

Total
Cross Section

60-Nd-Nat

07/04/76

Total
Cross Section

60-Nd-Nat

Baras

7-31

Nev

60-Nd-Nat -2

07/04/76

60-Nd-Nat

Total
Cr. ss Section

MeV

60-Nd-Nat -3

7-32

Barns

07/04/76

Total
Cross Section

60-Nd-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3627	3.3000- 8		6.4580* 1		58 324	1.3140- 1	5.0000- 2	4.9200* 0	8.0010- 2
70 3627	7.5000- 8		4.7160* 1		58 324	1.4100- 1	4.0000- 2	5.0910* 0	8.0010- 2
70 3627	1.1500- 7		4.1080* 1		58 324	1.5600- 1	1.3000- 1	5.0600* 0	1.1000- 1
70 3627	2.7000- 7		3.0860* 1						

07/04/76

(n,γ)
Cross Section

60-Nd-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3627	2.5300- 8		5.8000* 1	1.9000* 0	70 3627	1.1500- 7		2.7150* 1	6.0000- 1
70 3627	3.3000- 8		5.2150* 1	1.5000* 0	70 3627	2.7000- 7		1.6800* 1	7.0000- 1
70 3627	7.5000- 8		3.5960* 1	7.0000- 1					

07/04/76

Total
Cross Section

60-Nd-142

07/04/76

60-Nd-142

Total
Cross Section

Neu

60-Nd-142 -2

7-34

Barns

07/04/76

60-Nd-142

Total
Cross Section

Barns

7-35

60-Nd-142 -3

07/04/76

Total
Cross Section

60-Nd-142

Barns

07/04/76

Total
Cross Section

60-Nd-142

Barns

MeV

07/04/76

Total
Cross Section

60-Nd-143

7-38

60-Nd-143 -1

07/04/76

60-Nd-143

Total
Cross Section

Barns

7-39

60-Nd-143 -2

Mev

07/04/76

60-Nd-143

Total
Cross Section

Mev

7-40

60-Nd-143 -3

Barns

07/04/76

Total
Cross Section

60-Nd-143

ECSIL-3604 (71)

ECSIL-3604 (71)

ECSIL-3604 (71)

Barns

07/04/76

60-Nd-143

Total
Cross Section

Barns

07/04/76

60-Nd-143

Elastic
Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58	439 2.5300- 8		7.5000+ 1	7.0000+ 0

07/04/76

60-Nd-143

(n,γ)
Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58	439 2.5300- 8		3.3500+ 2	2.0000+ 1

7-42

60-Nd-143 -5

07/04/76

Total
Cross Section

60-Nd-144

(Expanded Below)
ECSIL-3604 (71)

ECSIL-3604 (71)

ECSIL-3604 (71)

7-43

60-Nd-144 -1

Barns

07/04/76

Total
Cross Section

60-Nd-144

07/04/76

60-Nd-144

Total
Cross Section

Barns

Mev

7-45

60-Nd-144 -3

07/04/76

Total
Cross Section

60-Nd-144

7-46

60-Nd-144 -4

07/04/76

60-Nd-145

Total
Cross Section

4 6 8 10⁴ 2 4 6 8 10² 2

3.2 3.4 3.6 3.8

4 4.5 5 5.5

$\times 10^5$
MeV

7-47

60-Nd-145 -1

7-47

07/04/76

60-Nd-145

Total
Cross Section

Barns

7-48

60-Nd-145 -2

07/04/76

Total
Cross Section

60-Nd-145

ECSIL-3604 (71)

ECSIL-3604 (71)

ECSIL-3604 (71)

Barns

7-49

60-Nd-145 -3

07/04/76

Total
Cross Section

60-Nd-145

07/04/76

Total
Cross Section

60-Nd-145

Bars

07/04/76

Total

60-Nd-145

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 2720	2.5300-6		6.5000-1	3.0000+0

07/04/76

Total

60-Nd-146

Cross Section

Barns

7-52

60-Nd-146 -1

07/04/76

Total
Cross Section

60-Nd-146

7-53

60-Nd-146 -2

07/04/76

60-Nd-146

Total
Cross Section

Barns

7-84

MeV

60-Nd-146 -3

07/04/76

60-Nd-146

Total
Cross Section

7-55

MeV

60-Nd-146 -4

Barns

07/04/76

Total
Cross Section

60-Nd-146

Barns

07/04/76

(n, γ)
Cross Section

60-Nd-146

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3970	2.5000×10^{-2}		8.9000×10^{-2}	1.0000×10^{-2}

07/04/76

Total
Cross Section

60-Nd-148

Barns

7-56

60-Nd-148 -1

07/04/76

Total
Cross Section

60-Nd-148

7-57

60-Nd-148 -2

Barns

07/04/76

60-Nd-148

Total
Cross Section

7-58

60-Nd-148 -3

Barns

07/04/76

Total
Cross Section

60-Nd-148

7-59

60-Nd-148 -4

Baras

07/04/76

Total
Cross Section

60-Nd-148

Mev

7-60

60-Nd-148 -5

Barns

07/04/76

(n,γ)

Cross Section

60-Nd-148

(69) 599-71503

Barns

07/04/76

(n,γ)

Cross Section

60-Nd-148

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68	2856	2.4000- 2	1.8500- 1	3.5000- 2
70	3970	2.5000- 2	1.9500- 1	2.0000- 2

7-61

60-Nd-148 -6

07/04/76

Total
Cross Section

60-Nd-150

7-62

60-Nd-150 -1

07/04/76

60-Nd-150

Total
Cross Section

7-63

60-Nd-150 -2

Barns

07/04/76

Total
Cross Section

60-Nd-150

7-64

60-Nd-150 -3

07/04/76

60-Nd-150

Total
Cross Section

7-65

60-Nd-150 -4

Barns

07/04/76

60-Nd-150

Total
Cross Section

7-f

60-Nd-150 -5

Barns

07/04/76

Total
Cross Section

60-Nd-150

ECSIL-3604 (71)

07/04/76

(n, γ)
Cross Section

60-Nd-150

ECSIL-663 (59)

7-67

60-Nd-150 -6

Barns

Barns

07/04/76

(n,γ)
Cross Section

60-Nd-150

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2856	2.4000- 2		1.2500- 1	2.5000- 2
70 3970	2.5000- 2		6.5000- 2	9.0000- 3

07/04/76

Total
Cross SectionNd₂O₃

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		5.4600+ 1	1.9000+ 0

7-68

Nd₂O₃ -1

07/04/76

Total
Cross Section

61-Pm-147

07/04/76

Total
Cross Section

61-Pm-147

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3545	7.0000- 8		1.1000+ 2	2.0000+ 0
71 3253	2.5300- 2		1.9800+ 2	8.0000+ 0

07/04/76

Total
Cross Section

61-Pm-148

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
69 2772	2.5000- 8		6.8000+ 3	

07/04/76

(n,γ)
Cross Section

61-Pm-148

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 2227	1.0000- 5		3.5000+ 4	

07/04/76

(n,γ)
Cross Section

61-Pm-148g

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs	DAYS
59 3746	2.5300- 8		2.7000+ 4	2.0000+ 3	4.1800+ 1

8-2

62-Sm-Nat -1

07/04/76

Total

62-Sm-Nat

Cross Section

MeV

8-3

62-Sm-Nat -2

Barns

07/04/76

Total
Cross Section

62-Sm-Nat

8-4

MeV

62-Sm-Nat -3

Barns

07/04/76

62-Sm-Nat

Total
Cross Section

Barns

Mev

8-5

62-Sm-Nat -4

07/04/76

62-Sm-Nat

Total
Cross Section

MeV

62-Sm-Nat --5

8-6

Barns

07/04/76

Total
Cross Section

62-Sm-Nat

07/04/76

Elastic
Cross Section

62-Sm-Nat

8-7

62-Sm-Nat -6

07/04/76

(n,γ)

62-Sm-Nat

Cross Section

Barns

07/04/76

Total

62-Sm-Nat

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 324	1.3140 ± 1	5.0000 - 2	9.1010 ± 0	9.0010 - 2
58 324	1.4100 ± 1	4.0000 - 2	14.10 ± 0	8.0010 - 2
58 324	1.9600 ± 1	1.5000 - 1	5.2400 ± 0	1.0000 - 1

8-8

62-Sm-Nat -7

07/04/76

(n,γ)
Cross Section

62-Sm-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64	895 2.5300- 8		5.8800+ 3	9.0000+ 1	72	3877 3.0000- 2	6.0900- 3	7.7000- 1	1.1000- 1
64	895 2.5300- 8		5.7400+ 3	1.5000+ 2	63	1 6.5000- 2	2.1000- 2	4.5000- 1	4.1000- 2
64	895 2.5300- 8		5.7750+ 3		72	3877 6.5000- 2	2.0000- 2	5.1000- 1	7.5000- 2
63	1 3.0000- 2	8.0010- 5	8.7510- 1	7.9010- 2	72	3877 1.6500- 1	1.5000- 2	4.3800- 1	8.9000- 2

07/04/76

Total
Cross Section

62-Sm-147

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71	3110 2.5300- 8		7.5000+ 1	5.0000+ 0

07/04/76

(n,γ)
Cross Section

62-Sm-147

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66	2227 1.0000- 5		9.5000+ 2	1.0900+ 2

07/04/76

(n,γ)
Cross Section

62-Sm-148

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68	3306 2.5300- 8		4.7300+ 4	1.1000+ 3

07/04/76

Total
Cross Section

62-Sm-149

07/04/76

Total
Cross Section

62-Sm-149

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 3767	2.5300- 8		3.7500+ 4	1.0000+ 3
69 3769	2.5300- 8		3.7000+ 4	1.6000+ 3

07/04/76

(n,γ)
Cross Section

62-Sm-149

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 2235	2.5300- 8		4.9000+ 4	8.0000+ 3

07/04/76

62-Sm-150

Total
Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71	3110	2.5300- 8	1.3300+ 2	8.0000+ 0

07/04/76

62-Sm-151

Total
Cross Section

07/04/76

62-Sm-151

Total
Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	2544	2.5300- 8	1.5000+ 4	1.8000+ 3

8-11

62-Sm-151 -1

07/04/76

Total
Cross Section

62-Sm-152

07/04/76

Total
Cross Section

62-Sm-152

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 2139	2.5300 - 8		2.0600 + 2	6.0000 + 0

8-12

62-Sm-152 -1

07/04/76

(n.y)

52-Sm-152

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 2962	2.5300- 8		2.0900- 2	9.0000- 0	57 305	2.4000- 2	5.0000- 3	6.6810- 1	1.0000- 1
47 888	2.5300- 8		1.3800- 2	2.7600- 1	59 526	1.9500- 1	1.5000- 2	1.5000- 1	2.0000- 2
66 1788	2.4000- 2		5.7500- 1	6.0000- 2	67 1991	3.0000- 0	2.0000- 1	4.4200- 2	6.6000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	E-PHOTON MEV	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	E-PHOTON MEV
71 3517	2.5300- 8		4.3600- 0	8.7200- 1	2.8290- 2	71 3517	2.5300- 8		3.8300- 0	3.8300- 1	4.7062- 1
71 3517	2.5300- 8		1.6060- 1	3.2120- 0	3.6870- 2	71 3517	2.5300- 8		4.0800- 0	4.0800- 1	4.7356- 1
71 3517	2.5300- 8		7.4000- 1	1.5540- 1	3.7330- 2	71 3517	2.5300- 6		9.9000- 1	1.1880- 1	4.8120- 1
71 3517	2.5300- 8		4.8000- 1	9.6060- 2	5.3540- 2	71 3517	2.5300- 8		1.7000- 0	2.2100- 1	5.1720- 1
71 3517	2.5300- 8		4.4000- 1	8.8000- 2	5.5040- 2	71 3517	2.5300- 8		6.2000- 1	1.6740- 1	5.6860- 1
71 3517	2.5300- 8		3.0300- 0	4.5450- 1	8.3370- 2	71 3517	2.5300- 8		2.3600- 0	3.0940- 1	6.2330- 1
71 3517	2.5300- 8		4.1300- 0	6.1950- 1	9.0880- 2	71 3517	2.5300- 8		0.3000- 1	1.3260- 1	6.2740- 1
71 3517	2.5300- 8		1.2200- 0	2.0740- 1	9.1490- 2	71 3517	2.5300- 8		2.7100- 0	3.2520- 1	6.3030- 1
71 3517	2.5300- 8		1.8000- 1	8.8200- 2	1.0835- 1	71 3517	2.5300- 8		5.2000- 1	1.1440- 1	6.4610- 1
71 3517	2.5300- 8		4.3100- 0	6.8960- 1	1.1977- 1	71 3517	2.5300- 8		3.2800- 0	3.9360- 1	6.5990- 1
71 3517	2.5300- 8		1.0280- 1	1.5420- 0	1.2724- 1	71 3517	2.5300- 8		8.2000- 1	1.4760- 1	6.8140- 1
71 3517	2.5300- 8		1.1400- 0	2.1660- 1	1.2945- 1	71 3517	2.5300- 8		5.2000- 1	1.1960- 1	6.8660- 1
71 3517	2.5300- 8		5.9000- 1	8.8500- 2	1.4695- 1	71 3517	2.5300- 8		4.8000- 1	1.2000- 1	6.9380- 1
71 3517	2.5300- 8		1.7500- 0	1.7500- 1	1.6660- 1	71 3517	2.5300- 8		9.0000- 1	1.4400- 1	6.9800- 1
71 3517	2.5300- 8		5.2000- 1	5.7200- 2	1.7175- 1	71 3517	2.5300- 8		8.2000- 1	1.3540- 1	7.0630- 1
71 3517	2.5300- 8		2.6100- 0	2.6100- 1	1.7526- 1	71 3517	2.5300- 8		9.9000- 1	1.5840- 1	7.2710- 1
71 3517	2.5300- 8		3.1900- 0	3.1900- 1	1.8286- 1	71 3517	2.5300- 8		1.2300- 0	1.8450- 1	7.5300- 1
71 3517	2.5300- 8		3.9000- 1	4.2900- 2	1.8633- 1	71 3517	2.5300- 8		7.2000- 1	1.5840- 1	7.6750- 1
71 3517	2.5300- 8		2.1000- 1	3.3600- 2	1.9693- 1	71 3517	2.5300- 8		3.7000- 1	1.4430- 1	7.7270- 1
71 3517	2.5300- 8		2.2000- 1	3.3000- 2	2.0861- 1	71 3517	2.5300- 8		4.1000- 1	1.4760- 1	7.8100- 1
71 3517	2.5300- 8		2.4000- 1	3.6000- 2	2.1298- 1	71 3517	2.5300- 8		7.1000- 1	1.6330- 1	7.8830- 1
71 3517	2.5300- 8		9.6000- 1	8.6000- 2	2.2304- 1	71 3517	2.5300- 8		4.5000- 1	5.8900- 2	8.9200- 1
71 3517	2.5300- 8		7.2000- 1	7.2000- 2	2.5485- 1	71 3517	2.5300- 8		5.5000- 1	9.3500- 2	8.2570- 1
71 3517	2.5300- 8		1.5100- 0	1.5100- 1	2.6902- 1	71 3517	2.5300- 8		1.3200- 0	1.4520- 1	8.3600- 1
71 3517	2.5300- 8		3.6200- 0	3.6200- 1	2.7679- 1	71 3517	2.5300- 8		1.2000- 0	1.4400- 1	8.4120- 1
71 3517	2.5300- 8		3.6000- 1	3.4000- 2	3.1372- 1	71 3517	2.5300- 8		3.1000- 1	5.6600- 2	8.7340- 1
71 3517	2.5300- 8		5.0200- 0	5.0200- 1	3.2104- 1	71 3517	2.5300- 8		1.5900- 1	1.5290- 1	8.8060- 1
71 3517	2.5300- 8		1.0400- 0	1.1440- 1	3.5467- 1	71 3517	2.5300- 8		4.4000- 1	6.1600- 2	9.0440- 1
71 3517	2.5300- 8		1.1700- 0	1.2870- 1	3.6250- 1	71 3517	2.5300- 8		9.9000- 1	1.1880- 1	9.0660- 1
71 3517	2.5300- 8		1.1300- 0	1.2430- 1	3.9022- 1	71 3517	2.5300- 8		2.6000- 1	5.2000- 2	9.1550- 1
71 3517	2.5300- 8		6.5700- 0	6.5700- 1	3.9801- 1	71 3517	2.5300- 8		3.7000- 1	5.9200- 2	9.2830- 1
71 3517	2.5300- 8		4.6600- 0	4.6600- 1	4.0377- 1	71 3517	2.5300- 8		1.0200- 0	1.2240- 1	9.4600- 1
71 3517	2.5300- 8		6.1900- 0	6.1900- 1	4.1489- 1	71 3517	2.5300- 8		4.0000- 1	6.4000- 2	9.4910- 1

8-13

62-Sm-152 -2

07/04/76

(n, γ)
Cross Section

62-Sm-152

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	E-PHOTON MEV	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	E-PHOTON MEV
71	3517 2.5300- 8		3.3000- 1	5.9400- 2	9.5530- 1	71	3517 2.5300- 8		2.0680+ 0	2.0680- 1	4.6963+ 0
71	3517 2.5300- 8		6.5000- 1	8.4500- 2	9.5940- 1	71	3517 2.5300- 8		1.5500- 1	2.9450- 2	4.7579+ 0
71	3517 2.5300- 8		5.8000- 1	8.1200- 2	9.7080- 1	71	3517 2.5300- 8		7.6200- 1	8.3820- 2	4.8852+ 0
71	3517 2.5300- 8		8.1000- 1	9.7200- 2	9.7600- 1	71	3517 2.5300- 8		2.4100- 1	3.6150- 2	4.9515+ 0
71	3517 2.5300- 8		1.6300+ 0	1.6300- 1	9.8430- 1	71	3517 2.5300- 8		7.7000- 1	8.4700- 2	5.1175+ 0
71	3517 2.5300- 8		4.0000- 1	6.4000- 2	9.8950- 1	71	3517 2.5300- 8		1.2400- 1	5.2080- 2	5.1333+ 0
71	3517 2.5300- 8		1.0100+ 0	1.2120- 1	1.0298+ 0	71	3517 2.5300- 8		1.2100+ 0	1.3310- 1	5.1722+ 0
71	3517 2.5300- 8		2.2400+ 0	2.2400- 1	1.0454+ 0	71	3517 2.5300- 8		3.3000- 2	1.9800- 2	5.2204+ 0
71	3517 2.5300- 8		6.1000- 1	8.5400- 2	1.0754+ 0	71	3517 2.5300- 8		2.1020+ 0	2.1020- 1	5.2374+ 0
71	3517 2.5300- 8		8.6000- 1	1.0320- 1	1.0972+ 0	71	3517 2.5300- 8		6.8000- 2	2.1080- 2	5.2839+ 0
71	3517 2.5300- 8		4.0000- 1	7.2000- 2	1.1428+ 0	71	3517 2.5300- 8		8.7700- 1	9.6470- 2	5.3865+ 0
71	3517 2.5300- 8		7.0000- 1	9.8000- 2	1.1605+ 0	71	3517 2.5300- 8		4.0800- 1	4.8960- 2	5.4531+ 0
71	3517 2.5300- 8		9.7000- 1	1.1640- 1	1.2154+ 0	71	3517 2.5300- 8		5.8930- 1	7.6580- 2	5.4628+ 0
71	3517 2.5300- 8		2.7000- 1	4.5900- 2	4.4683+ 0	71	3517 2.5300- 8		1.7400- 1	2.7840- 2	5.5468+ 0
71	3517 2.5300- 8		2.2800- 1	4.1040- 2	4.4744+ 0	71	3517 2.5300- 8		1.6300- 1	2.6080- 2	5.5917+ 0
71	3517 2.5300- 8		1.4680+ 0	1.6148- 1	4.5058+ 0	71	3517 2.5300- 8		8.7010+ 0	8.7010- 1	5.7409+ 0
71	3517 2.5300- 8		5.8900+ 1	7.0680- 2	4.5239+ 0	71	3517 2.5300- 8		1.9890+ 0	1.9890- 1	5.8326+ 0
71	3517 2.5300- 8		1.9410+ 0	1.9410- 1	4.5457+ 0	71	3517 2.5300- 8		1.2000- 2	7.2000- 3	5.8616+ 0
71	3517 2.5300- 8		2.6500- 1	3.9750- 2	4.6438+ 0	71	3517 2.5300- 8		2.8200- 1	3.1020- 2	5.8686+ 0

07/04/76

(n, γ)
Cross Section

62-Sm-154

8-14

62-Sm-154 -1

07/04/76

(n,y)

62-Sm-154

Cross Section

07/04/76

(n,y)

62-Sm-154

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 1788	2.4000- 2		4.6000- 1	9.5000- 2
57 305	2.4000- 2	5.0000- 3	5.2710- 1	7.0010- 2
67 1991	3.0000+ 0	2.0000- 1	1.9000- 2	5.0000- 3

07/04/76

Total
Cross Section63-Eu-Nat
ENDL 7152

ECSIL-878 (61)

ECSIL-2238 (55)

ECSIL-3413 (71)

8-16

63-Eu-Nat -1

07/04/76

Total
Cross Section63-Eu-Nat
ENDL-7152

Barns

8-17

MeV

63-Eu-Nat -2

07/04/76

Total
Cross Section

63-Eu-Nat

ENDL-7152

07/04/76

(n,γ)
Cross Section

63-Eu-Nat

ENDL-7152

07/04/76

63-Eu-Nat

ENDL-7152

(n, γ)
Cross Section

EC5IL-1938 (64)

EC5IL-718 (61)

EC5IL-1807 (67)

Mev

8-19

63-Eu-Nat -4

Barns

07/04/76

(n,y)
Cross Section

63-Eu-Nat

ENDL-7152

07/04/76

Total
Cross Section

63-Eu-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58	2139	2.5500- 8	3.9200+ 3	4.5000+ 1

07/04/76

(n,y)
Cross Section

63-Eu-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SFC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1 3.0000-	2 8.0010-	3 2.9600+	0 2.3000-	72 3877	6.5000-	2 2.0000-	2 2.6800+	0 4.6000-
72 3877	3.0000-	2 6.0000-	3 4.0600+	0 6.1000-	72 3877	1.6500-	1 1.5000-	2 1.8700+	0 3.7500-
63	1 6.5000-	2 2.1000-	2 1.9800+	0 1.4000-	72 3877	3.0000-	1 1.5000-	2 1.8100+	0 4.5000-

8-20

63-Eu-Nat -5

07/04/76

Total
Cross Section

63-Ev-151

8-21

Mev

63-Ev-151 -1

Barns

07/04/78

63-EU-151

Total
Cross Section

8-22

MeV

63-EU-151 -2

Pars

07/04/76

Total
Cross Section

63-Ev-151

07/04/76

(n,γ)
Cross Section

63-Ev-151

8-25

63-Ev-151 -3

07/04/76

(n, γ)

63-Eu-151

Cross Section

ECSIL-1988 (64)

ECSIL-3552 (74)

ECSIL-663 (59)

Barns

07/04/76

(n,γ)

63-Eu-151

Cross Section

07/04/76

Total

63-Eu-151

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 2139	2.5300- 8		7.7000+ 3	8.0000+ 1
68 3767	2.5300- 8		9.2300+ 3	1.4000+ 2

07/04/76

(n,γ)

63-Eu-151

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		1.3900+ 3	2.7600+ 2	70 3969	2.5000- 2	5.0000- 3	3.2700- 2	2.6000- 3
71 3695	2.5300- 8	3.1625-10	9.1840+ 3	1.4000+ 2	70 3969	2.5000- 2	5.0000- 3	6.5860+ 0	5.1000- 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	SPIN
72 3965	2.5000- 2	5.0000- 3	3.2000+ 0	5.0000- 1	0.0000+ 0
72 3965	2.5000- 2	5.0000- 3	6.0000- 2	8.0000- 3	8.0000+ 0

8-25

63-Eu-151 -5

07/04/76

Total
Cross Section

63-Eu-153

63-Eu-Nat ENDL-7152

8-26

63-Eu-153 -1

07/04/76

(n, γ)
Cross Section

63-Eu-153

63-Eu-Nat ENDL-7132

07/04/76

(n, γ)

63-Ev-153

Cross Section

ENDC-7152

07/04/76

Total

64-Gd-Nat

Cross Section

ENDC-7152

8-28

MeV

64-Gd-Nat -1

07/04/76

64-Gd-Nat
ENCL-7153

Total
Cross Section

Mev

8-29

64-Gd-Nat -2

Barns

07/04/76

Total
Cross Section

⁶⁴Gd-Nat
ENDL-7153

⁶⁴Gd-Nat -3

07/04/76

Total
Cross Section64-Gd-Nat
ENDL-7153

Barns

8-31

Mev

64-Gd-Nat -4

07/04/76

Total
Cross Section

64-Gd-Nat

ENDL -7153

8-32

MeV

64-Gd-Nat -5

Barns

U7/04/76

Total
Cross Section

64-Gd-Nat
ENDL-7153

8-33

64-Gd-Nat -6

Barns

37/04/76

Total
Cross Section

64-Gd-Nat

1971-1984

Barns

07/04/76

Elastic Cross Section

64-Gd-Nat
ENDL-7153

Barns

07/04/76

(n, γ)
Cross Section

⁶⁴Gd-Nat
ECSIL-718 (61)

ECSIL-3063 (70)

ECSIL-677 (61)

Barns

8-36

Mev

⁶⁴Gd-Nat -9

07/04/76

(n,γ)
Cross Section

64-Gd-Nat

ENDL-7155

07/04/76

Total
Cross Section

64-Gd-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58	2139	2.5300- 8	5.1000+ 4	1.0600+ 3	58	324	1.4100+ 1	4.0000- 2	5.1410+ 0
52	252	2.6000- 3	2.7000+ 1						9.0010- 2
58	324	1.3140+ 1	5.0000- 2	5.3310+ 0					1.4000- 1
				3.0000- 2					

07/04/76

(n,γ)
Cross Section

64-Gd-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64	895	2.5300- 8	4.6470+ 4	5.5000+ 2	72	3877	6.5000- 2	2.0000- 2	8.4100- 1
64	895	2.5300- 8	4.7900+ 4	7.0000+ 2	72	3877	1.6500- 1	1.5000- 2	5.0000- 1
63	1	3.0000- 2	8.0010- 3	1.1750+ 0					1.0000- 1
72	3877	3.0000- 2	6.0000- 3	1.5600+ 0					9.0000- 2
				2.3500- 1	72	3877	3.0000- 1	1.5000- 2	2.8000- 1
63	1	6.5000- 2	2.1000- 2	6.7010- 1					2.3020- 4
				6.0010- 2	71	3184	1.4000+ 1		

8-37

64-Gd-Nat -10

07/04/76

(n, γ)

64-Gd-152

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
69 3680	2.5300-6		1.1000+3	1.0000+2

07/04/76

(n, γ)

64-Gd-154

Cross Section

8-38

64-Gd-154 -1

07/04/76

Total
Cross Section

64-Gd-155

07/04/76

(n,γ)
Cross Section

64-Gd-155

8-39

64-Gd-155 -1

07/04/76

Total
Cross Section

64-Gd-155

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 2139	2.5300- 8		6.6000+ 4	2.0000+ 3
68 3767	2.5300- 8		6.1900+ 4	6.0000+ 2

07/04/76

(n,γ)
Cross Section

64-Gd-155

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 2977	2.5300- 8		6.1000+ 4	5.0000+ 3

07/04/75

(n,γ)
Cross Section

64-Gd-156

07/04/76

(n, γ)

Cross Section

64-Gd-156

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 2247	2.5300 - 8		1.3000 $\pm$ 1	3.0000 $\pm$ 0

07/04/76

Total

Cross Section

64-Gd-157

ECSIL-2243 (50)

8-41

64-Gd-157-1

07/04/76

(n,γ)

64-Gd-157

Cross Section

07/04/76

Total
Cross Section

64-Gd-157

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58	2139	2.5300- 8	2.6400+ 5	4.5000+ 3
68	3767	2.5300- 8	2.4600+ 5	4.0000+ 3

07/04/76

(n,γ)
Cross Section

64-Gd-157

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62	2977	2.5300- 8	2.4000+ 5	1.2000+ 4

8-42

64-Gd-157 -2

07/04/76

(n,γ)
Cross Section

64-Gd-158

07/04/76

(n,γ)
Cross Section

64-Gd-158

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 1788	2.4000- 2		5.4500- 1	1.2000- 1	59 526	1.9500- 1	1.5000- 2	1.1100- 1	1.5000- 2
57 305	2.4000- 2	5.0000- 3	7.1010- 1	7.1010- 2	67 1991	3.0000+ 0	2.0000- 1	1.0400- 2	2.0000- 3
70 3970	2.5000- 2		8.9000- 1	9.0000- 2	61 701	1.4800+ 1	9.0010- 1	3.4100- 3	

8-43

64-Gd-158 -1

07/04/76

(n,γ)

64-Gd-160

Cross Section

07/04/76

(n,γ)

64-Gd-160

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66	1788	2.4000- 2	1.1000- 1	2.0000- 2	59	521	1.4500+ 1	1.8000- 2	5.0000- 3
67	2602	2.8000+ 0	1.7000- 2	2.2100- 3	60	672	1.4800+ 1	8.0010- 1	3.0000- 3

8-44

64-Gd-160 -1

07/04/76

Total
Cross Section

65-Tb-159

07/04/76

65-Tb-159

Total
Cross Section

Barns

07/04/76

65-Tb-159

(n,γ)
Cross Section

8-46

65-Tb-159 -2

07/04/76

(n,y)
Cross Section

65-Tb-159

07/04/76

Total
Cross Section

65-Tb-159

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3627	3.3000- 8		4.2900+ 1		70 3627	1.1500- 7		2.2420+ 1	
70 3627	7.5000- 8		2.8080+ 1		70 3627	2.7000- 7		1.5680+ 1	

07/04/76

(n,y)
Cross Section

65-Tb-159

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3627	2.5300- 8		2.5500+ 1	1.1000+ 0	63	1 6.5000- 2	2.1000- 2	1.0700+ 0	9.6010- 2
70 3627	3.3000- 8		2.3320+ 1	7.0000- 1	72 3877	2.5000- 2	2.0000- 2	1.1860+ 0	1.8000- 1
70 3627	7.5000- 8		1.5610+ 1	5.0000- 1	72 3877	1.6500- 1	1.5000- 2	9.6500- 1	1.9500- 1
70 3627	1.1500- 7		1.1320+ 1	5.0000- 1	72 3877	3.8000- 1	1.5000- 2	9.0500- 1	2.3000- 1
70 3627	2.7000- 7		7.2500- 0	4.0000- 1	71 3821	4.0000- 1		3.5000- 1	
70 3171	2.5000- 2		6.2430- 0	5.7100- 1	71 3821	4.0000- 1		1.2900- 1	5.0000- 3
63	3.0000- 2	8.001- 3	1.8900+ 0	1.7000- 1	67 1991	3.0000+ 0	2.0000- 1	4.9200- 2	7.0000- 3
72 3877	5.0000- 2	5.0000- 3	1.8900+ 0	2.8000- 1					

8-47

65-Tb-159 -3

07/04/76

66-Dy-Nat

Total
Cross Section

Ba²³⁵
X10³

Mev

66-Dy-Nat -1

8-48

07/04/76

66-Dy-Nat

Total
Cross Section

2 4 6 8 10³ 2 4 6 8 10² 2

ECSIL-511 (56)

2 4 6 8 10³ 2 4 6 7 8 9 10² 2

ECSIL-1789 (66)

10² 2 4 6 8 10¹ 2 4 6 8 10⁰ 2

Mev

8-49

66-Dy-Nat -2

Barns

07/04/76

66-Dy-Nat

Total
Cross Section

Barns

ECSIL-750 (67)

8-50

66-Dy-Nat -3

07/04/76

(n,γ)

66-Dy-Nat

Cross Section

Barns

8-51

MeV

66-Dy-Nat -4

07/04/76

(n,γ)

66-Dy-Nat

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1 3.0000- 2	8.0010- 3	7.7510- 1	7.0010- 2	72 3877	6.5000- 2	2.0000- 2	6.0800- 1	9.0000- 2
72 3877	3.0000- 2	6.0000- 3	1.0710+ 0	1.6000- 1	72 3877	1.6500- 1	1.5000- 2	4.8000- 1	9.5000- 2
63	1 6.5000- 2	2.1000- 2	5.7010- 1	5.1010- 2	72 3877	3.0000- 1	1.5000- 2	1.9500- 1	5.0000- 2

07/04/76

(n,γ)

66-Dy-156

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3679	2.5300- 8		3 3000+ 1	3.0000+ 0

07/04/76

(n,γ)

66-Dy-158

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3679	2.5300- 8		4.3000+ 1	6.0000+ 0

07/04/76

Total

66-Dy-161

Cross Section

8-52

66-Dy-161 -1

07/04/76

66-Dy-161

(n,γ)
Cross Section

Baras

07/04/76

Total

Cross Section

ECSIL-3407 (71)

07/04/76

(n, γ)

Cross Section

ECSIL-2250 (64)

8-54

Mev

66-Dy-162 -1

07/04/76

(n, γ)

66-Dy-162

Cross Section

07/04/76

Total

66-Dy-163

Cross Section

07/04/76

(n, γ)
Cross Section

66-Dy-163

8-56

66-Dy-163 -2

07/04/76

Total
Cross Section

66-Dy-164

8-57

66-Dy-164 -1

07/04/76

66-Dy-164

(n, γ)
Cross Section

8-58

66-Dy-164 -2

Barns

MeV

07/04/76

Total
Cross Section

66-Dy-164

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA EARNs
68 3767	2.5300- 8		2.7800+ 3	6.0000+ 1

