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**COMPUTER CODES USED
IN THE CALCULATION OF HIGH-TEMPERATURE
THERMODYNAMIC PROPERTIES OF SODIUM**

by

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December 1979

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COMPUTER CODES USED IN THE CALCULATION OF HIGH-TEMPERATURE THERMODYNAMIC PROPERTIES OF SODIUM

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ABSTRACT

Three computer codes -- SODIPROP, NAVAPOR, and NASUPER -- have been written in order to calculate a self-consistent set of thermodynamic properties for saturated, subcooled, and superheated sodium. These calculations incorporate new critical parameters (temperature, pressure, and density) and recently derived single equations for enthalpy and vapor pressure. The following thermodynamic properties have been calculated in these codes: enthalpy, heat capacity, entropy, vapor pressure, heat of vaporization, density, volumetric thermal expansion coefficient, compressibility, and thermal pressure coefficient. In the code SODIPROP, these properties are calculated for saturated and subcooled liquid sodium. Thermodynamic properties of saturated sodium vapor are calculated in the code NAVAPOR. The code NASUPER calculates thermodynamic properties for superheated sodium vapor only for low (<1644 K) temperatures. No calculations were made for the supercritical region.

I. INTRODUCTION

The reliability of reactor safety analysis is strongly influenced by the thermodynamic data that are used in the calculation. Thus, it is essential that consistent and reliable values be used. Recent experiments of Bhise and Bonilla^{1,2}, in which the vapor pressure of sodium was determined from 1200 K to the critical point, yielded new values for the critical pressure, critical temperature, and critical density. These new data prompted a reexamination of existing sodium-property data by Padilla.³ Das Gupta and Bonilla⁴ derived a single equation to fit the existing vapor pressure data, and we derived a single equation for liquid enthalpy to fit the experimental data of Frederickson and Chasanov⁵ (554-1505 K) and those of Ginnings et al.⁶ (373-1170 K). Using the new critical parameters, the work of Padilla,³ and our enthalpy equation for the experimental data as a starting point, we employed thermodynamic relations and extrapolation and estimation techniques to calculate an internally consistent set of thermodynamic property values for saturated (liquid and vapor), subcooled, and superheated sodium. These values have been compiled to form a revision of the sodium section of the handbook, Properties for LMFBR Safety Analysis,⁷ which is widely used as input in reactor safety calculations and computer codes and is also being distributed as a separate report entitled, Thermophysical Properties of Sodium.⁸

To make the above calculations, three computer codes, namely, SODIPROP, NAVAPOR, and NASUPER were used. These programs and their results are given

in Section III. For the convenience of reactor safety analysts, the values for all properties are tabulated twice, once in CGS units and once in SI units. The thermodynamic properties evaluated with these codes include enthalpy [$H(T) - H(298)$], heat capacity (C_p and C_v), entropy [$S(T) - S(298)$], vapor pressure (P), heat of vaporization (ΔH_g), density (ρ), volumetric thermal expansion coefficient (α_p), adiabatic and isothermal compressibilities (β_s and β_T), and thermal pressure coefficient (γ_v).

In the above computer codes, the value used for the critical pressure is 253.0 atm (25.64 MPa), which was obtained from the vapor pressure measurements of Bhise and Bonilla;^{1,2} experimental error in the temperature region of this critical point is 0.7%. The value used for the critical temperature is 2509.46 K, which was obtained by Das Gupta and Bonilla⁴ from their vapor pressure equation with the critical pressure set equal to 253.0 atm. This vapor pressure equation is a fit of the vapor pressure data of Bhise and Bonilla,^{1,2} Stone et al.,⁹ and Ditchburn and Gilmour.¹⁰ The standard deviation of the vapor pressure equation is 0.96%. Das Gupta and Bonilla⁴ estimated the critical density of sodium by substituting the experimental liquid densities of sodium^{9,11,12} into the low-temperature density equation of Bhise and Bonilla,^{1,2}

$$\frac{\rho_l}{\rho_c} - 1 = 0.9799513 + 2.761335 (1 - T/T_c) \quad (1)$$

for ($T/T_c \leq 0.78$)

The average value of the critical density (ρ_c) was found to be 214.1 kg/m³, with a standard deviation of 0.4%. Since in the three computer codes the values for these critical parameters are read as input, no code modification is needed to accommodate any new critical parameters.

II. CALCULATIONAL METHODS TO DETERMINE THE THERMODYNAMIC PROPERTIES OF SODIUM

The computational methods used to calculate the thermodynamic properties of sodium are given below in three parts. The first section covers both the properties of saturated liquid sodium and sodium vapor; calculational methods for these states of sodium are usually analogous. In the second part, the equations used to calculate the thermodynamic properties of subcooled liquid sodium are outlined. The last part presents the equations used to determine the thermodynamic properties of superheated sodium vapor.

A. Saturated Sodium

Thermodynamic properties of saturated sodium (liquid and vapor) were calculated as much as possible using equations obtained to fit experimental data. Where data were unavailable (high temperature regions), empirical equations were used. To simplify the calculations, we arbitrarily chose 1644.26 K (2500°C) as the temperature at which we would transfer from an

equation based on experimental data to an empirical equation. The temperature of 1644.26 K was chosen because it is the maximum temperature allowable for validity of the quasi-chemical method¹³ used to calculate the heat of vaporization and the thermal pressure coefficient.

The computer codes used to calculate the properties of saturated liquid sodium are given in Section III.A (SODIPROP) and those of saturated sodium vapor are given in Section III.B (NAVAPOR).

1. Enthalpy

To calculate the enthalpy for saturated liquid sodium below 1644.26 K, the following equation was used:

$$\begin{aligned} H_l(T) - H_s(298) = & - 7.1393 \times 10^3 + 35.206 T \\ & - 7.0513 \times 10^{-3} T^2 + 2.5711 \times 10^{-6} T^3 \\ & - 1.2428 \times 10^5/T \end{aligned} \quad (2)$$

where T is in kelvins and H is in joules per mole. Equation (2) was derived to fit, by the least squares method, data of Frederickson and Chasanov⁵ (554-1505 K) and Ginnings et al.⁶ (373-1170 K). (All enthalpies in this report are calculated relative to the value of the solid at 298 K.) For this temperature region, the quasi-chemical approach of Golden and Tokar¹⁴ was used to calculate the heat of vaporization (ΔH_g) below 1644.26 K. This method of calculating the heat of vaporization was also used by Padilla.³ To obtain the enthalpy of saturated sodium vapor, this heat of vaporization was added to the liquid enthalpy from Eq. (2).

To insure continuity for the liquid and vapor enthalpies, we used the following procedure to extrapolate the enthalpy from above 1644.26 K to the critical point. The average enthalpy, H_{av} , was defined as

$$H_{av} = E + F (T - T_u) \quad (3)$$

where $T_u = 1644.26$ K; the heat of vaporization above 1644.26 K was assumed to have the form recommended by Miller et al.¹⁵ which is

$$\Delta H_g = A T_c (1 - T/T_c)^B \quad (4)$$

The enthalpies of saturated liquid sodium and sodium vapor were calculated by, respectively, subtracting and adding one-half of the heat of vaporization to the average enthalpy defined in Eq. (3). Therefore,

$$H_l = E + F (T - T_u) - 1/2 A T_c (1 - T/T_c)^B \quad (5)$$

$$H_g = E + F (T - T_u) + 1/2 A T_c (1 - T/T_c)^B \quad (6)$$

The constants A, B, E, and F were derived as follows. The equations for H_l and H_g at T_u as well as the partial derivatives of these two enthalpies with respect to T at T_u were determined; the four equations are

$$H_l(T_u) = E - 1/2 A T_c \left(1 - \frac{T_u}{T_c}\right)^B \quad (7)$$

$$\left. \frac{\partial H_l}{\partial T} \right|_{T = T_u} = F + 1/2 AB \left(1 - \frac{T_u}{T_c}\right)^{B-1} \quad (8)$$

$$H_g(T_u) = E + 1/2 A T_c \left(1 - \frac{T_u}{T_c}\right)^B \quad (9)$$

$$\left. \frac{\partial H_g}{\partial T} \right|_{T = T_u} = F - 1/2 AB \left(1 - \frac{T_u}{T_c}\right)^{B-1} \quad (10)$$

Solving Eqs. (7-10) yields

$$E = 1/2 [H_l(T_u) + H_g(T_u)] \quad (11)$$

$$F = 1/2 \left[\left. \frac{\partial H_l}{\partial T} \right|_{T = T_u} + \left. \frac{\partial H_g}{\partial T} \right|_{T = T_u} \right] \quad (12)$$

$$B = \frac{(T_c - T_u)}{[H_g(T_u) - H_l(T_u)]} \left[\left. \frac{\partial H_l}{\partial T} \right|_{T = T_u} - \left. \frac{\partial H_g}{\partial T} \right|_{T = T_u} \right] \quad (13)$$

$$A = \frac{H_g(T_u) - H_l(T_u)}{T_c \left(1 - \frac{T_u}{T_c}\right)^B} \quad (14)$$

In the programs SODIPROP and NAVAPOR, the constants E, F, B, and A are determined from Eqs. (11-14). The partial derivative $(\partial H_g / \partial T)_{T = T_u}$ is obtained from the sum of the partial derivatives, $\partial H_l / \partial T + \partial \Delta H_g / \partial T$.

Below 1644.26 K, the heat of vaporization (ΔH_g) was calculated using the quasi-chemical method, which does not result in an analytic expression for the heat of vaporization. Consequently, the partial derivative of the heat of vaporization with respect to temperature was calculated numerically.

2. Heat Capacity

The heat capacities at constant pressure (C_P) of saturated liquid sodium and sodium vapor were calculated from the thermodynamic relation,

$$C_P = C_{SAT} + \frac{T\alpha_P}{\rho} \gamma_{SAT} \quad (15)$$

where

$$C_{SAT} = \left(\frac{\partial H}{\partial T} \right)_{SAT} - \frac{\gamma_{SAT}}{\rho} \quad (16)$$

$$\gamma_{SAT} = \left(\frac{\partial P}{\partial T} \right)_{SAT} \quad (17)$$

In these equations, T is the temperature (in kelvins), P is the vapor pressure given in Section II.A.4, α_P is the liquid (vapor) volumetric thermal expansion coefficient given in Section II.A.7, and ρ is the density given in Section II.A.6.

The heat capacity at constant volume (C_V) for saturated liquid sodium was calculated from the thermodynamic relation,

$$C_V = C_P \frac{\beta_S}{\beta_T} \quad (18)$$

where β_S and β_T are the adiabatic and isothermal compressibilities given in Sections II.A.8 and 9, respectively. The C_V for saturated sodium vapor was calculated from the thermodynamic relation,

$$C_V = C_P - \frac{T\alpha_P \gamma_V}{\rho} \quad (19)$$

where γ_V is the thermal pressure coefficient given in Section II.A.10.

3. Entropy

The entropy of saturated liquid sodium was obtained from integration of an equation derived from the second law of thermodynamics, and was expressed mathematically as

$$dS_l = \frac{C_{SAT}}{T} dT$$

$$S_l = S_l(T_m) + \int_{T_m}^T \frac{C_{SAT}}{T} dT \quad (20)$$

where C_{SAT} is defined in Eq. (16), and $S_l(T_m)$ is the entropy at the melting point of sodium (370.98 K). Equation (20) was integrated from T_m to 1644.26 K, and then this data was fit by the least squares method to obtain the entropy for saturated liquid sodium in the low-temperature region. This equation is

$$S_l = - 5.90356 + 1.51103 \ln T$$

$$- 5.73462 \times 10^{-4} T + 1.57165 \times 10^{-7} T^2$$

$$- \frac{3425.81}{T^2} \quad (21)$$

Above 1644.26 K, the entropy was calculated at each temperature by adding to the liquid entropy the contribution of the integral in Eq. (20) for that temperature step.

The entropy of the saturated vapor was obtained by adding the entropy of vaporization ($\Delta H_g/T$) to the liquid entropy. Thus,

$$S_g = S_l + \frac{\Delta H_g}{T} \quad (22)$$

4. Vapor Pressure

Das Gupta and Bonilla⁴ derived a vapor pressure equation to fit, by the least squares method, data obtained from Bhise and Bonilla^{1,2} (1200 K, critical point), Stone et al.⁹ (1200-1644 K), and Ditchburn and Gilmour¹⁰ (melting point, 1155 K). The equation for pressure is

$$P = \exp(18.832 - 13313/T - 1.0948 \ln T + 1.9777 \times 10^{-4} T) \quad (23)$$

where P is in atmospheres and T is in kelvins.

5. Heat of Vaporization

Padilla³ recommended that the heat of vaporization below 1644.26 K (2500°F) be calculated from the quasi-chemical approach developed by Golden and Tokar.¹⁴ Golden and Tokar define the heat of vaporization, in calories per gram, as

$$\Delta H_g = \frac{N_1 \Delta H_{f1} + N_2 \Delta H_{f2} + N_4 \Delta H_{f4}}{22.991 (N_1 + 2N_2 + 4N_4)} \quad (24)$$

where N_1 , N_2 , and N_4 are, respectively, the mole fractions of the monomer, dimer, and tetramer; and ΔH_f is the contribution to the heat of vaporization (cal/mol) for each species. For the three species,

$$\begin{aligned} \Delta H_{f1} = & 25775.33 - 3.44653 T + 1.68530 \times 10^{-3} T^2 \\ & - 6.14501 \times 10^{-7} T^3 + 2.97046 \times 10^4/T \end{aligned}$$

$$\Delta H_{f2} = 2\Delta H_{f1} - 18304 \quad (25)$$

$$\Delta H_{f4} = 4\Delta H_{f1} - 41478$$

The mole fractions of the dimer and tetramer were calculated from the following equations:

$$N_2 = \alpha_1^2 P (N_1 + 2N_2 + 4N_4)^2 k_2 \quad (26)$$

$$N_4 = \alpha_1^4 P^3 (N_1 + 2N_2 + 4N_4)^4 k_4 \quad (27)$$

In Eqs. (26) and (27), α_1 is the unassociated fraction of one initial mole of monomer, or

$$\alpha_1 = \frac{N_1}{N_1 + 2N_2 + 4N_4} \quad (28)$$

The equilibrium constants, k_2 and k_4 , were determined experimentally by Stone et al.⁹ using the following two equations:

$$\log k_2 = -4.3249 + \frac{7204.2}{T_F} \quad (29)$$

$$\log k_4 = -10.6798 + \frac{16325}{T_F} \quad (30)$$

where T_F is the temperature in degrees Fahrenheit.

Above 1644.26 K, the heat of vaporization is calculated from an empirical equation suggested by Miller, Cohen, and Dickerman,¹⁵ which is

$$\Delta H_g = A T_c (1 - T/T_c)^B \quad (31)$$

The constants A and B for the heat of vaporization are mathematically expressed by Eqs. (13) and (14).

6. Density

Padilla³ recommended that the density of saturated liquid sodium up to 1644.26 K be calculated from the density equation derived by Stone et al.⁹ which is

$$\rho_L = (59.566 - 7.9504 \times 10^{-3} T_F - 0.2872 \times 10^{-6} T_F^2 + 0.06035 \times 10^{-9} T_F^3) / 62.4283 \quad (32)$$

where the density is in grams per cubic centimeter and T_F is the temperature in degrees Fahrenheit. This is the form of Stone's equation used in the computer codes; in SI units, Stone's equation is

$$\rho_L \text{ (kg/m}^3\text{)} = 1011.8 - 0.22054 T - 1.9226 \times 10^{-5} T^2 + 5.6371 \times 10^{-9} T^3 \quad (33)$$

where T is in kelvins. To prevent discontinuities in the calculated values of the subcooled properties, which are functions of the second

partial derivative of the density of liquid sodium with respect to temperature (e.g., α_p , β_S , β_T , H , S , and C_p), an empirical equation of the form,

$$\rho_l = \rho_c \left[1 + A \left(1 - \frac{T}{T_c} \right)^B + C (T_c - T)^2 \right] \quad (34)$$

was used to calculate the density above 1644.26 K. In Eq. (34), ρ_c is the critical density of saturated sodium (214.1 kg/m³); the constants A, B, and C are derived from the density at T_u (1644.26 K) and the first and second partial derivatives of the density with respect to temperature at T_u . These three equations are

$$\frac{\rho_l(T_u)}{\rho_c} = \left[1 + A \left(1 - \frac{T_u}{T_c} \right)^B + C (T_c - T_u)^2 \right] \quad (35)$$

$$\frac{1}{\rho_c} \left. \frac{\partial \rho_l}{\partial T} \right|_{T = T_u} = \left[-\frac{AB}{T_c} \left(1 - \frac{T_u}{T_c} \right)^{B-1} - 2C (T_c - T_u) \right] \quad (36)$$

$$\frac{1}{\rho_c} \left. \frac{\partial^2 \rho_l}{\partial T^2} \right|_{T = T_u} = \left[\frac{AB(B-1)}{T_c^2} \left(1 - \frac{T_u}{T_c} \right)^{B-2} + 2C \right] \quad (37)$$

Solving these equations for A, B, and C gives

$$B = \frac{\frac{-1}{\rho_c} \left. \frac{\partial \rho_l}{\partial T} \right|_{T = T_u} (T_c - T_u) - \frac{1}{\rho_c} \left. \frac{\partial^2 \rho_l}{\partial T^2} \right|_{T = T_u} (T_c - T_u)^2}{2 \left[\frac{\rho_l(T_u)}{\rho_c} - 1 \right] + \frac{1}{\rho_c} \left. \frac{\partial \rho_l}{\partial T} \right|_{T = T_u} (T_c - T_u)} \quad (38)$$

$$A = \frac{\frac{-1}{\rho_c} \left. \frac{\partial \rho_l}{\partial T} \right|_{T = T_u} (T_c - T_u) - \frac{1}{\rho_c} \left. \frac{\partial^2 \rho_l}{\partial T^2} \right|_{T = T_u} (T_c - T_u)^2}{B(2 - B) \left(1 - \frac{T_u}{T_c} \right)^B} \quad (39)$$

$$C = \frac{\frac{\rho_l(T_u)}{\rho_c} - 1 - A \left(1 - \frac{T_u}{T_c}\right)^B}{\left(T_c - T_u\right)^2} \quad (40)$$

Equations (38-40) are solved for B, A, and C in the subroutine PARSET.

Following the recommendation of Padilla,³ we calculated the density of saturated sodium vapor from the Clapeyron equation, which is

$$\rho_g = \left[\frac{\Delta H_g}{T \left(\frac{\partial P}{\partial T} \right)_{SAT}} + \frac{1}{\rho_l} \right]^{-1} \quad (41)$$

7. Volumetric Thermal Expansion Coefficient

The isobaric volumetric thermal expansion coefficient (α_p) of saturated liquid sodium was calculated from the thermodynamic relation,

$$\left(\alpha_p \right)_l = \alpha_{SAT} + \beta_T \gamma_{SAT} \quad (42)$$

where

$$\gamma_{SAT} = \left(\frac{\partial P}{\partial T} \right)_{SAT} \quad (43)$$

and

$$\alpha_{SAT} = - \frac{1}{\rho_l} \left(\frac{\partial \rho_l}{\partial T} \right)_{SAT} \quad (44)$$

The pressure, P, is defined in Eq. (23), and the density is given in Eqs. (33-34).

The α_p of saturated vapor sodium was calculated from the thermodynamic relation,

$$\alpha_p = \frac{\alpha_{SAT}}{1 - \frac{\gamma_{SAT}}{\gamma_V}} \quad (45)$$

where

$$\alpha_{SAT} = - \frac{1}{\rho_g} \left(\frac{\partial \rho_g}{\partial T} \right)_{SAT} \quad (46)$$

In Eq. (45), γ_{SAT} is defined by Eq. (43), and γ_V is defined in Section II.A.10. Since ρ_g is a function of the heat of vaporization [see Eq. (41)], the partial derivative of ρ_g with respect to temperature can be evaluated numerically.

8. Adiabatic Compressibility

The adiabatic compressibility for saturated liquid sodium may be calculated from the sonic velocity, v , by using the relation

$$\beta_S = \frac{1}{\rho v^2} \quad (47)$$

In the temperature region where sonic velocity measurements in sodium have been made (370.98-1173 K), the sonic velocity is given by an equation which fits, by the least squares method, data obtained from Leibowitz et al.¹⁶ and Chasanov et al.¹⁷ The equation for the speed of sound in sodium is

$$v = 2660.7 - 0.37667 T - 9.0356 \times 10^{-5} T^2 \quad (48)$$

where T is in kelvins and the sonic velocity is in meters per second. The adiabatic compressibility was calculated at 100 K intervals in this temperature region using Eqs. (47-48). A single parameter equation for an equilateral hyperbola, as suggested by Grosse,¹⁸ is then derived to fit these values for the adiabatic compressibility. This equation is

$$(B' + b)(\theta + b) = b(b + 1) \quad (49)$$

In this equation, B' is the reduced adiabatic bulk modulus, and can be expressed as

$$B' = \frac{\beta_{S,m}}{\beta_{S,T}} \quad (50)$$

where the numerator and denominator are the adiabatic compressibility at the melting point ($T_m = 370.908$ K) and at temperature T , respectively. Furthermore, in Eq. (49), θ is the fractional liquid range between the melting point (T_m) and the critical point ($T_c = 2509.46$ K) of sodium. That is,

$$\theta = \frac{T - T_m}{T_c - T_m} \quad (51)$$

The parameter b in Eq. (49) was determined using the values for adiabatic compressibility in the temperature range 370.98–1773 K. This value of b was then used in Grosse's equation in the form,

$$\beta_{S,T} = \frac{\beta_{S,m}}{(1 - \theta)} \left(1 + \frac{\theta}{b}\right) \quad (52)$$

to calculate the adiabatic compressibility at higher temperatures.

The adiabatic compressibility of the saturated vapor was calculated from the following thermodynamic relation:

$$\beta_S = \beta_T \left(\frac{C_V}{C_P} \right) \quad (53)$$

where β_T is given below (Section II.A.9), C_V is defined by Eq. (15), and C_P is defined by Eq. (19).

9. Isothermal Compressibility

The isothermal compressibility of saturated liquid sodium was calculated from the thermodynamic relation recommended by Rowlinson,¹⁹

$$\beta_T = \frac{\beta_S C_{SAT} + \frac{T \alpha_{SAT}}{\rho} (\alpha_{SAT} + \beta_S \gamma_{SAT})}{C_{SAT} - \frac{T \gamma_{SAT}}{\rho} (\alpha_{SAT} + \beta_S \gamma_{SAT})} \quad (54)$$

In this equation, β_S is given in Eqs. (47) and (52), C_{SAT} is given in Eq. (16), α_{SAT} is given in Eq. (44), ρ is given in Eqs. (32) and (34), γ_{SAT} is given in Eq. (17), P is given in Eq. (23), and H is given in Eqs. (2) and (5).

The isothermal compressibility of the saturated vapor is calculated from the thermodynamic relation,

$$\beta_T = \frac{\alpha_P}{\gamma_V} \quad (55)$$

where α_P is given in Eq. (45), and γ_V is given below.

10. Thermal Pressure Coefficient

The thermal pressure coefficient for saturated liquid sodium was calculated from the thermodynamic relation,

$$\gamma_V = \frac{\alpha_P}{\beta_T} \quad (56)$$

where α_P is given by Eq. (38), and β_T is calculated from Eq. (50).

According to the recommendations of Padilla,³ the thermal pressure coefficient for saturated vapor sodium can be calculated up to 1644.26 K (2500°F) by using the quasi-chemical approach of Golden and Tokar.¹⁴ The thermal pressure coefficient was evaluated numerically in the subroutine NAPROP by using the approximation,

$$\gamma_V = \left(\frac{\partial P}{\partial T} \right)_V \approx \frac{P(T_{SAT} + \Delta T, V_{SAT}) - P(T_{SAT}, V_{SAT})}{\Delta T} \quad (57)$$

where $\Delta T = 1 \times 10^{-2}$ K. Above 1644.26 K, the thermal pressure coefficient was calculated using the following equation:

$$\gamma_V = \gamma_V^C + A(T_c - T)^{1/2} + B(T_c - T) \quad (58)$$

where γ_V^C is the thermal pressure coefficient at the critical point ($\gamma_V^C = \gamma_{SAT}^C$). The constants A and B are determined from γ_V and its temperature derivative at 1644.26 K as follows:

$$\gamma_V(T_u) = \gamma_V^C + A(T_c - T)^{1/2} + B(T_c - T) \quad (59)$$

$$\left. \frac{\partial \gamma_V}{\partial T} \right|_{T_u} = -\frac{A}{2} (T_c - T_u)^{-1/2} - B \quad (60)$$

Solving Eqs. (56-57) for A and B gives

$$A = 2 \left[\gamma_V(T_u) - \gamma_V^C + \left. \frac{\partial \gamma_V}{\partial T} \right|_{T_u} (T_c - T_u) \right] (T_c - T_u)^{-1/2} \quad (61)$$

$$B = (-A/2) (T_c - T_u)^{-1/2} - \left. \frac{\partial \gamma_V}{\partial T} \right|_{T_u} \quad (62)$$

B. Subcooled Sodium

In order to calculate thermodynamic properties of subcooled liquid sodium, we assumed that the thermal pressure coefficient is a function of specific volume only. This is expressed mathematically as

$$\gamma_V = \left(\frac{\partial P}{\partial T} \right)_V = f(V) \quad (63)$$

This assumption, recommended by Padilla,³ is based on the fact, pointed out by Rowlinson,¹⁹ that the variation of the thermal pressure coefficient with temperature along isochores (constant volume) is small. The equations used to obtain the thermodynamic properties of subcooled liquid sodium are given below; the computer code used to calculate these properties is given in Section III.A (SODIPROP).