07/04/76

(n,y)
Cross Section

66-Dy-164

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		2.7400+ 3	5.4800+ 2
72 3679	2.5300- 8		2.8000+ 3	1.1000+ 2
65 867	2.4000- 2		1.9000- 1	2.0000- 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES
68 2392	2.4000- 2		1.6000- 1	2.5000- 2	1.2500+ 0	60 672	1.4800+ 1	8.0010- 1	1.5000- 3	5.0000- 4	1.3000+ 0
72 3679	2.5300- 8		1.7000+ 3	2.5000+ 2	1.2600+ 0	72 3679	2.5300- 8		1.1000+ 3	1.5000+ 2	1.3920+ 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS
57 23	2.1000- 2	4.0000- 3	3.2000- 1	1.3000- 1	2.3200+ 0
60 672	1.4800+ 1	8.0010- 1	8.0010- 3	3.0000- 3	2.3200+ 0
68 2392	2.4000- 2		3.0000- 2	3.0000- 2	2.3200+ 0

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	SPIN
72 3965	2.5000- 2	5.0000- 3	2.6400- 1	1.2000- 1	5.0000- 1
72 3965	2.5000- 2	5.0000- 3	5.4400- 1	6.5000- 2	3.5000+ 0

07/04/76

(n,y)
Cross Section

66-Dy-165

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3679	2.5300- 8		3.9000+ 3	3.0000+ 2

8-59

66-Dy-165 -1

07/04/76

Total
Cross Section

67-Ho-165

ENDL-7154

B-60

Mev

67-Ho-165 -1

07/04/76

Total Cross Section

67-Ho-165
ENDL-7154

ECISIL-437 (52)

ECISIL-1057 (53)

ECISIL-862 (55)

8-61

MeV

67-Ho-165 -2

Barns

07/04/76

Total
Cross Section

67-Ho-165

(Expanded Below)
ECSIL-3609 (70)

ECSIL-3609 (70)

ECSIL-3609 (70)

8-62

67-Ho-165 -3

Barns

07/04/76

67-Ho-165

Total
Cross Section

ENDL-7154

11-63

67-Ho-165 -4

Barns

07/04/76

Total
Cross Section

67-Ho-165

END-7154

8-64

MeV

67-Ho-165 -5

Barns

07/04/76

Total
Cross Section

67-Ho-165

ENDL-7154

Barns

8-65

67-Ho-165 -6

07/04/76

Total
Cross Section

67-Ho-165

ECSIL-3609 (70)

ECSIL-3609 (70)

ECSIL-3609 (70)

8-66

MeV

67-Ho-165 -7

Barns

07/04/76

67-Ho-165

Total
Cross Section

ENDL-7154

EC51L-1789 (66)

EC51L-101 (54)

EC51L-1040 (170)

MeV

8-67

67-Ho-165 -8

Barns

07/04/76

67-Ho-165

Total
Cross Section

700-7154

8-68

MeV

67-Ho-165 -9

Barns

07/04/76

Total
Cross Section

67-Ho-165
ENDL-7154

Barns

8-59

Mev

67-Ho-165 -10

07/04/76

67-Ho-165

Total
Cross Section

Barns

8-70

67-Ho-165 -11

07/04/76

Elastic Cross Section

67-Ho-165
ENDL-7154

Barns

8-71

67-Ho-165 -12

07/04/76

(n, γ)

67-Ho-165

Cross Section

ENDL-7154

Mev

8-72

67-Ho-165 - 13

Barns

07/04/76

(n,γ)
Cross Section

67-Ho-166
ENDL-7154

ECSIL-3436 (72)

ECSIL-677 (61)

ECSIL-3886 (75)

Barns

8-73

67-Ho-166 -14

97/04/76

(n,γ)
Cross Section

67-Ho-165
ENDL-7154

Barns

8-74

67-Ho-165 -15

07/04/76

(n,γ)
Cross Section

67-Ho-165

ENDL-7154

07/04/76

Total
Cross Section

67-Ho-165

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2018	3.3000-1	8.5000-2	7.8000+0	1.5000-1	68 2018	5.6000+0	1.2000-1	5.2100+0	1.2000-1
68 2018	9.3500-1	6.0000-2	7.6500+0	1.5000-1	68 1169	8.0500+0		4.9100+0	1.2000-1
68 2018	1.6500+0	4.5000-2	7.1000+0	1.5000-1	68 1170	1.4000+1		5.2600+0	6.0000-2
68 2018	4.5000+0	2.0000-1	5.7600+0	1.2000-1	68 1169	1.5000+1		5.2100+0	9.0000-2

07/04/76

(n,γ)
Cross Section

67-Ho-165

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 2256	2.5300-8		6.0000+1	2.0000+0	72 3877	1.6500-1	1.5000-2	5.1000-1	1.0000-1
75 3909	2.3700-2		1.2600+0	3.1500-2	72 3877	3.0000-1	1.5000-2	3.5000-1	9.0000-2
63 1	3.0000-2	8.0010-3	1.7200+0	1.5000-1	71 3821	4.0000-1		3.0000-1	
72 3877	3.0000-2	6.0000-3	1.4800+0	2.2500-1	71 3821	4.0000-1		1.0200-1	7.0000-3
63 1	8.5000-2	2.1000-2	1.0700+0	9.6010-2	71 3194	1.4000+1		1.0180-3	2.5450-4
72 3877	6.5000-2	2.0000-2	8.7300-1	1.3000-1	57 521	1.4500+1		9.5010-3	

8-75

67-Ho-165 -16

07/04/76

(n,γ)

67-Ho-165

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS
62 2972	2.5300- 8		6.4000+ 1	6.0000+ 0	2.7000+ 1	65 867	2.4000- 2		9.9000- 1	7.0000- 2	2.7300+ 1
67 1991	3.0000+ 0	2.0000- 1	5.0000- 2	1.1000- 2	2.7000+ 1	77 898	2.5300- 8		5.9600+ 1	1.1920+ 1	3.0000+ 1

07/04/76

Total
Cross Section

68-Er-Nat

8-76

68-Er-Nat -1

07/04/76

68-Er-Nat

Total
Cross Section

ECSIL-2256 (67)

ECSIL-2243 (60)

8-77

68-Er-Nat -2

Barns

07/04/76

68-Er-Nat

EC51L-922 (65)

EC51L-101 (53)

8-78

68-Er-Nat -3

Barns

07/04/76

68-Er-Nat

Total
Cross Section

Barns

ECSIL-750 (67)

8-79

68-Er-Nat -4

07/04/76

(n, γ)
Cross Section

68-Er-Nat

ECSIL-2262 (64)

ECSIL-718 (61)

ECSIL-677 (61)

Barns

B-80

Mev

68-Er-Nat -5

07/04/76

Total
Cross Section

68-Er-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 2221	2.5300- 8		1.9200+ 2	3.0000+ 0	70 3627	2.7000- 7		2.0496+ 2	
52 437	2.5300- 8		1.7200+ 2		58 324	1.3140+ 1	5.0000- 2	5.3710+ 0	9.0010- 2
70 3627	3.3000- 8		1.6875+ 2		58 324	1.4100+ 1	4.0000- 2	5.3710+ 0	8.0010- 2
70 3627	7.5000- 8		1.2746+ 2		58 324	1.5600+ 1	1.3000- 1	5.4100+ 0	1.0000- 1
70 3627	1.1500- 7		1.2230+ 2						

07/04/76

Elastic
Cross Section

68-Er-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 3316	2.5300- 8		1.1000+ 1	8.0000- 1
72 3546	9.5290- 1	2.0000- 1	6.0539+ 0	

07/04/76

(n,γ)
Cross Section

68-Er-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3627	2.5300- 8		1.7500+ 2	7.0000+ 0	72 3877	3.0000- 2	6.0000- 3	7.3200- 1	1.1000- 1
67 2256	2.5300- 8		1.5000+ 2	8.0000+ 0	63 1	3.0000- 2	8.0010- 3	9.6010- 1	8.6010- 2
70 3627	3.3000- 8		1.6380+ 2	5.0000+ 0	72 3877	6.5000- 2	2.0000- 2	4.3000- 1	6.5000- 2
70 3627	7.5000- 8		1.2330+ 2	4.0000+ 0	63 1	6.5000- 2	2.1000- 2	5.4010- 1	4.9030- 2
70 3627	1.1500- 7		1.1680+ 2	3.0000+ 0	72 3877	1.6500- 1	1.5000- 2	3.0000- 1	6.0000- 2
70 3627	2.7000- 7		2.0250+ 2	6.0000+ 0	72 3877	3.0000- 1	1.5000- 2	2.8500- 1	7.0000- 2

07/04/76

Total
Cross Section

68-Er-162

07/04/76

Total
Cross Section

68-Er-162

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 2430	2.5300- 8		3.1500+ 2	
66 2974	2.5300- 8		2.0000+ 2	2.5000+ 1

07/04/76

Elastic
Cross Section

68-Er-162

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 3316	2.5300- 8		3.8000+ 0	2.0000+ 0

8-82

68-Er-162 -1

07/04/76

(n, γ)
Cross Section

68-Er-162

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 3316	2.5300- 8		1.8000+ 2	8.0000+ 1

07/04/76

Total
Cross Section

68-Er-164

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 2263	2.5300- 8		5.0000+ 1	8.0000+ 1

07/04/76

Elastic
Cross Section

68-Er-164

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 3316	2.5300- 8		1.2700+ 1	7.0000- 1

07/04/76

Total
Cross Section

68-Er-166

07/04/76

(n,γ)

68-Er-166

Cross Section

07/04/76

Total

68-Er-166

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
B5	2430	2.5300 - 8	$9.4000 \pm 5.0000 \times 0$	5.0000×0

07/04/76

Elastic

68-Er-166

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
B9	3316	2.5300 - 8	$1.9100 \pm 1.0000 \times 0$	1.0000×0

8-84

68-Er-166 -2

07/04/76

(n, γ)

68-EP-166

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 3316	2.5300 - 8		3.0000 + 1	3.0000 + 0

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs	DELTA HALF-LIFE SECONDS
64 2645	2.5300 - 8		3.3000 + 0	7.0000 - 1	2.2700 + 2

07/04/76

Total

68-EP-167

Cross Section

Barns

8-85

68-EP-167 -1

07/04/76

(n,γ)

68-Er-167

Cross Section

07/04/76

Total

68-Er-167

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 2430	2.5300- 8		6.7000+ 2	3.0000+ 1

07/04/76

Elastic

68-Er-167

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 3316	2.5300- 8		7.9000+ 0	8.0000- 1

07/04/76

(n,γ)
Cross Section

68-Er-167

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 2355	2.5300- 8		6.9900+ 2	2.0000+ 1
68 3316	2.5300- 8		6.5800+ 2	3.0000+ 1

07/04/76

(n,γ)
Cross Section

68-Er-168

07/04/76

Total
Cross Section

68-Er-168

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 2430	2.5300- 8		3.5000+ 1	1.0000+ 1
67 2263	2.5300- 8		3.3600+ 1	2.0000+ 0

8-87

68-Er-168 -1

07/04/76

Elastic
Cross Section

68-Er-168

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 3316	2.5300- 8		1.3100+ 1	7.0000- 1

07/04/76

(n,γ)
Cross Section

68-Er-168

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 3316	2.5300- 8		6.0000+ 0	1.0000+ 1

07/04/76

(n,γ)
Cross Section

68-Er-170

8-88

68-Er-170 -1

07/04/76 Total Cross Section 68-Er-170

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2430	2.5300- 8		4.5000+ 1	

07/04/76 Elastic Cross Section 68-Er-170

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 3316	2.5300- 8		1.5900+ 1	8.0000- 1

07/04/76

(n,γ)

68-Er-170

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 3316	2.5300- 8		1.2000- 1	5.0000- 0	67 1991	3.0000+ 0	2.0000- 1	1.5900- 2	3.0000- 3
57 305	2.4000- 2	5.0000- 3	2.9800- 1	3.0000- 2	72 3963	1.4400+ 1		5.1000- 3	7.0000- 4
68 2656	2.4000- 2		2.5500- 1	3.0000- 2					

07/04/76

Total
Cross Section

69-Tm-169

8-90

69-Tm-169 -1

07/04/76

Total
Cross Section

69-Tm-169

07/04/76

69-Tm-169

Total
Cross Section

8-92

69-Tm-169 -3

07/04/76

Total
Cross Section

69-Tm-169

Barns

8-93

MeV

69-Tm-169 -4

07/04/76

Total
Cross Section

59-Tm-169

Mev

8-94

69-Tm-169 -5

Barns

07/04/76

Total
Cross Section

69-Tm-169

07/04/76

Total
Cross Section

69-Tm-169

ECSIL-750 (67)

07/04/76

(n, γ)
Cross Section

69-Tm-169

ECSIL-718 (61)

8-96

69-Tm-169 -7

07/04/76

(n, γ)
Cross Section

69-Tm-169

07/04/76

(n, γ)
Cross Section

69-Tm-169

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47	888	2.5300- 8	1.0600+ 2	2.1200+ 1	62	1	3.0000- 2	6.0010- 3	1.3100+ 0
67	2256	2.5300- 7	1.0600+ 2	3.0000+ 0	63	1	6.5000- 2	2.1000- 2	7.0010- 1
70	3971	2.5000- 2	2.2020+ 0	2.2100- 1					6.3010- 2

8-97

69-Tm-169 -8

07/04/76

Total
Cross Section

69-Tm-170

07/04/76

Total
Cross Section

69-Tm-171

07/04/76

Total
Cross Section

70-Yb-Nat

07/04/76

70-Yb-Nat

Total
Cross Section

70-Yb-Nat -2

Mev

8-100

Barns

07/04/76

Total
Cross Section

70-Yb-Nat

ECSIL-750 (67)

Barns

07/04/76

(n, γ)

Cross Section

70-Yb-Nat

ECSIL-718 (61)

8-101

70-Yb-Nat -3

Barns

07/04/76

(n,y)

70-Yb-Nat

Cross Section

07/04/76

Total

70-Yb-Nat

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2267	2.5300- 8		5.7600+ 1 2.0000+ 0	
66 2221	2.5300- 8		6.4000+ 1 2.0000+ 0	
61 2845	7.3500- 8		5.0700+ 1 5.0000- 1	

07/04/76

(n,y)

70-Yb-Nat

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 2256	2.5300- 8		3.7000+ 1 5.0000+ 0		63	1 6.5000- 2 2.1000- 2		3.9000- 1 3.5000- 2	
63	1 3.0000- 2 8.0010- 3		5.7510- 1 5.2010- 2		72 3877	6.5000- 2 2.0000- 2		3.5000- 1 5.5000- 2	
72 3877	3.0000- 2 6.0000- 3		5.7500- 1 8.5000- 2		72 3877	1.6500- 1 1.5000- 2		2.9200- 1 6.0000- 2	

8-102

70-Yb-Nat -4

07/04/76

(n,γ)
Cross Section

70-Yb-168

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3971	2.5000- 2		4.8970+ 1	4.9100+ 0

07/04/76

Total
Cross Section

70-Yb-170

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2267	2.5300- 8		1.7000+ 1	1.0000+ 0

07/04/76

(n,γ)
Cross Section

70-Yb-171

70-Yb-171 -1

07/04/76

Total
Cross Section

70-Yb-171

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2267	2.5300- 8		5.7000+ 1	3.0000+ 0

07/04/76

(n,γ)
Cross Section

70-Yb-172

07/04/76

Total
Cross Section

70-Yb-172

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2267	2.5300- 8		1.0200+ 1	1.5000+ 0

8-104

70-Yb-172 -1

07/04/76

(n,γ)
Cross Section

70-Yb-173

07/04/76

Total
Cross Section

70-Yb-173

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2267	2.5300- 8		2.8000+ 1	2.0000+ 0

07/04/76

(n,γ)
Cross Section

70-Yb-174

2-105

70-Yb-174 -1

07/04/76

Total

70-Yb-174

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2257	2.5300 ± 8		1.4700 ± 2	5.0000 ± 0

07/04/76

(n,γ)

70-Yb-174

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3971	2.5000 ± 2		2.4030 ± 0	2.2100 ± 1
REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE DAYS
U3 2581	2.5300 ± 8		5.5000 ± 1	1.0000 ± 1
				4.2000 ± 0

07/04/76

(n,γ)

70-Yb-176

Cross Section

8-106

70-Yb-176 -1

07/04/76

Total
Cross Section

70-Yb-176

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2267	2.5300- 8		1.4900+ 1	1.0000+ 0

07/04/76

(n,γ)
Cross Section

70-Yb-176

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3971	2.5000- 2		1.0700- 1	1.1000- 2

8-107

70-Yb-176 -2

07/04/76

71-Lu-Nat

Total
Cross Section

Mev

71-Lu-Nat -1

9-1

07/04/76

Total

71-Lu-Nat

Cross Section

ECS1L-261 (47)

Mev

71-Lu-Nat -2

9-2

07/04/76

(n, γ)
Cross Section

71-Lu-Nat

ECSIL-1064 (65)

ECSIL-677 (61)

Barns

07/04/76

Total
Cross Section

71-Lu-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DLTA BARNs
63 2221	2.5300- 8		1.1800+ 2	1.0000+ 0

07/04/76

(n, γ)
Cross Section

71-Lu-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DLTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DLTA BARNs
67 2256	2.5300- 8		7.4000+ 1	3.0000+ 0	72 3877	6.5000- 2	2.0000- 2	7.8700- 1	1.2000- 1
63 1	3.0000- 2	8.0010- 3	2.5200+ 0	2.3000- 1	72 3877	1.6500- 1	1.5000- 2	4.8300- 1	9.5000- 2
72 3877	3.0000- 2	6.0000- 3	1.2650+ 0	1.9000- 1	72 3877	3.0000- 1	1.5000- 2	4.0500- 1	1.0000- 1
63 1	6.5000- 2	2.1000- 2	1.2000+ 0	1.1000- 1					

07/04/76

Total
Cross Section

71-Lu-175

07/04/76

71-Lu-175

(n, γ)
Cross Section

ECSIL-3147 (75)

ECSIL-718 (61)

ECSIL-1807 (67)

Barns

Nev

9-5

71-Lu-175 -2

07/04/76

(n,y)

71-Lu-175

Cross Section

07/04/76

(n,y)

71-Lu-175

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS
69 3870	2.5300- 0		1.6400- 1	9.0000- 1	3.6800- 0
65 867	2.4000- 2		1.6700- 0	1.2000- 1	3.7000- 0
60 672	1.4800- 1	8.0010- 1	2.0000- 3	1.0000- 3	3.7000- 0

07/04/76

Total
Cross Section

71-Lu-176

07/04/76

(n,γ)

71-Lu-176

Cross Section

07/04/76

(n,γ)

71-Lu-176

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs	DAYS
47 888	2.5700- 8		3.6400+ 3	7.2800+ 2	6.6000+ 0
62 2634	2.5300- 8		1.0000+ 0		1.5500+ 2

9-8

71-Lu-176 -2

07/04/76

Total
Cross Section

71-Lv-176

Baras

07/04/76

(n, γ)

71-Lu-176

Cross Section

ECSIL-3147 (75)

Barns

ECSIL-1807 (67)

MeV

07/04/76

(n, γ)

71-Lu-176

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	ULTRA BARNs	HALF-LIFE DAYS
47 888	2.5300- 8		3.6400+ 3	7.2800+ 2	6.5000+ 0
62 2634	2.5300- 6		1.0000+ 0		1.5500+ 2

9-8

71-Lu-176 -2

07/04/76

72-Hf-NaI

Total
Cross Section

Bars

Mev

9-9

72-Hf-NaI - I

07/04/76

72-Hf-Nat

Total
Cross Section

9-10

MeV

72-Hf-Nat -2

Barns

07/04/76

Total
Cross Section

72-Hf-Nat

ECSIL-2385 (69)

ECSIL-3638 (67)

ECSIL-3341 (71)

Barns

3-11

MeV

72-Hf-Nat -5

07/04/76

Total

72-Hf-Nat

Cross Section

07/04/76

Elastic

72-Hf-Nat

Cross Section

9-12

MeV

72-Hf-Nat -4

07/04/76

(n, γ)

72-Hf-Nat

Cross Section

Barns

MeV

07/04/76

Total

72-Hf-Nat

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
52	4.37 $\pm$ 0.5300	- 8	1.1500 $\pm$ 2	
50	24.7 $\pm$ 2.3000	- 3	1.4900 $\pm$ 1	
56	232 $\pm$ 1.4000	+ 1	5.3810 $\pm$ 0.8.0010	- 2

07/04/76

Elastic
Cross Section

72-Hf-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3546	9.4980- 1	2.0000- 1	4.8632+ 0	
54 103	1.0000+ 0	8.0000- 2	5.1000+ 0	7.6500- 1
69 3660	8.0500+ 0	9.0000- 2	2.3400+ 0	1.3000- 1

07/04/76

(n,γ)
Cross Section

72-Hf-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1	3.0000- 2	8.0010- 3	5.1010- 1	4.6000- 2
63 1	6.5000- 2	2.1000- 2	3.3000- 1	3.0000- 2

07/04/76

Total
Cross Section

72-Hf-174

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3763	2.5300- 8		6.1100+ 2	1.6100+ 2

07/04/76

(n,γ)
Cross Section

72-Hf-174

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
61 2637	2.5300- 8		3.9000+ 2	5.5000+ 1

07/04/76 Total Cross Section 72-Hf-176

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3763	2.5300- 8		$2.7000 \pm 2.8300 \pm 2$

9-15

72-Hf-177 -1

07/04/76

Total
Cross Section

72-Hf-177

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3763	2.5300- 8		2.8000+ 2	8.3000+ 1

07/04/76

(n,γ)
Cross Section

72-Hf-177

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs SECONDS
62 2638	2.5300- 8		1.4000+ 0	6.1000- 1 4.3000+ 0

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs YEARS
73 3455	2.5300- 8		2.0000- 7	1.0000- 7 3.1000+ 1

07/04/76

Total
Cross Section

72-Hf-178

07/04/76

Total
Cross Section

72-Hf-178

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3763	2.5300- 8		9.7000+ 1	8.0000+ 0

07/04/76

(n,γ)
Cross Section

72-Hf-178

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3971	2.5000- 2		2.6700- 1	2.5000- 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs SECONDS
62 2638	2.5300- 8		5.0000+ 1	1.5000+ 1 1.8600+ 1

07/04/76

Total
Cross Section

72-Hf-179

07/04/76

Total

72-Hf-179

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3763	2.5300- 8		7.3000+ 1	1.1000+ 1

07/04/76

(n,γ)

72-Hf-179

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3971	2.5000- 2		1.3000- 2	1.0000- 3

07/04/76

Total

72-Hf-180

Cross Section

9-18

MeV

72-Hf-180 -1

07/04/76

Total
Cross Section

72-Hf-178

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3753	2.5300- 8		9.7000+ 1	8.0000+ 0

07/04/76

(n,y)
Cross Section

72-Hf-178

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3971	2.5300- 2		2.6700- 1	2.5000- 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs SECONDS
62 2638	2.5300- 8		5.0000+ 1	1.5000+ 1 1.8600+ 1

07/04/76

Total
Cross Section

72-Hf-179

9-17

72-Hf-179 -1

07/04/76

Total
Cross Section

72-Hf-179

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNS	DELTA BARNS
71 3763	2.5300- 8		7.3000+ 1	1.1000+ 1

07/04/76

(n, γ)
Cross Section

72-Hf-179

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNS	DELTA BARNS
70 3971	2.5000- 2		1.3000- 2	1.0000- 3

07/04/76

Total
Cross Section

72-Hf-180

9-13

72-Hf-180 -1

07/04/76

(n, γ)
Cross Section

72-Hf-180

07/04/76

Total
Cross Section

72-Hf-180

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71	3763	2.5300- 8	5.5000+ 1	8.0000+ 0

07/04/76

(n, γ)
Cross Section

72-Hf-180

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47	888	2.5300- 8	1.0000+ 1	2.0000+ 0
57	305	2.4000- 2	5.0000- 3	4.4100- 1
				6.6010- 2

07/04/76

Total
Cross Section

73-Ta-Nat

73-Ta-181 ENOL-7155

9-20

Mev

73-Ta-Nat -1

07/04/76

Total

73-Ta-Nat

Cross Section

73-Ta-181 ENDL-7155

ECSIL-2027 (55)

ECSIL-458 (58)

ECSIL-511 (56)

Mev

73-Ta-Nat -2

9-21

Barns

07/04/76

Total

Cross Section

73-Ta-Nat

73-Ta-181 ENDL-7155

EC51L-154 (57)

EC51L-50 (49)

EC51L-921 (65)

Mev

9-22

73-Ta-Nat -3

Barns

07/04/76

Total
Cross Section

73-Ta-Nat
73-Ta-181 ENDL-7155

07/04/76

73-Ta-Na.

73 Ta-181 ENDL-7155

Total
Cross Section

9-24

73-Ta-Nat -5

Barns

07/04/76

Total
Cross Section

73-Ta-Nat
73-Ta 181 ENDL-7155

Barns

9-25

MeV

73-Ta-Nat -6

07/04/76

Total
Cross Section73-Ta-Nat
73-Ta-181 ENDL-7155

Barns

07/04/76

73-Ta-Nat

73-Ta-181 ENDL-7155

Elastic
Cross Section

Mev

73-Ta-Nat -8

9-27

Barns

07/04/76

Elastic
Cross Section

73-Ta-Nat

07/04/76

(n, γ)
Cross Section

73-Ta-Nat

9-28

73-Ta-Nat -9

07/04/76

73-Ta-Nat

(n, γ)

73-Ta-181 ENDL-7155

Cross Section

Mev

73-Ta-Nat -10

9-29

Barns

07/04/76

(n, γ)
Cross Section

73-Ta-Nat

9-30

73-Ta-Nat -11

07/04/76

(n,y)
Cross Section73-Ta-Nat
73-Ta-181 ENDL-7155

9-31

Mev

73-Ta-Nat -12

07/04/76

(n, γ)

73-Ta-Nat

Cross Section

07/04/76

Total

73-Ta-Nat

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3627	7.0000- 8		1.8100+ 1		57 22 1.0270+	1 1.1000- 1	4.9600+ 0	5.0000- 2	
70 3627	1.1500- 7		1.6100+ 1		57 22 1.2430+	1 9.0010- 2	4.9900+ 0	5.0000- 2	
70 3627	3.6400- 7		1.2100+ 1		52 81 1.4000+	1	5.2410+ 0	1.0000- 1	
70 3627	8.3500- 7		1.0300+ 1		57 22 1.4450+	1 7.0010- 2	5.1010+ 0	5.0000- 2	
49 844	1.1500- 4	1.1500- 5	1.1300+ 1		60 673 1.7300+	1 3.0000- 1	5.4110+ 0	6.0010- 2	
49 844	3.0000- 4	3.0000- 5	9.6010+ 0		60 673 2.1360+	1 2.0000- 1	5.2910+ 0	5.0000- 2	
53 100	1.0000- 2	1.0000- 3	1.3500+ 1	1.0000+ 0	60 673 2.4100+	1 2.0000- 1	5.0410+ 0	5.0000- 2	
56 296	4.1000+ 0	4.0000- 2	6.4010+ 0	2.0000- 1	60 673 2.7800+	1 3.0000- 1	4.7200+ 0	5.0000- 2	
57 22 7.0500+	0 1.7000- 1	5.0910+ 0	5.0000- 2		50 281 4.2000+	1 1.0000+ 0	4.2000+ 0	4.0000- 2	
57 22 8.6700+	0 1.5000- 1	4.8900+ 0	5.0000- 2						

07/04/76

Elastic
Cross Section

73-Ta-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3546	8.7330- 1	2.0000- 1	5.6909+ 0		54 103	1.0000+ 0	8.0000- 2	5.1000+ 0	7.6500- 1
61 1652	9.0100- 1		4.3700+ 0	1.4000- 1	65 1509	2.0000+ 0	5.0000- 2	4.1000+ 0	

07/04/76

(n,y)
Cross Section

73-Ta-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 2279	3.0000- 2		7.3500- 1		62 1407	1.3000- 1		3.6000- 1	5.0000- 2
63 799	3.0000- 2	3.0000- 3	6.3010- 1	1.3000- 1	58 363	2.0000- 1		5.3000- 1	7.7000- 2
63 1	3.0000- 2	8.0010- 3	7.3510- 1	6.6010- 2	62 1407	2.0000- 1		2.9000- 1	
62 1407	3.4000- 2		8.5000- 1	1.4000- 1	66 2279	2.1000- 1		2.0900- 1	
62 1407	6.4000- 2		5.8000- 1		62 1407	3.0000- 1		2.7000- 1	5.0000- 2
63 1	6.5000- 2	2.1000- 2	4.4000- 1	4.0000- 2	66 2279	3.1400- 1		1.8000- 1	
66 2279	1.2900- 1		3.2300- 1		71 3194	1.4000+ 1		9.4700- 4	2.3670- 4

07/04/76

(n,y)
Cross Section

73-Ta-181

ENDL-7155

07/04/76

73-Ta-181

(n, γ)
Cross Section

E100 / 155

Baras

Mev

73-Ta-181 -2

9-54

07/04/76

(n, γ)
Cross Section73-Ta-181
ENDL-7155

9-35

Mev

73-Ta-181 -3

07/04/76

(n, γ)
Cross Section

73-Ta-181

ENCL-7155

9-36

73-Ta-181 -4

07/04/76

(n,y)

73-Ta-181

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 2645	2.5300- 8		2.7000+ 1	3.0000+ 0	72 3877	3.0000- 2	6.0000- 3	9.2500- 1	1.4000- 1
70 3627	2.5300- 8		2.1200+ 1	1.0000+ 0	72 3877	6.5000- 2	2.0000- 2	5.6200- 1	8.5000- 2
70 3627	7.0000- 8		1.3100+ 1	4.0000- 1	72 3877	1.6500- 1	1.5000- 2	3.6000- 1	7.0000- 2
70 3627	1.1500- 7		1.0600+ 1	5.0000- 1	58 363	2.0000- 1		3.7000- 1	4.0000- 2
70 3627	3.6400- 7		6.4000+ 0	5.0000- 1	72 3877	3.0000- 1	1.5000- 2	2.4800- 1	6.0000- 2
70 3627	8.3500- 7		4.7000+ 0	5.0000- 1	56	9.4.0000- 1	9.0010- 2	2.2000- 1	1.3000- 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES
64 2645	2.5300- 8		6.4000- 3	6.0000- 4	1.6000+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE DAYS
57	23 2.1000- 2	4.0000- 3	1.3600+ 0	3.1000- 1	1.1200+ 2
47	888 2.5300- 8		2.0600+ 1	4.1200+ 0	1.1700+ 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC RELATIVE	DELTA RELATIVE	E-PHOTON MEV	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC RELATIVE	DELTA RELATIVE	E-PHOTON MEV
71 3211	2.0000- 3		2.8000+ 1	5.6000+ 0	4.6189+ 0	71 3211	2.0000- 3		1.7800+ 1	2.6700+ 0	4.9642+ 0
71 3211	2.0000- 3		2.8900+ 1	4.3350+ 0	4.6485+ 0	71 3211	2.0000- 3		4.1700+ 1	4.1700+ 0	4.9823+ 0
71 3211	2.0000- 3		2.7600+ 1	5.5600+ 0	4.6710+ 0	71 3211	2.0000- 3		4.4200+ 1	4.4200+ 0	5.0077+ 0
71 3211	2.0000- 3		2.8800+ 1	5.7600+ 0	4.6765+ 0	71 3211	2.0000- 3		3.5700+ 1	5.3550+ 0	5.0144+ 0
71 3211	2.0000- 3		2.5600+ 1	5.1600+ 0	4.6881+ 0	71 3211	2.0000- 3		3.3500+ 1	3.3500+ 0	5.0355+ 0
71 3211	2.0000- 3		3.4200+ 1	6.8400+ 0	4.6936+ 0	71 3211	2.0000- 3		2.3900+ 1	3.5850+ 0	5.0616+ 0
71 3211	2.0000- 3		4.9400+ 1	7.4100+ 0	4.7424+ 0	71 3211	2.0000- 3		3.3500+ 1	3.3500+ 0	5.0786+ 0
71 3211	2.0000- 3		2.0800+ 1	3.1200+ 0	4.7614+ 0	71 3211	2.0000- 3		4.1300+ 1	4.1300+ 0	5.1037+ 0
71 3211	2.0000- 3		2.1300+ 1	4.2600+ 0	4.7754+ 0	71 3211	2.0000- 3		1.6500+ 1	2.7750+ 0	5.1249+ 0
71 3211	2.0000- 3		3.6600+ 1	5.4900+ 0	4.7838+ 0	71 3211	2.0000- 3		3.7000+ 1	4.4800+ 0	5.1291+ 0
71 3211	2.0000- 3		2.0600+ 1	4.1200+ 0	4.7946+ 0	71 3211	2.0000- 3		2.6000+ 1	3.9000+ 0	5.1491+ 0
71 3211	2.0000- 3		1.8400+ 1	3.6800+ 0	4.8055+ 0	71 3211	2.0000- 3		4.3600+ 1	6.5400+ 0	5.1548+ 0
71 3211	2.0000- 3		1.9500+ 1	2.9250+ 0	4.8245+ 0	71 3211	2.0000- 3		3.0800+ 1	3.0800+ 0	5.1670+ 0
71 3211	2.0000- 3		2.6000+ 1	5.2800+ 0	4.8351+ 0	71 3211	2.0000- 3		8.9400+ 0	2.1600+ 0	5.1830+ 0
71 3211	2.0000- 3		1.7700+ 1	4.4250+ 0	4.8486+ 0	71 3211	2.0000- 3		1.6900+ 1	4.2250+ 0	5.1986+ 0
71 3211	2.0000- 3		3.1500+ 1	4.7250+ 0	4.8670+ 0	71 3211	2.0000- 3		2.5300+ 1	3.7950+ 0	5.2090+ 0
71 3211	2.0000- 3		1.1400+ 1	2.2400+ 0	4.8953+ 0	71 3211	2.0000- 3		3.7400+ 1	5.0700+ 0	5.2216+ 0
71 3211	2.0000- 3		1.8700+ 1	3.7400+ 0	4.9146+ 0	71 3211	2.0000- 3		5.7400+ 1	5.5950+ 0	5.2294+ 0
71 3211	2.0000- 3		2.1300+ 1	3.1950+ 0	4.9277+ 0	71 3211	2.0000- 3		5.0000+ 1	5.0000+ 0	5.2450+ 0
71 3211	2.0000- 3		1.6600+ 1	3.3200+ 0	4.9398+ 0	71 3211	2.0000- 3		4.3700+ 1	4.3800+ 0	5.2830+ 0
71 3211	2.0000- 3		1.0700+ 1	2.0200+ 0	4.9514+ 0	71 3211	2.0000- 3		2.4700+ 1	3.4950+ 0	5.3246+ 0