1. Pressure

By integrating Eq. (63) from the saturated pressure to a pressure, P, along a constant volume path, we obtained the following equation-of-state for subcooled liquid sodium:

$$P(V_{SAT}, T) = P_{SAT}(V_{SAT}) + \gamma_V(T - T_{SAT}) \quad (64)$$

where P_{SAT} is the saturated vapor pressure defined in Eq. (23), and γ_V is the thermal pressure coefficient of saturated liquid sodium given in Eq. (56).

2. Enthalpy

The enthalpy of subcooled liquid sodium was calculated as a function of pressure at 100 K intervals from 400 to 2500 K. The effect of pressure on the enthalpy of the subcooled liquid at a given temperature is expressed as

$$\left(\frac{\partial H}{\partial P}\right)_T = V - T\left(\frac{\partial V}{\partial T}\right)_P = V(1 - T\alpha_P) \quad (65)$$

where α_P for the subcooled liquid is given below [Eq. (72)]. For a given temperature, T , at any pressure, P , the enthalpy of the subcooled liquid is calculated from the integral of Eq. (65) with respect to the pressure along a constant temperature path from the saturated pressure, P_{SAT} , to pressure P . Thus,

$$H_{SUB} = H_L(T) - H_S(298)_{SAT} + \int_{P_{SAT}}^P V(1 - T\alpha_P)dP \quad (66)$$

3. Heat Capacity

The heat capacity at constant pressure of subcooled liquid sodium is calculated from the thermodynamic relation,

$$C_P = C_V + \frac{\alpha_P^2}{(\rho\beta_T)} \quad (67)$$

where C_V is given below [Eq. (69)], α_P is given in Section II.B.6, and β_T is given in Section II.B.7.

If the thermal pressure coefficient of subcooled sodium is assumed to be a function of volume alone, then the heat capacity at constant volume of subcooled sodium is a function of temperature alone. Consequently,

$$\left(\frac{\partial C_V}{\partial V}\right)_T = T\left(\frac{\partial^2 P}{\partial T^2}\right)_V = T\left(\frac{\partial \gamma_V}{\partial T}\right)_V = 0 \quad (68)$$

Thus, at a given temperature, the heat capacity at constant volume of subcooled liquid sodium is a constant equal to the heat capacity at constant volume of saturated liquid sodium at that temperature. At any temperature, T , then

$$C_V(T) = C_V(T)_{SAT} \quad (69)$$

The heat capacity at constant volume of saturated liquid sodium is given in Eq. (18).

4. Entropy

For subcooled liquid sodium, the effect of pressure on the entropy at a given temperature is

$$\left(\frac{\partial S}{\partial P}\right)_T = - \left(\frac{\partial V}{\partial T}\right)_P = - V\alpha_P \quad (70)$$

To calculate the entropy of subcooled liquid sodium at pressure, P , we subtracted the entropy of saturated liquid sodium [Eq. (20)] from the integral of Eq. (70) along a constant temperature path from P_{SAT} to P . Thus,

$$S = S_{SAT} - \int_{P_{SAT}}^P V\alpha_P dT \quad (71)$$

5. Density

At a given temperature, the density of subcooled liquid sodium is a function only of pressure. The density of the subcooled liquid at a given pressure equals the density of the saturated liquid at that pressure. The densities of subcooled liquid sodium were determined from tabulated densities of saturated sodium correlated according to pressure.

6. Volumetric Thermal Expansion Coefficient

The volumetric thermal expansion coefficient for subcooled liquid sodium was calculated from the thermodynamic relation,

$$\frac{1}{\alpha_P} = \frac{1}{(\alpha_P)_{SAT}} + \frac{(\rho_L)_{SAT}(P - P_{SAT})}{(\gamma_V^2)_{SAT}} \left(\frac{\partial \gamma_V}{\partial \rho_P}\right)_{SAT} \quad (72)$$

The derivative $(\partial \gamma_V / \partial \rho_L)_{SAT}$ was calculated numerically. The saturated sodium properties for ρ_L , P_{SAT} , γ_V , and α_P are given in Eqs. (32-34), (23), (57), and (42-44), respectively.

7. Compressibility

The adiabatic compressibility of subcooled liquid sodium was calculated from the thermodynamic relation,

$$\beta_S = \beta_T \frac{C_V}{C_P} \quad (73)$$

the heat capacities, C_P and C_V , being given in Eqs. (67) and (69), respectively. The isothermal compressibility of subcooled liquid sodium was calculated from the relation,

$$\beta_T = \frac{\alpha_P}{\gamma_V} \quad (74)$$

where α_P is defined in Eq. (72), and γ_V is defined in Eq. (56).

8. Thermal Pressure Coefficient

The thermal pressure coefficient for subcooled sodium was calculated from the thermodynamic relation,

$$\gamma_V = \frac{\alpha_P}{\beta_T} \quad (75)$$

where α_P and β_T are given in Eqs. (72) and (74), respectively.

C. Superheated Sodium

The thermodynamic properties of superheated sodium vapor were calculated by using a modification of a computer code written by Padilla^{3,13} and based on the quasi-chemical approach developed by Golden and Tokar.¹⁴ These calculations were made only in the temperature range 371-1644 K since Padilla³ has found that the quasi-chemical approach is valid only in this temperature region. The equation-of-state of an ideal gas is assumed for this approach. The computer code used for these calculations is presented in Section III.C (NASUPER).

1. Enthalpy

Since $(\partial H / \partial P) = 0$ for an ideal gas, any deviation in the enthalpy value from that of the monomeric superheated vapor must be due to associated reactions, which for sodium are the formation of a dimer and tetramer. According to the method of Ewing,²¹ the enthalpy is calculated from the following generalized equation:

$$H(T) = H^\circ(T) + \frac{\Delta H_2^\circ N_2}{2(N_1 + 2N_2 + 4N_4)} + \frac{\Delta H_4^\circ N_4}{4(N_1 + 2N_2 + 4N_4)} \quad (76)$$

where $H^\circ(T)$ is the enthalpy of the monomer vapor at temperature T , and the last two terms represent the enthalpy changes contributed from formation of the dimer and tetramer. For the last two terms of Eq. (76), the associated reaction enthalpies were determined to be

$$\Delta H_2^\circ = -18.30 \text{ kcal/mol} = -76.57 \text{ kJ/mol} = -716.54 \text{ BTU/lb} \quad (77)$$

$$\Delta H_4^\circ = -41.48 \text{ kcal/mol} = -173.55 \text{ kJ/mol} = -811.85 \text{ BTU/lb} \quad (78)$$

and N_2 and N_4 are defined in Eqs. (26) and (27).

2. Heat Capacity

The heat capacity at constant pressure of superheated sodium vapor was evaluated by numerical calculation of the partial derivative with respect to temperature of the enthalpy. Thus,

$$C_P = \left(\frac{\partial H}{\partial T} \right)_P \approx \frac{H(T + \Delta T, P) - H(T, P)}{\Delta T} \quad (79)$$

In the computer code NASUPER, $\Delta T = 1 \text{ K}$. The enthalpy, H , is defined in Eq. (76). The heat capacity at constant volume is calculated numerically from the internal energy, U , as follows:

$$C_V = \left(\frac{\partial U}{\partial T} \right)_V \approx \frac{U(T + \Delta T, V) - U(T, V)}{\Delta T} \quad (80)$$

The internal energy, U , was calculated from the relation

$$U = H - PV \quad (81)$$

3. Entropy

In the quasi-chemical method, the entropy of superheated sodium vapor is calculated from an equation of Ewing et al.²⁰ which is

$$\begin{aligned}
 S(T) = S^{\circ}(T) + \frac{N_2 \Delta H_2^{\circ}}{2(N_1 + 2N_2 + 4N_4)T} + \frac{N_4 \Delta H_4^{\circ}}{4(N_1 + 2N_2 + 4N_4)T} \\
 + \frac{-R}{M_1(N_1 + 2N_2 + 4N_4)} \ln P + \frac{R N_2 \ln k_2}{4M_1(N_1 + 2N_2 + 4N_4)} \\
 + \frac{4 N_4 \ln k_4}{8M_1(N_1 + 2N_2 + 4N_4)} - \frac{R(N_1 \ln N_1 + N_2 \ln N_2 + N_4 \ln N_4)}{M_1(N_1 + 2N_2 + 4N_4)}
 \end{aligned} \quad (82)$$

where $S^{\circ}(T)$ is the entropy of the monomer vapor at temperature T , and the other terms represent the entropy changes of the formation of the dimer and tetramer. In Eq. (82), R is the ideal gas constant; M_1 is the molecular weight of sodium ($M_1 = 22.991$ g/mol); N_1 , N_2 , and N_4 are defined in Eqs. (29-30); and ΔH_2° and ΔH_4° are given in Eqs. (77-78).

4. Density

The density of superheated sodium vapor was calculated by taking the inverse of the specific volume,

$$\rho(T) = \frac{1}{V(T)} \quad (83)$$

The specific volume, V , was calculated from the temperature and pressure by using the equation-of-state for an ideal gas, which is

$$V = \frac{RT}{P M_1(N_1 + 2N_2 + 4N_4)} \quad (84)$$

5. Volumetric Thermal Expansion Coefficient

According to the quasi-chemical method of Golden and Tokar,¹⁴ the volumetric thermal expansion coefficient can be evaluated numerically from the relation,

$$\alpha_P = \frac{1}{V} \left(\frac{\partial V}{\partial T} \right)_P \approx \frac{V(T + \Delta T, P) - V(T, P)}{(\Delta T)V(T, P)} \quad (85)$$

where V is defined in Eq. (84).

6. Compressibility

The adiabatic compressibility of superheated vapor sodium was calculated from the thermodynamic relation,

$$\beta_S = \beta_T \left(\frac{C_V}{C_P} \right) \quad (86)$$

The heat capacities, C_P and C_V , are defined in Eqs. (79) and (80), respectively. The isothermal compressibility of superheated vapor sodium was calculated from the thermodynamic relation,

$$\beta_T = \frac{\alpha_P}{\gamma_V} \quad (87)$$

where α_P is given in Eq. (85), and γ_V is defined below.

7. Thermal Pressure Coefficient

The thermal pressure coefficient of superheated vapor sodium was evaluated numerically from the relation,

$$\gamma_V = \frac{\partial P}{\partial T}_V = \frac{P(T + \Delta T, V) - P(T, V)}{\Delta T} \quad (88)$$

SODIPROP

III. COMPUTER CODES

Three computer codes, namely, SODIPROP, NAVAPOR, and NASUPER, have been written to calculate the thermodynamic properties of saturated, subcooled, and superheated sodium, respectively.

The starting point of the calculations was the SODIPROP computer code of Gabelnick.^{21,22} This code was modified to incorporate the changes in the critical constants, enthalpy data, and vapor pressure for saturated liquid sodium and subcooled sodium. The properties of saturated sodium vapor were calculated with a new code, NAVAPOR, which incorporates some of the techniques used in the SODIPROP code and is partly based on Padilla's^{3,13} computer code for the thermodynamic properties of saturated sodium vapor. A third computer code, NASUPER, was used to calculate the thermodynamic properties of superheated sodium vapor. This code is analogous to Padilla's code for the thermodynamic properties of superheated vapor except for the new critical constants, new enthalpy data, and the new vapor pressure equation.

A. SODIPROP

The computer code SODIPROP, a modified version of the original code of the same name written by S. Gabelnick,²² was used to calculate the thermodynamic properties of saturated and subcooled liquid sodium. The code is divided into three parts: the main program and two subroutines designated CURVE and PARSET. In the main program, the saturated properties of sodium are calculated and the groundwork is set up for calculation of the subcooled-sodium properties. In the subroutine CURVE, an interpolation technique (*i.e.*, tabular lookup and interpolation of the properties calculated in the main program) is used to determine the subcooled liquid properties as a function of temperature and pressure. In the subroutine PARSET, the constants required to determine the enthalpy, density, and adiabatic compressibility of saturated and subcooled liquid sodium above 1644.26 K are calculated. These constants are A, B, E, and F for the enthalpy; A, B, and C for the density; and b for the adiabatic compressibility.

A listing of the computer code follows. To aid in the understanding of the code, comments appear throughout the program; units are occasionally given in columns 73-80. Some of the major variables for saturated and subcooled liquid sodium follow.

Saturated Property Variables*

<u>Computer Code Variables</u>	<u>Definition</u>
TSAT	Temperature
PSAT	Vapor pressure
RHOL	Liquid density
RHOV	Vapor density
HLSAT	Liquid enthalpy
HVSAT	Vapor enthalpy
SLSAT	Liquid entropy
SVSAT	Vapor entropy
APSAT	Liquid volumetric thermal expansion coefficient (α_p)
BSSAT	Liquid adiabatic compressibility (β_g)
BTSAT	Liquid isothermal compressibility (β_T)
CPSAT	Liquid heat capacity at constant pressure
CVSAT	Liquid heat capacity at constant volume
DH	Heat of vaporization
GV [†]	Liquid thermal pressure coefficient (γ_V)
DGV	Derivative of the thermal pressure coefficient with respect to density ($d\gamma_V/d\rho$)
CSAT	Liquid heat capacity along the saturation line
ASAT	Volumetric thermal expansion coefficient along the saturation curve ($-1/\rho_g \partial\rho_g/\partial T$)
DPSAT	Temperature derivative of vapor pressure
TCRIT	Critical temperature
ROCRIT	Critical density
PCRIT	Critical pressure

* These variables are in CGS units. Computer code variables with names identical except for an 's' added to the end are the same variables in SI units, e.g., PSATS is vapor pressure in MPa.

[†] GVSATS is the liquid thermal pressure coefficient in MPa/K.

Subcooled Property Variables*

<u>Computer Code Variables</u>	<u>Definition</u>
P PCALC	Vapor pressure
AP APCALC	Volumetric thermal expansion coefficient
BT BTCALC	Isothermal compressibility
HLIQ HLCALC	Enthalpy
SLIQ SLCALC	Entropy
RHOLIQ ROCALC	Density
CVCALC	Heat capacity at constant volume
CPCALC	Heat capacity at constant pressure
BSCALC	Adiabatic compressibility
GVCALC	Thermal pressure coefficient
TCALC	Temperature

* The variables ending in CALC are ordered in arrays as functions of increasing pressure, PCALC.

```

COMPILER OPTIONS - NAME= MAIN,OPT=00,LINECNT=57,SIZE=0000K,
                   SOURCE,EBCDIC,NOLIST,NOECK,LOAD,MAP,NOEDIT,ID,NOXREF
C
C SODIPROP - PROGRAM TO CALCULATE PROPERTIES OF
C SATURATED LIQUID SODIUM
C AND OF
C SUBCOOLED LIQUID SODIUM
C
ISM 0002      IMPLICIT REAL*8 (A-H,O-Z)
C
C DIMENSIONED VARIABLES OF PROPERTIES OF SATURATED SODIUM
C IN CGS UNITS
C
ISM 0003      DIMENSION TSAT(1300),PSAT(1300),RHOL(1300),RHOV(1300),HLSAT(1300),
1             HVSAT(1300),SLSAT(1300),SVSAT(1300),APSAT(1300),
2             BSSAT(1300),BTSAT(1300),CPSAT(1300),CVSAT(1300),
3             GV(1300),DGV(1300),
C
C DIMENSIONED PROPERTIES OF SUBCOOLED SODIUM
C
4             P(1300),AP(1300),BT(1300),HLIQ(1300),SLIQ(1300),
5             RHOLIQ(1300),
6             PCALC(50),ROCALC(50),HLCALC(50),SLCALC(50),APCALC(50),
7             BSCALC(50),BTCALC(50),CPCALC(50),GVCALC(50)
C
C DIMENSIONED VARIABLES OF PROPERTIES OF SATURATED SODIUM
C IN SI UNITS
C
ISM 0004      DIMENSION PSATS(1300),RHOLS(1300),RHOVS(1300),HLSATS(1300),
1             HVSATS(1300),SLSATS(1300),SVSATS(1300),BTSATS(1300),
3             CPSATS(1300),CVSATS(1300),DHS(1300),GVSATS(1300),
4             BSSATS(1300),DRHOL(1300),AB(1300),PP(1300)
C
C COMMON STATEMENTS
C
ISM 0005      COMMON /PAR/ TCROSS,RHOLA,RHOLB,RHOLC,B,BSMELT,DHA,DHB,E,F
C
C CONVERSION FACTOR TO JOULES FROM ATM-CC
C
ISM 0006      CTOJ = 0.1013278
C
C SET UP CONSTANTS AND TEMPERATURE GRID
C
ISM 0007      TCROSS = (2500. + 459.7)/1.8
ISM 0008      TMIN=372.
ISM 0009      TMELT=370.98
ISM 0010      DT=2.
ISM 0011      TPRINT=380.
ISM 0012      DPRINT = 10.
ISM 0013      TCALC= 500.
ISM 0014      ITCALC=100.
C
C READ IN CRITICAL PROPERTIES
C
ISM 0015      READ 10,TCRIT,PCRIT,ROCFIT

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ISN 0016      10 FORMAT (3F10.3)
ISN 0017      CALL PARSET (TCRIT,PCRT,ROCRIT)
ISN 0018      PRINT 15,TCRIT,PCRT,ROCRIT,RHOLA,RHOLB,RHOLC,E,F,
              *DHA,DHB,B,BSMELT
ISN 0019      15 FORMAT (1H1,'TCRIT =',F6.0,' DEG K',' PCRT =',F6.1,' ATM'/
              *' ROCRIT =',F7.4,' G/CC',' RHOLA =',E12.5/
              *' RHOLB =',E12.5/' RHOLC =',E12.5/' E =',E12.5/' F =',
              *E12.5/' DHA =',E12.5/' DHB =',E12.5/' B =',E12.5/' BSMELT=',E12.5)
ISN 0020      INAX = (TCRIT-TMIN)/DT +1
ISN 0021      JMAX = (TCRIT - TCALC)/DTALC + 1
              C
              C      CALCULATION OF SATURATED PROPERTIES
              C      BSAT PSAT DPSAT (DP/DT) SAT
              C
ISN 0022      TSAT(1) = TMIN
ISN 0023      ICOUNT = 0
ISN 0024      PRINT 1
ISN 0025      DO 400 I=1,INAX
ISN 0026      IF (I.GT.1) TSAT(I)=TSAT(I-1)+DT
ISN 0028      THETA=(TSAT(I)-TMELT)/(TCRIT-TMELT)
ISN 0029      ESR=B*(1.-THETA)/(B+THETA)
ISN 0030      BSSAT(I) = BSMELT/BSR
ISN 0031      TRR = 1.8*TSAT(I)
ISN 0032      TF = TSAT(I)/TCRIT
ISN 0033      TFF = TRR - 459.7
ISN 0034      PSAT(I)=DEXP(18.832381-13113.052/TSAT(I) +1.9777006E-4
              *TSAT(I))/TSAT(I)**1.0947825
ISN 0035      DPSAT=PSAT(I)*(1.9777006E-4+13113.052/(TSAT(I)*TSAT(I))
              * -1.0947825/TSAT(I))
ISN 0036      151 CONTINUE
ISN 0037      IF (TFF.GT.2500.) GO TO 200
              C
              C      SATURATED PROPERTIES UP TO 2500 DEG F
              C      RHOL HLSAT SLSAT
              C
ISN 0039      RHOL(I) = (59.566-7.9504D-3*TFF-0.2872D-6*TFF**2+0.06035D-9
              *TFF**3)/62.4283
ISN 0040      DRHOL(I) = (-7.9504D-3-0.5744D-6*TFF+0.18105D-9*TFF**2)*1.8/
              62.4283
ISN 0041      ASAT = -DRHOL(I)/RHOL(I)
ISN 0042      HLSAT(I) = ((-7.13927E3+35.2064*TSAT(I)-7.051302E-3*TSAT(I)
              *TSAT(I) +2.571074E-6*(TSAT(I))**3 -1.24284E5/
              TSAT(I))/22.991)
ISN 0043      SLSAT(I) = -5.90356+1.51103*DLOG(TSAT(I))-5.73462E-4*TSAT(I)
              +1.57165E-7*TSAT(I)*TSAT(I)-3425.81/(TSAT(I)*TSAT(I))
ISN 0044      DHLSAT=(35.2064-1.410260E-2*TSAT(I)+7.71322E-6*TSAT(I)*TSAT(I)
              +1.24284E5/(TSAT(I)*TSAT(I)))/22.991
ISN 0045      CSAT = DHLSAT - 0.1013278*DPSAT/RHOL(I)
              C
              C      CALCULATION OF HEAT OF VAPORIZATION (DH) USING THE QUASI-
              C      CHEMICAL METHOD OF GOLDEN AND TOKAR (ANL-7323)
              C
ISN 0046      TWO = DEXP(-9.95845 + (16588.3/TRR))
ISN 0047      FOUR = DEXP(-24.59115 + (37589.7/TRR))
ISN 0048      U = TWO*PSAT(I)

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ISM 0049      W = FOUH*PSAT(I)*PSAT(I)*PSAT(I)          115.
ISM 0050      X1 = G.8                                    116.
ISM 0051      170 X1P = X1                                117.
ISM 0052      X1 = X1 - (W*X1*X1*X1*X1 + U*X1*X1 + X1 - 1.) /
                (4.*W*X1*X1*X1 + 2.*U*X1 + 1.)           118.
ISM 0053      DIFF = DABS(X1 - X1P)/X1 - 1.D-06          119.
ISM 0054      IF (DIFF) 180,180,170                      120.
ISM 0055      180 X2 = U*X1*X1                          121.
ISM 0056      X4 = 1. - X1 - X2                          122.
ISM 0057      AB(I) = 22.991*(X1 + 2.*X2 + 4.*X4)        123.
ISM 0058      DHF1 = 25775.33-3.44653*TSAT(I)+1.68530D-3*TSAT(I)*TSAT(I)
                -6.14501D-7*TSAT(I)*TSAT(I)*TSAT(I) +2.97046D4/TSAT(I)
                CAL/HNA1
ISM 0059      DHF2 = 2.*DHF1 - 18304.                    CAL/HNA2
ISM 0060      DHF4 = 4.*DHF1 - 41478.                    CAL/HNA4
ISM 0061      DH = 4.184*(X1*DHF1 + X2*DHF2 + X4*DHF4)/AB(I)
ISM 0062      GO TO 250                                  129.
C                                                    130.
C      SATURATED PROPERTIES ABOVE 2500 DEG F          131.
C      RHOL DH HLSAT SLSAT                             132.
C                                                    133.
ISM 0063      200 RHOL(I)=ROCRIT*(1.+RHOLA*(1.-TR)**RHOLB +RHOLC*(TCRIT-TSAT(I))
                **2)                                     134.
ISM 0064      DRHOL(I)=-ROCRIT*(RHOLA*RHOLB/(TCRIT*(1.-TR)**(1.-RHOLB))
                +2*RHOLC*(TCRIT-TSAT(I)))               135.
ISM 0065      203 ASAT = -DRHOL(I)/RHOL(I)                K-1
ISM 0066      DH=DHA*TCRIT*(1.-TR)**DHB                 140.
ISM 0067      HLSAT(I) = E + F*(TSAT(I) - TCROSS) - 0.5*DH J/G
ISM 0068      DHLSAT=F+.5*DHA*DHB/(1.-TR)**(1.-DHB)      142.
ISM 0069      CSAT = DHISAT - CTOJ*DPSAT/RHOL(I)          J/G-K
ISM 0070      IF(I.EQ.1) GO TO 250                       144.
ISM 0072      CSATAV = 0.5*(CSAT + CSAT2)                 145.
ISM 0073      SLSAT(I) = SLSAT(I-1) + CSATAV*DLOG(TSAT(I)/TSAT(I-1))
                J/G-K
C                                                    147.
C      CALCULATION OF SATURATED PROPERTIES FOR THE ENTIRE TEMPERATURE RANGE
C      RHOV BTSAT APSAT GV CPSAT CVSAT HVSAT SVSAT      149.
C                                                    150.
ISM 0074      250 AFS = ASAT + BSSAT(I)*DPSAT            K-1
ISM 0075      RHOV(I) = 1./(1./RHOL(I) + DH/(TSAT(I)*DPSAT*CTOJ))
                G/CC
ISM 0076      TVAP = CTOJ*TSAT(I)*APS/RHOL(I)            153.
ISM 0077      BTSAT(I)=(BSSAT(I)*CSAT+TSAT(I)*ASAT*CTOJ*(ASAT+BSSAT(I)*DPSAT)
                /RHOL(I))/(CSAT-CTOJ*TSAT(I)*DPSAT*(ASAT+BSSAT(I)*DPSAT)
                154.
ISM 0078      APSAT(I) = ASAT + BTSAT(I)*DPSAT            K-1
ISM 0079      GV(I) = APSAT(I)/BTSAT(I)                  ATH/K
ISM 0080      CPSAT(I) = CSAT + CTOJ*TSAT(I)*APSAT(I)*DPSAT/RHOL(I)
                J/G-K
ISM 0081      CVSAT(I) = CPSAT(I)*BSSAT(I)/BTSAT(I)      J/G-K
ISM 0082      HVSAT(I) = HLSAT(I) + DH                   J/G
ISM 0083      SVSAT(I) = SLSAT(I) + DH/TSAT(I)            J/G-K
ISM 0084      DHS(I)=DH*22.991                            163.
ISM 0085      IF (TSAT(I).NE.TPRINT.AND.I.NE.IMAX) GO TO 350
ISM 0087      ITSAT = TSAT(I)                             164.
C                                                    165.
C      PRINT OF SATURATED PROPERTIES IN CGS UNITS      166.
C                                                    167.
ISM 0088      PRINT 2, ITSAT,HLSAT(I),CPSAT(I),CVSAT(I),SLSAT(I),PSAT(I),
                168.
                169.