07/04/76

(n, γ)

73-Ta-181

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC RELATIVE	DELTA RELATIVE	E-PHOTON MEV	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC RELATIVE	DELTA RELATIVE	E-PHOTON MEV
71 3211	2.0000- 3		3.1500+ 1	4.7250+ 0	5.3453+ 0	71 3211	2.0000- 3		2.6000+ 0	1.0400+ 0	5.6414+ 0
71 3211	2.0000- 3		3.3500+ 1	3.3500+ 0	5.3629+ 0	71 3211	2.0000- 3		4.9000+ 0	1.4700+ 0	5.6631+ 0
71 3211	2.0000- 3		2.8600+ 1	4.2900+ 0	5.3991+ 0	71 3211	2.0000- 3		7.4000+ 1	5.1600+ 0	5.7041+ 0
71 3211	2.0000- 3		3.0300+ 1	4.5450+ 0	5.4058+ 0	71 3211	2.0000- 3		4.7000+ 0	1.6800+ 0	5.7337+ 0
71 3211	2.0000- 3		5.8000+ 1	5.8000+ 0	5.4152+ 0	71 3211	2.0000- 3		2.4600+ 1	2.4600+ 0	5.7720+ 0
71 3211	2.0000- 3		2.9200+ 1	2.9200+ 0	5.4364+ 0	71 3211	2.0000- 3		2.8900+ 1	2.0230+ 0	5.7945+ 0
71 3211	2.0000- 3		1.2000+ 0	6.0000- 1	5.4783+ 0	71 3211	2.0000- 3		9.0000+ 0	1.8000+ 0	5.8152+ 0
71 3211	2.0000- 3		9.3000+ 0	2.3250+ 0	5.4934+ 0	71 3211	2.0000- 3		3.8600+ 1	2.7020+ 0	5.8275+ 0
71 3211	2.0000- 3		4.7000+ 1	3.2900+ 0	5.4993+ 0	71 3211	2.0000- 3		2.3700+ 1	1.6590+ 0	5.8915+ 0
71 3211	2.0000- 3		5.1000+ 1	3.5700+ 0	5.5179+ 0	71 3211	2.0000- 3		1.0000+ 1	2.0000+ 0	5.9144+ 0
71 3211	2.0000- 3		4.0000+ 0	1.2000+ 0	5.5586+ 0	71 3211	2.0000- 3		6.9000+ 1	4.4500+ 0	5.9507+ 0
71 3211	2.0000- 3		1.8500+ 1	2.7750+ 0	5.5731+ 0	71 3211	2.0000- 3		1.0000+ 2		5.9672+ 0
71 3211	2.0000- 3		6.2000+ 1	4.3400+ 0	5.5849+ 0	71 3211	2.0000- 3		4.9000+ 0	1.4700+ 0	6.0491+ 0
71 3211	2.0000- 3		9.3000+ 0	2.7900+ 0	5.5905+ 0	71 3211	2.0000- 3		1.0100+ 2	5.0500+ 0	6.0649+ 0

07/04/76

Total

73-Ta-182

Cross Section

9-38

73-Ta-182 - 1

07/04/76

73-Ta-182

Total
Cross Section

9-39

73-Ta-182 -2

Barns

07/04/76

Total
Cross Section

73-Ta-182

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2315	2.5300- 8		8.2000+ 3	6.0000+ 2

07/04/76

Total
Cross Section

74-W -Nat

END 17156

9-40

74-W -Nat -1

07/04/76

Total
Cross Section

74-W -Nat
ENDL-7156

Barns

9-41

MeV

74-W -Nat -2

07/04/76

Total

Cross Section

74-W -Nat

FWHM 0.11 MeV

Mev

74-W -Nat -3

9-42

Barns

07/04/76

Total
Cross Section

74-M-Nat
ENDL-7156

ECSIL-3638 (67)

ECSIL-80 (52)

ECSIL-750 (67)

Barns

9-43

74-M-Nat -4

07/C4/76

Total
Cross Section

74-W -Nat

9-44

74-W -Nat -5

MeV

07/04/76

Total
Cross Section

74-W -Nat
ENDL-7156

07/04/76

(n,γ)
Cross Section

74-W -Nat
ENDL-7156

07/04/76

(n, γ)
Cross Section

74-M-Nat

Barns

07/04/76

(n, γ)
Cross Section74-W -Nat
ENDL-7156

Barns

MeV

9-47

74-W -Nat -8

07/04/76

(n,γ)
Cross Section

74-M-Nat
END 0156

Barns

9-48

MeV

74-M-Nat -9

07/04/76

(n,y)
Cross Section74-W -Nat
ENDL-7156

Barns

07/04/76

Total
Cross Section

74-W -Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 844	1.1500- 4	1.1500- 5	6.6210+ 0		66 4017	3.5000- 2	1.5000- 2	1.6000+ 1	2.0000+ 0
49 844	3.0000- 4	3.0000- 5	1.6100+ 1		66 4017	5.2000- 2	1.5000- 2	1.4000+ 1	2.0000+ 0
47 44	1.0000- 3	1.0000- 4	1.7000+ 1	1.0000+ 0	66 4017	7.0000- 2	1.5000- 2	1.1800+ 1	4.0000- 1
47 44	5.0000- 3	1.0000- 4	1.6000+ 1	1.0000+ 0	66 4017	9.0000- 2	1.5000- 2	1.0900+ 1	3.0000- 1
66 4017	2.5000- 2	1.0000- 2	1.6000+ 1	1.0000+ 0	55 290	4.1000+ 0	4.0000- 2	6.4010+ 0	2.0000- 1

9-49

74-W -Nat -10

07/04/76

Total
Cross Section

74-W -Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57	22 7.0500+	0 1.7000-	1 5.3710+	0 5.0000- 2	60	673 2.1300+	1 2.0000-	1 5.2410+	0 6.0010- 2
57	22 8.6700+	0 1.5000-	1 5.1710+	0 4.0000- 2	60	673 2 5200+	1 3.0000-	1 4.9500+	0 6.0010- 2
57	22 1.0250+	1 1.1000-	1 5.2110+	0 5.0000- 2	60	673 2.0600+	1 3.0000-	1 4.6100+	0 5.0000- 2
57	22 1.2300+	1 9.0010-	2 5.3010+	0 5.0000- 2	50	281 4.2000+	1 1.0000-	0 4.3100+	0 6.0010- 2
52	207 1.4000+	1 4.8000+	0 3.0000- 1		69	3160 5.7000+	3 6.0000+	2 2.9700+	0 7.0000- 2
52	81 1.4000+	1 5.3010+	0 1.1000- 1		71	3180 2.6500+	4 3.5000+	3 2.7200+	0 4.1050- 2
57	22 1.4250+	1 7.0010-	2 5.4010+	0 6.0010- 2	68	2350 2.7000+	4 2.3300+	0 2.0000- 1	
60	673 1.7300+	1 3.0000-	1 5.4210+	0 7.0010- 2					

07/04/76

Elastic
Cross Section

74-W -Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
54	1255 3.0000-	1 6.9500+	0 4.8000- 1		72	3546 8.7210-	1 2.0000-	1 5.2890+	0
54	1255 5.0000-	1 5.9300+	0 4.7000- 1		54	103 1.0000-	0 8.0000-	2 4.7000+	0 7.0500- 1
54	1255 8.0000-	1 5.8900+	0 4.1000- 1		65	1509 2.0000+	0 5.0000-	2 4.4000+	0

07/04/76

Fission
Cross Section

74-W -Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
55	461 3.8000+	2 3.8000- 3		

07/04/76

(n,γ)
Cross Section

74-W -Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	799 3.0000-	2 3.0000-	3 1.8400-	1 3.9000- 2	67	1807 1.2500-	1 2.3000-	2 1.2950-	1 8.1000- 3
63	1 3.0000-	2 8.0010-	3 2.7000-	1 2.4000- 2	67	1807 1.5000-	1 2.1000-	2 1.2400-	1 1.4700- 2
63	1 6.5000-	2 2.1000-	2 1.9000-	1 1.7000- 2	67	1807 1.8200-	1 2.1000-	2 9.0400-	2 1.1900- 2

9-50

74-W -Nat -11

07/04/75

(n, γ)
Cross Section

74-W -Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58	363	2.0000-1	2.0000-1	3.5000-2	60	633	8.3000-1	4.0000-2	9.1000-2
67	1807	2.2000-1	2.0000-2	8.8000-2	69	2220	1.4100-1	6.7500-1	9.3000-4
				1.3500-2					1.7000-4

07/04/76

Total
Cross Section

74-W -182

07/04/76

74-W -182

Total
Cross Section

Barns

9-52

74-W -182 -2

07/04/76

74-M-182

Elastic
Cross Section

07/04/76

74-M-182

(n,y)
Cross Section

07/04/76

74-W -182

(n, γ)
Cross Section

74-W -182 -4

Mev

9-54

07/04/76

Total
Cross Section

74-W -183

07/04/76

(n,γ)
Cross Section

74-W -183

07/04/76

(n,γ)

74-W-183

Cross Section

9-56

74-W-183 -2

07/04/76

74-W -184

Total
Cross Section

Barns

MeV

9-57

74-W -184 -1

07/04/76

Elastic
Cross Section

74-W-184

07/04/76

(n, γ)
Cross Section

74-W-184

9-58

74-W-134-2

07/04/76

74-W-184

(n, γ)
Cross Section

Barns

9-59

Mev

74-W-184 -3

07/04/76

(n, γ)

74-W -184

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE DAYS
57 23	2.1000- 2	4.0000- 3	3.4000- 1	1.8000- 1	7.4010+ 1
47 888	2.5300- 8		2.1200+ 0	4.2400- 1	7.9000+ 1

07/04/76

Total
Cross Section

74-W -186

9-60

74-W -185 -1

07/04/76

74-W-186

Total
Cross Section

ECSIL-2281 (67)

ECSIL-750 (67)

Barns

MeV

07/04/76

74-W-186

Elastic
Cross Section

ECSIL-885 (66)

Barns

07/04/76

74-W-186

(n,γ)
Cross Section

ECSIL-2286 (66)

Barns

9-62

74-W-185-3

07/04/76

74-W-186

(n, γ)
Cross Section

9-63

MeV

74-W-186-4

Barns

07/04/76

(n, γ)
Cross Section

74-W -186

9-64

MeV

74-W -186 --5

07/04/76

74-W-186

(n, γ)
Cross Section

EC51L-3498 (74)

EC51L-663 (59)

EC51L-2992 (68)

Bars

MeV

9-65

74-W-186-6

07/04/76

(n, γ)

74-W -186

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47	888	2.5300- 8	3.4200+ 1	6.8400+ 0	58	363	2.0000- 1	1.5000- 2	1.8000- 1
58	43	2.1000- 2	4.0000- 3	2.7700- 1	5.8010- 2	58	1044	2.5000+ 0	3.0000- 2
57	23	2.1000- 2	4.0000- 3	2.6000- 1	7.0010- 2	68	2345	3.0000+ 0	2.0000- 1
66	1788	2.4000- 2	1.9500- 1	2.0000- 2	2.9000- 3	58	1044	3.0000+ 0	1.9000- 2
57	305	2.4000- 2	5.0000- 3	2.9600- 1	4.4000- 2	58	1044	3.1000+ 0	2.4000- 2
59	526	1.9500- 1	1.5000- 2	1.0000- 1	2.0000- 2	57	521	1.4500+ 1	4.0000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS
67	3676	2.5300- 8	3.5400+ 1	8.0000- 1	2.3740+ 1

07/04/76

Total
Cross Section

75-Re-Nat

75-Re 187 ENDF-715S

9-66

75-Re-Nat -1

07/04/76
 Total
 Cross Section
 75-Re-Nat
 75-Re-187 ENDL-7159

9-67
 Mev
 75-Re-Nat -2

Barns

07/04/76

Total
Cross Section

75-Re-Nat

07/04/76

Elastic
Cross Section

75-Re-Nat
75-Re-187 ENDL-7159

Barns

07/04/76

(n, γ)
Cross Section

75-Re-Nat

ECSIL-1064 (65)

ECSIL-718 (61)

ECSIL-3063 (70)

Barns

75-Re-Nat -5

07/04/76

(n, γ)
Cross Section

75-Re-Nat
75-Re-187 ENDL-7159

ECSIL-1547 (67)

ECSIL-2298 (65)

ECSIL-2388 (65)

Barns

9-71

MeV

75-Re-Nat -6

07/04/76

(n, γ)

Cross Section

75-Re-Nat

ENR 107 ENR 0159

Barns

07/04/76

(n, γ)

Cross Section

75-Re-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 15	.5300 - 8	8.9000 + 1	5.0000 + 0	
63	3.0000 - 2	8.0010 - 3	9.0010 - 1	8.1010 - 2
63	5.5000 - 2	2.1000 - 2	5.2510 - 1	4.7000 - 2

9-72

75-Re-Nat -7

07/04/76

Total
Cross Section

75-Rd-185
ENDL-7158

Barns

07/04/76

75-Re-185

IN 115.34

Cross Section

ECSTL-1990 (68)

ECSTL-2299 (65)

ECSTL-3498 (71)

9-74

75-Re-185 -2

Barns

07/04/76

(n,γ)
Cross Section

75-Re-185

ENDL-7158

07/04/76

(n,γ)
Cross Section

75-Re-185

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	2646	2.5300- 8	9.6500+ 1	1.0000+ 1	57	305	2.4000- 2	5.0000- 3	2.6500+ 0
66	1788	2.4000- 2	1.7650+ 0	2.6500- 1	43	309	2.4000- 1	1.2100+ 0	5.0000- 1

9-75

75-Re-185 -3

07/04/76

(n, γ)
Cross Section

75-Re-186

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		1.0100+ 2	2.0200+ 1

07/04/76

Total
Cross Section

75-Re-187

ENDI -7:59

07/04/76

(n,γ)
Cross Section

75-Re-187
ENDL-7159

9-77

75-Re-187 -2

07/04/76

(n, γ)
Cross Section

75-Re-187

ENDL-7159

9-78

75-Re-187 -3

Barns

07/04/76

(n,y)

75-Re-187

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 2646	2.5300- 8		8.8000+ 1	1.4000+ 1
57 305	2.4000- 2	5.0000- 3	9.7010- 1	2.0000- 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs HOURS
66 1788	2.4000- 2		8.7500- 1	8.0000- 2
47 888	2.5300- 8		7.5300+ 1	1.5060+ 1
				1.8000+ 1

07/04/76

Total
Cross Section

76-Os-Nat

9-79

Mev

75-Os-Nat -1

07/04/76

76-O₅-NatTotal
Cross Section

MeV

9-80

76-O₅-Nat -2

Barns

07/04/76 Total Cross Section 76-Os-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47	45 1.0000- 3		1.7800+ 1	4.0000- 1
47	45 5.0000- 3		1.5600+ 1	4.0000- 1
47	45 1.0000- 2		1.3000+ 1	1.0000+ 0

07/04/76 (n,γ) 76-Os-Nat

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1 3.0000- 2	8.0010- 3	3.0000- 1	2.7000- 2
63	1 6.5000- 2	2.1000- 2	1.7500- 1	1.6000- 2

07/04/76

Total
Cross Section

76-05-187

07/04/76

(n,γ)
Cross Section

76-05-190

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
59	526 1.9500-	1 1.5000-	2 2.0000-	1 3.0000- 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE DAYS
57	305 2.4000-	2 5.0000-	3 8.8610-	1 1.3000-	1 1.5000+ 1

07/04/76

(n, γ)

76-05-192

Cross Section

Barns

ECSTL-2993 (67)

MeV

07/04/76

(n, γ)

76-05-192

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3971	2.5000- 2	2.9600- 1	2.7000- 2	
67 1991	3.0000- 0	2.0000- 1	3.0000- 2	1.0000- 2

07-04-76

(n, γ)

76-0s-192

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES	HALF-LIFE MINUTES	HALF-LIFE MINUTES
75 4003	1.4700+ 1	3.0000- 1	4.0000- 3	7.0000- 4	1.4280+ 3	9.9000+ 0	1.8900+ 3

07/04/76

Total
Cross Section

77-In-Nat

9-84

77-In-Nat -1

07/04/76

Total
Cross Section

77-In-Nat

9-85

MeV

77-In-Nat -2

07/04/76

77-Ir-Nat

Total
Cross Section

EC51L-2027 (55)

EC51L-921 (65)

Mev

77-Ir-Nat -3

9-86

Barns

07/04/76

77-Ir-Nat

Total
Cross Section

Barns

07/04/76

(n,γ)
Cross Section

77-Ir-Nat

07/04/76

(n,γ)
Cross Section

77-Ir-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1 3.0000- 2	0.0010- 3	7.9510- 1	7.2010- 2
63	1 6.5000- 2	2.1000- 2	4.5000- 1	4.1000- 2

9-88

77-Ir-Nat -5

07/04/76

(n, γ)
Cross Section

77-1r-191

07/04/76

Total
Cross Section

77-1r-191

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
59 2540	2.5300 - 8		9.2400 + 2	5.3000 + 1

07/04/76

(n,γ)

77-Ir-191

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DLTA BARNs
70 3971	2.5000- 2		9.2000+ 0	8.1100- 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES
47 888	2.5300- 8		1.0000+ 3	2.0000+ 2	1.5000+ 0

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE DAYS
47 888	2.5300- 8		2.6000+ 2	1.0400+ 2	7.0000+ 1

07/04/76

(n,γ)

77-Ir-193

Cross Section

77-Ir-193 -1

07/04/76

(n, γ)
Cross Section

77-1r-193

ECSIL-3498 (71)

ECSIL-3498 (74)

ECSIL-2302 (66)

9-91

77-1r-193 -2

Barns

07/04/76

Total
Cross Section

77-Ir-193

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
59 2549	2.5300- 8		1.1250+ 2	7.5000+ 0

07/04/76

(n,γ)
Cross Section

77-Ir-193

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1991	3.0000+ 0	2.0000- 1	4.3500- 2	8.0000- 4

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs	HOURS
66 1788	2.4000- 2		6.3000- 1	5.0000- 2	1.9000+ 1
47 888	2.5300- 8		1.2800+ 2	2.5600+ 1	2.0700+ 1

07/04/76

Total
Cross Section

78-Pt-Nat

END! 7160

07/04/76

Total
Cross Section

78-Pt-Nat
ENDL-7160

ECSIL-981 (55)

ECSIL-2042 (55)

MeV

9-93

78-Pt-Nat -2

Barns

07/04/76

Total
Cross Section78-Pt-Nat
ENR-47160

9-94

Mev

78-Pt-Nat --3

07/04/76

Total
Cross Section

78-Pt-Nat
ENDL-7160

EC51L-750 (67)

ENDL-7160

9-95

78-Pt-Nat -4

Barns

07/04/76

78-Pt-Nat

Elastic
Cross Section

ECS1L-885 (67)

Barns

9-96

78-Pt-Nat -5

07/04/76

78-Pt-Nat

ENDL-7150

(n, γ)
Cross Section

9-97

78-Pt-Nat -6

Barns

07/04/76

Total
Cross Section

78-Pt-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47	44 1.0000-	3 1.0000-	4 1.3000+	1 1.0000+ 0	52	81 1.4000+ 1		5.3610+ 0	1.1000- 1
47	44 5.0000-	3 1.0000-	4 1.2000+	1 1.0000+ 0	57	22 1.4110-	1 7.0010-	2 5.3810+	0 4.0000- 2
47	44 1.0000-	2 1.0000-	4 1.0500+	1 1.0000+ 0	60	673 1.7300+	1 3.0000-	1 5.5410+	0 6.0010- 2
57	22 6.8300+	0 1.7000-	1 5.7310+	0 8.0010- 2	60	673 2.1300+	1 2.0000-	1 5.5610+	0 6.0010- 2
57	22 8.5700+	0 1.5000-	1 5.2110+	0 5.0000- 2	60	673 2.5200+	1 3.0000-	1 5.2710+	0 6.0010- 2
57	22 1.0400+	1 1.1000-	1 5.1310+	0 5.0000- 2	60	673 2.8900+	1 3.0000-	1 4.9200+	0 5.0000- 2
57	22 1.2430+	1 9.0010-	2 5.2210+	0 7.0010- 2					

07/04/76

Fission
Cross Section

78-Pt-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
55	461 3.8000+	2	1.2000-	2

07/04/76

(n,γ)
Cross Section

78-Pt-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	799 3.0000-	2 3.0000-	3 3.2100-	1 7.4010- 2	61	677 6.5000-	2 2.0000-	2 2.3500-	1 2.3000- 2
61	677 3.0000-	2 7.0010-	3 3.3000-	1 3.3000- 2	62	1 6.5000-	2 2.1000-	2 2.3400-	1 2.1000- 2
63	1 3.0000-	2 8.0010-	3 3.3000-	1 3.0000- 2					

07/04/76

(n,γ)
Cross Section

78-Pt-196

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70	3959 2.5000-	2 5.0000-	3 1.2600	2 1.0000- 3
70	3959 2.5000-	2 5.0000-	3 4.2200-	2 3.4000- 3

9-98

78-Pt-196 -1

07/04/76

78-Pl-196

(n, γ)
Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE HOURS
66 1788	2.4000- 2			
57 23	2.1000- 2 4.0000- 3	2.0000- 1 6.0010- 2	1.8000- 1 1.9000- 1	

07/04/76

78-Pl-198

(n, γ)
Cross Section

Barns

07/04/76

78-Pl-198

(n, γ)
Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 521	1.4500- 1		1.7000- 3	3.0000- 4

9-99

78-Pl-198 -1

07/04/76

(n,γ)
Cross Section

78-Pt-198

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES	HALF-LIFE MINUTES
57 23	2.1000- 2	4.0000- 3	2.3000- 1	0.0010- 2	3.0000+ 1	
66 1788	2.4000- 2		2.0500- 1	3.0000- 2	3.0000+ 1	
47 888	2.5300- 8		3.9200+ 0	7.8000- 1	3.1000+ 1	
73 4000	1.5000+ 1	4.0000- 1	9.0000- 4	4.0000- 4	9.4400+ 1	2.2167- 1
73 4000	1.5000+ 1	4.0000- 1	1.2000- 2	2.0000- 3	9.4400+ 1	3.0000+ 1

07/04/76

Total
Cross Section

79-Au-197

END 7/81

9-100

Mev

79-Au-197 -1

07/04/76

Total
Cross Section

79-Au-197

ENDL-7161

07/04/76

Total
Cross Section

79-Au-197

END: 7161

9-102

MeV

79-Au-197 -3

07/04/76

Total
Cross Section

79-Au-197
ENDL-7161

Barns

MeV

9-103

79-Au-197 -4

2000 2001

79-AU-197 -5

07/04/76

Total
Cross Section

79-AU-197

ENDL-7161

9-105

Mev

79-AU-197 -6

Barns

07/04/76

Total
Cross Section

79-Au-197

11-1-76

9-106

79-Au-197 -7

07/04/76

Total
Cross Section

79-Au-197

ENDL-7161

07/04/76

Elastic
Cross Section

79-Au-197

ENDL-7161

07/04/76

Elastic
Cross Section

79-Au-197

07/04/76

(n, γ)
Cross Section

79-Au-197

07/04/76

(n, γ)
Cross Section79-Au-197
ENDL-7161

9-109

79-Au-197 -10

07/04/76

(n, γ)

79-Au-197

Cross Section

ECSIL-3315 (70)

ECSIL-718 (61)

ECSIL-3063 (70)

Barns

9-110

MeV

79-Au-197 -11

07/04/76

(n, γ)
Cross Section

79-AU-197
ENCL-7161

Barns

MeV

79-AU-197 -12

9-111

07/04/76

79-Au-197

(n, γ)

Cross Section

Barns

Mev

9-112

79-Au-197 -13

07/04/76

(n, γ)
Cross Section

79-Au-197
ENDL-7161

Barns

9-113

MeV

79-Au-197 -14

07/04/76

(n, γ)
Cross Section

79-Au-197

ECSIL-1407 (62)

ECSIL-680 (61)

ECSIL-759 (61)

9-114

MeV

79-Au-197 -15

Barns

07/04/76

79-Au-197
ENDL-7161

(n, γ)
Cross Section

Mev

79-Au-197 -16

9-115

Barns

07/04/76

79-Au-197

(n, γ)
Cross Section

Mev

79-Au-197 -17

9-116

Barns

07/04/76

(n, γ)
Cross Section

79-Au-197
ENDL-7161

Barns

Mev

9-117

79-Au-197 -18

07/04/76

(n,y)

79-Au-197

Cross Section

7/04/76

Total

79-Au-197

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs		
71	3110	2.5300- 8	1.0350+ 2	2.5000+ 0	57	22	8.6600+ 0	1.5000- 1	5.1910+ 0	4.0000- 2	
54	2651	2.5300- 8	1.0500+ 2	1.0000+ 0	57	22	1.0400+ 1	1.1000- 1	5.1210+ 0	5.0000- 2	
65	949	1.4400- 6	3.0900+ 1	2.0000- 1	57	22	1.2430+ 1	9.0010- 2	5.2210+ 0	5.0000- 2	
49	844	1.1500- 4	1.1500- 5	1.0600+ 1	57	22	1.3970+ 1	7.0010- 2	5.3910+ 0	5.0000- 2	
40	844	3.0000- 4	3.0000- 5	1.0800+ 1	52	81	1.4000+ 1		5.3.10+ 0	1.1000- 1	
65	1950	5.0000- 1		6.3390+ 0	60	673	1.7300+ 1	3.0000- 1	5.6310+ 0	6.0010- 2	
65	1950	1.0000+ 0		5.6740+ 0	60	672	2.0300+ 1	2.0000- 1	5.7010+ 0	7.0010- 2	
65	1950	2.5000+ 0		6.9710+ 0	60	673	2.5200+ 1	3.0000- 1	5.3110+ 0	5.0000- 2	
65	1950	4.1000+ 0		7.0430+ 0	60	673	2.7700+ 1	3.0000- 1	5.1010+ 0	5.0000- 2	
55	296	4.1000+ 0	4.0000- 2	7.1010+ 0	2.0000- 1	60	673	2.9800+ 1	3.0000- 1	4.9900+ 0	5.0000- 2
57	22	7.0500+ 0	1.7000- 1	5.7210+ 0	5.0000- 2						

9-118

79-Au-197 -19

07/04/76

Elastic
Cross Section

79-Au-197

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
56	149 5.0000- 1	6.0010- 2	5.4010+ 0	5.0000- 1	54	103 1.0000+ 0	8.0000- 2	4.1000+ 0	6.1500- 1
72	3546 8.7790- 1	2.0000- 1	4.5141+ 0	0	69	3660 8.0500+ 0	9.0000- 2	2.3000+ 0	1.9000- 1

07/04/76

Fission
Cross Section

79-Au-197

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
55	461 3.8000+ 2		2.0000- 2	

07/04/76

(n,γ)
Cross Section

79-Au-197

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47	888 2.5300- 8		9.6400+ 1	9.6400+ 0	61	684 6.4000- 2	2.0000- 2	4.5600- 1	4.0000- 2
68	1990 2.5300- 8		9.8500+ 1	2.0000+ 0	63	1 6.5000- 2	2.1000- 2	3.3200- 1	3.0000- 2
57	23 2.1000- 2	4.0000- 3	8.7010- 1	1.9100- 1	67	1807 1.2500- 1	2.3000- 2	2.7250- 1	1.5300- 2
58	45 2.1000- 2	4.0000- 3	9.3410- 1	1.6010- 3	67	1807 1.5000- 1	2.1000- 2	2.5250- 1	1.8200- 2
75	3909 2.3700- 2		6.8000- 1	2.2440- 2	59	607 1.5000- 1	1.5000- 2	2.7000- 1	1.8000- 2
65	867 2.4000- 2		5.0000- 1	3.5000- 2	59	524 1.8000- 1	4.0000- 2	3.1000- 1	3.0000- 2
57	305 2.4000- 2	5.0000- 3	1.1200+ 0	1.1000- 1	67	1807 1.8200- 1	2.1000- 2	2.3060- 1	1.5900- 2
74	3565 2.4300- 2		6.3000- 1	1.7000- 2	59	526 1.9500- 1	1.5000- 2	3.2000- 1	2.0000- 2
62	697 2.5000- 2	5.0000- 3	8.0010- 1	2.8000- 1	58	363 2.0000- 1		3.8000- 1	2.5000- 2
60	639 2.5000- 2	5.0000- 3	5.8510- 1	1.6010- 2	60	633 2.2000- 1	2.0000- 2	3.3000- 1	3.0000- 2
60	633 2.5000- 2	1.0000- 3	6.0510- 1	3.0000- 1	59	607 5.5000- 1	3.0000- 2	1.1800- 1	8.0010- 3
66	1955 3.0000- 2	1.0000- 2	6.0000- 1	1.2400- 2	59	607 1.0000+ 0	3.0000- 2	9.7010- 2	1.3000- 2
63	799 3.0000- 2		5.1300- 1	1.0260- 1	44	260 1.7300+ 0	7.0010- 2	8.8010- 2	1.8000- 2
61	684 3.0000- 2	8.0010- 3	7.5710- 1	1.6010- 2	67	1991 3.0000+ 0	2.0000- 1	3.5290- 2	3.0000- 3
63	1 3.0000- 2	8.0010- 3	5.1510- 1	4.6000- 2	44	260 3.0000+ 0	7.0010- 2	4.9000- 2	1.0000- 2
61	684 3.1000- 2		5.3010- 1	1.6010- 2	71	3194 1.4000+ 1		9.3800- 4	2.3450- 4
66	1955 6.4000- 2		3.5700- 1	1.4000- 2					

07/04/76

Total
Cross Section

79-Au-198

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 2652	2.5300- 8		2.5600+ 4	1.2800+ 3

07/04/76

(n,γ)
Cross Section

79-Au-198

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
51 2844	2.5300- 8		3.8000+ 4	
69 3929	2.5300- 8		2.5102+ 4	3.7100+ 2

07/04/76

Total
Cross Section

80-Hg-Nat

9-120

80-Hg-Nat -1

Barns

07/04/76

Total
Cross Section

80-Hg-Nat

Barns

9-121

80-Hg-Nat -2

07/04/76

Total
Cross Section

80-Hg-Nat

07/04/76

80-Hg-Nat

Total
Cross Section

Barns

MeV

80-Hg-Nat -4

9-123

07/04/76

80-Hg-Nat

Total
Cross Section

MeV

9-124

80-Hg-Nat -5

Barns

07/04/76

Total
Cross Section

80-Hg-Nat

07/04/76

Elastic
Cross Section

80-Hg-Nat

07/04/76

Total
Cross Section

80-Hg-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49	844 1.5000- 4	1.1500- 5	1.3600+ 1		52	81 1.4000+ 1		5.3610+ 0	1.1000- 1
43	844 3.0000- 4	3.0000- 5	1.3200+ 1		45	307 2.5400+ 1		5.2500+ 0	5.2500- 1
46	259 1.0000- 3	5.0000- 4	6.0010+ 0		61	233 2.8400+ 1		5.2310+ 0	5.0000- 2
60	576 4.1000+ 0	1.0000- 1	6.8000+ 0	1.0000- 1	50	281 4.2000- 1	1.0000+ 0	4.5100+ 0	6.0010- 2

07/04/76

Elastic
Cross Section

80-Hg-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
51	962 1.9000- 5		1.3300+ 1		72	3546 8.8160- 1	2.0000- 1	4.4412+ 0	
53	1699 3.0000- 1	2.5000- 2	7.6300+ 0	3.0000- 1	54	103 1.0000+ 0	8.0000- 2	4.7000+ 0	7.0500- 1
64	870 5.0000- 1	5.0000- 2	5.8400+ 0	2.3000- 1	65	1509 2.0000+ 0	5.0000- 2	4.1000+ 0	
63	1750 6.5000- 1		5.5000+ 0	1.5000- 1	60	576 4.1000+ 0	1.0000- 1	4.2000+ 0	4.0000- 1
54	870 8.0000- 1	5.0000- 2	4.4300+ 0	1.6000- 1					