```

```

1      DHS(I),RHOI(I),APSAT(I),BSSAT(I),BTSAT(I),GV(I)      170.
ISN 0089      TERINT = TPRINT + DPRINT      171.
ISN 0090      ICOUNT = ICOUNT + 1      172.
ISN 0091      IF (ICOUNT.LT.27) GO TO 350      173.
ISN 0093      PRINT 1      174.
ISN 0094      ICOUNT = 1      175.
ISN 0095      350 CSAT2 = CSAT      176.
ISN 0096      400 CCNTINUE      177.
C      178.
C      CONVERSION TO SI UNITS      179.
C      180.
C      PAJKF CONVERTS ATM TO PASCALS      181.
C      ROJKF CONVERTS G/CC TO KG/M**3      182.
C      GKJKF CONVERTS J/G TO J/MOLE      183.
C      ATHJKF CONVERTS INVERSE ATM TO INVERSE PASCALS      184.
C      185.
ISN 0097      PAJKF=1.01325D5      186.
ISN 0098      RCJKF=1.00D3      187.
ISN 0099      GKJKF=22.991      188.
ISN 0100      ATHJKF=1.0D0/PAJKF      189.
ISN 0101      ICOUNT=1      190.
ISN 0102      TPRINT=380.      191.
ISN 0103      DPRINT=10.      192.
ISN 0104      PRINT 158      193.
ISN 0105      DO 410 I=1,IMAX      194.
ISN 0106      IF (TSAT(I).NE.TPRINT.AND.I.NE.IMAX) GO TO 410      195.
ISN 0108      ITSATS=TSAT(I)      196.
ISN 0109      PSATS(I)=PSAT(I)*PAJKF*1.0D-6      197.
ISN 0110      RHOLS(I)=RHOL(I)*ROJKF      198.
ISN 0111      RHOVS(I)=RHOV(I)*ROJKF      199.
ISN 0112      HLSATS(I)=HLSAT(I)*GKJKF*1.0D-3      200.
ISN 0113      HVSATS(I)=HVSAT(I)*GKJKF*1.0D-3      201.
ISN 0114      GVSATS(I)=GV(I)*PAJKF*1.0D-6      202.
ISN 0115      SISATS(I)=SLSAT(I)*GKJKF      203.
ISN 0116      SVSATS(I)=SVSAT(I)*GKJKF      204.
ISN 0117      ESSATS(I)=BSSAT(I)*ATHJKF*1.0D6      205.
ISN 0118      BTSATS(I)=BTSAT(I)*ATHJKF*1.0D6      206.
ISN 0119      CPSATS(I)=CPSAT(I)*GKJKF      207.
ISN 0120      CVSATS(I)=CVSAT(I)*GKJKF      208.
ISN 0121      DHS(I)=DHS(I)*1.0D-3      209.
C      210.
C      PRINT OF SATURATED PROPERTIES IN SI UNITS      211.
C      212.
ISN 0122      PRINT 159, ITSATS,HLSATS(I),CPSATS(I),CVSATS(I),SLSATS(I),PSATS(I)      213.
ISN 0123      1,DHS(I),RHOLS(I),APSAT(I),ESSATS(I),BTSATS(I),GVSATS(I)      214.
ISN 0124      TERINT=TPRINT+DPRINT      215.
ISN 0125      ICOUNT=ICOUNT+1      216.
ISN 0126      IF (ICOUNT.LT. 27) GO TO 410      217.
ISN 0127      PRINT 158      218.
ISN 0128      ICOUNT=1      219.
ISN 0129      410 CONTINUE      220.
C      221.
C      PRINT CRITICAL VALUES      222.
C      223.
ISN 0130      ITSAT = TCRT      224.

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ISM 0131      HCRIT = E + F*(TCRIT - TCROSS)
ISM 0132      PRINT 108
ISM 0133      PRINT 3, ITSAT,PCRIT,ROCBIT,HCRIT
C
C      CALCULATE DERIVATIVE OF GV WITH RESPECT TO RHOL
C
ISM 0134      DO 460 I=2,IMAX
ISM 0135      DGV(I) = (GV(I) - GV(I-1))/(RHOL(I) - RHOL(I-1))
ISM 0136      460 CCNTINUE
ISM 0137      DGV(1) = DGV(2) + 0.5*(DGV(2) - DGV(3))
ISM 0138      IMAXM1 = IMAX - 1
ISM 0139      DO 500 I=2,IMAXM1
ISM 0140      DGV(I) = 0.5*(DGV(I) + DGV(I+1))
ISM 0141      500 CONTINUE
ISM 0142      DGV(IMAX) = 2.*DGV(IMAX) - DGV(IMAXM1)
C
C      CALCULATION OF SUBCOOLED PROPERTIES
C      SUBCOOLED RHOL, HLIQ, SLIQ, AP, AND BT
C
ISM 0143      DO 1000 J=1,JMAX
ISM 0144      N = 0
ISM 0145      T = TCALC
ISM 0146      DO 800 L=1,IMAX
ISM 0147      I = IMAX + 1 - L
ISM 0148      IF (TSAT(I).GT.T) GO TO 800
ISM 0149      N = N + 1
ISM 0150      IF (TSAT(I).LT.T) GO TO 750
ISM 0151      P(1) = PSAT(I)
ISM 0152      PP(1) = P(1)*PAJKF*1D-6
ISM 0153      RHOLI(1) = RHOL(I)
ISM 0154      HLIQ(1) = HLSAT(I)
ISM 0155      SLIQ(1) = SLSAT(I)
ISM 0156      AP(1) = APSAT(I)
ISM 0157      ET(1) = BTSAT(I)
ISM 0158      BSCALC(1) = BSSAT(I)
ISM 0159      CPCALC(1) = CPSAT(I)
ISM 0160      CVCALC(1) = CVSAT(I)
ISM 0161      GVCALC(1) = GV(I)
ISM 0162      GC TO 800
ISM 0163      750 DP = GV(I)*(T - TSAT(I))
ISM 0164      P(N) = PSAT(I) + DP
ISM 0165      APINV = 1./APSAT(I) + RHOL(I)*DP*DGV(I)/(GV(I)*GV(I))
ISM 0166      AP(N) = 1./APINV
ISM 0167      ET(N) = AP(N)/GV(I)
ISM 0168      DELP = P(N) - P(N-1)
ISM 0169      RHOAVG = 0.5*(RHOL(I) + RHOL(I+1))
ISM 0170      AFAVG = 0.5*(AP(N) + AP(N-1))
ISM 0171      HLIQ(N) = HLIQ(N-1) + CTOJ*(1. - T*APAVG)*DELP/RHOAVG
ISM 0172      SLIQ(N) = SLIQ(N-1) - CTOJ*APAVG*DELP/RHOAVG
ISM 0173      RHOLI(N) = RHOL(I)
ISM 0174      PP(N) = P(N)*PAJKF*1D-6
ISM 0175      800 CONTINUE
C
C      ITERATION ON PBESSURE (PCALC) AND INTERPOLATION
C      SUBCOOLED PROPERTIES ARE ORDERED IN ARRAYS AS AN

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J/G
226.
227.
228.
229.
230.
231.
A-CC/K-G
233.
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258.
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260.
261.
262.
263.
ATM
ATM
DEG K
K-1
ATM-1
269.
270.
271.
J/G
J/G-K
274.
275.
276.
277.
278.
279.

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C      INCREASING FUNCTION OF PRESSURE.
C
ISM 0178      NPROP = N
ISM 0179      PCALC(1) = P(1)*PAJKF*1D-6
ISM 0180      ROCALC(1) = RHOLI(1)
ISM 0181      HLCALC(1) = HLIQ(1)
ISM 0182      SLCALC(1) = SLIQ(1)
ISM 0183      APCALC(1) = AP(1)
ISM 0184      BTCALC(1) = BT(1)
ISM 0185      N = 2
ISM 0186      PCALC(2) = 0.
ISM 0187      DFCALC = 10.
ISM 0188      850 IF (PCALC(N).GE.200. ) DPCALC=50.
ISM 0190      IF (PCALC(N).GE.500. ) DPCALC=100.
ISM 0192      IF (PCALC(N).GE.1000. ) DPCALC=200.
ISM 0194      PCALC(N) = PCALC(N) + DPCALC
ISM 0195      IF (PCALC(N).LE.P(1)*PAJKF*1D-6) GO TO 850
ISM 0197      IF (PCALC(N).GT.P(NPROP)*PAJKF*1D-6) GO TO 875
ISM 0199      CALL CURVE (ROCALC(N),PCALC(N),RHOLI,PP,NPROP,IERROR,1)
ISM 0200      CALL CURVE (HLCALC(N),PCALC(N),HLIQ,PP,NPROP,IERROR,1)
ISM 0201      CALL CURVE (SLCALC(N),PCALC(N),SLIQ,PP,NPROP,IERROR,1)
ISM 0202      CALL CURVE (APCALC(N),PCALC(N),AP,PP,NPROP,IERROR,1)
ISM 0203      CALL CURVE (BTCALC(N),PCALC(N),BT,PP,NPROP,IERROR,1)
ISM 0204      N = N + 1
ISM 0205      PCALC(N) = PCALC(N-1)
ISM 0206      GO TO 850
ISM 0207      875 CONTINUE

C
C      PRINT SUBCOOLED PROPERTIES IN CGS UNITS
C
ISM 0208      NCALC = N - 1
ISM 0209      ICOUNT=1
ISM 0210      PRINT 4, TCALC,CVCALC
ISM 0211      PRINT 105, PCALC(1),HLCALC(1),CPCALC(1),SLCALC(1),ROCALC(1),
1      APCALC(1),BSCALC(1),BTCALC(1),GVCALC(1)

C
C      SUBCOOLED CP AND BS
C
ISM 0212      DO 950 I=2,NCALC
ISM 0213      CPCALC(I) = CVCALC + CTOJ*T*APCALC(I)*APCALC(I)/(ROCALC(I)*
1      BTCALC(I))
ISM 0214      BSCALC(I) = BTCALC(I)*CVCALC/CPCALC(I)
ISM 0215      GVCALC(I)=APCALC(I)/BTCALC(I)
ISM 0216      PRINT 105, PCALC(I),HLCALC(I),CPCALC(I),SLCALC(I),ROCALC(I),
1      APCALC(I),BSCALC(I),BTCALC(I),GVCALC(I)
ISM 0217      ICOUNT=ICOUNT+1
ISM 0218      IF(ICOUNT.LT.26) GO TO 950
ISM 0220      PRINT 4, TCALC,CVCALC
ISM 0221      ICOUNT=1
ISM 0222      950 CONTINUE
ISM 0223      DO 960 I=1,NCALC
ISM 0224      960 CONTINUE

C
C      CONVERT TO SI UNITS
C

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ISM 0225      ICOUNT=1                      335.
ISM 0226      CVCALC=CVCALC*GKJKF            336.
ISM 0227      PRINT 104,TCALC,CVCALC          337.
ISM 0228      DO 411 I=1,NCALC                338.
ISM 0229      ROCALC(I)=ROCALC(I)*ROJKF       339.
ISM 0230      HLCALC(I)=HLCALC(I)*GKJKF*1.0D-3 340.
ISM 0231      SLCALC(I)=SLCALC(I)*GKJKF       341.
ISM 0232      BSCALC(I)=BSCALC(I)*ATHJKF*1.0D6 342.
ISM 0233      BTCALC(I)=BTCALC(I)*ATHJKF*1.0D6 343.
ISM 0234      CPCALC(I)=CPCALC(I)*GKJKF       344.
ISM 0235      GVCALC(I)=GVCALC(I)*PAJKF*1.0D-6 345.
C                                                    346.
C      PRINT SUBCOOLED PROPERTIES IN SI UNITS    347.
C                                                    348.
ISM 0236      PRINT 105, PCALC(I),HLCALC(I),CPCALC(I),SLCALC(I),ROCALC(I), 349.