07/04/76

(n,γ)
Cross Section

80-Hg-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60	553 2.4000- 2	2.0000- 3	2.3000- 1	1.0000- 2	63	1 6.5000- 2	2.1000- 2	1.0300- 1	9.3010- 3
60	639 2.4000- 2	2.0000- 3	3.4000- 1	1.0000- 1	62	1407 1.3000- 1		9.2000- 2	1.4000- 2
61	677 3.0000- 2	7.0010- 3	2.9500- 1	2.9000- 2	58	363 2.0000- 1		1.3300- 1	2.2000- 2
63	1 3.0000- 2	2.80010- 3	2.9500- 1	2.7000- 2	62	1407 2.0000- 1		7.3000- 2	
62	1407 3.4000- 2		2.2000- 1	5.0000- 2	60	633 2.2000- 1	2.0000- 2	1.2600- 1	6.0010- 3
62	1407 6.4000- 2		1.3500- 1		62	1407 3.0000- 1		5.2000- 2	8.0000- 2
61	677 6.5000- 2	2.0000- 2	1.0300- 1	1.0000- 2	60	633 8.3000- 1	4.0000- 2	1.0300- 1	1.1000- 2

9-126

80-Hg-Nat -7

07/04/76

Neutrons/Nonelastic Event

80-Hg-NaI

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58 877	1.4000+ 1		1.8600+ 0	2.0000- 1

07/04/76

(n,γ)
Cross Section

80-Hg-196

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 2656	2.5300- 8		3.6000+ 1	6.0000+ 0

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	DELTA HALF-LIFE HOURS
67 3722	2.5300- 8		1.0670+ 2	1.2800+ 1	2.4000+ 1
67 3722	2.5300- 8		3.0920+ 3	2.1100+ 2	6.5000+ 1

07/04/76

(n,γ)
Cross Section

80-Hg-202

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 3722	2.5300- 8		5.0400+ 0	3.8000- 1
57 305	2.4000- 2	5.0000- 3	5.7010- 2	1.3000- 2
59 526	1.9500- 1	1.5000- 2	3.2000- 2	5.0000- 3

07/04/76

(n,γ)
Cross Section

80-Hg-204

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		3.4000- 1	6.8000- 2
66 1780	2.4000- 2		6.5000- 3	1.0000- 3
66 1786	2.4000- 2		1.9000- 1	4.5000- 2

07/04/76

81-Tl-Nat

Total
Cross Section

10-1

Mev

81-Tl-Nat - 1

Barns

07/04/76

81-Tl-Nat

Total
Cross Section

EC51L-737 (61)

EC51L-922 (65)

EC51L-154 (57)

Mev

81-Tl-Nat -2

10-2

B-23

07/04/76

Total
Cross Section

81-Tl-Nat

10-3

81-Tl-Nat -3

07/04/76

Total
Cross Section

81-Tl-Nat

Barns

10-4

MeV

81-Tl-Nat -4

07/04/76

Total
Cross Section

81-Tl-Nat

10-5

81-Tl-Nat -5

Barns

07/04/76

Total
Cross Section

81-Tl-Nat

07/04/76

Elastic
Cross Section

81-Tl-Nat

10-6

81-Tl-Nat -6

07/04/76

(n, γ) $\delta 1$ -Tl-Nat

Cross Section

(49) 9961-11503

Barns

07/04/76

Total

 $\delta 1$ -Tl-Nat

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 844	1.1500-4	1.1500-5	9.5210+0	5.3610+0	1.1000-1	
49 844	3.0000-4	3.0000-5	1.1700+1	5.4510+0	0.60010-2	
65 1950	5.0000-1		6.2050+0	5.2400+0	0.4.6000-1	
65 1950	7.0000-0		5.2050+0	5.2400+0	0.4.6000-1	
65 1950	2.5000+0		7.0510+0	5.4000+0	0.2.4000-1	
65 1950	4.1000+0		7.5130+0	5.4000+0	0.2.4000-1	
57 22	7.1500+0	1.7000-1	5.5310+0	3.0000-1	5.7810+0	0.60010-2
57 22	8.5400+0	1.5000-1	5.2610+0	2.0000-1	5.7010+0	0.60010-2
57 22	1.1130+1	1.1000-1	5.1010+0	3.0000-1	5.5410+0	0.5.0000-2
57 22	1.2700+1	9.0010-2	5.1910+0	3.0000-1	5.2210+0	0.6.0010-2

10-7

 $\delta 1$ -Tl-Nat -7

07/04/76

Fission
Cross Section

81-TI-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
55 461	3.0000- 2		1.9300- 2	

07/04/76

(n,γ)
Cross Section

81-TI-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
61 677	3.0000- 2	7.0010- 3	7.1010- 2	7.0010- 3	61 677	6.5000- 2	2.0000- 2	3.5700- 2	3.0000- 3
63 1	3.0000- 2	8.0010- 3	7.1010- 2	6.4010- 3	71 3821	4.0000- 1		4.0000- 2	
63 1	6.5000- 2	2.1000- 2	3.5000- 2	3.2000- 3	71 3821	4.0000- 1		2.8000- 2	3.0000- 3

07/04/76

Total
Cross Section

81-TI-203

10-9

81-TI-203 -1

07/04/76

(n, γ)
Cross Section

81-TI-203

07/04/76

Total
Cross Section

81-TI-205

10-9

81-TI-205 -1

07/04/76

(n, γ)

81-T1-205

Cross Section

07/04/76

(n, γ)

81-T1-205

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA MEV	X-SEC BARNs	DELTA BARNs
58	43 2.1000- 2 4.5000- 3	5.0000- 3	5.0000- 2	2.0000- 3	5.0700- 3	2.0000- 4
56	2856 2.4000- 2	3.0000- 2	3.0000- 2	8.0000- 3	5.1000- 3	2.0000- 4
56	1044 2.5000+ 0	5.2000- 3	3.0000- 4	5.2000- 3	4.0000- 4	

10-10

81-T1-205 -2

07/04/76

Total
Cross Section82-Pb-Nat
ENDL-7162

MeV

10-11

82-Pb-Nat -1

Barns

07/04/76

Total
Cross Section

82-Pb-Nat

07/04/76

Total
Cross Section

⁸²Pb-Nat
ENDL-7162

10-13

MeV

⁸²Pb-Nat -3

Barns

07/04/76

Total
Cross Section

82-Pb-Nat

Barns

82-Pb-Nat -4

07/04/76

Total
Cross Section

82-Pb-Nat
ENDL-7152

10-15

MeV

82-Pb-Nat -5

Barns

07/04/76

Total
Cross Section

82-Pb-Nat

ENDL-7162

Barns

10-16

MeV

82-Pb-Nat -6

07/04/75

Total
Cross Section

82-Pb-Nat
ENDL-7162

EC51L-2478 (68)

EC51L-50 (49)

EC51L-600 (60)

MeV

10-17

82-Pb-Nat -7

Baras

07/04/76

Total
Cross Section

82-Pb-Nat

ECSIL-80 (52)

ECSIL-1508 (67)

10-18

MeV

82-Pb-Nat -8

Barns

07/04/76

Total
Cross Section82-Pb-Nat
ENDL-7162

Barns

10-19

Mev

82-Pb-Nat -9

07/D4/76

82-Pb-Nat

Total
Cross Section

Barns

10-20

82-Pb-Nat -10

07/04/76

Total
Cross Section82-Pb-Nat
ENDL-7162

10-21

MeV

82-Pb-Nat -11

07/04/76

Total
Cross Section

82-Pb-Nat

1124 7152

10-22

82-Pb-Nat -12

07/04/76

Total
Cross Section82-Pb-Nat
ENDL-71162

Barns

10-23

MeV

82-Pb-Nat -13

07/04/76

Total
Cross Section

82-Pb-Nat

1972 1972

10-24

82-Pb-Nat -14

Bars

07/04/76

Total
Cross Section

82-Pb-Nat
ENDL-7162

07/04/76

82-Pb-Nat

Total
Cross Section

07/04/76

82-Pb-Nat

(n, γ)
Cross Section

10-26

82-Pb-Nat -16

07/04/76

(n, γ)
Cross Section82-Pb-Nat
ENDL 7162

07/04/76

Total
Cross Section

82-Pb-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65	949 1.4400- 6		1.1310+ 1	6.0000- 2	71	3815 1.4700+ 1		5.3400+ 0	4.0000- 2
49	844 1.1500- 4	1.1500- 5	1.1100+ 1		69	2988 1.4800+ 1		5.1100+ 0	2.5550- 1
49	844 3.0000- 4	3.0000- 5	1.0760+ 1		57	388 1.4800+ 1		5.2910+ 0	1.5000- 1
41	170 9.0000- 1		6.8300+ 0	4.0000- 1	60	673 1.7300+ 1	3.0000- 1	5.7710+ 0	7.0010- 2
53	297 3.7000+ 0	2.0000- 1	7.6010+ 0	7.6010- 1	53	274 1.9000+ 1	3.3000- 1	5.9610+ 0	1.8000- 1
67	1643 4.0000+ 0	5.0000- 2	7.4900+ 0	2.0000- 1	60	673 2.0300+ 1	2.0000- 1	5.9110+ 0	6.0010- 2
55	286 4.1000+ 0	4.0000- 2	7.8010+ 0	2.0000- 1	60	673 2.5100+ 1	3.0000- 1	5.5610+ 0	7.0010- 2
57	22 7.1700+ 0	1.7000- 1	5.8610+ 0	6.0010- 2	60	673 2.8800+ 1	3.0000- 1	5.3710+ 0	5.0000- 2
57	22 8.6700+ 0	1.5000- 1	5.3810+ 0	4.0000- 2	50	281 4.2000+ 1	1.0000+ 0	4.4400+ 0	5.0000- 2
69	2025 8.9400+ 0	5.0000- 1	7.3900+ 0	2.7000- 1	54	343 4.7500+ 1	2.0000+ 0	4.4600+ 0	1.0000- 1
57	22 1.0380+ 1	1.1000- 1	5.2110+ 0	5.0000- 2	54	343 8.8000+ 1	2.0000+ 0	4.3800+ 0	4.0000- 2
57	22 1.2490+ 1	9.0010- 2	5.2210+ 0	4.0000- 2	49	286 9.0000+ 1		4.5300+ 0	9.0010- 2
55	116 1.2800+ 1		5.2010+ 0		50	12 9.5000+ 1		4.4800+ 0	3.0000- 2
51	65 1.3900+ 1	1.0000+ 0	4.9700+ 0	2.7000- 1	55	2056 1.4000+ 3	2.0000+ 2	3.2100+ 0	9.6300- 2
63	758 1.3980+ 1	5.0000- 2	5.2790+ 0	7.0000- 2	70	3195 3.8000+ 3		3.0710+ 0	7.9000- 2
62	1740 1.4000+ 1		5.4000+ 0	3.0000- 2	61	1566 5.0000+ 3	4.0000+ 2	2.5340+ 0	1.0500- 1
52	207 1.4000+ 1		5.1010+ 0	4.0000- 1	69	3160 5.7000+ 3	6.0000+ 2	3.2400+ 0	5.0000- 2
52	81 1.4000+ 1		5.4810+ 0	1.1000- 1	62	1637 8.3000+ 3		2.5560+ 0	1.0000- 1
57	22 1.4250+ 1	7.0010- 2	5.4210+ 0	6.0010- 2	71	3180 1.2000+ 4	3.0000+ 3	3.1670+ 0	2.1000- 2

07/04/76

Total
Cross Section

82-Pb-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs		
71	3180	1.3000+ 4	4.0000+ 3	3.1500+ 0	1.9000- 2	71	3180	2.6500+ 4	3.5000+ 3	3.0440+ 0	4.5000- 2
71	3180	1.8000+ 4	6.0000+ 3	3.1000+ 0	1.9000- 2	68	2350	2.7000+ 4		2.6300+ 0	1.2000- 1

07/04/76

Elastic
Cross Section

82-Pb-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DLTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DLTA BARNs		
60	596	2.2000- 1	8.7910+ 0		59	1719	3.6700+ 0	1.2000- 1	4.8000+ 0	4.0000- 1	
64	2338	3.0000- 1	2.5000- 2	6.7800+ 0	4.5000- 1	64	1643	4.0000+ 0	5.0000- 2	5.7000+ 0	4.0000- 1
64	870	5.0000- 1	5.0000- 2	5.8900+ 0	2.2000- 1	59	1719	4.2100+ 0	1.0000- 1	5.2000+ 0	5.0000- 1
63	1750	6.5000- 1		5.8500+ 0	1.6000- 1	59	1719	4.7000+ 0	9.0000- 2	5.4000+ 0	5.0000- 1
64	870	8.0000- 1	5.0000- 2	5.8500+ 0	1.7000- 1	69	3660	8.0500+ 0	9.0000- 2	2.2000+ 0	1.3000- 1
54	103	1.0000+ 0	8.0000- 2	4.7000+ 0	7.0500- 1	56	21	1.0000+ 1		2.0200+ 0	
54	103	1.0000+ 0	8.0000- 2	4.6000+ 0	6.9000- 1	58	403	1.4500+ 1		2.8300+ 0	1.4000- 1
72	3545	1.0980+ 0	2.0000- 1	4.8306+ 0							

07/04/76

(n,γ)
Cross Section

82-Pb-Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs		
60	639	2.4000- 2	2.0000- 3	3.0000- 3	9.0010- 3	61	677	6.5000- 2	2.0000- 2	1.0000- 3	2.0000- 3
61	677	3.0000- 2	7.0010- 3	3.0000- 3	3.0000- 3	63	1	6.5000- 2	2.1000- 3	1.0000- 3	3.0000- 3
63	1	3.0000- 2	8.0010- 3	3.0000- 3	4.0000- 3	69	2220	1.4100+ 1	6.7500- 1	1.1100- 3	1.8000- 4

07/04/76

Neutrons/Nonelastic Event

82-Pb-Nat

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58 377	1.4000+ 1		1.9200+ 0	2.0000- 1

10-28

82-Pb-Nat -18

07/04/76

Total
Cross Section

82-Pb-204

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		5.4300+ 0	6.0000- 2

07/04/76

(n,γ)
Cross Section

82-Pb-204

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3220	1.9500- 3	7.0000- 4	1.8000+ 0	5.0000- 1	67 1807	8.5000- 2	1.7000- 2	3.5600- 2	4.0000- 3
67 1807	3.0000- 2	1.0000- 2	4.2600- 2	5.4000- 3	67 1807	1.0400- 1	1.5000- 2	2.7600- 2	3.7000- 3
57 1807	5.0000- 2	1.0000- 2	3.1900- 2	3.3000- 3	67 1807	1.5700- 1	2.1000- 2	2.5400- 2	6.4000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	E-PHOTON MEV	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	E-PHOTON MEV
71 3220	1.9500- 3	7.0000- 4	7.0000- 2	1.0000- 2	4.6158+ 0	71 3220	1.9500- 3	7.0000- 4	1.3000- 1	2.0000- 2	5.9292+ 0
71 3220	1.9500- 3	7.0000- 4	1.0000- 1	1.0000- 2	4.8151+ 0	71 3220	1.9500- 3	7.0000- 4	2.6000- 1	5.0000- 2	6.1572+ 0
71 3220	1.9500- 3	7.0000- 4	2.0000- 1	2.0000- 2	4.9853+ 0	71 3220	1.9500- 3	7.0000- 4	4.0000- 2	1.0000- 2	6.4716+ 0
71 3220	1.9500- 3	7.0000- 4	1.5000- 1	4.0000- 1	5.1158+ 0	71 3220	1.9500- 3	7.0000- 4	4.5000- 1	9.0000- 2	6.7312+ 0

07/04/76

Total
Cross Section

82-Pb-206

07/04/76

Total
Cross Section

82-Pb-206

10-30

Mev

82-Pb-206 -2

Barns

07/04/76

(n, γ)
Cross Section

82-Pb-206

07/04/76

Total
Cross Section

82-Pb-206

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 1950	5.0000- 1		5.5720+ 0		65 1950	4.1000+ 0		7.5440+ 0	
65 1950	1.0000+ 0		4.8750+ 0		52 81	1.4000+ 1		5.4010+ 0	1.1000- 1
65 1950	2.5000+ 0		6.8350+ 0		67 1869	1.4200+ 1		5.3700+ 0	4.0000- 2

07/04/76

Elastic
Cross Section

82-Pb-206

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
69 3660	8.0500+ 0	9.0000- 2	2.1100+ 0	1.3000- 1

07/04/76

Total
Cross Section

82-Pb-207

07/04/76

Total
Cross Section

82-Pb-207

07/04/76

Total
Cross Section

82-Pb-207

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 1950	5.0000+ 1		5.4130+ 0		65 1950	4.1000+ 0		7.6580+ 0	
65 1950	1.0000+ 0		4.8220+ 0		67 1869	1.4200+ 1		5.3000+ 0	5.0000- 2
65 1950	2.5000+ 0		6.9580+ 0						

07/04/76

(n, γ)
Cross Section

82-Pb-207

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	E-PHOTON MEV
71 3220	1.9500- 3	7.0000- 4	3.2000- 3	1.2000- 3	7.3690+ 0

07/04/76

Total
Cross Section

82-Pb-208

82-Pb-Nat ENDF 7162

10-34

MeV

82-Pb-208 -1

07/04/76

Total
Cross Section

82-Pb-208
82-Pb-Nat ENDL-7162

Barns

10-35

MeV

82-Pb-208 -2

07/04/76

82-Pb-208

Total

Cross Section

40 MeV 1000 7100

ECISIL-746 (62)

ECISIL-750 (67)

3

10^1

10-36

MeV

82-Pb-208 -3

Bars

07/04/76

(n, γ)
Cross Section82-Pb-208
82-Pb-Nat ENDL-7162

10-37

82-Pb-208 -4

07/04/76

Total
Cross Section

82-Pb-208

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 1950	5.0000- 1		4.4120+ 0		65 1950	4.1000+ 0		7.7030+ 0	
65 1950	1.0000+ 0		4.4780+ 0		67 1869	1.4200+ 1		5.2500+ 0	4.0000- 2
65 1950	2.5000+ 0		6.8760+ 0						

07/04/76

(n,γ)
Cross Section

82-Pb-208

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 1788	2.4000- 2		6.5000- 3	1.0000- 3	58 363	4.0000+ 0		5.3000- 4	2.5000- 4
58 363	2.0000- 1	1.5000- 2	7.5000- 3	3.8000- 3	71 3194	1.4000+ 1		9.9400- 4	1.9880- 4
58 363	2.7000+ 0		1.1000- 3	5.0000- 4	57 521	1.4500+ 1		3.0000- 3	4.0000- 4

07/04/76

Fission
Cross Section

82-Pb-209

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
55 461	3.8000+ 2		3.3000- 2	

07/04/76

Radio Lead

Total
Cross Section

10-39

Mev

Radio Lead -1

Bates

07/04/76

Elastic

Radio Lead

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
59	579	4.2100 ± 0.1	4.4000 ± 0.7	0.0000 ± 1

07/04/76

Total

83-Bi-209

Cross Section

ECSIL-2332 (53)

ECSIL-903 (58)

10-40

MeV

83-Bi-209 -1

Barns

07/04/76

83-B1-209

Total
Cross Section

Mev

10-41

83-B1-209 -2

Barns

07/04/76

83-Bi-209

Total:
Cross Section

10-42

83-Bi-209 -3

BARS

07/04/76

Total
Cross Section

83-BI-209

MeV

10-43

83-BI-209 -4

Barns

07/04/76

83-B1-209

Total

Cross Section

EC51L-15 (58)

EC51L-1974 (63)

EC51L-723 (59)

Barns

Mev

83-B1-209 -5

10-44

07/04/76

Total
Cross Section

83-BI-209

ECSIL-52 (49)

9
10¹

2

3

4

5

ECSIL-3638 (67)

2

$\times 10^1$

3

4

5

6

(Expanded Below)
ECSIL-2515 (69)

2

3

4

5

6

7

8

9

10⁰

10-45

Mev

83-BI-209 -6

Barns

07/04/76

83-B1-209

Total
Cross Section

MeV

83-B1-209 -7

10-46

Barns

07/04/76

Total
Cross Section

83-Bi-209

Barns

10-47

MeV

83-Bi-209 -8

07/04/76

83-Bi-209

Total
Cross Section

MeV

10-48

83-Bi-209 -9

Barns

07/04/76

83-B1-209

Total
Cross Section

10-49

MeV

83-B1-209 -10

07/04/76

83-Bi-209

Total
Cross Section

10-50

83-Bi-209 -11

07/04/76

83-B1-209

Total
Cross Section

Barns

MeV

10-51

83-B1-209 -12

07/04/76

Total
Cross Section

83-Bi-209

07/04/76

83-Bi-209

Total
Cross Section

Barns

MeV

10-53

83-Bi-209 -14

07/04/76

Elastic
Cross Section

83-Bi-209

07/04/76

(n,γ)
Cross Section

83-Bi-209

10-54

83-Bi-209 -15

07/04/76

Total
Cross Section

83-Bi-209

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		9.1000+ 0	5.0000- 2	52 207	1.4000+ 1		5.2010+ 0	5.0000- 1
55 1471	4.8970- 6		9.3300+ 0	4.2000- 2	55 262	1.4000+ 1		5.3310+ 0	6.0010- 2
49 844	1.1500- 4	1.1500- 5	9.2810+ 0		52 81	1.4000+ 1		5.4610+ 0	1.1000- 1
49 844	3.0000- 4	3.0000- 5	1.0600+ 1		67 1869	1.4200+ 1		5.3300+ 0	4.0000- 2
57 2330	2.2000- 1		7.9200+ 0	5.0000- 2	57 22	1.4370+ 1	7.0010- 2	5.4410+ 0	5.0000- 2
65 1950	5.0000- 1		6.1230+ 0		71 3815	1.4700+ 1		5.3300+ 0	4.0000- 2
65 1950	1.0000+ 0		4.8800+ 0		65 3697	1.4760+ 1	5.0000- 2	5.4000+ 0	2.1600- 1
65 1950	2.5000+ 0		7.0370+ 0		57 368	1.4800+ 1		5.3310+ 0	8.0010- 2
54 303	3.7000+ 0	1.0000- 1	8.3010+ 0	1.2000+ 0	60 673	1.7300+ 1	3.0000- 1	5.8210+ 0	6.0010- 2
67 1643	4.0000+ 0	5.0000- 2	7.5200+ 0	2.3000- 1	53 274	1.9000+ 1	3.3000- 1	5.6910+ 0	1.7000- 1
65 1950	4.1000+ 0		7.6020+ 0		60 673	2.1300+ 1	2.0000- 1	5.8510+ 0	6.0010- 2
55 296	4.1000+ 0	4.0000- 2	7.9010+ 0	2.0000- 1	60 673	2.5100+ 1	3.0000- 1	5.6410+ 0	7.0010- 2
57 22	7.0100+ 0	1.7000- 1	8.0210+ 0	6.0010- 2	60 673	2.8900+ 1	3.0000- 1	5.3910+ 0	6.0010- 2
57 22	8.6700+ 0	1.5000- 1	5.4110+ 0	5.0000- 2	50 281	4.2000+ 1	1.0000+ 0	4.5800+ 0	6.0010- 2
57 27	1.0380+ 1	1.1000- 1	5.2210+ 0	5.0000- 2	55 2056	1.4000+ 3	2.0000+ 2	3.2800+ 0	9.8400- 2
57 22	1.2490+ 1	9.0010- 2	5.1910+ 0	5.0000- 2					

07/04/76

Elastic
Cross Section

83-Bi-209

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60 596	2.2000- 1		8.2310+ 0		59 579	4.2100+ 2	1.0000- 1	4.7000+ 0	8.0010- 1
64 2338	3.0000- 1	2.5000- 2	7.1100+ 0	4.6000- 1	65 889	6.0400+ 0	2.3000- 1	3.4000+ 0	5.0000- 1
64 870	5.0000- 1	5.0000- 2	6.4000+ 0	2.2000- 1	68 2890	6.0900+ 0		3.2200+ 0	1.6000- 1
64 870	8.0000- 1	5.0000- 2	5.3030+ 0	1.6000- 1	69 2890	7.0500+ 0		2.8900+ 0	1.5000- 1
72 3546	6.8830+ 1	2.0000- 1	5.1483+ 0		69 2890	8.0500+ 0		2.7000+ 0	1.4000- 1
54 103	1.0000+ 0	8.0000- 2	4.8000+ 0	7.2000- 1	56 21	1.0000+ 1		2.2300+ 0	
65 1509	2.0000+ 0	5.0000- 2	6.3000+ 0		60 631	1.4500+ 1	1.0000- 1	2.7100+ 0	2.4000- 1
64 1643	4.0000+ 0	5.0000- 2	5.7000+ 0	4.0000- 1					

07/04/76

Fission
Cross Section

83-Bi-209

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 1976	1.4800+ 1	2.0000- 1	3.5000- 8	1.0000- 8
55 461	1.2000+ 2		3.6000- 2	
55 461	3.8000+ 2		7.4000- 2	

07/04/76

(n,y)
Cross Section

83-Bi-209

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1 3.0000- 2	8.0010- 3	1.0000- 3	5.0000- 3	70 2345	3.0000+ 0	2.0000- 1	1.5300- 3	5.1000- 4
63	1 6.5000- 2	2.1000- 2	4.0000- 3	4.0000- 3	69 2220	1.4100+ 1	6.7500- 1	9.5000- 4	1.8000- 4

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE DAYS	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE DAYS
47 888	2.5300- 8		1.5000- 2	3.0000- 3	5.0000+ 0	60 674	4.0000- 1	9.0010- 2	2.0000- 3	3.0000- 3	5.0000+ 0
57 23	2.1000- 2	4.0000- 3	1.8000- 3	7.0010- 4	5.0000+ 0	57 521	1.4500+ 1		1.5000- 3	2.0000- 4	5.0000+ 0
61 677	3.0000- 2	7.0010- 3	1.0000- 3	4.0000- 3	5.0000+ 0	67 1695	1.4700+ 1		1.2000- 3	2.0000- 4	5.0100+ 0
61 677	6.5000- 2	2.3000- 2	4.0000- 3	3.0000- 3	5.0000+ 0						

07/04/76

Neutrons/Nonelastic Event

83-Bi-209

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58 877	1.4000+ 1		1.8800+ 0	2.0000- 1

07/04/76

88-Ra-226

Total
Cross Section

Baras

07/04/76

Fission
Cross Section

88-Ra-226

07/04/76

Fission
Cross Section

88-Ra-226

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
52 2046	2.5300 - 8		2.3000+ 1	2.0000+ 0

10-58

88-Ra-226 -2

07/04/76

Fission
Cross Section

90-Th-227

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3912	2.5300- B		2.0000+ 2	2.0000+ 1

07/04/76

Total
Cross Section

90-Th-228

07/04/76

90-Th-228

Fission
Cross Section

07/04/76

90-Th-229

Total
Cross Section

10-60

90-Th-229 -1

07/04/76

90-Th-229

Fission
Cross Section

Barns

07/04/76

90-Th-229

Prompt Neutrons/Fission

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
61	1088	2.5300-8	2.3200+0	6.0000-2
58	1156	2.5300-8	2.1300+0	3.0000-2
70	4040	2.5300-8	2.0500+0	1.0000-1

10-61

90-Th-229 -2

07/04/76

Total
Cross Section

90-Th-230

10-62

MeV

90-Th-230 -1

07/04/76

90-Th-230

Fission
Cross Section

Mev

10-63

90-Th-230 -2

Barns

07/04/76

Fission
Cross Section

90-Th-230

10-64

90-Th-230 -3

07/04/76 Total Cross Section 90-Th-230

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
69 2362	2.5000- 8		7.1800+ 1	2.0000+ 0

07/04/76 Elastic Cross Section 90-Th-230

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
69 2362	2.5000- 8		1.5000+ 1	2.0000+ 0
68 2196	8.0000- 6		1.5000+ 1	2.0000+ 0

07/04/76

Fission
Cross Section

90-Th-230

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60 635	2.5000+ 0		4.1000- 1	8.0010- 2
60 635	1.4600+ 1		7.2010- 1	1.5000- 1

07/04/76

(n,γ)
Cross Section

90-Th-230

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
69 2362	2.5000- 8		5.6800+ 1	3.0000+ 0
58 423	2.5300- 8		2.2700+ 1	6.0000- 1
52 1201	2.5300- 8		6.1000+ 1	

07/04/76

Fission
Cross Section

90-Th-231

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 2273	1.5000+ 0	1.2500- 1	2.2000- 1	4.4000- 2
70 2273	1.7500+ 0	1.2500- 1	2.0000- 1	4.0000- 2
70 2273	2.0000+ 0	1.2500- 1	2.1000- 1	4.2000- 2

10-6 :

90-Th-231 -1

90-1h-232
ENOL-7164

Total
Cross Section

97/04/76

Barns

90-1h-232 -1

Mev

10-67

07/04/7E

Total
Cross Section

90-Th-232
ENDL 7164

Mev

10-68

90-Th-232 -2

Barns

90-Tk-232
ENDL-7164

Total
Cross Section

07/04/76

EC5IL-371 (64)

EC5IL-520 (55)

(Expanded Below)
EC5IL-814 (65)

Mev

90-Tk-232 -3

10-69

Baras

07/04/76

90-Th-232

END - 7164

Total
Cross Section

ECSIL-814 (65)

ECSIL-814 (65)

ECSIL-814 (65)

MeV

10-70

90-Th-232 -4

Barns

07/04/76

Total
Cross Section

90-Th-232
ENDL-7164

10-71

90-Th-232 -5

Barns

07/04/76

Total
Cross Section

90-Th-232

ENDL-7164

Barns

10-72

90-Th-232 -6

07/04/76

Total
Cross Section

90-Th-232
ENDL-7164

ECSTL-814 (65)

2.6 2.8 3 3.2 $\times 10^3$ 3.4 3.6 3.8

(Expanded Below)

ECSTL-3650 (64)

10²
5
10¹
5

Barns

2 3 4 5 6 7 8 9 10³

ECSTL-3650 (64)

10²
5
10¹
5

2.5 3 $\times 10^4$ 3.5 4 4.5

MeV

10-73

90-Th-232 -7

07/04/76

Total
Cross Section

90-Tl-232

ENDL-7164

10-74

90-Tl-232 -8

07/04/76

Total
Cross Section

90-Th-232
ENDL-7164

10-75

90-Th-232 -9

Barcs

07/04/76

Total
Cross Section

90-Th-232

END OF RUN

ECS1L-1328 (66)

ECS1L-381 (64)

ECS1L-90 (53)

Barns

MeV

10-76

90-Th-232 -10

07/04/76

Total
Cross Section

90-Th-232
ENDL-7164

Barns

10-77

90-Th-232 -11

07/04/76

Total
Cross Section

90-Th-232

Barns

Mev

10-78

90-Th-232 -12

07/04/76

Total
Cross Section

90-Th-232
ENDL-7164

Barns

10-79

MeV

90-Th-232 -13

07/04/76

90-Th-232

Total
Cross Section

Barns

10-80

90-Th-232 -14

07/04/76

Elastic Cross Section

90-Th-232
ENDL-7164

08-81

10-81

90-Th-232 -15

07/04/76

Fission
Cross Section

90-Th-232
1401 7164

ECSIL-1502 (66)

ECSIL-3219 (71)P

ECSIL-634 (61)

10-82

MeV

90-Th-232 -16

Barns

07/04/'76

Fission
Cross Section

90-Th-232
ENDL-7164

Mev

10-83

90-Th-232 -17

Barns

07/04/76

Fission
Cross Section

90-Th-232

ENDL-7164

12-84

MeV

90-Th-232 -18

Barns

07/04/76

(n, γ)
Cross Section

90-Th-232
ENDL-7164

Mev

10-85

90-Th-232 -19

Barns

07/04/76

(n, γ)

90-Th-232

Cross Section

ENCL 7154

MeV

10-86

90-Th-232 -20

07/04/76

90-Th-232

ENDL-7184

(n, γ)
Cross Section

10-87

90-Th-232 -21

Baccas

07/04/76

(n, γ)
Cross Section

90-Th-232

ENDL-7164

10-88

MeV

90-Th-232 -22

07/04/76

(n, γ)
Cross Section90-Tb-232
ENDL-7164

Barns

10-89

90-Tb-232 -23

07/04/76

Prompt Neutrons/Fission

90-Th-232

1000 Counts

MeV

10-90

90-Th-232 -24

07/04/76

Prompt Neutrons/Fission

90-Th-232

ENDL-7164

07/04/76

Total
Cross Section

90-Th-232

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		1.3280+ 1	6.0000- 2	65 1264	7.0000+ 0		6.4300+ 0	1.9000- 1
65 1264	2.0000+ 0		7.3800+ 0	2.0000- 1	61 81	1.4000+ 1		5.6910+ 0	1.1000- 1
65 1264	3.0000+ 0		7.9500+ 0	2.1000- 1	61 233	2.6400+ 1		5.4910+ 0	3.4000- 1
65 1264	4.0000+ 0		8.2800+ 0	2.4000- 1	50 281	4.2000+ 1	1.0000+ 0	5.0310+ 0	7.0010- 2

07/04/76

Elastic
Cross Section

90-Th-232

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3546	8.7330- 1	2.0000- 1	4.6824+ 0		65 1264	3.0000+ 0		4.6900+ 0	2.1000- 1
54 103	1.0000+ 0	8.0000- 2	5.3000+ 0	7.9500- 1	61 846	3.1000+ 0		3.7000+ 0	1.0000- 1
65 1509	2.0000+ 0	5.0000- 2	5.0000+ 0		65 1264	4.0000+ 0		5.2500+ 0	2.5000- 1
65 1264	2.0000+ 0		4.5000+ 0	2.0000- 1	65 1264	7.0000+ 0		3.0800+ 0	1.5000- 1