1      APCALC(I),BSCALC(I),BTCALC(I),GVCALC(I) 350.
ISM 0237      ICOUNT=ICOUNT+1                351.
ISM 0238      IF(ICOUNT.LT.27) GO TO 411        352.
ISM 0240      PRINT 104,TCALC,CVCALC           353.
ISM 0241      ICOUNT=1                      354.
ISM 0242      411 CONTINUE                    355.
ISM 0243      TCALC = TCALC + DTCALC           356.
ISM 0244      1000 CONTINUE                   357.
C                                                    358.
C      FORMAT STATEMENTS                      359.
C                                                    360.
ISM 0245      1 FORMAT (1H1/48X,'PROPERTIES OF SATURATED SODIUM LIQUID' /// 361.
1      3X,'T',4X,'H-H(298)',6X,'CP',8X,'CV',8X,'S',11X,'P',10X, 362.
2      'DH',9X,'RHO',8X,'ALPHAP',7X,'BETAS',7X,'BETAT',7X,'GAMMAV' 363.
4      / 2X,'(K)',4X,'(J/G)',5X,'(J/G-K)',3X,'(J/G-K)',3X,'(J/G-K)', 364.
5      6X,'(ATH)',7X,'(J/G)',6X,'(G/CC)',7X,'(1/K)',6X,'(1/ATH)',5X, 365.
6      '(1/ATH)',5X,'(ATH/K)' // ) 366.
ISM 0246      2 FORMAT (I5,F10.2,1X,F10.4,F10.4,F10.4,1X,7(1PD12.3) /) 367.
ISM 0247      3 FORMAT (1X,I5,F11.2,F12.5,F10.1) 368.
ISM 0248      4 FORMAT (1H1/25X,' SUBCOOLED SODIUM LIQUID PROPERTIES AT T =' ,F7.1, 369.
1      ' K, CV=' ,D12.5, ' J/G-K' /// 7X,'P',11X,'H-H(298)',8X,'CP', 370.
1      13X,'S',12X,'RHO',10X,'ALPHAP',8X,'BETAS',9X,'BETAT',9X, 371.
2      'GAMMAV' / 5X,'(ATH)',10X,'(KJ/G)',7X,'(J/G-K)', 372.
3      7X, '(J/G-K)',7X,'(G/CC)',10X,'(1/K)',7X, 373.
4      '(1/ATH)',7X,'(1/ATH)',8X,'(ATH/K)' // ) 374.
ISM 0249      5 FORMAT (F10.1,3X,F13.5,F12.1,F12.4,3D17.5,F12.4,D17.5 / ) 375.
ISM 0250      101 FORMAT (1H1/40X,'PROPERTIES OF SATURATED SODIUM' /// 376.
1      1X,'TSAT',3X,'PSAT',12X,'HLIQ',10X,'HVP',11X, 377.
2      'ALPHAP',8X,'BETAS',8X,'BETAT',8X,'GAMMAV' / 378.
4      1X,'(K)',4X,'(PA)',11X,'(J/HOLE)' 379.
5      ,6X,'(J/HOLE)',8X,'(1/K)',9X, 380.
6      '(1/PA)',7X,'(1/PA)',7X,'(PA/K)' // ) 381.
ISM 0251      104 FORMAT (1H1/25X,' SUBCOOLED SODIUM LIQUID PROPERTIES AT T =' ,F7.1, 382.
1      ' K, CV=' ,D12.5, ' J/MOL-K' /// 7X,'P',11X,'H-H(298)',8X,'CP', 383.
1      13X,'S',12X,'RHO',10X,'ALPHAP',8X,'BETAS',9X,'BETAT',9X, 384.
2      'GAMMAV' / 5X,'(MPA)',9X,'(KJ/MOL)',5X,'(J/MOL-K)', 385.
3      5X, '(J/MOL-K)',5X,'(KG/M**3)',7X,'(1/K)',8X, 386.
4      '(1/MPA)',7X,'(1/MPA)',8X,'(MPA/K)' // ) 387.
ISM 0252      105 FORMAT (9(1PD14.4) /) 388.
ISM 0253      108 FORMAT (1H1/12X,'CRITICAL VALUES' /// 389.

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1 1X,'TCRIT',5X,'PCRIT',6X,'RHOCRIT',5X,'HCRIT' / 390.
3 2X,'(K)',6X,'(ATM)',5X,'(G/CC)',5X,'(J/G)' / ) 391.
ISN 0254 158 FORMAT (1H1/48X,'PROPERTIES OF SATURATED SODIUM LIQUID' /// 392.
1 2X,'T',5X,'H-H (298)',5X,'CP',7X,'CV',9X,'S',10X,'P',11X,'DH',9X, 393.
2 'RHO',7X,'ALPHA',7X,'BETAS',7X,'BETAT',6X,'GAMMAV' 394.
3 /1X,'(K)',4X,'(KJ/MOL)',1X,'(J/MOL-K)',1X, 395.
5 '(J/MOL-K)',1X,'(J/MOL-K)',4X,'(MPA)',6X,'(KJ/MOL)',3X, 396.
6 '(KG/M**3)',5X,'(1/K)',6X,'(1/MPA)',5X,'(1/MPA)',5X,'(MPA/K)',5X, 397.
7 /// 398.
ISN 0255 159 FORMAT (15,3X,F7.3,3X,F7.2,3X,F6.2,4X,F6.2,1X,7 (1PD12.3) /) 399.
ISN 0256 STOP 400.
ISN 0257 END 401.

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      COMPILE OPTIONS - NAME= MAIN,OPT=00,LINECNT=57,SIZE=0000K,
                        SOURCE,EBCDIC,NOLIST,NODECK,LOAD,MAP,NOEDIT,ID,NOXREF
ISM 0002      SUBROUTINE CURVE (FX,X,F,Y,N,J,ISAVE) 402.
ISM 0003      IMPLICIT REAL*8 (A-H,O-Z) 403.
      C 404.
      C CURVE IS AN INTERPOLATION SUBROUTINE 405.
      C TO DETERMINE SUBCOOLED PROPERTIES AS A FUNCTION OF PRESSURE 406.
      C 407.
ISM 0004      DIMENSION F(2363) ,Y(2363) 408.
      C 409.
      C FX - QUANTITY TO BE FOUND 410.
      C X - INDEPENDENT VARIABLE 411.
      C F - INPUT ARRAY FOR THE ORDINATE(MONOTONIC WITH Y) 412.
      C Y - INPUT ARRAY FOR THE ABSCISSA (MONOTONIC INCREASE) 413.
      C N - NUMBER OF F(I) OR Y(I) VALUES 414.
      C J - SUCCESS(J=1) OR FAILURE(J=2) SIGNAL 415.
      C 416.
ISM 0005      1 FORMAT(49H TABULAR LOOKUP FAILED IN SUBROUTINE CURVE, FX = E12.6, 417.
      1 6H X = E12.6 / (10E12.4)) 418.
      J=1 419.
ISM 0006      GO TO (10,50),ISAVE 420.
ISM 0007      10 DO 20 I=1,N 421.
ISM 0008      IF(X-Y(I)) 30,15,20 422.
ISM 0009      15 IF(I.EQ.N) GO TO 40 423.
ISM 0010      20 CCNTINUE 424.
ISM 0011      GO TO 60 425.
ISM 0012      30 IF(I.EQ.1) GO TO 60 426.
ISM 0013      40 B = (X-Y(I-1))/(Y(I)-Y(I-1)) 427.
ISM 0014      50 FX = F(I-1) + B*(F(I)-F(I-1)) 428.
ISM 0015      RETURN 429.
ISM 0016      60 PRINT 1, FX,X,(F(I),Y(I),I=1,N) 430.
ISM 0017      J = 10 431.
ISM 0018      RETURN 432.
ISM 0019      END 433.

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      COMPILER OPTIONS - NAME= MAIN,OPT=00,LINECNT=57,SIZE=0000K,
      SOURCE,EBCDIC,NOLIST,MODECK,LOAD,MAP,NOEDIT,ID,NOXREF
ISN 0002      SUBROUTINE PARSET (TCRIT,PCRIT,ROCRIT)          434.
ISN 0003      IMPLICIT REAL*8 (A-H,O-Z)                    435.
ISN 0004      DIMENSION A (3,3),C (3),BETAS (15)            436.
ISN 0005      COMMON /PAR/ TCROSS,RHOLA,RHOLB,RHOLC,B,BSMELT,DHA,DHB,E,P 437.
      C                                                    438.
      C      CALCULATION OF CONSTANTS FOR SATURATED PROPERTIES ABOVE 2500 F 439.
      C      THE FOLLOWING VALUES OBTAINED FROM GOLDEN AND TOKAR (ANL-7323) 440.
      C      HAVE BEEN USED TO GENERATE THESE CONSTANTS BY MATCHING PROPERTY 441.
      C      VALUES AND THEIR TEMPERATURE DERIVATIVES AT TCROSS (=2500F,=2959.67R,
      C      =1644.26K)                                     443.
      C                                                    444.
ISN 0006      TCROSSR=1.8*TCROSS                             445.
ISN 0007      TCROSSF=TCROSSR-459.67                       446.
ISN 0008      CTOGCC=0.01601849                             447.
ISN 0009      ROLCRO=(59.566-7.9504D-3*TCROSSF-0.2872D-6*TCROSSF**2+0.06035D-9
      1      *TCROSSF**3)*CTOGCC/ROCRIT                     449.
ISN 0010      DRLCRO=(-7.9504D-3-0.5744D-6*TCROSSF+0.18105D-9*TCROSSF**2)*1.8
      1      *CTOGCC/ROCRIT                                 451.
ISN 0011      D2CRO=(-.57446D-6+.36210D-9*TCROSSF)*1.8*1.8*CTOGCC/ROCRIT 452.
ISN 0012      PSAT=DEXP (18.832381-13113.052/TCROSS +1.9777006E-4
      1      *TCROSS )/TCROSS **1.0947825                 453.
      C      ATH                                           455.
      C      CALCULATION OF E F DHA DHB                     456.
      C      FOR ENTHALPY USING HL HV DHL DHV AT 2500 F    457.
      C                                                    458.
ISN 0013      HLSAT =((-7.13927E3+35.2064*TCROSS-7.051302E-3*TCROSS
      1      *TCROSS +2.571074E-6*(TCROSS)**3 -1.24284E5/
      2      TCROSS)/22.991 )                               460.
ISN 0014      DHLSAT=(35.2064-1.410260E-2*TCROSS+7.71322E-6*TCROSS*TCROSS
      1      +1.24284E5/(TCROSS*TCROSS))/22.991            462.
ISN 0015      TWO = DEXP (-9.95845 + (16588.3/TCROSSR))    J/G-K
ISN 0016      FOUR = DEXP (-24.59115 + (37589.7/TCROSSR))  ATH-1
ISN 0017      U = TWO*PSAT                                  ATH-3
ISN 0018      W = FOUR*PSAT*PSAT*PSAT                     466.
ISN 0019      X1 = 0.8                                     467.
ISN 0020      170 X1P = X1                                  468.
ISN 0021      X1 = X1 - (W*X1*X1*X1*X1 + U*X1*X1 + X1 - 1.)/
      1      (4.*W*X1*X1*X1 + 2.*U*X1 + 1.)                469.
ISN 0022      DIFF = DABS (X1 - X1P)/X1 - 1.D-06          470.
ISN 0023      IF (DIFF) 180,180,170                        471.
ISN 0024      180 X2 = U*X1*X1                              472.
ISN 0025      X4 = 1. - X1 - X2                             473.
ISN 0026      AB = 22.991*(X1 + 2.*X2 + 4.*X4)             474.
ISN 0027      DHF1 = 25775.33-3.44653*TCROSS +1.68530D-3*TCROSS *TCROSS
      1      -6.14501D-7*TCROSS *TCROSS *TCROSS +2.97046D4/TCROSS 475.
ISN 0028      DHF2 = 2.*DHF1 - 18304.                     476.
ISN 0029      DHF4 = 4.*DHF1 - 41478.                     477.
ISN 0030      DH = 4.184*(X1*DHF1 + X2*DHF2 + X4*DHF4)/AB  CAL/MNA1
ISN 0031      BVSAT=HLSAT+DH                               CAL/MNA2
      C                                                    CAL/MNA4
      C                                                    481.
      C                                                    482.
      C      CALCULATION OF DERIV(DH) AT 2500 F           483.
      C                                                    484.
      C                                                    485.
      C                                                    486.

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C
ISM 0032      X=1.0D-1
ISM 0033      ICOUNT=1
ISM 0034      10 IC=1
ISM 0035      TD=((2500.+459.7)/1.8)+X
ISM 0036      11 TRR=TD*1.8
ISM 0037      PSAT=DEXP(18.832381-13113.052/TD +1.9777006E-4
1              *TD)/TD**1.0947825
ISM 0038      TWO = DEXP(-9.95845 + (16588.3/TRR))
ISM 0039      FCUR = DEXP(-24.59115 + (37589.7/TRR))
ISM 0040      U = TWO*PSAT
ISM 0041      W = FOUR*PSAT*PSAT*PSAT
ISM 0042      X1 = 0.8
ISM 0043      17 X1P = X1
ISM 0044      X1 = X1 - (W*X1*X1*X1*X1 + U*X1*X1 + X1 - 1.)/
1              (4.*W*X1*X1*X1 + 2.*U*X1 + 1.)
ISM 0045      DIFF = DABS(X1 - X1P)/X1 - 1.D-06
ISM 0046      IF (DIFF) 18,18,17
ISM 0047      18 X2 = U*X1*X1
ISM 0048      X4 = 1. - X1 - X2
ISM 0049      AB = 22.991*(X1 + 2.*X2 + 4.*X4)
ISM 0050      DHF1 = 25775.33-3.44653*TD+1.68530D-3*TD*TD
1              -6.14501D-7*TD*TD*TD +2.97046D4/TD
ISM 0051      DHF2 = 2.*DHF1 - 18304.
ISM 0052      DHF4 = 4.*DHF1 - 41478.
ISM 0053      DH = 4.184*(X1*DHF1 + X2*DHF2 + X4*DHF4)/AB
ISM 0054      IF(IC.EQ.1) DH1=DH
ISM 0056      IF(IC.EQ.2) GO TO 19
ISM 0058      IC=2
ISM 0059      TD=((2500.+459.7)/1.8)-X
ISM 0060      GO TO 11
ISM 0061      19 DH2=DH
ISM 0062      DERIV=(DH1-DH2)/(2.*X)
ISM 0063      IF (ICOUNT.EQ.1) GO TO 20
ISM 0065      DD=DERIV-DERIV1
ISM 0066      IF(DABS(DD)/DERIV.LT.1D-5) GO TO 30
ISM 0068      20 DERIV1=DERIV
ISM 0069      ICOUNT=ICOUNT+1
ISM 0070      X=X/2.
ISM 0071      GO TO 10
ISM 0072      30 DHVSAT=DHLSAT+DERIV
ISM 0073      E=(HLSAT + HVSAT)/2.0D0
ISM 0074      F=(DHLSAT + DHVSAT)/2.0D0
ISM 0075      DHB=(TCRIT-TCROSS)*(DHLSAT-DHVSAT)/(HVSAT-HLSAT)
ISM 0076      DHA=(HVSAT-HLSAT)/(TCRIT*(1-TCROSS/TCRIT)**DHB)
C
C      CALCULATION OF RHOLA AND RHOLB FOR THE DENSITY
C
ISM 0077      RHOLB=(DRICRO*(TCRIT-TCROSS)-D2CRO*(TCRIT-TCROSS)**2)/
1              (2*(R0LCRO-1.)-DRLCRO*(TCRIT-TCROSS))
ISM 0078      RHOLA=(DRLCRO*(TCRIT-TCROSS)-D2CRO*(TCRIT-TCROSS)**2)/
1              (RHCLB*(2.-RHOLB)*(1.-(TCROSS/TCRIT))**RHOLB)
ISM 0079      RHOLC=((R0LCRO-1.)-RHOLA*(1.-TCROSS/TCRIT)**RHOLB)/
1              (TCRIT-TCROSS)**2
C

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C      CALCULATION OF B FOR REVISED FORM OF GROSSE'S RELATION      542.
C      BETAS (T)=BETAS (TMELT)*(1+THETA/B)/(1-THETA)  WHERE      543.
C      THETA=(T - TMELT)/ (TCRIT - TMELT)      544.
C      545.
ISN 0080      TMELT=370.98      546.
ISN 0081      TLIMIT=1500.+273.15      547.
ISN 0082      DT=(TLIMIT-TMELT)/14.      548.
ISN 0083      T=TMELT      549.
ISN 0084      SUM1=0.      550.
ISN 0085      SUM2=0.      551.
ISN 0086      SUM3=0.      552.
ISN 0087      DO 50 I=1,15      553.
ISN 0088      TF=1.8*T-459.67      554.
ISN 0089      TC=(TF-32.)/1.8      555.
C      556.
C      CALCULATION OF BS FROM THE SPEED OF SOUND (CO)      557.
C      558.
ISN 0090      IF (T.LE.TCROSS) RHOL=CTOGCC*(59.566-7.9504D-3*TF-0.2872D-6*TF**2)      559.
      1 +0.06035D-9*TF**3)      560.
ISN 0092      IF (T.GT.TCROSS) RHOL=ROCRIT*(1.+RHOLA*(1.-T/TCRIT)**RHOLB      561.
      1 +RHOLC*(TCRIT-T)**2)      562.
ISN 0094      CO=(2660.7-.37667*T-9.0356E-5*T**2)*1.0D2      563.
ISN 0095      BETAS (I)=1.01325E6/(RHOL*CO**2)      564.
ISN 0096      IF (I.NE.1) GO TO 48      565.
ISN 0098      BSMELT=BETAS (1)      566.
ISN 0099      GO TO 49      567.
C      568.
C      DETERMINATION OF PARAMETER B      569.
C      570.
ISN 0100      48 THETA=(T-TMELT)/(TCRIT-TMELT)      571.
ISN 0101      SUM1=SUM1+BSMELT*THETA/(1.-THETA)*BETAS (I)      572.
ISN 0102      SUM2=SUM2+(BSMELT/(1.-THETA))**2*THETA      573.
ISN 0103      SUM3=SUM3+(BSMELT/(1.-THETA)*THETA)**2      574.
ISN 0104      49 T=T+DT      575.
ISN 0105      50 CONTINUE      576.
ISN 0106      B=SUM3/(SUM1-SUM2)      577.
ISN 0107      RETURN      578.
ISN 0108      END      579.

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TCRIT = 2509. DEG K
PCRIT = 253.0 ATM
ROCRIT = 0.2141 G/CC
RHOLA = 0.23710D 01
RHOLB = 0.31645D 00
RHOLC = 0.28467D-06
R = 0.35526D 04
F = 0.80577D 00
DMA = 0.18878D 01
DMB = 0.32227D 00
B = 0.34054D 01
BSMELT= 0.17361D-04

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	DH (J/G)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
380	219.00	1.3841	1.2482	2.8533	2.515D-10	1.035D 05	9.254D-01	2.515D-04	1.746D-05	1.936D-05	1.299D 01
390	232.81	1.3787	1.2391	2.8892	5.933D-10	1.034D 05	9.230D-01	2.524D-04	1.756D-05	1.954D-05	1.291D 01
400	246.57	1.3734	1.2303	2.9241	1.340D-09	1.033D 05	9.207D-01	2.533D-04	1.767D-05	1.973D-05	1.284D 01
410	260.28	1.3684	1.2216	2.9580	2.907D-09	1.032D 05	9.184D-01	2.542D-04	1.778D-05	1.991D-05	1.276D 01
420	273.94	1.3635	1.2131	2.9909	6.076D-09	1.031D 05	9.160D-01	2.551D-04	1.789D-05	2.011D-05	1.269D 01
430	287.55	1.3588	1.2048	3.0229	1.226D-08	1.029D 05	9.137D-01	2.560D-04	1.800D-05	2.030D-05	1.261D 01
440	301.12	1.3543	1.1967	3.0541	2.396D-08	1.028D 05	9.114D-01	2.569D-04	1.811D-05	2.050D-05	1.254D 01
450	314.64	1.3499	1.1887	3.0845	4.543D-08	1.027D 05	9.090D-01	2.579D-04	1.822D-05	2.069D-05	1.246D 01
460	328.11	1.3457	1.1809	3.1142	8.373D-08	1.026D 05	9.067D-01	2.588D-04	1.834D-05	2.090D-05	1.238D 01
470	341.55	1.3416	1.1733	3.1431	1.503D-07	1.024D 05	9.043D-01	2.597D-04	1.845D-05	2.110D-05	1.231D 01
480	354.95	1.3376	1.1657	3.1713	2.632D-07	1.023D 05	9.020D-01	2.606D-04	1.857D-05	2.131D-05	1.223D 01
490	368.30	1.3338	1.1583	3.1988	4.502D-07	1.022D 05	8.996D-01	2.616D-04	1.868D-05	2.152D-05	1.216D 01
500	381.62	1.3301	1.1511	3.2258	7.535D-07	1.021D 05	8.973D-01	2.625D-04	1.880D-05	2.173D-05	1.208D 01
510	394.91	1.3265	1.1439	3.2521	1.236D-06	1.019D 05	8.949D-01	2.634D-04	1.892D-05	2.194D-05	1.200D 01
520	408.15	1.3231	1.1369	3.2778	1.987D-06	1.018D 05	8.926D-01	2.643D-04	1.904D-05	2.216D-05	1.193D 01
530	421.37	1.3197	1.1300	3.3030	3.138D-06	1.016D 05	8.902D-01	2.653D-04	1.917D-05	2.238D-05	1.185D 01
540	434.55	1.3164	1.1232	3.3276	4.871D-06	1.015D 05	8.878D-01	2.662D-04	1.929D-05	2.261D-05	1.178D 01
550	447.70	1.3133	1.1166	3.3517	7.439D-06	1.013D 05	8.855D-01	2.671D-04	1.941D-05	2.283D-05	1.170D 01
560	460.82	1.3103	1.1100	3.3754	1.119D-05	1.012D 05	8.831D-01	2.681D-04	1.954D-05	2.306D-05	1.162D 01
570	473.90	1.3073	1.1036	3.3985	1.658D-05	1.010D 05	8.807D-01	2.690D-04	1.967D-05	2.330D-05	1.155D 01
580	486.96	1.3045	1.0972	3.4212	2.423D-05	1.009D 05	8.784D-01	2.700D-04	1.979D-05	2.353D-05	1.147D 01
590	499.99	1.3017	1.0910	3.4435	3.496D-05	1.007D 05	8.760D-01	2.709D-04	1.992D-05	2.377D-05	1.140D 01
600	513.00	1.2991	1.0849	3.4654	4.981D-05	1.006D 05	8.736D-01	2.719D-04	2.006D-05	2.401D-05	1.132D 01