10-91

90-Th-232 -25

07/04/76

Fission
Cross Section

90-Th-232

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3738	1.0000+ 0		6.7000- 2	7.0000- 3	62 1089	1.4200+ 1	5.0000- 1	3.1000- 1	3.0000- 2
68 2192	1.2000+ 0	2.0000- 2	3.5000- 3	3.0000- 4	69 2354	1.4600+ 1	2.0000- 1	4.5000- 1	4.0000- 2
68 2192	1.4000+ 0	2.0000- 2	5.5400- 2	3.7000- 3	69 2354	1.4600+ 1	2.0000- 1	5.6000- 1	1.4000- 1
68 2192	1.6000+ 0	2.0000- 2	1.1780- 1	7.0000- 3	58 608	1.4600+ 1		3.7000- 1	2.0000- 2
62 1089	1.3000+ 1	7.0000- 1	2.3000- 1	5.0000- 2	58 528	1.4600+ 1		3.5000- 1	2.0000- 2
61 3748	1.3500+ 1	2.0000- 1	3.1000- 1	3.1000- 2	61 3748	1.4800+ 1	2.0000- 1	3.4000- 1	3.4000- 2
50 1413	1.4000+ 1		3.4000- 1	1.0000- 2	62 1089	1.5400+ 1	8.0000- 1	3.9000- 1	4.7000- 2
56 771	1.4100+ 1		3.4700- 1	1.8000- 2	62 1089	1.6100+ 1	7.0000- 1	4.6000- 1	2.0000- 2
61 3748	1.4100+ 1	1.0600- 1	3.2000- 1	3.2000- 2	62 1089	1.8000+ 1	4.0000- 1	4.2000- 1	2.0000- 2
70 3867	1.4100+ 1		3.4000- 1	3.0070- 2	55 461	3.8000+ 2		9.0000- 1	

07/04/76

(n,γ)
Cross Section

90-Th-232

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 337	2.5300- 8		7.6000+ 0	1.6000- 1	58 363	2.0000- 1	1.5000- 2	2.1700- 1	1.1000- 2
55 191	2.5300- 8		7.3100+ 0	1.2000- 1	58 363	2.0000- 1		2.1000- 1	4.0000- 2
65 867	2.4000- 2		4.8000- 1	5.0000- 2	60 633	2.2000- 1	2.0000- 2	2.1300- 1	5.0000- 3
57 305	2.4000- 2	5.0000- 3	5.0000- 1	1.0000- 1	57 521	1.4500+ 1		5.2010- 3	8.0010- 4

07/04/76

Prompt Neutrons/Fission

90-Th-232

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
65 1074	1.3900+ 0		2.2870+ 0	7.6000- 2	58 1447	4.0000+ 0		2.7000+ 0	1.0000- 1
59 1151	1.4000+ 0		2.5800+ 0	2.0000- 1	65 1074	4.0200+ 0		2.3770+ 0	6.7000- 2
65 1074	1.9800+ 0		2.1810+ 0	3.4000- 2	56 1321	1.4100+ 1		3.5500+ 0	2.8000- 1
61 1079	2.3000+ 0		2.2600+ 0	1.0000- 1	58 1330	1.4200+ 1		4.6400+ 0	2.0000- 1
65 1074	3.0000+ 0		2.2540+ 0	9.5000- 2	61 1079	1.5700+ 1		4.2500+ 0	1.3000- 1
61 1079	3.7500+ 0		2.4300+ 0	9.0000- 2					

07/04/76

Delayed Neutrons Fission

90-Th-232

REFERENCE	ENERGY MEV	DELTA MEV	NU-SEC	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
155 13+1	2.000+ 0	1.000+ 0	3.7280- 2	6.6400- 3	1	51 1+02	1.000+ 1	6.7000- 2	1.5300- 2
59 1425	2.400+ 0	5.400- 2	4.0000- 3	4.0000- 3	61 1+23	1.4500+ 1	7.5000- 2	7.0000- 3	7.0000- 3
59 1573	3.1000- 0	6.0000- 1	6.0000- 2	6.0000- 3	69 1+33	1.4900+ 1	5.0000- 1	3.1000- 2	3.0000- 3
59 1+25	3.3000+ 0	5.1000- 2	4.0000- 3	4.0000- 3	59 1+24	1.5000+ 1	9.2000- 2	6.0000- 3	6.0000- 3
68 2357	1.4000+ 1	1.9000- 2	5.0000- 3	5.0000- 3					

07/04/76

Neutrons-Nonelastic Event

90-Th-232

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
63 277	1.4000+ 1	2.3400+ 0	8.0000- 2	

07/04/76

Fission
Cross Section

90-Th-233

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 2273	1.5000+ 0	1.2500- 1	1.2000- 1	2.4000- 2
70 2273	1.7500+ 0	1.2500- 1	1.2000- 1	2.4000- 2
70 2273	2.0000+ 0	1.2500- 1	1.2000- 1	2.4000- 2

90-Th-233-1

07.04/76

Total
Cross Section

91-Pa-231

(Expanded Below)
ECSIL-410 (62)

ECSIL-410 (62)

ECSIL-410 (62)

11-1

MeV

--Pa 231

Barns

07/04/76

91-P3-231

Fission
Cross Section

ECSIL-3219 (711P)

ECSIL-957 (64)

ECSIL-240 (44)

Barns

MeV

91-P3-231 -2

11-2

07/04/76

Fission
Cross Section

91-Pa-231

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
69 2521	1.4800+ 1	3.0000- 1	1.4300+ 0	1.2000- 1

07/04/76

(n, γ)
Cross Section

91-Pa-231

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 4030	2.5300- 8		2.6000+ 2	1.3000+ 1

07/04/76

Total
Cross Section

91-Pa-233

07/04/76

Total
Cross Section

91-Pa-233

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1309	2.5300- 8		5.5000+ 1	3.0000+ 0

07/04/76

(n,γ)
Cross Section

91-Pa-233

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 1483	2.5300- 8		4.6000+ 1	5.0000+ 0
70 2109	2.5300- 8		3.9500+ 1	1.2000+ 0

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs MINUTES
58 1163	2.5300- 8		2.0000+ 1	4.0000+ 0 1.1800+ 0

07/04/76

Total
Cross Section

92-U -Nat

92-U - 50 ENR 7171

07/04/76

Total
Cross Section
92-U -Nat
92-U -238 ENCL-7171

ECSIL-1041 (54)

ECSIL-237 (55)

ECSIL-26 (51)

Barns

11-5

MeV

92-U -Nat -2

07/04/76

Total
Cross Section

92-U -Nat

92-U -P38 ENDL-7171

11-6

92-U -Nat -3

07/04/76

Total
Cross Section

92-U -238 ENDL-7171

92-U -Nat

92-U -Nat -4

11-7

Barns

07/04/76

Total
Cross Section

92-U - Nat

(Expanded Below)
ECSIL-3330 (70)

Barns

11-8

92-U - Nat - 5

07/04/76

Total

92-U -Nat

Cross Section

92-U -238 ENDL-7171

11-9

Mev

92-U -Nat -6

Barns

07/04/76

Total
Cross Section

92-U -Nat

92-U -238 ENDL-7171

Barns

11-10

MeV

92-U -Nat -7

07/04/76

Total
Cross Section92-U -Nat
92-U -238 ENDL-7171

11-11

MeV

92-U -Nat -8

07/04/76

92-U -Nat

Total Cross Section

92-U -Nat 7171

Barns

11-12

Mev

92-U -Nat -9

07/04/76

Total

Cross Section

92-U -238 ENDL-7171

92-U -Nat

Barns

07/04/76

Total

Cross Section

92-U -Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	
41	170	9.0000-1	8.0000+0	4.0000-1	53	274	2.0070+1	2.6000-1	6.2910+0	1.9000-1
52	81	1.4000+1	5.8710+0	1.1000-1	61	233	2.8400+1	6.0010+0	1.5000-1	
50	368	1.4800+1	5.6410+0	1.0000-1	49	286	9.0000+1	5.0310+0	1.0000-1	
53	274	1.7970+1	4.5000-1	6.1410+0	55	2056	1.4000+3	2.0000+2	3.6400+0	1.0920-1
53	274	1.9000+1	3.3000-1	5.9410+0	69	3160	5.7000+3	6.0000+2	3.6200+0	6.0000-2

11-13

92-U -Nat -10

07/04/76

Total
Cross Section

92-U -Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68	2350	2.7000+ 0	2.7700+ 0	1.5000- 1

07/04/76

Elastic
Cross Section

92-U -Nat

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
54	1279	2.5300- 8	8.6000+ 0	3.0000- 1	64	870	8.0000- 1	5.0000- 2	6.0000+ 0
64	1255	3.0000- 1	8.7000+ 0	3.7000- 1	72	3546	8.7150- 1	2.0000- 1	5.0500+ 0
64	1255	5.0000- 1	7.2500+ 0	3.6000- 1	57	444	1.0000+ 0		5.4000+ 0
57	444	5.0000- 1	7.3000+ 0		58	403	1.4500+ 1		2.7300+ 0
									1.4000- 1

07/04/76

Neutrons/Nonelastic Event

92-U -Nat

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58	877	1.4000+ 1	2.8000+ 0	3.0000- 1

07/04/76

Total
Cross Section

92-U -232

11-15

92-U -232 -1

07/04/76

Total
Cross Section

92-U -232

07/04/76

Fission
Cross Section

92-U -232

11-15

92-U -232 -2

07/04/76

92-U -232

Fission Cross Section

MeV

11-16

92-U -232 -3

Barns

07/04/76

Fission
Cross Section

92-U -232

07/04/76

Fission
Cross Section

92-U -232

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3943	2.5300- 8		7.5200+ 1	4.7000+ 0

07/04/76

(n,γ)
Cross Section

92-U -232

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3943	2.5300- 8		7.3100+ 1	1.5000+ 0

07/04/76

Prompt Neutrons/Fission

92-U -232

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
61 1088	2.5300- 8		3.0700+ 0	6.0000- 2

07/04/76

Capture/Fission Ratio

92-U -232

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
71 3943	2.5300- 8		9.7200- 1	6.1000- 2

07/04/76

Total
Cross Section

92-U -233
ENDL -7166

ECS11-1409 (55)

ECS11-1470 (55)

11-19

Mev

92-U -233 -1

Barns

07/04/76

92-U -233

Total
Cross Section

(Expanded Below)
ECSIL-3802 (74)

ECSIL-3802 (74)

Mev

11-20

92-U -233 -2

Barns

Barns

07/04/76

Total
Cross Section

92-U -233

ENDL 7166

11-22

MeV

92-U -233 -4

07/04/76

Total
Cross Section

92-U -233

ENDL-7166

MeV

11-23

92-U -233 -5

Bar ns

07/04/76

92-U -233

ENC 7166

Total
Cross Section

11-24

92-U -233 -6

Barns

07/04/76

Total
Cross Section

92-U-233
ENDL-7166

(Expanded Below)
ECSIL-3601 (70)

ECSIL-3601 (70)

ECSIL-3601 (70)

Barns

11-25

92-U-233-7

07/04/76

Total
Cross Section

92-U -233
1976

11-26

92-U -233 -8

Barns

92-U -233
ENDL-7166

Total
Cross Section

07/04/76

Barns

92-U -233 -9

11-27

07/04/76

Total
Cross Section

92-U -233

11-28

92-U -233 -10

07/04/76 92-U -233
Total Cross Section ENCL -7166

ECSIL-3601 (70)

ECSIL-902 (55)

ECSIL-467 (54)

92-U -233 -11

11-29

Baras

07/04/76

Total
Cross Section

92-U -233

ENDL 7166

11-30

92-U -233 -12

07/04/76

Total
Cross Section

92-U -233
ENDL-7166

11-31

92-U -233 -13

Baras

07/04/76

92-U -233

Total
Cross Section

ENCAL -7166

92-U -233 -14

Mev

Barns

07/04/76

Elastic
Cross Section

92-U-233
ENDL-7166

Barns

11-33

92-U-233 -15

07/04/76

Elastic
Cross Section

92-U -233

07/04/76

Fission
Cross Section

92-U -233

11-34

92-U -233 -16

07/04/76

Fission
Cross Section

92-U-233
ENDL-7166

07/04/76

Fission Cross Section

92-U -233
ENDL -7166

11-36

92-U -233 -18

07/04/76

Fission
Cross Section

92-U-233
ENDL-7166

Barns

11-37

92-U-233-19

07/04/76

Fission Cross Section

92-U -233

ENDL-7166

Mev

11-38

92-U -233 -20

Bars

07/04/76

Fission
Cross Section

92-U-233
ENL-7166

Barns

11-39

MeV

92-U-233 -21

07/04/76

92-U -233

Fission Cross Section

1000 7100

11-40

92-U -233 -22

Barns

07/04/76

Fission
Cross Section

92-U-233
ENDL-7166

(Expanded Below)

ECSIL-3920 (74)

ECSIL-3920 (74)

Barns

11-41

92-U-233-23

07/04/76

Fission Cross Section

92-U -233

E NOX -7166

Barns

11-42

MeV

92-U -233 -24

07/04/76

92-U -233
ENDI-716,

Fission
Cross Section

11-43

92-U -233 -25

32155

07/04/76

Fission Cross Section

92-U -233

ENCL 7186

Mev

11-44

92-U -233 -26

Baras

07/04/76

Fission
Cross Section

92-U -233
ENDL-716S

ECSIL-943 (70)

ECSIL-943 (70)

(Expanded Below)
ECSIL-1061 (66)

11-45

92-U -233 -27

Barns

07/04/76

92-U -233

Fission
Cross Section

11-46

92-U -233 -28

07/04/76

Fission

Cross Section

92-U -233

ENCL-7166

MeV

11-47

92-U -233 -29

Barns

07/04/76

Fission Cross Section

92-U -233
ENCOL 7166

92-U -233 -30

Barns

07/04/76

Fission

92-U -233

Cross Section

ENDL-7166

64-11

92-U -233 -31

07/04/76

Fission
Cross Section

92-U -233

ENDL-7166

07/04/76

Fission
Cross Section

92-U -233

ENDL-7166

07/04/76

Fission Cross Section

92-U -233

ENDL-7166

92-U -233 -34

Barns

07/04/76

(n,γ)
Cross Section

92-U-233
ENDL-7166

ECSIL-2514 (69)

ECSIL-3155 (70)

ECSIL-1011 (65)

11-53

92-U-233 -35

Barns

07/04/76

(n, γ)
Cross Section

92-U - 233
ENDL-7166

(Expanded Below)
ECSIL-1025 (68)

ECSIL-1025 (68)

ECSIL-1025 (68)

11-54

92-U - 233 - 36

Barns

07/04/76

(n, γ)

Cross Section

32-U -233
ENDL-7166

10¹⁰ 10⁹ 10⁸ 10⁷ 10⁶ 10⁵ 10⁴ 10³ 10² 10¹ 10⁰ 10⁻¹ 10⁻² 10⁻³

Mev

11-55

92-U -233 -37

Barns

07/04/76

Prompt Neutrons/Fission

92-U -233

ENDL-7166

07/04/76

Prompt Neutrons/Fission

92-U -233

ENDL-7166

11-57

92-U -233 -39

07/04/76

Prompt Neutrons/Fission

92-U -233

ENDL-7166

07/04/76

Delayed Neutrons/Fission

92-U -233

ENDL-7166

11-58

92-U -233 -40

07/04/76

Delayed Neutrons/Fission

92-U -233

ENDL-7166

Neutrons/Fission

07/04/76

Neutrons/Nonelastic Event

92-U -233

Ratio

11-59

MeV

92-U -233 -41

07/04/76

Neutrons/Nonelastic Event

92-U -233

11-60

MeV

92-U -233 -42

07/04/76

Neutrons/Nonelastic Event

92-U -233

Mev

11-61

92-U -233 -45

Ratio

07/04/76

Neutrons/Nonelastic Event

92-U -233

07/04/76

Capture/Fission Ratio

92-U -233

Relative

Ratio

11-52

92-U -233 -44

07/04/76

Capture/Fission Ratio

92-U -233

MeV

92-U -233 -40

11-63

Ratio

07/04/73

Capture/Fission Ratio

92-U-233

11-64

Net

92-U-233 - HC

07/04/76

Fission
Cross Section

92-U -233

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 209	2.5300- 8		5.3460+ 2	5.3000+ 0	65 1091	3.1200- 1	7.0000- 3	2.1500+ 0	7.0000- 2
46 1313	2.5300- 8		5.0800+ 2	2.0000+ 1	65 1091	4.1500- 1	7.0000- 3	1.9700+ 0	6.0000- 2
59 1176	2.5300- 8		5.1500+ 2	1.5000+ 1	64 1090	1.0000+ 0		1.8400+ 0	6.4400- 2
58 1164	2.5300- 8		5.1800+ 2	4.0000+ 0	64 1090	2.2500+ 0		1.9000+ 0	6.6500- 2
68 2095	2.0000- 3	4.0000- 4	7.7000+ 0		64 1090	5.4000+ 0		1.4000+ 0	4.9000- 2
65 1072	2.4000- 2		2.7300+ 0	1.1000- 1	50 1413	1.4200+ 1		2.5600+ 0	1.0000- 1
65 1091	4.0000- 2	1.0000- 2	2.7400+ 0	1.0000- 1	64 1090	1.4100+ 1		2.3400+ 0	8.1900- 2
65 1091	6.7000- 2	1.0000- 2	2.3700+ 0	9.0000- 2	56 77	1.4100+ 1		2.5200+ 0	1.4000- 1
65 1091	1.2700- 1	7.0000- 3	2.2200+ 0	7.0000- 2	70 3867	1.4100+ 1		2.4000+ 0	4.0000- 1

07/04/76

(n,γ)
Cross Section

92-U -233

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
46 1313	2.5300- 8		5.8000+ 1	
63 1441	2.5300- 8		5.1700+ 1	2.5850+ 0
71 3931	2.5300- 8		4.8350+ 1	1.6200+ 0

07/04/76

Prompt Neutrons/Fission

92-U -233

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
65 1074	0.0000+ 0		2.4980+ 0	3.1000- 2	55 1099	2.5300- 8		2.4500+ 0	1.5000- 1
63 1073	0.0000+ 0		2.4460+ 0	2.2000- 2	46 1313	2.5300- 8		2.6100+ 0	
55 1097	0.0000+ 0		2.4790+ 0	1.0000- 1	56 1145	8.0000- 2		2.5850+ 0	6.2000- 2
56 1398	0.0000+ 0		2.4550+ 0	2.4000- 2	63 1073	2.8000- 1		2.4620+ 0	7.3000- 2
56 1065	0.0000+ 0		2.3960+ 0	3.8000- 2	63 1073	4.4000- 1		2.4750+ 0	3.3000- 2
59 1092	0.0000+ 0		2.4320+ 0	2.4000- 2	63 3878	5.8000- 1		2.4330+ 0	5.0000- 2
67 1417	0.0000+ 0		2.4560+ 0	8.0000- 3	63 3878	9.3000- 1		2.5220+ 0	5.0000- 2
66 1336	0.0000+ 0		2.5060+ 0	4.0000- 2	65 1074	9.6000- 1		2.4980+ 0	3.6000- 2
65 1085	0.0000+ 0		2.4440+ 0	1.4000- 2	63 1073	9.8000- 1		2.5250+ 0	3.5000- 2
58 1172	0.0000+ 0		2.4250+ 0	6.3000- 2	63 1073	1.0800+ 0		2.4830+ 0	2.0000- 2
73 4052	0.0000+ 0		2.4450+ 0	1.0000- 2	63 3878	1.4900+ 0		2.4830+ 0	1.0000- 1

11-65

92-U -233 -47

07/04/76

Prompt Neutrons/Fission

92-U -233

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
65 1074	1.9800+ 0		2.6030+ 0	3.3000- 2	65 1074	4.0000+ 0		2.8830+ 0	4.3000- 2
63 3878	2.1200+ 0		2.5420+ 0	5.0000- 2	61 1269	1.4000+ 1		4.2300+ 0	2.4000- 1
63 3878	2.5800+ 0		2.7710+ 0	6.0000- 2	56 1321	1.4100+ 1		3.8600+ 0	2.8000- 1
65 1074	3.0000+ 0		2.8150+ 0	3.8000- 2	58 1122	1.4800+ 1		4.4000+ 0	4.5000- 1
63 1073	3.9300+ 0		2.9510+ 0	4.0000- 2	58 1121	1.5000+ 1	5.0000- 1	4.4200+ 0	1.7000- 1
58 1121	4.0000+ 0	3.0000- 1	3.0600+ 0	1.2000- 1					

07/04/76

Delayed Neutrons/Fission

92-U -233

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
45 1431	2.5000- 8		5.4400- 3		69 1533	3.1000+ 0	2.0000- 1	7.7000- 3	8.0000- 4
55 1426	2.5000- 8		2.5900- 3		61 1410	1.4000+ 1		1.4000- 2	4.0000- 3
57 1066	2.5000- 8		6.6000- 3	3.0000- 4	69 1533	1.4900+ 1	5.0000- 1	4.3000- 3	4.0000- 4
71 3159	2.5000- 8		6.7000- 3	2.0000- 4	63 2527	1.5000+ 1		1.2000- 2	1.0000- 3
1 55 1341	2.0000+ 0	1.0000- 0	6.8160- 3	5.4400- 4					

07/04/76

Neutrons/Nonelastic Event

92-U -233

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
65 1076	2.5000- 8		2.2980+ 0	9.0000- 3	56 1415	2.6000- 8		2.2900+ 0	3.0000- 2
55 1099	2.5000- 8		2.1800+ 0	8.0000- 2	65 1076	5.7000- 8		2.2980+ 0	9.0000- 3
46 1313	2.5300- 8		2.3400+ 0	6.0000- 2	56 1360	2.4000- 2		2.2500+ 0	7.0000- 2
48 1314	2.5300- 8		2.3800+ 0	8.0000- 2	56 1360	1.4000- 1		2.4300+ 0	1.2000- 1
54 1385	2.5300- 8		2.2500+ 0	5.0000- 2	56 1360	2.5000- 1		2.4600+ 0	1.0000- 1
59 1285	2.5300- 8		2.2500+ 0	3.0000- 2	56 1360	2.5000- 1		2.4500+ 0	1.2000- 1
60 1287	2.5300- 8		2.2950+ 0	1.0000- 2	56 1360	9.0000- 1		2.6000+ 0	1.3000- 1
70 1289	2.5300- 8		2.2920+ 0		61 1269	1.4000+ 1		4.0700+ 0	2.2000- 1
70 1290	2.5300- 8		2.2920+ 0	1.5000- 2					

07/04/76

Capture/Fission Ratio

92-U -233

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58	1280	1.1000- 9	1.1300- 1	1.8000- 2	64	1433	2.5300- 8	9.3900- 2	9.0000- 4
55	1099	2.5000- 8	1.4400- 1	4.1980- 2	66	1312	2.5300- 8	9.2300- 2	4.9000- 3
65	1076	2.5000- 8	8.5290- 2	4.2500- 3	66	1077	2.5300- 8	9.9700- 2	1.0000- 3
54	1385	2.5300- 8	1.0840- 1	2.4630- 2	56	1416	2.6000- 8	8.9080- 2	1.4270- 2
60	1287	2.5300- 8	8.6240- 2	4.7310- 3	65	1076	5.7000- 8	9.0030- 2	4.2880- 3
48	1314	2.5300- 8	4.7900- 2	3.5220- 2	56	1360	2.4000- 2	1.0840- 1	3.4480- 2
62	1290	2.5300- 8	8.8130- 2	7.1210- 3	56	1360	1.4000- 1	2.6340- 2	5.0680- 2
59	1285	2.5300- 8	1.0840- 1	1.4780- 2	56	1360	2.5000- 1	1.3820- 2	4.1210- 2
62	1289	2.5300- 8	7.6390- 2	1.8580- 2	56	1360	2.5090- 1	1.7960- 2	4.9860- 2
46	1313	2.5300- 8	1.1400- 1						

07/04/76

Total
Cross Section

92-U -234

ENDL-7167

11-67

92-U -234 -1

07/04/76

Total
Cross Section

92-U -234

ENDL-7167

11-68

92-U -234 -2

07/04 76

Fission
Cross Section

92-U -234
ENDL-7187

11-69

92-U -234 -3

Barns

07/04/76

Fission
Cross Section

92-U -234

ENDL-7167

07/04/76

Elastic
Cross Section

92-U -234

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNS	DELTA BARNS
56 436	2.5300- 8		1.7800+ 1	1.4000+ 0

11-70

92-U -234 -4

07/04/76

Fission
Cross Section

92-U -234

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 1072	2.4000- 2		1.5000- 2	4.0000- 3	64 1090	5.4000+ 0		1.2400+ 0	4.3400- 2
65 1091	4.0000- 2	1.0000- 2	1.2000- 2	2.0000- 3	62 1089	1.2000+ 1	7.0000- 1	1.0600+ 0	2.7000- 1
65 1091	6.7000- 2	1.0000- 2	1.8000- 2	2.0000- 3	64 1090	1.4100+ 1		2.0800+ 0	7.2800- 2
65 1091	1.2700- 1	7.0000- 3	2.1000- 2	2.0000- 3	62 1089	1.4200+ 1	5.0000- 1	6.1000- 1	9.0000- 2
65 1091	3.1200- 1	7.0000- 3	1.8600- 1	1.5000- 2	62 1089	1.5400+ 1	8.0000- 1	1.2000+ 0	1.3000- 1
65 1091	5.0500- 1	1.0000- 2	5.6000- 1	3.0000- 2	62 1089	1.6100+ 1	7.0000- 1	1.2800+ 0	8.0000- 2
64 1090	1.0000+ 0		1.1600+ 0	4.6500- 2	62 1089	1.8000+ 1	4.0000- 1	1.1500+ 0	1.1000- 1
64 1090	2.2500+ 0		1.4800+ 0	5.1800- 2					

07/04/76

(n,γ)
Cross Section

92-U -234

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 2915	2.5300- 8		9.5600+ 1	2.1000+ 0

07/04/76

Prompt Neutrons/Fission

92-U -234

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
65 1074	3.9000- 1		2.4370+ 0	4.6000- 2	65 1074	3.0000+ 0		2.6920+ 0	4.3000- 2
65 1074	1.9600+ 0		2.6410+ 0	3.3000- 2	65 1074	4.0000+ 0		2.8850+ 0	5.6000- 2

07/04/76

Total
Cross Section

92-U -235

ENDL-7168

07/04/76

92-U -235
ENDL-7168

Total
Cross Section

MeV

92-U -235 -2

11-73

Barns

07/04/76

Total
Cross Section

92-U -235

ENDL-7168

Barns

11-74

Mev

92-U -235 -3

07/04/76

Total
Cross Section

92-U -235

ENDL-7168

11-75

92-U -235 -4

07/04/76

Total
Cross Section

92-U -235
ENDL-7168

Barns

11-76

92-U -235 -5

07/04/76

Total
Cross Section

92-U -235

E: 0L-7168

Barns

11-77

Mev

92-U -235 -6

07/04/76

Total

92-U -235

Cross Section

ENDL-7168

EC51L-1038 (56)

EC51L-814 (65)

EC51L-814 (65)

MeV

11-78

92-U -235 -7

Barns

07/04/76

Total
Cross Section

92-U -235

ENR 7168

11-80

92-U -235 -9

07/04/76

Total
Cross Section

92-U -235
ENDL-7168

Mev

92-U -235 -10

11-81

Barns

07/04/76

Total
Cross Section

92-U -235

07/04/76

Total
Cross Section

92-U -235
ENDL-7168

11-83

MeV

92-U -235 -12

Barns

07/04/76

Total
Cross Section

92-U-236
ENDL-7168

ECSIL-1466 (66)

(Expanded Below)
ECSIL-3643 (71)

ECSIL-3643 (71)

11-84

92-U-236 -13

Barns

07/04/76

Total
Cross Section92-U -235
ENDL-7168

0.009 0.01 0.011 0.012 0.013

0.014 0.016 0.018 0.02 0.022 0.024

0.03 0.04 0.05 0.06

11-85

MeV

92-U -235 -14

Barns

07/04/76

Total
Cross Section

92-U -235

ENDL -7168

11-86

92-U -235 -15

07/04/76

Total
Cross Section

92-U-235
ENDL-7168

(Expanded Below)
ECSIL-1514 (66)

ECSIL-1514 (66)

ECSIL-1514 (66)

11-87

92-U-235 -16

Barns

07/04/76

92-U -235

ENDL-7168

Total
Cross Section

11-88

92-U -235 -17

Barns

07/04/76

Total
Cross Section

92-U -235
ENOL-7168

Barns

11-89

May

92-U -235 -18

07/04/76

Total
Cross Section

92-U-235
ENDL-7168

ECSIL-750 (67)

(Expanded Below)
ECSIL-963 (64)

ECSIL-963 (64)

Barns

07/04/76

Total
Cross Section

92-U-235

ECSIL-963 (64)

ECSIL-963 (64)

ECSIL-963 (64)

11-91

92-U-235 -20

Barns

07/04/76

Total
Cross Section

92-U -235

ENC 1168

07/04/76

Elastic
Cross Section

92-U-235
1400-1169

Barns

11-93

92-U-235 -22

07/04/76

92-U -235

ENOL-7168

Elastic
Cross Section

3 4 5 6 7 8 9 10⁴

Mev

11-94

92-U -235 -23

Barns

07/04/76

Elastic
Cross Section

92-U -235

LNDX -7168

07/04/76

Fission Cross Section

92-U -235
ENDL 7168

11-96

MeV

92-U -235 -25

Baras

07/04/76

Fission Cross Section

92-U -235

ENDL-7168

11-97

92-U -235 -26

Barns

07/24/76

Fission

92-U -235

Cross Section

1258 7168

ECSIL-956 (55)

(Expanded Below)
ECSIL-1013 (66)

ECSIL-1013 (66)

11-98

Mev

92-U -235 -27

Barns

07/04/76

92-U -235

Fission Cross Section

3 4 5 6 7 8 9 10⁵ 2 3 4 5 6 7 8

2 3 4 5 6 7 8 9 10⁷

2 4 6 8 10⁷ 2 4 6 8 10⁶ 2 4 6 8 10⁵

11-99

Mev

92-U -235 -28

Barns

07/04/76

Fission
Cross Section

92-U -235
ENDL -7168

ECSIL-966 (64)

(Expanded Below)
ECSIL-1011 (65)

ECSIL-1011 (65)

11-100

92-U -235 -29

Barns

07/04/76

Fission Cross Section

92-U -235
ENDL -71168

ECS1L-1011 (65)

ECS1L-406 (58)

11-101
92-U -235 -30

Barns

07/04/76

Fission Cross Section

92-U -235

ENDL -7168

11-102

92-U -235 -31

07/04/76

92-U -235

Fission
Cross Section

(Expanded Below)

ECS1L-963 (64)

11-103

Mev

92-U -235 -32

Barns

07/04/76

Fission Cross Section

92-U -235

ENOL-7168

11-104

Mev

92-U -235 -33

07/04/76

92-U -235

Fission
Cross Section

Barns

MeV

11-105

92-U -235 -34

07/04/76

Fission
Cross Section

92-U -235
Ene 1108

(Expanded Below)
ECSIL-1293 (66)

Barns

92-U -235 -35

07/04/76

Fission
Cross Section

92-U-235
END-0168

ECSIL-1293 (66)

ECSIL-1293 (66)

(Expanded Below)
ECSIL-3263 (75)

11-107

92-U-235 -36

Barns

07/04/76

Fission
Cross Section

92-U -235

07/04/76

Fission
Cross Section

92-U -235

(Expanded Below)
ECSIL-1544 (68)

ECSIL-1544 (68)

ECSIL-1544 (68)

Barns

11-109

92-U -235 -38

07/04/76

Fission
Cross Section

92-U -235

11-110

11-110

92-U -235 -39

07/04/76

Fission
Cross Section

92-U -235
ENDL-7168

11-1111

Mev

92-U -235 -40

Barns

07/04/76

Fission
Cross Section

92-U -235

ECSIL-1544 (68)

ECSIL-1544 (69)

(Expanded Below)
ECSIL-1017 (60)

11-112

MeV

92-U -235 -41

Barns

07/04/76

Fission Cross Section

92-U-235

ENC-7158

11-113

92-U-235-42

07/04/76

Fission
Cross Section

92-U-235
ENDL-7168

(Expanded Below)
ECS1L-3262 (72)

ECS1L-3262 (72)

ECS1L-3262 (72)

11-114

92-U-235 -43

Barns

07/04/76

Fission

92-U -235

Cross Section

END: 1.5E

(Expanded Below)

ECSIL-943 (70)

11-115

Mev

92-U -235 -44

Barns

07/04/76

Fission

92-U -235

Cross Section

ENDL -7168

MeV

11-116

92-U -235 -45

Bars

07/04/76

Fission Cross Section

92-U -235

ENDL-7168

Barns

11-117

92-U -235 -46

07/04/76

Fission
Cross Section

92-U -235

ENDL-7'58

11-118

92-U -235 -47

07/04/76

Fission
Cross Section

92-U -235

ENDL-7168

Barns

11-119

92-U -235 -48

07/04/76

Fission
Cross Section

92-U-235
ENC L 71BR

ECSIL-3125 (73)

(Expanded Below)
ECSIL-3062 (71)

ECSIL-3062 (71)

11-120

92-U-235 -49

Barns

07/04/76

Fission
Cross Section

92-U -235

EXPT 1168

Barns

11-121

Mev

92-U -235 -50

07/04/76

Fission
Cross Section

92-U -235

11-122

MeV

92-U -235 -51

07/04/76

Fission Cross Section

92-U -235
CNCI 7168

11-123

92-U -235 -52

Barns

27/04/76

Fission
Cross Section

92-U -235

[140] 1106

11-124

92-U -235 -53

07/04/76

Fission Cross Section

92-U -235
ENDL 7168

Mev

11-125

92-U -235 -54

Barns

07/04/76

Fission
Cross Section

92-U -235

ENDL-7168

07/04/76

92-U -235

ENCL-7168

Fission Cross Section

11-127

92-U -235 -56

Barns

07/04/76

92-U -235

Fission
Cross Section

1000 - 7168

11-128

Mev

92-U -235 -57

Barns

07/04/76

92-U -235

Fission
Cross Section

11-129

92-U -235 -58

Bars

07/04/76

Fission
Cross Section

92-U -235

[NDL-7168]

11-130

Mev

92-U -235 -59

07/04/76

Fission Cross Section

92-U -235

ENDL 7168

Barns

11-131

Mev

92-U -235 -60

07/04/76

Fission
Cross Section

92-U -235
ENDL-7168

Barns

11-132

92-U -235 -61

07/04/76

Fission
Cross Section

92-U -235
ENDL-7168

Barns

11-133

MeV

92-U -235 -62

07/04/76

Fission Cross Section

92-U -235

ENDL-7716B

Barns

11-134

92-U -235 -63

07/04/76

92-U -235

Fission
Cross Section

11-135

92-U -235 -64

07/04/76

(n,γ)
Cross Section

92-U-235
E 1011 - 7.152

(Expanded Below)
ECSIL-1011 (65)

ECSIL-1011 (65)

ECSIL-1011 (65)

11-136

92-U-235 -65

Barns

92-U -235

07/04/76

(n, γ)
Cross Section

(Expanded Below)

ECSTL-1025 (67)

ECSTL-1025 (67)

Mev

92-U -235 -66

11-137

Barns

07/04/76

(n, γ)

92-U -235

Cross Section

ENDI -7168

MeV

11-138

92-U -235 -67

Barns

07/04/76

92-U -235

(n,γ)
Cross Section

LNEL 7168

(Expanded Below)

Mev

11-139

92-U -235 -68

Barns

07/04/76

(n, γ)
Cross Section

92-U -235

ENDL 7166

11-140

92-U -235 -69

Barns

07/04/76

(n, γ)

Cross Section

92-U -235

ENDL -7168

MeV

11-141

92-U -235 -70

Barns

07/04/76

92-U -235

(n, γ)

Cross Section

ECSIL-1301 (58)

Barns

11-142

92-U -235 -71

07/04/76

Prompt Neutrons/Fission

92-U -235

ENDL-7168

11-143

Mev

92-U -235 -72

07/04/76

Prompt Neutrons/Fission

92-U -235

END: 7:68

11-144

MeV

92-U -235 -73

Neutrons/Fission

07/04/76

Prompt Neutrons/Fission

92-U -235

ENDL -7168

Neutrons/Fission

11-145

92-U -235 -74

07/01/75

Prompt Neutrons/Fission

92-U -235

~NDL-7168

11-146

92-U -235 -75

Neutrons/Fission

07/04/76

Prompt Neutrons/Fission

92-U -235
ENDL-7168

11-147

92-U -235 -76

Neutrons/Fission

07/04/76

Prompt Neutrons/Fission

92-U -235

ENDL-7168

MeV

11-148

92-U -235 -77

Neutrons/Fission

07/04/76

Prompt Neutrons/Fission

92-U -235

ENDL-7168

07/04/76

Prompt Neutrons/Fission

92-U -235

11-149

92-U -235 -78

07/04/76

Delayed Neutrons/Fission

92-U -235

ENDL-7168

11-150

92-U -235 -79

07/04/76

Neutrons/Nonelastic Event

92-U-235

ECSIL-1390 (58)

ECSIL-990 (56)

ECSIL-1022 (55)

Ratio

11-151

MeV

92-U-235 -60

07/24/76

Neutrons/Nonelastic Event

92-U-235

ECSIL-966 (64)

(Expanded Below)

ECSIL-1011 (65)

ECSIL-1011 (65)

Ratio

11-152

92-U-235 -81

07/04/76

Neutrons/Nonelastic Event

92-U -235

11-153

92-U -235 -82

07/04/76

Neutrons/Nonelastic Event

92-U -235

07/04/76

Capture/Fission Ratio

92-U -235

11-154

92-U -235 -83

07/04/76

Capture/Fission Ratio

92-U -235

11-155

Mev

92-U -235 -84

07/04/76

Capture/Fission Ratio

92-U -235

ECSIL-1381 (55)

ECSIL-966 (64)

(Expanded Below)

ECSIL-1011 (65)

11-156

92-U -235 -85

Ratio

07/04/76

Capture/Fission Ratio

92-U-235

ECSIL-1011 (65)

ECSIL-1011 (65)

ECSIL-1011 (65)

11-157

MeV

92-U-235 -86

Ratio

07/04/76

Capture/Fission Ratio

92-11-235

ECSIL-1297 (64)

ECSIL-3318 (71)

ECSIL-1025 (66)

Ratio

11-158

92-U-235 -87

07/04/76

Capture/Fission Ratio

92-U -235

07/04/76

Total

92-U -235

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA BARNs	DELTA BARNs
58 1463	1.7200- 8		8.5000+ 2		54 6	1.0000- 3		1.8000+ 1
54 1300	2.5000- 8		7.0000+ 2		54 6	1.6000- 1		1.1800+ 1
53 1384	2.5300- 8		6.9100+ 2		60 696	5.0000- 1		7.7610+ 0
54 1279	2.5300- 8		7.2900+ 2		60 696	7.0000- 1		7.3210+ 0
58 1463	9.9000- 7		8.6000+ 1		60 696	8.0000- 1		6.9710+ 0

11-159

92-U -235 -88

07/04/76

Total
Cross Section

92-U -235

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60	696 9.5000- 1		6.9710+ 0	2.0000- 2	57	22 1.2670+ 1	9.0010- 2	5.7510+ 0	6.0010- 2
72	3788 1.5000+ 0		7.2400+ 0	5.2000- 1	57	22 1.4250+ 1	7.0010- 2	5.7910+ 0	7.0010- 2
72	3788 1.9000+ 0		6.6800+ 0	6.2000- 1	60	673 1.7300+ 1	3.0000- 1	6.0610+ 0	7.0010- 2
72	3788 2.3000+ 0		6.9900+ 0	5.2000- 1	60	673 2.1300+ 1	2.0000- 1	6.1710+ 0	9.0010- 2
57	22 7.0500+ 0	1.7000- 1	6.8410+ 0	7.0010- 2	60	673 2.5100+ 1	3.0000- 1	6.0810+ 0	7.0010- 2
57	22 8.6700+ 0	1.5000- 1	6.1210+ 0	5.0000- 2	60	673 2.8900+ 1	3.0000- 1	5.7910+ 0	5.0000- 2
57	22 1.0740+ 1	1.1000- 1	5.7310+ 0	6.0010- 2					

07/04/76

Elastic
Cross Section

92-U -235

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57	444 5.0000- 1		5.9000+ 0		72	3788 1.5000+ 0		4.0700+ 0	1.5000- 1
56	149 5.0000- 1	6.0010- 2	5.9010+ 0	6.0010- 1	72	3788 1.9000+ 0		3.8500+ 0	1.4000- 1
57	444 1.0000+ 0		4.0000+ 0		72	3788 2.3000+ 0		3.7700+ 0	1.4000- 1
56	149 1.0300+ 0	5.0000- 2	4.0000+ 0	4.0000- 1					

07/04/76

Fission
Cross Section

92-U -235

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
1	68 2105 2.5300- 8		5.8730+ 2	3.5000+ 0	65	1372 3.2160- 8	4.0000- 11	5.1200+ 2	1.1000+ 1
68	209 2.5300- 8		5.8290+ 2	6.4000+ 0	65	1372 6.2600- 8	1.0000- 10	3.4300+ 2	9.0000+ 0
56	1333 2.5300- 8		5.5200+ 2	6.0000+ 0	65	1072 2.4000- 2		2.3600+ 0	6.0000- 2
58	1389 2.5300- 8		6.0500+ 2	6.0000+ 0	67	1388 3.0000- 2		2.1900+ 0	6.0000- 2
65	1372 2.5300- 8		5.8200+ 2	1.0000+ 1	67	1388 6.4000- 2		1.7800+ 0	1.3000- 1
59	1302 2.5300- 8		5.8000+ 2	7.0000+ 0	75	3949 2.6500- 1		1.3200+ 0	4.0000- 2
65	1214 2.5300- 8		5.7200+ 2	6.0000+ 0	70	3241 5.5200- 1		1.0850+ 0	4.3000- 2
58	1164 2.5300- 8		5.6900+ 2	6.0000+ 0	70	3241 6.4400- 1		1.0650+ 0	4.2000- 2
59	1176 2.5300- 8		5.8200+ 2	1.2000+ 1	75	3499 9.6400- 1	1.6000- 2	1.2100+ 0	2.5000- 2
66	3648 2.5300- 8		5.8790+ 2	3.4000+ 0	72	3788 1.5000+ 0		1.3000+ 0	1.1000- 1
73	3291 2.5300- 8		5.8630+ 2	7.8000+ 0	72	3788 1.9000+ 0		1.2700+ 0	1.3000- 1
72	3291 2.5300- 8		5.8170+ 2	7.8000+ 0	72	3788 2.3000+ 0		1.4800+ 0	1.8000- 1

11-160

92-U -235 -89

07/04/76

Fission
Cross Section

92-U -235

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
73 4085	2.5000+ 0		1.3100+ 0	5.0000- 2	58 608	1.4600+ 1		2.3000+ 0	1.5000- 1
50 1413	1.4000+ 1		2.1600+ 0	9.0000- 2	75 3201	1.4600+ 1		2.0000+ 0	3.0000- 2
56 771	1.4100+ 1		2.2000+ 0	7.0010- 2	55 461	1.2000+ 2		1.5000+ 0	
70 3867	1.4100+ 1		2.2000+ 0	2.0000- 1	55 461	3.8000+ 2		1.2400+ 0	

07/04/76

(n,y)
Cross Section

92-U -235

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60 360	2.5300- 8		9.6600+ 1	5.8000+ 0	58 1338	2.4000- 1		3.2700- 1	5.8670- 2
56 1360	2.4000- 2		7.5670- 1	6.9180- 2	56 1360	2.5000- 1		1.4960- 1	1.0270- 1
65 1342	2.4000- 2		8.6590- 1	9.8400- 2	56 1360	2.5000- 1		3.0840- 1	8.3590- 2
58 1338	2.4000- 2		6.2410- 1	7.9480- 2	58 1338	8.6000- 1		1.5700- 1	7.3630- 2
56 1360	1.4000- 1		2.3650- 1	8.4460- 2	56 1360	9.0000- 1		1.2230- 1	4.6660- 2

07/04/76

Prompt Neutrons/Fission

92-U -235

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
70 3415	0.0000+ 0		2.4120+ 0	1.4000- 2	61 1068	7.5000- 2		2.3900+ 0	5.0000- 2
65 1319	0.0000+ 0		2.3870+ 0	2.3000- 2	56 1145	8.0000- 2		2.4700+ 0	3.0000- 2
65 1085	0.0000+ 0		2.3960+ 0	2.6000- 2	61 1334	2.1000- 1		2.4900+ 0	2.0000- 2
56 1065	0.0000+ 0		2.4500+ 0	1.5000- 1	61 1334	6.2000- 1		2.5400+ 0	3.0000- 2
63 1073	0.0000+ 0		2.3990+ 0	2.0000- 2	55 1374	7.0000- 1		2.4600+ 0	5.0000- 2
56 1336	0.0000+ 0		2.3980+ 0	8.0000- 2	55 1373	1.0000+ 0		2.7800+ 0	3.2000- 1
66 1071	0.0000+ 0		2.3800+ 0	1.4000- 2	61 1334	1.2300+ 0		2.5700+ 0	2.0000- 2
66 1323	0.0000+ 0		2.4000+ 0	4.0000- 2	57 1190	1.2500+ 0		2.6500+ 0	7.0000- 2
64 1155	0.0000+ 0		2.3790+ 0	2.0000- 2	61 1334	1.5800+ 0		2.6300+ 0	2.0000- 2
70 3278	0.0000+ 0		2.3820+ 0	8.0000- 3	56 1321	2.5000+ 0		2.6400+ 0	1.8000- 1
70 3392	0.0000+ 0		2.3780+ 0	1.4000- 2	61 1068	2.5000+ 0		2.6000+ 0	8.0000- 2
44 1318	2.5300- 8		2.4400+ 0		55 1383	4.0000+ 0		3.1300+ 0	3.1000- 1
58 1320	2.5300- 8		2.4050+ 0	3.7000- 2	58 1121	4.0000+ 0	3.0000- 1	3.0100+ 0	1.2000- 1
65 1319	6.0000- 2		2.3920+ 0	2.3000- 2	55 1383	4.5000+ 0		3.2600+ 0	3.3000- 1

11-161

92-U -235 -90

07/04/76

Prompt Neutrons/Fission

92-U -235

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
57 1195	4.6000+ 0		3.2000+ 0	8.0000- 2	60 1325	1.4300+ 1		4.1700+ 0	3.0000- 1
65 1319	7.5000+ 0		3.4560+ 0	6.0000- 2	58 1322	1.4800+ 1		4.7000+ 0	5.0000- 1
58 1324	1.4000+ 1		4.1100+ 0	2.4000- 1	65 1319	1.4800+ 1		4.4270+ 0	9.0000- 2
56 1321	1.4100+ 1		4.5200+ 0	3.2000- 1	58 1121	1.5000+ 1	5.0000- 1	4.5100+ 0	1.9000- 1
61 1068	1.4200+ 1		4.2800+ 0	8.0000- 2					

07/04/76

Delayed Neutrons/Fission

92-U -235

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
1 69 2899	2.5000- 8		1.5700- 2	7.0000- 4	69 1533	3.1000+ 0	2.0000- 1	1.8000- 2	2.0000- 3
48 1421	2.5000- 8		1.8350- 2		59 1425	3.3000+ 0		1.6000- 2	1.0000- 3
57 1066	2.5000- 8		1.5800- 2	5.0000- 4	60 1410	1.4000+ 1		2.2000- 2	5.0000- 3
71 3159	2.5000- 8		1.5800- 2	7.0000- 4	69 1533	1.4900+ 1	5.0000- 1	9.5000- 3	8.0000- 4
59 1425	2.4000+ 0		1.6000- 2	1.0000- 3	59 1425	1.5000+ 1		3.0000- 2	1.0000- 3

07/04/76

Neutrons/Nonelastic Event

92-U -235

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
65 1076	2.5000- 8		2.0790+ 0	1.0000- 2	56 1360	2.4000- 2		1.8600+ 0	4.0000- 2
45 1313	2.5300- 8		2.1900+ 0	6.0000- 2	56 1360	1.4000- 1		2.1200+ 0	1.0000- 1
54 1385	2.5300- 8		2.0500+ 0	5.0000- 2	58 1338	2.4000- 1		1.9800+ 0	8.0000- 2
60 1287	2.5300- 8		2.0770+ 0	1.0000- 2	56 1360	2.5000- 1		2.2100+ 0	1.5000- 1
59 1285	2.5300- 8		2.0500+ 0	3.0000- 2	56 1360	2.5000- 1		2.0000+ 0	1.0000- 1
70 1290	2.5300- 8		2.0760+ 0	1.5000- 2	58 1338	8.8000- 1		2.2200+ 0	1.2000- 1
65 1342	2.4000- 2		1.7900+ 0	6.0000- 2	56 1360	8.0000- 1		2.2800+ 0	8.0000- 2
58 1338	2.4000- 2		1.9400+ 0	5.0000- 2	58 1320	1.4000+ 1		3.7100+ 0	2.0000- 1

07/04/76

Capture/Fission Ratio

92-U -235

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58 1280	1.1000-9		1.7200-1	2.2000-2	66 1077	2.5300-8		1.7160-1	1.5000-3
59 1302	2.9000-9		1.7100-1	9.0000-3	62 1007	2.5300-8		1.7700-1	4.0000-3
65 1076	2.5000-8		1.6880-1	5.6220-3	74 4043	2.0000-3	3.5000-4	4.9000-1	4.0000-2
64 1282	2.5000-8		1.7180-1	6.0000-4	56 1360	2.4000-2		3.0760-1	2.8120-2
67 1539	2.5300-8		1.7920-1	2.8000-3	58 1338	2.4000-2		2.5370-1	3.2310-2
59 1285	2.5300-8		1.8940-1	1.7350-2	65 1342	2.4000-2		3.5200-1	4.0000-2
54 1395	2.5300-8		1.8540-1	2.8910-2	74 4043	2.4500-2	1.0000-3	4.3000-1	1.4000-1
46 1313	2.5300-8		1.5710-1	3.3060-2	56 1360	1.4000-1		1.5220-1	5.4350-2
62 1290	2.5300-8		1.7050-1	8.4580-3	58 1338	2.4000-1		2.3820-1	5.0030-2
60 1287	2.5300-8		1.7000-1	5.6330-3	56 1360	2.5000-1		1.0970-1	7.5320-2
66 1311	2.5300-8		1.7600-1	3.0000-3	56 1360	2.5000-1		2.2620-1	8.1310-2
59 1452	2.5300-8		1.8400-1	4.0000-3	58 1338	8.8000-1		1.3030-1	6.1100-2
66 1312	2.5300-8		1.7160-1	3.3000-3	56 1360	9.0000-1		1.0130-1	3.8640-2

07/04/76

Total
Cross Section

92-U -236

ENCL-7169

07/04/76

Total
Cross Section

92-U -236

ENDL-71189

11-164

92-U -236 -2

53389

07/04/76

Fission
Cross Section

92-U -236
1000 100

11-165

92-U -236 -3

Barns

07/04/76

Fission
Cross Section

92-U -236

ENDL-7169

MeV

11-166

92-U -236 -4

Barrs

07/04/76

Fission
Cross Section

92-U -236

ENDL-7169

07/04/76

(n, γ)
Cross Section

92-U -236

ENDL-7169

11-167

92-U -236 -5

07/04/76

(n, γ)
Cross Section

92-U -236

FNDL 7169

11-168

92-U -236 -6

Barns

07/04/76

Prompt Neutrons/Fission

92-U -236

ENDL-7169

EC5IL-2509 (71)

ENDL-7169

11-169

MeV

92-U -236 -7

Neutrons/Fission

07/04/76

Elastic
Cross Section

92-U -236

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 436	2.5300- 8		1.0600+ 1	4.0000- 1

07/04/76

Fission
Cross Section

92-U -236

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 1091	1.2700- 1	7.0000- 3	1.8000- 3	9.0000- 4	64 1090	2.2500+ 0		8.6000- 1	3.0100- 2
65 1091	3.1200- 1	7.0000- 3	3.7000- 3	1.4000- 3	64 1090	5.4000+ 0		7.8000- 1	2.7300- 2
65 1091	5.0500- 1	1.0000- 2	6.9000- 3	6.0000- 4	50 1413	1.4000+ 1		1.8000+ 0	1.1000+ 0
64 1090	1.0000+ 0		3.4000- 1	1.1900- 2	64 1090	1.4100+ 1		1.6000+ 0	5.6000- 2

07/04/76

(n,γ)
Cross Section

92-U -236

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
55 1127	2.5000- 8		2.4000+ 1	7.0000+ 0
58 438	2.5000- 8		5.5000+ 0	3.0000- 1
58 1163	2.5300- 8		5.5000+ 0	3.0000- 1

07/04/76

Prompt Neutrons/Fission

92-U -236

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
1 69	2509-6.4000+ 0		1.9000+ 0	5.0000- 2

11-170

92-U -236 -8

92-U -237
ENDL-7170

Fission
Cross Section

07/04/76

Barns

92-U -237 -1

11-171

07/04/76

Fission
Cross Section

92-U -237

ENDL-7170

07/04/76

Fission
Cross Section

92-U -237

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 2273	1.5000+ 0	1.2500- 1	6.7000- 1	1.3400- 1	70 2273	2.0000+ 0	1.2500- 1	6.7000- 1	1.3400- 1
70 2273	1.7500+ 0	1.2500- 1	6.7000- 1	1.3400- 1	70 2273	2.2500+ 0	1.2500- 1	6.3000- 1	1.2600- 1

11-172

92-U -237 -2

07/04/76

Total
Cross Section

92-U -238

ENDL-7171

11-173

Mev

92-U -238 -1

Barns

07/04/76

Total
Cross Section

92-U-238
ENDL-7171

Barns

07/04/76

Total
Cross Section

92-U -238
ENDL-7171

ECSIL-814 (65)

ECSIL-814 (65)

ECSIL-814 (65)

Barns

11-175

92-U -238 -3

07/04/76

92-U -238

ENDL -7171

Total
Cross Section

11-176

92-U -238 -4

Barns

07/04/76

Total
Cross Section

92-U -238
ENDL-7171

11-177

92-U -238 -5

Ba 235

07/04/76

Total
Cross Section

92-U-238
ENDL-7171

11-178

92-U-238-6

Barns

07/04/76

92-U -238

Total
Cross Section

ENDL-7171

Bars

Mev

11-179

92-U -238 -7

07/04/76

Total
Cross Section

92-U -238

ENOL-7171

Barns

11-180

Mev

92-U -238 -8

07/04/76

92-U -238

Total
Cross Section

ENDL-7171

11-181

92-U -238 -9

Barns

07/04/76

92-U -238

ENDL-7171

Total
Cross Section

EC51L-381 (64)

EC51L-2849 (69)

EC51L-3945 (73)

MeV

11-182

92-U -238 -10

Barns

07/04/76

Total
Cross Section

92-U -238
ENDL-7171

(Expanded Below)
ECSIL-3255 (73)

ECSIL-3255 (73)

ECSIL-3255 (73)

Mev

11-183

92-U -238 -11

Barns

07/04/76

Total
Cross Section

92-U -238

ENDL-7171

11-184

Mev

92-U -238 -12

07/04/76

Total
Cross Section

92-U -238

ENDL-7171

Barns

07/04/76

Elastic
Cross Section

92-U -238

ENDL-7171

Barns

11-186

92-U -238 -14

07/04/76

Fission
Cross Section

92-U -238
ENDL-7171

ECSIL-3414 (71)

ECSIL-268 (55)

ECSIL-218 (57)

Barns

11-187

MeV

92-U -238 -15

07/04/76

Fission
Cross Section

92-U -238

ENDL -7171

11-188

MeV

92-U -238 -16

07/04/76

92-U -238

Fission
Cross Section

ENDL-7171

EC51L-1362 (68)

EC51L-188 (65)

EC51L-1234 (58)

Bars

Mev

11-189

92-U -238 -17

07/04/76

92-U -238

ENDL-7171

Fission
Cross Section

11-190

MeV

92-U -238 -18

Barns

07/04/76

Fission Cross Section

92-U -238
ENDL-7171

Barns

MeV

07/04/76

Fission
Cross Section

92-U-238

07/04/76

(n, γ)
Cross Section92-U-238
ENDL-7171

11-192

92-U-238 -20

07/04/76

(n, γ)
Cross Section

92-U -238
ENDL-7171

Barns

11-193

MeV

92-U -238 -21

07/04/76

(n, γ)

Cross Section

92-U -238

ENDF 7171

MeV

11-194

92-U -238 -22

Barns

07/04/76

(n, γ)
Cross Section

92-U-238
ENDL-7171

ECSIL-1438 (63)

ECSIL-1407 (62)

Barns

11-195

92-U-238-23

07/04/78

(n, γ)

92-U -238

Cross Section

ENDL -7171

11-196

MeV

92-U -238 -24

Barns

07/04/76

(n, γ)
Cross Section

92-U-238
ENDL 7171

ECSIL-3498 (71)

ECSIL-3498 (74)

ECSIL-1401 (64)

Barns

11-197

92-U-238-25

07/04/76

(n, γ)
Cross Section

92-U -238

ENDL-7171

Barns

11-198

MeV

92-U -238 -26

07/04/76

(n,y)
Cross Section

92-U -238

ENDL-7171

07/04/76

Prompt Neutrons/Fission

92-U -238

ENDL-7171

11-199

92-U -238 -27

07/04/76

Prompt Neutrons/Fission

92-U -238

ENDL-7171

Neutrons/Fission

11-200

Mev

92-U -238 -28

07/04/76

Prompt Neutrons/Fission

92-U -238
ENDL-7171

Neutrons/Fission

ECSTL-1379 (64)

11-201

92-U -238 -29

07/04/76

Delayed Neutrons/Fission

92-U -238

ENDL -7171

11-202

92-U -238 -30

07/04/76

Neutrons/Nonelastic Event

92-U -238

07/04/76

Total
Cross Section

92-U -238

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
54	6 1.1500+ 3		1.4500+ 1		65	126 7.0000+ 0		6.3300+ 0	1.9000- 1
60	695 5.0000- 1		7.9510+ 0	2.0000- 2	57	22 7.0500+ 0	1.7000-	1 6.8410+ 0	7.0010- 2
69	2848 6.0670- 1		8.0730+ 0	1.6700- 1	57	22 8.6700+ 0	1.5000-	1 6.2110+ 0	5.0000- 2
60	695 7.0000- 1		7.5210+ 0	3.0000- 2	57	22 1 0740+ 1	1.1000-	1 5.8910+ 0	6.0010- 2
60	695 8.0000- 1		7.3710+ 0	3.0000- 2	57	22 1.2670+ 1	9.0010-	2 5.7810+ 0	6.0010- 2
69	2848 8.0570- 1		7.2300+ 0	1.5000- 1	68	2085 1.4100+ 1	1.0000-	1 5.6500+ 0	1.8000- 1
60	695 9.5000- 1		7.1510+ 0	2.0000- 2	57	22 1.4250+ 1	7.0010-	2 5.5010+ 0	5.0000- 2
69	2848 1.0050+ 0		6.9830+ 0	1.6000- 1	61	711 1.4670+ 1	1.4000-	1 5.8310+ 0	2.2000- 1
69	2848 1.2040+ 0		6.4120+ 0	1.6000- 1	60	673 1.7300+ 1	3.0000-	1 6.0410+ 0	7.0010- 2
69	2848 1.4030+ 0		7.7020+ 0	1.6000- 1	60	673 2.1300+ 1	2.0000-	1 6.1810+ 0	6.0010- 2
65	1264 2.0000+ 0		7.4500+ 0		60	673 2.5100+ 1	3.0000-	1 6.0510+ 0	7.0010- 2
67	1527 2.7000+ 0	3.0000- 2	7.4000+ 0	4.0000- 1	60	673 2.8900+ 1	3.0000-	1 5.8110+ 0	6.0010- 2
65	1264 3.0000+ 0		7.6000+ 0	2.1000- 1	50	281 4.2000+ 1	1.0000+	0 5.1210+ 0	7.0010- 2
65	1264 4.0000+ 0		7.8400+ 0	2.1000- 1	50	12 9.5000+ 1		4.9200+ 0	6.0010- 2

07/04/76

Elastic
Cross Section

92-U -238

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 1264	2.000+ 0		4.070+ 0	2.000- 1	65 1264	7.000+ 0	3.310+ 0	1.6000- 1
65 1264	3.000+ 0		4.380+ 0	2.100- 1	68 2085	1.4100- 1	2.9500+ 0	2.3000- 1
65 1264	4.000+ 0		5.380+ 0	2.5000- 1				

07/04/76

Fission
Cross Section

92-U -238

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
55 268	4.9000- 1	1.0000- 1	0.000+ 0	3.2200- 3	57 20	1.3660+ 1	1.1200+ 0	6.0010- 2	
57 1500	1.1900+ 0	1.7000- 1	4.6300- 2	3.2200- 3	48 1459	1.4000+ 1	1.1300+ 0	3.0000- 2	
64 1090	1.6800+ 0	1.5000- 1	4.3500- 1	2.1750- 2	64 1090	1.4100+ 1	1.1920+ 0	4.1850- 2	
71 3405	2.5000+ 0		5.6000- 1	1.9600- 2	50 771	1.4100+ 1	1.1400+ 0	3.0000- 2	
64 1090	5.4000+ 0		5.5000- 1	2.0000- 2	61 3748	1.4100+ 1	1.0000- 1	1.3200+ 0	1.3200- 1
57 20	8.8000+ 0		9.6000- 1	1.9250- 2	69 2254	1.4600+ 1	2.0000- 1	1.1600+ 0	2.3000- 1
57 20	9.4000+ 0		1.0000+ 0	4.8000- 2	58 610	1.4600+ 1	2.0000- 1	1.2400+ 0	6.0000- 2
57 20	1.0700+ 1		9.8000- 1	4.9600- 2	75 3501	1.4600+ 1	1.1300+ 0	5.0000- 2	
57 20	1.3200+ 1		1.1100+ 0	6.0010- 2	61 3748	1.4600+ 1	2.0000- 1	1.5300+ 0	1.5300- 1
61 3748	1.3500+ 1	2.0000- 1	1.2800+ 0	1.2800- 1	55 461	1.2000+ 2	1.1400+ 0		
58 1330	1.3600+ 1		1.0900+ 0	1.0000- 1	55 461	3.8000+ 2	1.0300+ 0		

07/04/76

(n,γ)
Cross Section

92-U -238

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
59 2156	2.5300- 8		2.6900+ 0	3.0000- 2	59 2523	3.0000- 2	8.0000- 3	5.3100- 1	1.8000- 2
55 191	2.5300- 8		2.7500+ 0	1.0000- 2	62 1462	3.0000- 2	7.0010- 3	4.7300- 1	4.7000- 2
55 1415	2.5300+ 8		2.7300+ 0	7.0000- 2	63 1	3.0000- 2	8.0010- 3	4.7300- 1	4.7300- 2
69 2190	2.5300+ 8		4.9500+ 1	3.9600- 2	62 1462	6.4000- 2	2.0000- 2	3.4000- 1	4.0000- 2
78 3443	2.5300+ 2		5.0200- 1	3.0000- 2	62 1	6.5000- 2	2.1000- 2	3.0200- 1	2.7000- 2
17 305	2.4000- 2	5.0000- 3	6.1010- 1	6.1010- 2	61 677	6.5000- 2	2.0000- 2	3.0200- 1	2.0000- 2
74 3565	2.4300+ 2		5.0000- 1	3.8000- 2	59 2523	1.3300- 1	1.8400- 1	8.0000- 3	
60 633	2.5000- 2	1.0000- 3	5.6910- 1	1.0000- 2					

11-204

92-U -238 -32

07/04/76

(n,γ)

92-U -238

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
59	526 1.9500- 1	2.7300- 2	1.2000- 1	1.7000- 2	69	2523 9.0000- 1		1.4900- 1	5.0000- 3
58	363 2.0000- 1	1.5000- 2	1.9400- 1	8.0000- 3	45	1403 2.0800- 0		3.9000- 2	5.0000- 3
60	633 2.2000- 1	2.0000- 2	1.4600- 1	1.6000- 2	45	1402 2.5200- 0		2.7000- 2	5.0000- 3
45	1403 4.0000- 1		1.2300- 1	1.3000- 2	58	363 2.7000- 0		5.9300- 2	1.6000- 3
71	382 4.0000- 1		1.2700- 1		45	1403 3.0000- 0		2.3500- 2	2.5000- 3
71	382 4.0000- 1		6.3000- 3	5.0000- 4	58	363 4.0000- 0		3.3300- 2	1.2000- 3
69	2523 5.0000- 1		1.3200- 1	4.0000- 3	71	3194 1.4000- 1		8.4500- 4	2.1120- 4
45	1403 6.0000- 1		1.2900- 1	1.3000- 2	57	521 1.4500- 1		3.3300- 3	5.0000- 4
60	633 8.3000- 1	4.0000- 2	1.6100- 1	6.0010- 3					

07/04/76

Prompt Neutrons/Fission

92-U -238

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
71	2509-6.1400- 0		2.0000- 0	5.0000- 2	61	1079 2.3000- 0		2.7200- 0	8.0000- 2
52	1366-6.1400- 0		2.2000- 0	3.0000- 1	56	1321 2.5000- 0		2.3500- 0	1.8000- 1
57	1370-6.1400- 0		2.1800- 0	8.0000- 2	65	1074 3.0000- 0		2.7490- 0	2.4000- 2
60	1454-6.1400- 0		1.7000- 0		61	1079 3.7500- 0		3.0200- 0	1.0000- 1
59	1157-6.1400- 0		2.1000- 0	1.0000- 1	65	1074 4.0200- 0		2.9320- 0	2.5000- 2
60	1133-6.1400- 0		2.1000- 0	8.0000- 2	55	1383 4.5000- 0		3.1000- 0	4.0000- 1
54	1128-6.1400- 0		2.3000- 0	2.0000- 1	58	1324 1.4000- 1		4.4600- 0	3.2000- 1
63	1075-6.1400- 0		1.9700- 0	7.0000- 2	63	1126 1.4000- 1		4.3600- 0	3.4000- 1
70	4040 2.5300- 8		2.9200- 0	1.2000- 1	56	1321 1.4100- 1		4.1300- 0	2.5000- 1
65	1074 1.4100- 0		2.5340- 0	3.4000- 2	58	1330 1.4200- 1		4.5500- 0	1.5000- 1
57	1190 1.5000- 0		2.6500- 0	9.0000- 2	58	1134 1.4200- 1		4.4400- 0	2.0000- 1
61	1334 1.5800- 0		2.5600- 0	3.0000- 2	61	1068 1.4200- 1		4.4400- 0	1.2000- 1
65	1074 1.9800- 0		2.6210- 0	2.2000- 2	60	1325 1.4300- 1		4.2800- 0	3.0000- 1

11-205

92-U -238 -33

07/04/76

Delayed Neutrons/Fission

92-U -238

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
1 55 1341	2.0000+ 0	1.0000+ 0	3.4080- 2	3.3600- 3	60 1410	1.4000+ 1		6.6000- 2	1.7000- 2
59 1425	2.4000+ 0		4.1000- 2	2.0000- 3	66 1542	1.4700+ 1		6.5000- 2	
69 1533	3.1000+ 0	2.0000- 1	4.9000- 2	5.0000- 3	69 1533	1.4900+ 1	5.0000- 1	2.8600- 2	2.5000- 3
59 1425	3.3000+ 0		3.9000- 2	3.0000- 3	59 1425	1.5000+ 1		7.4000- 2	4.0000- 3
68 2357	1.4000+ 1		2.2000- 2	6.0000- 3					

07/04/76

Neutrons/Nonelastic Event

92-U -238

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58 1324	1.4000+ 1		2.9900+ 0	1.5000- 1
68 2085	1.4100+ 1	2.0000- 1	2.9300+ 0	3.5000- 1
61 1270	1.4100+ 1	7.0000- 1	3.3000+ 0	1.5000- 1

07/04/76

Fission
Cross Section

92-U -239

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 2273	1.5000+ 0	1.2500- 1	5.5000- 1	1.1200- 1	70 2273	2.0000+ 0	1.2500- 1	5.2000- 1	1.0400- 1
70 2273	1.7500+ 0	1.2500- 1	5.6000- 1	1.1200- 1	70 2273	2.2500+ 0	1.2500- 1	5.2000- 1	1.0400- 1

11-206

92-U -239 -1

Barns

11-207

UO₂ -1

07/04/76

Fission Cross Section

93-Np-236

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
61 1088	2.5000- 8		2.50*0+ 3	8.0000+ 1

07/04/76

Prompt Neutrons/Fission

93-Np-236

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
61 1088	2.5300- 8		3.1200+ 0	1.4000- 1

07/04/76

Total Cross Section

93-Np-237

ENDL-7174

11-208

MeV

93-Np-237 -1

07/04/76

Total
Cross Section

93-Np-237
ENCL-7174

11-209

Mev

93-Np-237 -2

Barns

07/04/76

Total
Cross Section

93-Np-237

ENDL-7174

11-210

93-Np-237 -3

07/04/76

Total
Cross Section

93-Np-237
ENDL-7174

07/04/76

Total
Cross Section

93-Np-237

ENDL-7174

11-212

93-Np-237 -5

07/04/76

Total
Cross Section

93-Np-237

ENDL-7174

11-213

MeV

93-Np-237 -6

Barns

07/04/76

Total
Cross Section

93-Np-237

ENDL-7174

11-214

93-Np-237 -7

07/04/76

Total
Cross Section

93-Np-237
ENDL-7174

Barns

07/04/76

Fission
Cross Section

93-Np-237
ENDL-7174

Barns

11-215

93-Np-237 -8

07/04/76

Fission
Cross Section

93-Np-237
ENDL-7174

(Expanded Below)
ECSIL-3921 (73)

ECSIL-3921 (73)

ECSIL-3921 (73)

11-216

93-Np-237 -9

Barns

07/04/76

Fission Cross Section

93-Np-237
ENDL-7174

11-217

$\times 10^5$
MeV

93-Np-237 -10

Barns

07/04/76

Fission
Cross Section

93-Np-237
1 NPL 7.1.74

(Expanded Below)
ECSIL-943 (70)

ECSIL-943 (70)

ECSIL-943 (70)

11-218

93-Np-237 -11

Barns

07/04/76

Fission
Cross Section

93-Np-237
ENDL-7174

ECSIL-624 (59)

(Expanded Below)
ECSIL-3900 (75)

Barns

11-219

93-Np-237 -12

07/04/76

Fission
Cross Section

93-Np-237
1.111 1.34

11-220

93-Np-237 -13

Barns

07/04/76

Fission
Cross Section

93-Np-237
ENDL-7174

ECSIL-179 (47)

ECSIL-345 (57)

ECSIL-551 (59)

Barns

11-221

93-Np-237 -14

07/04/76

Fission
Cross Section

93-Np-237

ENDL-7174

11-222

Mev

93-Np-237 -15

07/04/76

Fission
Cross Section

93-Np-237

ENDL-7174

Barns

11-223

MeV

93-Np-237 -16

07/04/76

Fission
Cross Section

93-Np-237

11-224

93-Np-237 -17

07/04/76

(n, γ)
Cross Section

93-Np-237

ENDL-7174

11-225

MeV

93-Np-237 -18

07/04/76

(n,γ)
Cross Section

93-Np-237

ENDL-7174

07/04/76

Fission
Cross Section

93-Np-237

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 1072	2.4000- 2		1.1000- 2	2.0000- 3	64 1090	1.0000+ 0		1.4600+ 0	5.1100- 2
65 1091	4.0000- 2	1.0000- 2	1.3000- 2	1.0000- 3	64 1090	2.2500+ 0		1.6700+ 0	5.8450- 2
65 1091	6.7000- 2	1.0000- 2	1.2000- 2	1.0000- 3	64 1090	5.4000+ 0		1.4300+ 0	5.0050- 2
65 1091	1.2700- 1	7.0000- 3	2.4000- 2	2.0000- 3	64 1090	1.4100+ 1		2.3300+ 0	1.0000- 1
65 1091	3.1200- 1	7.0000- 3	6.9000- 2	5.0000- 3	70 3867	1.4100+ 1		2.9800+ 0	3.0000- 1
65 1091	5.0500- 1	1.0000- 2	4.7000- 1	2.0000- 2	58 528	1.4600+ 1		2.4000+ 0	2.0000- 1

07/04/76

(n,γ)
Cross Section

93-Np-237

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
56 166	2.5300- 8		1.7200+ 2	7.0000+ 0

07/04/76

Prompt Neutrons/Fission

94-Pu-236

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
56 1146-7.3500+ 0			2.3000+ 0	1.9000- 1
56 1147-7.3500+ 0			1.8900+ 0	2.0000- 1

07/04/76

Fission
Cross Section

94-Pu-238

END 17175

07/04/76

Fission Cross Section

94-Pu-238
ENDL-7175

Barns

07/04/76

Fission
Cross Section

94-Pu-238

ENDL-7175

07/04/76

Fission
Cross Section94-Pu-238
ENDL-7175

07/04/76

94-Pu-238

ENOL-7175

Fission
Cross Section

11-232

MeV

94-Pu-238 -6

Barns

07/04/76

Fission Cross Section

94-Pu-238

ENDL -7175

Mev

11-233

94-Pu-238 -7

Bars

07/04/76

94-Pu-238

Fission
Cross Section

Barns

11-234

94-Pu-238 -8

07/04/76

Fission Cross Section

94-Pu-238
ENCL-7175

11-233

Mev

94-Pu-238 -7

Ba 235

07/04/76

Fission

94-Pu-238

Cross Section

ENDL-7175

Bar 10^5

11-234

94-Pu-238 -8

07/04/76

94-Pu-238

ENDL-7175

Fission
Cross Section

Barns

MeV

94-Pu-238 -7

11-233

07/04/76

Fission

94-Pu-238

Cross Section

ENDL 7175

11-234

94-Pu-238 -8

07/04/76

Fission Cross Section

94-Pu-238
ENDL-7175

11-233

MeV

94-Pu-238 -7

Bars

07/04/76

Fission Cross Section

94-Pu-238

ENDL-7175

11-234

94-Pu-238 -8

07/04/76

Fission
Cross Section

94-Pu-238
ENDL-7175

ECSIL-1069 (66)

ECSIL-1081 (63)

ECSIL-2911 (70)

11-233

MeV

94-Pu-238 -7

Barns

07/04/76

Fission
Cross Section

94-Pu-238
ENDL-7175

11-234

94-Pu-238 -8

07/04/76

(n,γ)
Cross Section

94-Pu-238
ENDL-7175

(Expanded Below)
ECSIL-3273 (71)

ECSIL-3273 (71)

ECSIL-3273 (71)

11-235

94-Pu-238 -9

Barns

07/04/76

(n, γ)
Cross Section

94-Pu-238

ENDL-7175

07/04/76

Total
Cross Section

94-Pu-238

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 1210	2.5300- 8		3.1500+ 2	1.0000+ 1

07/04/76

Fission
Cross Section

94-Pu-238

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 1163	2.5300- 8		1.7100+ 1	4.0000- 1	67 1363	3.0000+ 0		2.2300+ 0	1.1000- 1
67 1363	1.0000+ 0		2.0800+ 0	1.0000- 1	67 1518	1.4500+ 1		2.7300+ 0	1.3000- 1
67 1363	1.5000+ 0		2.2000+ 0	1.1000- 1	67 1363	1.4900+ 1		2.6700+ 0	1.3000- 1

07/04/76

(n,γ)
Cross Section

94-Pu-238

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 1348	2.5000- 8		4.0300+ 2	8.0000+ 0

07/04/76

Prompt Neutrons/Fission

94-Pu-238

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
55 1147-7.0100+ 0			2.0400+ 0	1.3000- 1
55 1146-7.0100+ 0			2.3300+ 0	8.0000- 2

07/04/76

Total
Cross Section

94-Pu-239

ENDL-7176

11-238

Mev

94-Pu-239 -1

07/04/76

Total
Cross Section

94-Pu-239
ENDL-7176

Barns

11-239

94-Pu-239 -2

07/04/76

94-Pu-239

ENDL-7176

Total
Cross Section

Bars

11-240

Mev

94-Pu-239 - 3

07/04/76

94-Pu-239

ENDL-7176

Cross Section

11-241

94-Pu-239 -4

Barns

07/04/76

Total
Cross Section

$^{94}\text{-Pu-239}$
ENDL-7176

ECSIL-3919 (75)

ECSIL-3919 (75)

ECSIL-3919 (75)

11-242

$^{94}\text{-Pu-239}$ -5

Barns

07/04/76

Total
Cross Section94-Pu-239
ENCL-7176

11-243

94-Pu-239 -6

07/04/76

94-Pu-239

ENDL-7176

Total
Cross Section

11-244

MeV

94-Pu-239 -7

Barns

07/04/76

Total
Cross Section

94-Pu-239
ENDL-7176

Barns

11-245

94-Pu-239 -8

07/04/76

Total
Cross Section94-Pu-239
ENDL-7176

Barns

11-246

MeV

94-Pu-239 -9

07/04/76

Total
Cross Section

94-Pu-239
ENDL-7176

Mev

11-247

94-Pu-239 -10

Barns

07/04/76

Total
Cross Section

94-Pu-239

ENDL 7176

11-248

94-Pu-239 -11

07/04/76

94-Pu-239
ENCL-71176Total
Cross Section

11-250

MeV

94-Pu-239 -13

Barns

07/04/76

Total
Cross Section

94-PV-239

ENDL-7176

11-251

Mev

94-PV-239 -14

Ba 25

07/04/76

Total
Cross Section

94-Pu-239

11-252

94-Pu-239 -15

07/04/76

Elastic
Cross Section

94-Pv-239

1.00E+01

EC51L-3146 (72)

Bar 5

EC51L-3146 (72)

07/04/76

Fission
Cross Section

94-Pu-239

ENDL-7176

11-254

94-Pu-239 - 17

07/04/76

Fission Cross Section

94-Pu-239
ENDL-7176

Mev

94-Pu-239 -18

11-255

Bar 25

07/04/76

Fission
Cross Section

94-Pu-239

ENDL-7176

Barns

11-256

MeV

94-Pu-239 -19

07/04/76

Fission Cross Section

94-Pu-239
ENDL-7176

EC51L-1430 (53)

EC51L-936 (58)

(Expanded Below)

11-257

94-Pu-239 -20

Barns

07/04/76

Fission Cross Section

94-Pu-239
ENDL-7176

Mev

11-258

94-Pu-239 -21

Barns

07/04/76

Fission
Cross Section

94-Pu-239

ENDL-7176

Barns

11-259

Mev

94-Pu-239 -22

07/04/76

Fission
Cross Section

94-Pu-239
ENL-7176

07/04/76

Fission
Cross Section

94-Pu-239
ENDL-7176

11-261

94-Pu-239 -24

Barns

07/04/76

Fission
Cross Section

94-Pu-239
ENDL-7176

(Expanded Below)
ECSIL-1376 (66)

ECSIL-1376 (66)

ECSIL-1376 (66)

11-262

94-Pu-239 -25

Barns

07/04/76

Fission
Cross Section

94-PV-239
ENDL-7176

Barns

MeV

11-265

94-PV-239 -28

07/04/76

Fission
Cross Section

94-Pu-239
ENDL-7176

ECSIL-1061 (66)

ECSIL-1061 (66)

ECSIL-1061 (66)

11-266

MeV

94-Pu-239 -29

Barns

07/04/76

Fission
Cross Section

94-Pu-239
ENDL-7176

07/04/76

Fission
Cross Section

94-Pu-239

ENDL-7176

11-268

94-Pu-239 -31

07/04/76

Fission
Cross Section

94-Pu-239
ENDL-7176

1 1.5 2 2.5
 $\times 10^3$

3 4 5 6 7 8 9 10^2 2 3

10^4 2 4 6 8 10^3 2 4 6 8 10^2 2

Mev

11-269

94-Pu-239 -32

Bars

07/04/76

Fission Cross Section

94-Pu-239

ENDL-7175

Mev

11-270

94-Pu-239 -33

Baras

07/04/76

Fission
Cross Section

94-Pu-239
ENDL-7176

Barns

ECSIL-957 (64)

ECSIL-1337 (66)

ECSIL-2599 (69)

11-271

94-Pu-239 -34

07/04/76

Fission
Cross Section

94-Pu-239
ENDL-7176

11-272

94-Pu-239 -35

Barns

07/04/76

Fission
Cross Section

94-Pu-239
ENDL-7176

07/04/76

Fission
Cross Section

94-Pu-239

ENDL-7176

Barns

11-274

94-Pu-239 -37

07/04/76

Fission
Cross Section

94-Pu-239

ENDL-7176

Barns

07/04/76

Fission Cross Section

94-Pu-239

ENDL-7176

11-276

94-Pu-239 -39

Baras

07/04/76

Fission Cross Section

94-Pu-239
ENDL-7176

94-Pu-239 -40

Barns

07/04/76

(n, γ)

94-Pu-239

Cross Section

ECSIL-2106 (70)

(Expanded Below)
ECSIL-2106 (71)

ECSIL-2106 (71)

11-278

MeV

94-Pu-239 -41

Barns

07/04/76

94-Pu-239

ENDL-7176

(n, γ)
Cross Section

Barns

MeV

11-279

94-Pu-239 -42

07/04/76

94-Pu-239

(n, γ)
Cross Section

MeV

11-280

94-Pu-239 -43

Barns

07/04/76

(n, γ)

94-Pu-239

Cross Section

07/04/76

Prompt Neutrons/Fission

94-Pu-239

ENDL-7176

11-281

94-Pu-239 -44

07/04/76

Prompt Neutrons/Fission

94-Pu-239

Neutrons/Fission

11-282

MeV

94-Pu-239 -45

07/04/76

Prompt Neutrons/Fission

94-Pu-239

ENC-7178

Neutrons/Fission

11-283

MeV

94-Pu-239 -46

07/04/76

Prompt Neutrons/Fission

94-Pu-239

ECSIL-1073 (63)

ECSIL-3314 (70)

ECSIL-211 (67)

Neutrons/Fission

11-284

94-Pu-239 -47

07/04/76

Prompt Neutrons/Fission

94-Pu-239

ENDL-7176

07/04/76

Prompt Neutrons/Fission

94-Pu-239

11-285

94-Pu-239 -48

07/04/76

Prompt Neutrons/Fission

94-Pu-239

ECSIL-3246 (71)

Relative

07/04/76

Delayed Neutrons/Fission

94-Pu-239

ENDL-7176

ECSIL-3495 (72)

Neutrons/Fission

11-286

94-Pu-239 -49

07/04/76

Delayed Neutrons/Fission

94-Pu-239

ENDL-7176

07/04/76

Neutrons/Nonelastic Event

94-Pu-239

11-287

94-Pu-239 -50

07/04/76

Neutrons/Nonelastic Event

94-PJ-239

11-288

94-PJ-239 -51

07/04/76

Neutrons/Nonelastic Event

94-Pu-239

(Expanded Below)
ECSIL-1080 (68)

ECSIL-1080 (68)

ECSIL-1080 (68)

11-685

94-Pu-239 -52

Ratio

07/04/76

Neutrons/Nonelastic Event

94-Pu-239

11-290

94-Pu-239 -53

07/04/76

Neutrons/Nonelastic Event

94-Pu-239

ECSIL-1212 (55)

ECSIL-989 (56)

ECSIL-954 (56)

Relative

11-231

MeV

94-Pu-239 -54

07/04/76

Capture/Fission Ratio

94-Pu-239

11-292

MeV

94-Pu-239 -55

07/04/76

Capture/Fission Ratio

94-Pu-239

ECSIL-989 (56)

ECSIL-954 (56)

ECSIL-1011 (65)

Ratio

11-293

MeV

94-Pu-239 -56

07/04/76

Capture/Fission Ratio

94-Pu-239

(Expanded Below)
ECSIL-2358 (69)

ECSIL-2358 (69)

ECSIL-2358 (69)

11-294

NeV

94-Pu-239 -57

07/04/76

Capture/Fission Ratio

94-Pu-239

MeV

11-295

94-Pu-239 -58

Ratio

07/04/76

Capture/Fission Ratio

94-Pu-239

Ratio

07/04/76

Total
Cross Section

94-Pu-239

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
45	1246 2.5300- 8		1.0450+ 3	1.0000+ 1	57	22 1.2670+ 1	9.0010- 2	5.8210+ 0	6.0010- 2
54	6 1.5000- 3		1.8500+ 1		57	22 1.4250+ 1	7.0010- 2	5.8310+ 0	8.0010- 2
54	6 1.6000- 1		1.1500+ 1		60	673 1.7300+ 1	3.0000- 1	6.0810+ 0	7.0010- 2
57	22 7.0500+ 0	1.7000- 1	6.8310+ 0	6.0010- 2	60	673 2.1300+ 1	2.0000- 1	6.1910+ 0	8.0010- 2
57	22 8.6700+ 0	1.5000- 1	6.3210+ 0	5.0000- 2	60	673 2.5100+ 1	3.0000- 1	6.1010+ 0	7.0010- 2
57	22 1.0740+ 1	1.1000- 1	5.8810+ 0	6.0010- 2	60	673 2.8900+ 1	3.0000- 1	5.8710+ 0	6.0010- 2

07/04/76

Elastic
Cross Section

94-Pu-239

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57	444 5.0000		6.1000+ 0		57	444 1.0000+ 0		4.1000+ 0	
56	149 5.0000- 1	6.0010- 2	6.1010+ 0	6.0010- 1	56	149 1.0000+ 0	5.0000- 2	4.1000+ 0	4.0000- 1

07/04/76

Fission
Cross Section

94-Pu-239

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70	3291 2.5260- 8		7.4000+ 2	8.0000+ 0	57	1181 1.0000- 7		4.3000+ 2	1.4000+ 1
68	209 2.5300- 8		7.4200+ 2	6.7000+ 0	65	1372 2.7500- 7	2.0000- 9	3.2750+ 3	3.0000+ 1
66	1356 2.5300- 8		7.1570+ 2	1.2750+ 1	65	604 1.1910- 5		5.2980+ 2	2.2750+ 1
66	1356 2.5300- 8	1.7710-10	7.2670+ 2	1.2750+ 1	65	604 1.1940- 5		4.4710+ 2	1.9380+ 1
66	1356 2.5300- 8		7.4000+ 2	1.4490+ 1	65	604 1.1960- 5		3.4440+ 2	1.5210+ 1
57	1381 2.5300- 8		7.1280+ 2	2.8510+ 1	65	604 1.1980- 5		2.3930+ 2	1.0950+ 1
66	1311 2.5300- 8		7.5100+ 2	1.0000+ 1	65	604 1.2010- 5		1.8710+ 2	7.6380+ 0
65	1372 2.5300- 8		7.3800+ 2	7.0000+ 0	65	604 1.2030- 5		1.0370+ 2	5.5030+ 0
57	1181 2.5300- 8		6.8000+ 2		65	604 1.2060- 5		7.3920+ 1	4.3240+ 0
59	1176 2.5300- 8		7.0400+ 2		65	604 1.2080- 5		5.0130+ 1	3.4000+ 0
56	1199 2.5300- 8		7.1500+ 2	1.5000+ 1	65	604 1.2110- 5		4.4890+ 1	3.1970+ 0
58	1164 2.5300- 8		7.4100+ 2	5.0000+ 0	65	604 1.2130- 5		3.9200+ 1	2.9790+ 0
68	3648 2.5300- 8		7.4250+ 2	3.7000+ 0	65	604 1.2160- 5		3.1350+ 1	2.6850+ 0
65	1372 3.2160- 8	4.0000-11	6.7300+ 2	1.5000+ 1	65	604 1.2180- 5		3.4780+ 1	2.8070+ 0
65	1372 6.2600- 8	1.0000-10	5.0700+ 2	9.0000+ 0	65	604 1.2200- 5		3.1410+ 1	2.6800+ 0

07/04/76

Fission
Cross Section

94-Pu-239

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65	604 1.2230- 5		3.2470+ 1	2.7150+ 0	65	604 1.2410- 5		2.9120+ 1	2.5680+ 0
65	604 1.2250- 5		2.5830+ 1	2.4700+ 0	65	604 1.2430- 5		2.8130+ 1	2.528+ 0
65	604 1.2280- 5		3.1960+ 1	2.6890+ 0	65	604 1.2460- 5		2.5950+ 1	2.4460+ 0
65	604 1.2310- 5		3.0860+ 1	2.6450+ 0	65	604 1.2480- 5		2.7180+ 1	2.4870+ 0
65	604 1.2330- 5		2.9770+ 1	2.6020+ 0	65	604 1.2510- 5		2.7770+ 1	2.5050+ 0
65	604 1.2360- 5		2.8690+ 1	2.5590+ 0	65	604 1.2530- 5		2.7340+ 1	2.4860+ 0
65	604 1.2380- 5		3.2060+ 1	2.6780+ 0					

07/04/76

(n,γ)
Cross Section

94-Pu-239

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66	1131 2.5300- 8		2.7500+ 2	1.5000+ 1	56	1360 1.4000- 1		3.4610- 1	9.4530- 2
63	1453 2.5300- 8		2.6600+ 2	8.0000+ 0	58	1338 2.4000- 1		4.5520- 2	6.6510- 2
58	1338 2.4000- 2		5.4990+ 1	7.2350- 2	56	1360 2.5000- 1		2.4650- 1	7.7680- 2
65	1342 2.4000- 2		5.9120+ 1	6.7750- 2	56	1360 2.5000- 1		1.7880- 1	1.1750- 1
56	1360 2.4000- 2		7.2840+ 1	6.0260- 2	56	1360 9.0000- 1		2.8400- 1	9.3110- 2

07/04/76

Prompt Neutrons/Fission

94-Pu-239

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
56	1065 0.0000+ 0		2.7840+ 0	2.6000- 2	44	1318 2.5300- 8		2.8600+ 0	
55	1097 0.0000+ 0		2.8610+ 0	1.0000- 1	44	1380 2.5300- 8		2.8490+ 0	2.4140- 2
55	1098 0.0000+ 0		2.8370+ 0	2.4000- 2	55	1099 2.5300- 8		2.8600+ 0	1.8000- 1
58	1063 0.0000+ 0		2.8510+ 0	2.9000- 2	58	1445 2.5300- 8		2.8970+ 0	4.9740- 2
59	1092 0.0000+ 0		2.9320+ 0	2.4000- 2	56	1145 8.0000- 2		3.0480+ 0	7.9000- 2
63	1073 0.0000+ 0		2.8000+ 0	2.8000- 2	56	149 5.0000- 1		3.2300+ 0	4.9700- 1
65	1074 0.0000+ 0		2.8910+ 0	3.9000- 2	65	1074 9.9000- 1		3.0610+ 0	5.3000- 2
65	1085 0.0000+ 0		2.8320+ 0	1.7000- 2	56	149 1.0000+ 0		3.2950+ 0	5.0700- 1
67	1417 0.0000+ 0		2.6530+ 0	8.0000- 3	65	1074 1.9900+ 0		3.1270+ 0	4.0000- 2
58	1172 0.0000+ 0		2.9830+ 0	7.0000- 2	65	1074 3.0000+ 0		3.1990+ 0	4.9000- 2
72	3884 0.0000+ 0		2.8640+ 0	1.5000- 2	55	1383 4.0000+ 0		3.6500+ 0	4.0000- 1

11-298

94-Pu-239 -61

07/04/76

Prompt Neutrons/Fission

94-Pu-239

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
58 1121	4.0000+ 0	3.0000- 1	3.4300+ 0	1.1000- 1	68 1087	7.5100+ 0		3.9330+ 0	6.0000- 2
65 1074	4.0200+ 0		3.2800+ 0	5.0000- 2	61 1253	1.4000+ 1		4.6200+ 0	2.8000- 1
68 1067	4.2200+ 0		3.4360+ 0	7.0000- 2	56 1321	1.4100+ 1		4.8500+ 0	5.0000- 1
55 1383	4.5000+ 0		3.6600+ 0	4.0000- 1	60 1375	1.4200+ 1		4.7560+ 0	4.0000- 1
68 1087	5.9100+ 0		3.7040+ 0	7.0000- 2	68 1087	1.4800+ 1		4.9360+ 0	9.0000- 2
68 1087	6.7700+ 0		3.9030+ 0	1.0000- 1	58 1121	1.5300+ 1	5.0000- 1	4.7100+ 0	2.0000- 1

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR RELATIVE	DELTA RELATIVE	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR RELATIVE	DELTA RELATIVE
73 4089	1.5000- 8	5.0000- 9	1.0180+ 0	1.3000- 2	73 4089	4.0000- 6	3.0000- 6	1.0110+ 0	3.0000- 2
73 4089	4.5000- 8	5.0000- 9	9.9000- 1	1.0000- 2	73 4089	2.3500- 5	1.6500- 5	9.9200- 1	2.1000- 2
73 4089	3.0000- 7		9.9000- 1	1.1000- 2					

07/04/76

Delayed Neutrons/Fission

94-Pu-239

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
47 1420	2.5000- 8		6.8800- 3	1.1200- 3	1 55 1341	2.0000+ 0	1.0000+ 0	6.2880- 3	4.0000- 4
47 1418	2.5000- 8		7.3600- 3	3.2000- 4	69 1533	3.1000+ 0	2.0000- 1	6.9000- 3	7.0000- 4
47 1419	2.5000- 8		8.0000- 3		61 1423	1.4500+ 1		1.3000- 2	1.5000- 3
57 1066	2.5000- 8		6.1000- 3	3.0000- 4	69 1533	1.4900+ 1	5.0000- 1	4.3000- 3	4.0000- 4
71 3159	2.5000- 8		6.6000- 3	6.0000- 4					

07/04/76

Neutrons/Nonelastic Event

94-Pu-239

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
65 1076	2.5000- 8		2.1080+ 0	8.0000- 3	65 1076	5.7000- 8		2.0340+ 0	9.0000- 3
55 1099	2.5000- 8		1.9000+ 0	7.0000- 2	58 1338	2.4000- 2		2.1700+ 0	7.0000- 2
67 1523	2.5300- 8		2.1190+ 0	1.6000- 2	65 1342	2.4000- 2		2.1500+ 0	8.0000- 2
62 1296	2.5300- 8		2.1430+ 0	2.0000- 2	56 1360	2.4000- 2		2.0100+ 0	5.0000- 2
59 1285	2.5300- 8		2.0400+ 0	1.0000- 2	56 1360	1.4000- 1		2.3500+ 0	1.2000- 1
70 1289	2.5300- 8		2.1060+ 0		58 1338	2.4000- 1		2.8200+ 0	1.2000- 1

07/04/76

Neutrons/Nonelastic Event

94-Pu-239

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
56 1360	2.5000- 1		2.6000- 0	1.6000- 1	56 1360	9.0000- 1		2.5700+ 0	1.2000- 1
56 1360	2.5000- 1		2.5000+ 0	1.1000- 1	61 1269	1.4000+ 1		4.5300+ 0	2.5000- 1
58 1338	8.8000- 1		3.0000+ 0	1.9000- 1					

07/04/76

Capture/Fission Ratio

94-Pu-239

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58 1280	1.1000- 9		3.0000- 1	4.0000- 2	74 4043	2.0000- 3	5.0000- 4	1.2840+ 0	6.6000- 2
58 1099	2.5000- 8		5.1110- 1	5.5670- 2	74 4043	2.0000- 3	5.0000- 4	1.3460+ 0	7.8000- 2
65 1076	2.5000- 8		3.6200- 1	5.1690- 3	58 1360	2.4000- 2		4.3000- 1	3.5570- 2
67 1523	2.5300- 8		3.5490- 1	1.0400- 2	58 1338	2.4000- 2		3.2460- 1	4.2730- 2
66 1131	2.5300- 8		3.7700- 1	2.3000- 2	65 1342	2.4000- 2		3.4900- 1	4.0000- 2
59 1285	2.5300- 8		4.0740- 1	2.7600- 2	74 4043	2.4500- 2	1.6000- 3	3.8400- 1	3.6000- 2
62 1289	2.5300- 8		3.7900- 1	3.5770- 2	56 1360	1.4000- 1		2.3000- 1	6.2810- 2
62 1296	2.5300- 8		3.3970- 1	1.2500- 2	74 4043	1.4000- 1	1.7000- 2	1.2200- 1	2.1000- 2
66 1311	2.5300- 8		3.6000- 1	6.0000- 3	58 1338	2.4000- 1		3.0000- 2	4.3930- 2
66 1312	2.5300- 8		3.5600- 1	7.0000- 3	56 1360	2.5000- 1		1.1770- 1	7.7380- 2
70 2915	2.5300- 8		3.5970- 1	2.1000- 3	56 1360	2.5000- 1		1.6240- 1	5.1150- 2
65 1076	5.7000- 8		4.1150- 1	6.2460- 3	56 1360	9.0000- 1		1.6610- 1	5.4450- 2

11-300

94-Pu-239 -63

07/04/76

94-Pu-240

Total
Cross Section

Mev

94-Pu-240 -1

11-301

07/04/76

Total
Cross Section

94-Pu-240

ECSIL-1394 (57)

ECSIL-1106 (56)

ECSIL-1136 (59)

11-302

94-Pu-240 -2

Barns

07/04/76

Total
Cross Section

⁹⁴Pu-240
ENDL-7177

(Expanded Below)
ECSIL-3612 (66)

ECSIL-3612 (66)

ECSIL-3612 (66)

11-303

MeV

⁹⁴Pu-240 -3

Barns

07/04/76

Total
Cross Section

94-Pu-240

ENCL. 177

11-304

94-Pu-240 -4

07/04/76

Total
Cross Section

94-Pu-240
ENDL-7177

EC51L-3612 (66)

EC51L-3612 (66)

EC51L-3612 (66)

MeV

11-305

94-Pu-240 -5

Barns

07/04/76

94-PU-240

Total
Cross Section

11-306

MeV

94-PU-240 -6

Barns

07/04/76

Total
Cross Section

94-Pu-240

ENDL-7177

Barns

Mev

11-307

94-Pu-240 -7

07/04/76

Total
Cross Section

94-Pu-240

END 1127

Barns

11-308

MeV

94-Pu-240 -8

07/04/76

Total
Cross Section

$^{94}\text{-Pu-240}$
ENDL-71

EC51L-3612 (66)

EC51L-3612 (66)

EC51L-3612 (66)

Barns

11-309

$^{94}\text{-Pu-240}$ -9

07/04/76

Total
Cross Section

⁹⁴-Pu-240

Barns

07/04/76

Total
Cross Section

94-Pu-240

ENDL-7177

Barns

11-311

Mev

94-Pu-240 -11

07/04/76

Total
Cross Section

94-Pu-240

END: 7177

11-312

MeV

94-Pu-240 -12

07/04/76

Total
Cross Section

94-Pu-240

END - 2177

Barns

11-313

94-Pu-240 -13

07/04/76

Total
Cross Section

94-Pu-240

11-314

MeV

94-Pu-240 -14

07/04/76

Total
Cross Section

94-Pu-240

ENDL 77177

11-315

94-Pu-240 -15

07/04/76

94-Pu-240

Total
Cross Section

11-316

94-Pu-240 -16

Barns

07/04/76

Total
Cross Section

94-Pu-240

07/04/76

Elastic
Cross Section

94-Pu-240
ENDL-7177

07/04/76

Elastic
Cross Section

94-Pu-240

07/04/76

Fission
Cross Section

94-Pu-240

(END - 7177)

11-318

94-Pu-240 -18

07/04/76

Fission
Cross Section

94-Pu-240

ENDL-7177

(Expanded Below)
ECSIL-1061 (66)

ECSIL-1061 (66)

ECSIL-1061 (66)

Barns

11-319

Mev

94-Pu-240 -19

07/04/76

Fission Cross Section

94-Pu-240

11-320

(Expanded Below)
ECSIL-1537 (68)

ECSIL-1537 (68)

ECSIL-1537 (68)

Barns

11-320

MeV

94-Pu-240 -20

07/04/76

Fission
Cross Section

94-Pu-240
END: 0177

Barns

11-321

94-Pu-240 -21

07/04/76

Fission Cross Section

94-Pu-240
1.00E+1177

Barns

07/04/76

Fission Cross Section

94-Pu-240

ENDL-7177

Barns

07/04/76

(n, γ)

Cross Section

94-Pu-240

1448-7177

(Expanded Below)
ECSIL-3828 (73)

ECSIL-3828 (73)

ECSIL-3828 (73)

Barns

11-324

94-Pu-240 -24

07/04/76

(n, γ)
Cross Section

94-Pu-240
ENDL -71177

EC511-3828 (73)

Barns

ENDL-71177

Mev

07/04/76

Prompt Neutrons/Fission

94-P0-240

ENDL-177

ECSTL-3881 (7+)

ENDL-7177

11-326

MeV

94-P0-240 -26

Neutrons/Fission

07/04/76

Fission
Cross Section

94-Pu-240

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
56 1199	2.5300- 8		3.7000+ 0	8.0000+ 0	60 635	2.5000- 0		1.6000+ 0	3.0000- 1
58 1163	2.5300- 8		3.0000- 2	4.5000- 2	64 1090	5.4000- 0		1.4500+ 0	5.0750- 2
65 1072	2.4000- 2		1.0600- 1	1.8000- 2	64 1090	1.4100+ 1		2.2700+ 0	7.9450- 2
64 1090	1.0000+ 0		1.4100+ 0	4.9350- 2	60 635	1.4600+ 1		2.4000+ 0	3.0000- 1
64 1090	2.2500+ 0		1.6500+ 0	5.7750- 2					

07/04/76

(n,γ)
Cross Section

94-Pu-240

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 1131	2.5300- 8		2.7300+ 2	1.4000+ 1
60 1171	2.5300- 8		2.7000+ 2	1.7000+ 1
70 2915	2.5300- 8		2.8950+ 2	1.4000+ 0

07/04/76

Prompt Neutrons/Fission

94-Pu-240

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
65 1085	6.6800+ 0		2.1440+ 0	1.2070- 2	56 1145	6.6800+ 0		2.2570+ 0	4.5000- 2
58 1063	6.6800+ 0		2.2100+ 0	1.4000- 2	55 1193	6.6800+ 0		2.1600+ 0	5.0000- 2
68 1543	6.6800+ 0		2.1680+ 0	9.0000- 3	61 1068	6.6800+ 0		2.1300+ 0	5.0000- 2
63 1073	6.6800+ 0		2.1890+ 0	1.9000- 2	63 1075	6.6800+ 0		2.1540+ 0	2.8000- 2
55 1367	6.6800+ 0		2.1700+ 0	1.6000- 1	55 1097	6.6800+ 0		2.2000+ 0	3.8000- 2
55 1367	6.6800+ 0		2.0700+ 0	3.0000- 1	66 1070	1.0000- 1		2.8440+ 0	1.9000- 1
66 1368	6.6800+ 0		2.1530+ 0	2.0000- 2	66 1070	1.0000+ 0		2.5090+ 0	3.5000- 1
57 1389	6.6800+ 0		2.1300+ 0	2.6000- 1	66 1070	1.6000+ 0		3.0120+ 0	1.2000- 1
56 1321	5.6800+ 0		2.2100+ 0	1.3000- 1	61 1078	3.6000+ 0		3.2500+ 0	1.5000- 1
53 1132	6.6800+ 0		2.2200+ 0	3.5000- 2	61 1078	1.5000+ 1		4.4000+ 0	2.0000- 2
56 1147	6.6800+ 0		2.0900+ 0	1.1000- 1					

07/04/76

Total
Cross Section

94-Pu-241

ECSIL-3502 (74)

ECSIL-1111 (58)

(Expanded Below)
ECSIL-1112 (61)

11-328

94-Pu-241 -1

Barns

07/04/76

Total
Cross Section

94-PV-241

ENC-118

MeV

11-329

94-PV-241 -2

Barns

07/04/76

Total
Cross Section

94-Pu-241
END: 7.78

(Expanded Below)
ECSIL-3603 (70)

ECSIL-3603 (70)

ECSIL-3603 (70)

11-277

94-Pu-241 -3

Barns

07/04/76

Total

94-P0-241

Cross Section

ENDL-7178

07/04/76

Total
Cross Section

$^{94}\text{Pu-241}$
(NO₂-7178)

ECSIL-3603 (70)

ECSIL-3603 (70)

(Expanded Below)
ECSIL-1114 (64)

11-332

$^{94}\text{Pu-241}$ -5

Barns

07/04/76

Total
Cross Section

94-Pu-241
ENDL-7178

8

7

6

5

4

3

2

1

0

-1

-2

-3

-4

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-6

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07/04/76

Total
Cross Section

94-Pu-241

ENDL-7178

Barns

07/04/76

Elastic
Cross Section

94-Pu-241

ENDL-7178

Barns

EC51L-1530 (68)

11-334

Mev

94-Pu-241 -7

07/04/76

Elastic
Cross Section94-Pu-241
ENDL-7178

07/04/76

Fission
Cross Section94-Pu-241
ENDL-7178

11-335

94-Pu-241 -8

07/04/76

Fission
Cross Section

⁹⁴Pu-241
ENCL 7178

ECSIL-955 (56)

ECSIL-1492 (66)

(Expanded Below)
ECSIL-1107 (65)

11-336

⁹⁴Pu-241 -9

Barns

07/04/76

Fission:
Cross Section

^{94}Pu -241
FNDL-7178

ECSIL-1107 (65)

ECSIL-1107 (65)

ECSIL-956 (55)

Barns

11-337

^{94}Pu -241 -10

07/04/76

Fission
Cross Section

$^{94}\text{-Pu-241}$
ENDL-7178

11-338

$^{94}\text{-Pu-241}$ -11

Barns

07/04/76

Fission
Cross Section

94-Pu-241
ENDL-7178

(Expanded Below)
ECSIL-1110 (64)

ECSIL-1110 (64)

ECSIL-1110 (64)

11-339

MeV

94-Pu-241 -12

Barns

07/04/76

Fission
Cross Section

94-Pu-241

11-340

07/04/76

Fission
Cross Section

94-Pu-241

ENDL-77178

Barns

11-341

Mev

94-Pu-241 -14

07/04/76

Fission

94-Pu-241

Cross Section

(NNL-7178)

11-342

94-Pu-241 -15

Barns

07/04/76

Fission
Cross Section

94-Pu-241

ENDL-7178

Barns

11-343

Mev

94-Pu-241 -16

07/04/76

Fission
Cross Section

94-Pu-241

ENDL-7178

11-344

94-Pu-241 -17

07/04/76

Fission
Cross Section

94-Pu-241
ENCL-7173

11-345

94-Pu-241 -18

Barns

07/04/76

Fission

94-Pu-241

Cross Section

11-346

11-346

94-Pu-241 -19

Basiss

07/04/76

Fission
Cross Section

94-Pu-241
(NCL-7178)

(Expanded Below)
ECSIL-1061 (66)

ECSIL-1061 (66)

ECSIL-1061 (66)

11-347

MeV

94-Pu-241 -20

Barns

07/04/76

Fission
Cross Section

94-Pu-241

ENR 1178

Barns

11-348

Mev

94-Pu-241 -21

07/04/76

Fission
Cross Section

94-Pu-241

ENDL-7178

07/04/76

Prompt Neutrons/Fission

94-Pu-241

ENDL-7178

11-349

94-Pu-241 -22

07/04/76

Prompt Neutrons/Fission

94-Pv-241

11-350

94-Pv-241 -23

07/04/76

Delayed Neutrons/Fission

94-Pu-241

ENCL-7178

07/04/76

Fission
Cross Section

94-Pu-241

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	
55	1205	2.5300- 8	9.8740+ 2	2.9700+ 1	57	1181	2.5300- 8	9.0500+ 2		
66	1356	2.5300- 8	9.9790+ 2	2.7820+ 1	59	1180	2.5300- 8	9.5600+ 2	4.3000+ 1	
66	1326	2.5300- 8	1.0330+ 3	2.7820+ 1	58	1184	2.5300- 8	1.0130+ 3	8.0000+ 0	
66	1356	2.5300- 8	1.7710-10	1.0260+ 3	2.7820+ 1	55	1182	2.5300- 8	1.1000+ 3	3.0000+ 1
57	1391	2.5300- 8		9.5040+ 2	3.8020+ 1	57	1181	1.0000- 7	5.4100+ 2	2.0000+ 1

11-351

94-Pu-241 -24

07/04/76

Fission
Cross Section

94-Pu-241

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2095	2.0000- 3	4.0000- 1	8.7000+ 0		70 2273	1.7500+ 0	1.2500- 1	1.6400+ 0	3.2800- 1
65 1072	2.4000- 2		2.8300+ 0	2.1000- 1	70 2273	2.0000+ 0	1.2500- 1	1.6400+ 0	3.2800- 1
65 1091	4.0000- 2	1.0000- 2	2.7600+ 0	1.0000- 1	70 2273	2.2500+ 0	1.2500- 1	1.4500+ 0	2.9000- 1
65 1091	6.7000- 2	1.0000- 2	2.3800+ 0	9.0000- 2	64 1090	2.2500+ 0		1.7400+ 0	3.0900- 2
65 1091	1.2700- 1	7.0000- 3	2.0900+ 0	7.0000- 2	60 635	2.5000+ 0		1.2000+ 0	2.0000- 1
65 1091	3.1200- 1	7.0000- 3	1.6800+ 0	6.0000- 2	64 1090	5.4000+ 0		1.3300+ 0	4.6550- 2
65 1191	5.0500- 1	1.0000- 2	1.4700+ 0	6.0000- 2	64 1090	1.4100+ 1		2.4300+ 0	8.5050- 2
64 1090	1.0000+ 0		1.6400+ 0	5.7400- 2	60 635	1.4500+ 1		2.0500+ 0	1.0000- 1
70 2273	1.5000+ 0	1.2500- 1	1.7600+ 0	3.5600- 1					

07/04/76

(n,γ)
Cross Section

94-Pu-241

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 1131	2.5300- 8		3.5900+ 2	1.6000+ 1

07/04/76

Prompt Neutrons/Fission

94-Pu-241

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
69 1912	0.0000+ 0		2.8490- 0	1.5000- 2	55 1099	2.5300- 8		2.9800+ 0	2.1000- 1
55 1097	0.0000+ 0		2.9560+ 0	1.0000- 1	55 1187	2.5300- 8		2.5100+ 0	1.0000- 1
55 1098	0.0000+ 0		2.9500+ 0	2.9000- 2	59 1067	2.5300- 8		2.9530+ 0	8.0000- 2
56 1065	0.0000+ 0		2.9010+ 0	1.2400- 1	68 1087	5.2000- 1		2.8600+ 0	1.1000- 1
59 1092	0.0000+ 0		3.0870+ 0	5.0000- 2	68 1087	2.7100+ 0		3.3370+ 0	1.1000- 1
61 1153	0.0000+ 0		2.8250+ 0	1.7600- 1	68 1087	4.1900+ 0		3.4650+ 0	1.0000- 1
65 1085	0.0000+ 0		2.8990+ 0	2.6000- 2	68 1087	5.8800+ 0		3.8040+ 0	1.2000- 1
67 1417	0.0000+ 0		2.9060+ 0	8.0000- 3	68 1087	1.4800+ 1		4.9750+ 0	1.4000- 1
58 1172	0.0000+ 0		3.1110+ 0	1.1000- 1					

11-352

94-Pu-241 -25

07/04/76

Delayed Neutrons/Fission

94-Pu-241

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
61 1334	2.5000- 8		1.5400- 2	1.5000- 3

07/04/76

Neutrons/Nonelastic Event

94-Pu-241

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
67 1523	2.5300- 8		2.1700+ 0	1.7000- 2
68 1524	2.5300- 8		2.1700+ 0	2.0000- 2
68 1524	6.0000- 8		2.7000+ 0	2.0000- 2

07/04/76

Capture/Fission Ratio

94-Pu-241

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
67 1523	2.5300- 8		3.6810- 1	1.0500- 2	68 1524	2.5300- 8		3.6800- 1	1.0000- 2
66 1131	2.5300- 8		3.5600- 1	1.7000- 2	68 1524	6.0000- 8		3.5000- 1	1.0000- 2
66 1312	2.5300- 8		3.5500- 1	1.5000- 2					

07/04/76

Total
Cross Section

94-Pu-242

[1000 1 100]

07/04/76

Total
Cross Section

94-Pu-242

ENDL-7180

07/04/76

Fission
Cross Section

94-Pu-242

ENDL-7180

11-356

94-Pu-242 -3

07/04/76

Fission
Cross Section

94-Pu-242
ENDL-7180

11-357

94-Pu-242 -4

Barns

07/04/76

Fission
Cross Section

94-P0-242
ENDL-7180

3.5

3

2.5

$\times 10^4$

6

5.5

5

4.5

$\times 10^4$

4

3.5

1.2

1

0.6

$\times 10^3$

Mev

11-358

94-P0-242 -5

Barns

07/04/76

Fission Cross Section

94-Pu-242
ENDL-7180

11-359

Mev

94-Pu-242 -6

Baras

07/04/76

Fission Cross Section

94-Pu-242
(NDL-7180)

11-360

94-Pu-242 -7

Bases

07/04/76

(n,γ)
Cross Section

94-Pu-242

ENCL-7181

07/04/76

Fission
Cross Section

94-Pu-242

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1518	1.4500+ 1		2.0600+ 0	1.5000- 1

11-361

94-Pu-242 -8

07/04/76

(n,y)

94-Pu-242

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 1348	2.5000- 8		1.8600+ 1	8.0000- 1

07/04/76

Prompt Neutrons/Fission

94-Pu-242

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
68 2361	6.3600+ 0		2.1300+ 0	5.0000- 2	56 1146	6.3600+ 0		2.1800+ 0	9.0000- 2
68 1543	6.3600+ 0		2.1570+ 0	9.0000- 3	56 1147	6.3600+ 0		2.3200+ 0	1.6000- 1

07/04/76

Delayed Neutrons/Fission

94-Pu-242

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
72 3495	6.4000- 1		1.5100- 2	4.5000- 3	72 3495	1.0500+ 0		1.5300- 2	4.5000- 3
72 3495	8.4000- 1		1.4900- 2	4.5000- 3	72 3495	1.2500+ 0		1.6000- 2	4.5000- 3

07/04/76

Fission
Cross Section

94-Pu-243

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 2273	1.5000+ 0	1.2500- 1	1.4900+ 0	2.9800- 1
70 2273	1.7500+ 0	1.2500- 1	1.3800+ 0	2.7600- 1
70 2273	2.0000+ 0	1.2500- 1	1.3100+ 0	2.6200- 1

11-362

94-Pu-243 -1

07/04/76

94-PJ-244

Fission
Cross Section

1 1.5 2 2.5 3

Mev

11-363

94-PJ-244 -1

Bar 25

07/04/76

Fission
Cross Section

94-Pu-244

07/04/76

Fission
Cross Section

94-Pu-244

07/04/76

Prompt Neutrons/Fission

94-Pu-244

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
71	3155-6.0200+ 0		2.3000+ 0	1.9000- 1

07/04/76

Total
Cross Section

95-Am-241

ECSIL-956 (55)

ECSIL-948 (59)

(Expanded Below)

ECSIL-3806 (75)

11-366

95 Am-241 -1

Barns

07/04/76

Total
Cross Section

95-Am-241
ENDL-7182

11-367

95-Am-241 -2

07/04/76

Total
Cross Section

95-Am-241

ENC 11182

11-368

95-Am-241 -3

07/04/76

Total
Cross Section

95-Am-241

ENDL-7182

Barns

11-369

95-Am-241 -4

07/04/76

Total
Cross Section

95-Am-241

11-370

95-Am-241 -5

07/04/76

Total
Cross Section

95-Am-241
ENDL-7182

FC51L-3806 (75)

FC51L-3806 (75)

ENDL-7182

11-371

95-Am-241 -6

Barns

07/04/76

Fission
Cross Section

95-Am-241

ECSIL-1477 (62)

ECSIL-1305 (66)

ECSIL-241 (59)

Barns

Mev

11-372

95-Am-241 -7

07/04/76

95-Am-241

Fission
Cross Section

(Expanded Below)

FCS1L-3806 (75)

FCS1L-3806 (75)

11-373

MeV

95-Am-241 -8

Bars

07/04/76

95-Am-241

Fission
Cross Section

(Expanded Below)

MeV

11-374

95-Am-241 -9

Borns

07/04/76

Fission Cross Section

95-Am-241

ENDL-7182

11-375

Mev

95-Am-241 -10

07/04/76

Fission
Cross Section

95-Am-241

07/04/76

(n, γ)

95-Am-241

ENDL-7182

Cross Section

Half-Life = 0.0014 Seconds

EC51L-1526 (70)

Barns

ENDL-7182

MeV

07/04/76

Fission

95-Am-241

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	DELTA BARNs
66 3740	2.5000 ± 8	3.8000	0.20000 ± 1	2.3000 ± 0	1.5000 ± 1
60 635	2.5000 ± 0	1.9500	0.20000 ± 1	2.3500 ± 0	1.5000 ± 1
70 3967	1.4100 ± 1	2.7000	0.47000 ± 1	2.9500 ± 0	1.5000 ± 1
67 1518	1.4500 ± 1	2.5300	0.12000 ± 1		

11-377

95-Am-241 -12

07/04/76

(n, γ)
Cross Section

95-Am-241

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE SECONDS
70 1526	6.1000+ 0	8.0000- 1	0.0000+ 0	5.0000- 6	1.4000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS
73 3503	2.5300- 8		7.4800+ 2	2.0000+ 1	1.6010+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE YEARS
50 1476	2.5000- 8		1.0000+ 2	2.0000+ 2	1.5200+ 2
73 3503	2.5300- 8		8.3800+ 1	2.6000+ 0	1.5200+ 2

07/04/76

Prompt Neutrons/Fission

95-Am-241

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
69 1912	2.5300- 8		3.2190+ 0	3.8000- 2
58 1123	2.5300- 8		3.1400+ 0	5.0000- 2

07/04/76

Fission
Cross Section

95-Am-242

END 7/85

07/04/76

Fission
Cross Section

95-Am-242

ENDL-7183

11-379

95-Am-242 -2

07/04/76

Fission
Cross Section

95-Am-242

ECSIL-1061 (66)

ECSIL-1061 (66)

ENDL-7193

11-380

95-Am-242 -3

Barns

07/04/76

(n,γ)
Cross Section

95-Am-242

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
50 1476	2.5000- 8		4.0000+ 3	

07/04/76

Prompt Neutrons/Fission

95-Am-242

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
69 1912	2.5300- 8		3.2640+ 0	2.4000- 2
66 1336	2.5300- 8		3.2400+ 0	1.2000- 1

07/04/76

Total
Cross Section

95-Am-243

11-382

07/04/76

Total
Cross Section

95-Am-243

Barns

11-383

Mev

95-Am-243 -3

07/04/76

Total
Cross Section

95-Am-243

11-384

11-384

MeV

95-Am-243 -4

Barns

95-Am-243

Total
Cross Section

07/04/76

11-385

95-Am-243 -5

Barns

07/04/76

Fission
Cross Section

95-Am-243

(Expanded Below)
ECSIL-943 (70)

ECSIL-943 (70)

ECSIL-943 (70)

11-386

95-Am-243 -6

Barns

07/04/76

Fission
Cross Section

95-Am-243

07/04/76

(n, γ)
Cross Section

95-Am-243

5 NOV 71 84

07/04/76

(n,γ)

95-Am-243

Cross Section

07/04/76

Fission

95-Am-243

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1518	1.4500+ 1		2.1500+ 0	1.2000- 1
67 1518	1.4500+ 1		2.2900+ 0	1.2000- 1

07/04/76

(n,γ)

95-Am-243

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
54 1474	2.5000- 8		1.1500+ 2	2.0000+ 1
57 1348	2.5000- 8		7.3800+ 1	1.8000+ 0

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs MINUTES
50 1476	2.5000- 8		5.0000+ 1	2.5000+ 1

07/04/76

Prompt Neutrons/Fission

95-Am-242g

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
70 4040	2.5300- 8		3.2800+ 0	1.0000- 1

07/04/76

Fission
Cross Section

96-Cm-242

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1518	1.4500+ 1		3.0300+ 0	3.0000- 1

07/04/76

Prompt Neutrons/Fission

96-Cm-242

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
56 1146	7.2000+ 0		2.6500+ 0	9.0000- 2
53 1184	7.2000+ 0		3.0000+ 0	4.5000- 1
56 1147	7.2000+ 0		2.3300+ 0	1.1000- 1

07/04/76

Fission
Cross Section

96-Cm-243

END OF FILE

11-390

96-Cm-243 -1

07/04/76

Fission
Cross Section

96-Cm-243

07/04/76

Prompt Neutrons/Fission

96-Cm-243

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
69 1912	2.5300- 8		3.4300+ 0	4.7000- 2

07/04/76

Total
Cross Section

96-Cm-244

11-391

96-Cm-244 -1

07/04/76

Total
Cross Section

96-Cm-244

07/04/76

Fission
Cross Section

96-Cm-244

11-392

96-Cm-244 -2

07/04/76

96-Cm-244

Fission
Cross Section

Bars

07/04/76

96-Cm-244

Fission
Cross Section

11-394

96-Cm-244 -4

Barns

07/04/76

Fission

Cross Section

96-Cm-244

ENDL-7187

ENDL-7187

07/04/76

(n,γ)

Cross Section

96-Cm-244

ENDL-7187

(Expanded Below)

ECSIL-3062 (71)

11-395

96-Cm-244 -5

07/04/76

(n, γ)

96-Cm-244

Cross Section

END 71832

ECSIL-3062 (71)

ECSIL-3062 (71)

ECSIL-3062 (71)

11-396

96-Cm-244 -6

Barns

07/04/76

96-Cm-244

ENDL-187

(n,γ)
Cross Section

Barns

ENDL-187

07/04/76

96-Cm-244

Total
Cross Section

REFERENCE	ENERGY M V	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3520	2.5300 - 8		2.3000 ± 1	3.0000 ± 0

11-397

96-Cm-244 ~7

07/04/76

Fission
Cross Section

96-Cm-244

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3232	2.5000- 8		1.1000+ 0	5.0000- 1	67 1518	1.4500+ 1		3.2800+ 0	3.0000- 1
1 69 2100	1.0000+ 0		1.7000+ 0		67 1518	1.4500+ 1		3.1000+ 0	3.0000- 1
1 69 2100	1.5000+ 0		1.7000+ 0		1 68 2100	1.4900+ 1		2.6000+ 0	
1 69 2100	3.0000+ 0		1.5600+ 0						

07/04/76

(n,γ)
Cross Section

96-Cm-244

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
54 1474	2.5000- 8		2.5000+ 1	1.0000+ 1

07/04/76

Prompt Neutrons/Fission

96-Cm-244

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
72 3429	6.8600+ 0		2.7000+ 0	1.4000- 2	55 1144	6.8600+ 0		2.6000+ 0	1.1000- 1
69 1912	6.8600+ 0		2.6920+ 0	2.4000- 2	56 1145	6.8600+ 0		2.8100+ 0	5.9000- 2
64 2091	6.8600+ 0		2.7100+ 0	4.0000- 1	74 4087			2.6800+ 0	2.7000- 2
56 1146	6.8600+ 0		2.8400+ 0	9.0000- 2	70 4040			2.7700+ 0	8.0000- 2
56 1147	6.8600+ 0		2.6100+ 0	1.3000- 1	73 4058			2.6900+ 0	1.0000- 2
55 1143	6.8600+ 0		3.0100+ 0	1.1000- 1					

07/04/76

Capture/Fission Ratio

96-Cm-244

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
69 2103	2.5300- 8		2.4000+ 1	

11-398

96-Cm-244 -8

07/04/76

Fission
Cross Section

96-Cm-245
ENDL-7188

(Expanded Below)
ECSIL-3062 (71)

ECSIL-3062 (71)

Barns

ECSIL-3062 (71)

11-399

96-Cm-245 -1

07/04/76

Fission Cross Section

96-Cm-245

96-Cm-245 -2

07/04/76

Fission
Cross Section

96-Cm-245

ENDL 7188

07/04/76

Total
Cross Section

96-Cm-245

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3520	2.5300×10^{-8}		2.9000×10^{-3}	4.5000×10^{-2}

07/04/76

Fission
Cross Section

96-Cm-245

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3232	2.5000×10^{-8}		2.0180×10^{-3}	3.7000×10^{-1}
1 70 3326	2.5000×10^{-8}		1.9200×10^{-3}	1.8000×10^{-2}

07/04/76

(n, γ)
Cross Section

96-Cm-245

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
54 1474	2.5000- 8		2.0000+ 2	1.0000+ 2
1 29 3325	2.5000- 8		3.4000+ 2	2.0000+ 1

07/04/76

Prompt Neutrons/Fission

96-Cm-245

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
69 1912	2.5300- 8		3.8320+ 0	3.4000- 2
70 4040	2.5300- 8		3.8300+ 0	1.6000- 1

07/04/76

Capture/Fission Ratio

96-Cm-245

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
68 2103	2.5300- 8		2.0000- 1	

07/04/76

Fission
Cross Section

96-Cm-246

LNDL-7189

11-402

96-Cm-246 -1

07/04/76

Fission

96-Cm-246

Cross Section

ENDL-7189

3 4 5 6 7 8 9 10⁴ 2 3 4 5 6 7 8 9 10³

2 4 6 8 10² 2 4 6 8 10¹ 2

10¹⁰ 10⁹ 10⁸ 10⁷ 10⁶ 10⁵ 10⁴ 10³ 10² 10¹ 10⁰ 10¹ Mev

11-403

96-Cm-246 -2

Barns

07/04/76

(n,γ)
Cross Section

96-Cm-246

07/04/76

Fission
Cross Section

96-Cm-246

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3232	2.5000- 0		1.7000- 1	1.0000- 1

11-404

96-Cm-246 -3

07/04/76

(n,γ)
Cross Section

96-CM-246

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
54 1474	2.5000- 8		1.5000+ 1	1.0000+ 1
1 69 3325	2.5000- 8		1.2000+ 0	4.0000- 1

07/04/76

Prompt Neutrons/Fission

96-CM-246

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
72 3429	6.4500+ 0		2.9500+ 0	1.5000- 2	73 4051			3.1400+ 0	9.0000- 2
70 3470	6.4500+ 0		3.2000+ 0	2.2000- 1	73 4058			2.9800+ 0	3.0000- 2
74 4087			2.9270+ 0	2.7000- 2					

07/04/76

Fission
Cross Section

96-CM-247

ENDL-7190

(Expanded Below)
ECSIL-3062 (71)

11-405

96-CM-247 -1

07/04/76

Fission
Cross Section

96-Cm-247

11-406

MeV

96-Cm-247 -2

07/04/76

Fission
Cross Section

96-Cm-247
ENDL-7190

11-407

96-Cm-247 -3

Barns

07/04/76

Fission
Cross Section

96-Cm-247

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3232	2.5000- 8		8.2000+ 1	5.0000+ 0
1 70 3326	2.5000- 8		1.2000+ 2	1.2000+ 1

07/04/76

Fission
Cross Section

96-Cm-248

ENC-7191

11-408

96-Cm-248 -1

07/04/76

Fission Cross Section

96-Cm-248
ENDL-7191

Barns

11-409

96-Cm-248 -2

07/04/76

(n, γ)
Cross Section

96-Cm-248

07/04/76

Fission
Cross Section

96-Cm-248

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72 3232	2.5000- 8		3.4000- 1	7.0000- 2

11-410

96-Cm-248 -3

07/04/76

Prompt Neutrons/Fission

96-Cm-248

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
71	3156-6.2100+ 0		3.1100+ 0	9.0000- 2
72	3429-6.2100+ 0		3.1570+ 0	1.5000- 2
74	4087		3.1730+ 0	2.2000- 2

07/04/76

Fission
Cross Section

96-Cm-249

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
72	3232 2.5000- 8		1.6600+ 3	5.0000+ 1

07/04/76

Prompt Neutrons/Fission

96-Cm-250

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
71	3156-5.0000+ 0		3.3100+ 0	8.0000- 2

07/04/76

Fission
Cross Section

97-Bk-249

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
69	2378 5.0000+ 0	5.0000- 2	1.3000+ 0	2.0000- 1

07/04/76

Prompt Neutrons/Fission

97-Bk-249

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
72	3422-5.4600 ± 0		3.3950 ± 0	2.6000 - 2

07/04/76

Fission
Cross Section

98-Cf-249

ENERGY

(Expanded Below)
ECSIL-3274 (72)

ECSIL-3274 (72)

11-412

MeV

98-Cf-249 -1

Barns

07/04/76

98-Cf-249

ENDL-7193

Fission
Cross Section

Bars 5

98-Cf-249 -2

MeV

11-413

07/04/76

Fission
Cross Section

98-Cf-249

END 1193

Barns

11-414

MeV

98-Cf-249 -3

07/04/76

Fission
Cross Section

98-Cf-249

ENDL-7193

07/04/76

Fission
Cross Section

98-Cf-249

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
1 70 3326	2.5000- 8		1.6900+ 3	1.6000+ 2
69 2378	5.0000- 1	1.0000- 1	1.8000+ 0	3.0000- 1

11-415

98-Cf-249 -4

07/04/76

(n,γ)

98-Cf-249

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
1 71 3323	2.5000- 8		4.7800+ 2	2.5000+ 1

07/04/76

Prompt Neutrons/Fission

98-Cf-249

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
71 3421	2.5300- 8		4.0600+ 0	4.0000- 2

07/04/76

(n,γ)

98-Cf-250

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
1 71 3323	2.5000- 8		2.0300+ 3	2.0000+ 2

07/04/76

Prompt Neutrons/Fission

98-Cf-250

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
71 3156	6.6200+ 0		3.5300+ 0	9.0000- 2

07/04/76

(n,γ)

98-Cf-251

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
1 71 3323	2.5000- 8		2.8500+ 3	1.5000+ 2

11-416

98-Cf-251 -1

07/04/76

Capture/Fission Ratio

98-Cf-251

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
68 2103	2.5300- 8		1.0000- 1	

07/04/76

Fission
Cross Section

98-Cf-252

ENDL-7196

(Expanded Below)
ECSIL-3141 (71)

ECSIL-3141 (71)

11-417

98-Cf-252 -1

Barns

07/04/76

Fission Cross Section

98-Cf-252

11-418

98-Cf-252 -2

07/04/76

Fission
Cross Section

98-Cf-252

ENDL-7196

07/04/76

Fission
Cross Section

98-Cf-252

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
1 71 3325	2.5000- 8		3.2000+ 1	4.0000+ 0

07/04/76

(n, γ)

98-Cf-252

Cross Section

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
69 2102	2.5300+0		2.0400+1	2.0000+0

07/04/76

Prompt Neutrons/Fission

98-Cf-252

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA	REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
66 1323-6.3500+0			3.7500+0	2.8000-2	56 1146-6.3500+0			3.8200+0	1.2000-1
69 2901-6.3500+0			3.7250+0	1.5000-2	56 1147-6.3500+0			3.5200+0	1.6000-1
65 1086-6.3500+0			3.7130+0	1.5000-2	62 1154-6.3500+0			3.7540+0	4.5000-2
68 1504-6.3500+0			3.7870+0	0.3.1000-2	68 1071-6.3500+0			3.6900+0	3.7000-2
63 1530-6.3500+0			3.7590+0	0.3.4000-2	58 1167-6.3500+0			3.8000+0	1.6000-1
61 1334-6.3500+0			3.7300+0	0.3.0000-2	55 1142-6.3500+0			3.5300+0	1.3000-1
63 1073-6.3500+0			3.7710+0	0.3.0000-2	61 1088-6.3500+0			3.6900+0	7.0000-2
61 1166-6.3500+0			3.7800+0	0.4.0000-2	71 1417-6.3500+0			3.7350+0	1.4000-2
55 1143-6.3500+0			4.0500+0	1.4000-1	73 4088-6.3500+0			3.7700+0	4.5000-2
56 1145-6.3500+0			3.8690+0	7.8000-2	70 4240-6.3500+0			3.7700+0	8.0000-2

07/04/76

Delayed Neutrons/Fission

98-Cf-252

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
58 705-6.3500+0			8.6000-3	1.0000-3

07/04/76

Prompt Neutrons/Fission

98-Cf-254

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
71 3156-5.0000+0			3.9300+5	5.0000-2

11-420

98-Cf-254 -1

07/04/76

Prompt Neutrons/Fission

100-Fm-254

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
56	1146-5	7500+ 0	4.0500+ 0	1.9000- 1

07/04/76

Prompt Neutrons/Fission

100-Fr-256

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
72	3430-6	3700+ 0	3.7300+ 0	1.8000- 1

07/04/76

Prompt Neutrons/Fission

100-Fm-257

REFERENCE	ENERGY MEV	DELTA MEV	NU-BAR	DELTA
71	3198-4	9500+ 0	3.9700+ 0	1.3000- 1
73	3454-4	9500+ 0	3.7700+ 0	2.6000- 2