610	525.97	1.2965	1.0789	3.4868	7.013D-05	1.004D 05	8.712D-01	2.728D-04	2.019D-05	2.426D-05	1.125D 01
620	538.93	1.2940	1.0729	3.5079	9.764D-05	1.002D 05	8.689D-01	2.738D-04	2.032D-05	2.451D-05	1.117D 01
630	551.86	1.2916	1.0671	3.5286	1.345D-04	1.001D 05	8.665D-01	2.747D-04	2.046D-05	2.476D-05	1.109D 01
640	564.76	1.2894	1.0614	3.5489	1.834D-04	9.988D 04	8.641D-01	2.757D-04	2.059D-05	2.502D-05	1.102D 01

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	DH (J/G)	RHO (G/CC)	ALPHA (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMA (ATM/K)
650	577.64	1.2871	1.0558	3.5689	2.476D-04	9.971D 04	8.617D-01	2.766D-04	2.073D-05	2.528D-05	1.094D 01
660	590.50	1.2850	1.0502	3.5885	3.311D-04	9.953D 04	8.593D-01	2.776D-04	2.087D-05	2.554D-05	1.087D 01
670	603.34	1.2830	1.0448	3.6078	4.391D-04	9.934D 04	8.569D-01	2.785D-04	2.101D-05	2.580D-05	1.079D 01
680	616.16	1.2810	1.0394	3.6268	5.772D-04	9.916D 04	8.546D-01	2.795D-04	2.115D-05	2.607D-05	1.072D 01
690	628.96	1.2791	1.0342	3.6455	7.527D-04	9.897D 04	8.522D-01	2.805D-04	2.130D-05	2.634D-05	1.065D 01
700	641.75	1.2774	1.0290	3.6639	9.740D-04	9.878D 04	8.498D-01	2.814D-04	2.145D-05	2.662D-05	1.057D 01
710	654.51	1.2756	1.0240	3.6820	1.251D-03	9.859D 04	8.474D-01	2.824D-04	2.159D-05	2.690D-05	1.050D 01
720	667.26	1.2740	1.0190	3.6999	1.595D-03	9.839D 04	8.450D-01	2.834D-04	2.174D-05	2.718D-05	1.042D 01
730	679.99	1.2725	1.0141	3.7174	2.021D-03	9.820D 04	8.426D-01	2.843D-04	2.189D-05	2.747D-05	1.035D 01
740	692.71	1.2710	1.0093	3.7347	2.543D-03	9.800D 04	8.402D-01	2.853D-04	2.205D-05	2.776D-05	1.028D 01
750	705.41	1.2696	1.0046	3.7518	3.180D-03	9.780D 04	8.378D-01	2.863D-04	2.220D-05	2.805D-05	1.020D 01
760	718.10	1.2683	1.0000	3.7686	3.953D-03	9.759D 04	8.354D-01	2.873D-04	2.236D-05	2.835D-05	1.013D 01
770	730.78	1.2670	0.9955	3.7852	4.885D-03	9.739D 04	8.330D-01	2.882D-04	2.251D-05	2.865D-05	1.006D 01
780	743.44	1.2658	0.9910	3.8015	6.003D-03	9.718D 04	8.306D-01	2.892D-04	2.267D-05	2.896D-05	9.986D 00
790	756.10	1.2648	0.9867	3.8176	7.339D-03	9.698D 04	8.282D-01	2.902D-04	2.283D-05	2.927D-05	9.914D 00
800	768.74	1.2637	0.9824	3.8335	8.925D-03	9.677D 04	8.258D-01	2.912D-04	2.300D-05	2.958D-05	9.843D 00
810	781.37	1.2628	0.9782	3.8492	1.080D-02	9.656D 04	8.234D-01	2.922D-04	2.316D-05	2.990D-05	9.771D 00
820	793.99	1.2619	0.9741	3.8647	1.301D-02	9.635D 04	8.210D-01	2.932D-04	2.333D-05	3.022D-05	9.700D 00
830	806.61	1.2611	0.9701	3.8800	1.559D-02	9.613D 04	8.186D-01	2.942D-04	2.350D-05	3.055D-05	9.629D 00
840	819.22	1.2604	0.9662	3.8951	1.861D-02	9.592D 04	8.162D-01	2.951D-04	2.367D-05	3.088D-05	9.558D 00
850	831.82	1.2598	0.9624	3.9101	2.212D-02	9.571D 04	8.138D-01	2.961D-04	2.384D-05	3.121D-05	9.488D 00
860	844.41	1.2592	0.9586	3.9248	2.618D-02	9.549D 04	8.114D-01	2.971D-04	2.402D-05	3.155D-05	9.418D 00
870	857.00	1.2587	0.9550	3.9394	3.087D-02	9.528D 04	8.089D-01	2.981D-04	2.420D-05	3.189D-05	9.348D 00
880	869.59	1.2583	0.9514	3.9537	3.625D-02	9.506D 04	8.065D-01	2.991D-04	2.438D-05	3.224D-05	9.279D 00
890	882.17	1.2579	0.9479	3.9680	4.241D-02	9.485D 04	8.041D-01	3.002D-04	2.456D-05	3.259D-05	9.210D 00
900	894.75	1.2576	0.9445	3.9820	4.945D-02	9.463D 04	8.017D-01	3.012D-04	2.474D-05	3.295D-05	9.141D 00

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	DH (J/G)	RHO (G/CC)	ALPHA P (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMA V (ATM/K)
910	907.32	1.2574	0.9411	3.9959	5.745D-02	9.442D 04	7.993D-01	3.022D-04	2.493D-05	3.331D-05	9.072D 00
920	919.90	1.2572	0.9379	4.0097	6.652D-02	9.420D 04	7.969D-01	3.032D-04	2.512D-05	3.367D-05	9.004D 00
930	932.47	1.2572	0.9347	4.0233	7.678D-02	9.398D 04	7.945D-01	3.042D-04	2.531D-05	3.404D-05	8.936D 00
940	945.04	1.2572	0.9316	4.0367	8.834D-02	9.377D 04	7.920D-01	3.052D-04	2.550D-05	3.442D-05	8.869D 00
950	957.62	1.2572	0.9286	4.0500	1.013D-01	9.355D 04	7.896D-01	3.062D-04	2.570D-05	3.479D-05	8.802D 00
960	970.19	1.2574	0.9257	4.0632	1.159D-01	9.333D 04	7.872D-01	3.073D-04	2.590D-05	3.518D-05	8.735D 00
970	982.77	1.2576	0.9229	4.0762	1.322D-01	9.312D 04	7.848D-01	3.083D-04	2.610D-05	3.557D-05	8.668D 00
980	995.35	1.2578	0.9201	4.0891	1.503D-01	9.290D 04	7.824D-01	3.093D-04	2.630D-05	3.596D-05	8.602D 00
990	1007.93	1.2582	0.9174	4.1019	1.705D-01	9.268D 04	7.799D-01	3.104D-04	2.651D-05	3.636D-05	8.536D 00
1000	1020.51	1.2586	0.9148	4.1145	1.929D-01	9.247D 04	7.775D-01	3.114D-04	2.672D-05	3.676D-05	8.471D 00
1010	1033.10	1.2591	0.9123	4.1271	2.177D-01	9.225D 04	7.751D-01	3.124D-04	2.693D-05	3.717D-05	8.406D 00
1020	1045.70	1.2596	0.9099	4.1395	2.451D-01	9.204D 04	7.727D-01	3.135D-04	2.715D-05	3.758D-05	8.341D 00
1030	1058.30	1.2602	0.9075	4.1518	2.753D-01	9.182D 04	7.703D-01	3.145D-04	2.737D-05	3.800D-05	8.277D 00
1040	1070.91	1.2609	0.9052	4.1639	3.085D-01	9.161D 04	7.678D-01	3.156D-04	2.759D-05	3.843D-05	8.213D 00
1050	1083.53	1.2617	0.9030	4.1760	3.449D-01	9.139D 04	7.654D-01	3.166D-04	2.781D-05	3.886D-05	8.149D 00
1060	1096.15	1.2625	0.9009	4.1880	3.848D-01	9.118D 04	7.630D-01	3.177D-04	2.804D-05	3.929D-05	8.086D 00
1070	1108.78	1.2634	0.8989	4.1998	4.284D-01	9.096D 04	7.606D-01	3.188D-04	2.827D-05	3.973D-05	8.023D 00
1080	1121.43	1.2644	0.8969	4.2116	4.759D-01	9.075D 04	7.581D-01	3.198D-04	2.850D-05	4.018D-05	7.960D 00
1090	1134.08	1.2654	0.8950	4.2232	5.277D-01	9.053D 04	7.557D-01	3.209D-04	2.874D-05	4.063D-05	7.898D 00
1100	1146.74	1.2665	0.8932	4.2348	5.840D-01	9.032D 04	7.533D-01	3.220D-04	2.898D-05	4.109D-05	7.836D 00
1110	1159.42	1.2676	0.8915	4.2463	6.451D-01	9.010D 04	7.509D-01	3.230D-04	2.922D-05	4.155D-05	7.774D 00
1120	1172.11	1.2689	0.8898	4.2576	7.112D-01	8.989D 04	7.485D-01	3.241D-04	2.947D-05	4.202D-05	7.713D 00
1130	1184.81	1.2702	0.8882	4.2689	7.828D-01	8.967D 04	7.460D-01	3.252D-04	2.972D-05	4.250D-05	7.652D 00
1140	1197.52	1.2715	0.8867	4.2801	8.600D-01	8.946D 04	7.436D-01	3.263D-04	2.997D-05	4.298D-05	7.592D 00
1150	1210.25	1.2729	0.8853	4.2912	9.433D-01	8.925D 04	7.412D-01	3.274D-04	3.023D-05	4.347D-05	7.531D 00
1160	1223.00	1.2744	0.8840	4.3022	1.033D 00	8.903D 04	7.388D-01	3.285D-04	3.049D-05	4.396D-05	7.472D 00

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	DH (J/G)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
1170	1235.76	1.2760	0.8827	4.3132	1.129D 00	8.882D 04	7.363D-01	3.296D-04	3.076D-05	4.446D-05	7.412D 00
1180	1248.54	1.2776	0.8815	4.3240	1.233D 00	8.860D 04	7.339D-01	3.307D-04	3.103D-05	4.497D-05	7.353D 00
1190	1261.33	1.2793	0.8804	4.3348	1.344D 00	8.839D 04	7.315D-01	3.318D-04	3.130D-05	4.549D-05	7.294D 00
1200	1274.14	1.2811	0.8793	4.3455	1.462D 00	8.817D 04	7.291D-01	3.329D-04	3.158D-05	4.601D-05	7.236D 00
1210	1286.97	1.2829	0.8783	4.3562	1.589D 00	8.795D 04	7.266D-01	3.340D-04	3.186D-05	4.654D-05	7.178D 00
1220	1299.82	1.2848	0.8775	4.3667	1.725D 00	8.774D 04	7.242D-01	3.352D-04	3.215D-05	4.707D-05	7.120D 00
1230	1312.69	1.2867	0.8766	4.3772	1.869D 00	8.752D 04	7.218D-01	3.363D-04	3.244D-05	4.762D-05	7.063D 00
1240	1325.58	1.2888	0.8759	4.3876	2.023D 00	8.730D 04	7.194D-01	3.374D-04	3.274D-05	4.817D-05	7.005D 00
1250	1338.49	1.2909	0.8752	4.3980	2.187D 00	8.709D 04	7.170D-01	3.386D-04	3.304D-05	4.872D-05	6.949D 00
1260	1351.43	1.2930	0.8746	4.4083	2.360D 00	8.687D 04	7.145D-01	3.397D-04	3.334D-05	4.929D-05	6.892D 00
1270	1364.38	1.2952	0.8741	4.4185	2.545D 00	8.665D 04	7.121D-01	3.409D-04	3.365D-05	4.986D-05	6.836D 00
1280	1377.36	1.2975	0.8737	4.4287	2.741D 00	8.643D 04	7.097D-01	3.420D-04	3.397D-05	5.045D-05	6.780D 00
1290	1390.36	1.2999	0.8733	4.4387	2.948D 00	8.620D 04	7.073D-01	3.432D-04	3.429D-05	5.103D-05	6.725D 00
1300	1403.39	1.3023	0.8730	4.4488	3.167D 00	8.598D 04	7.049D-01	3.444D-04	3.461D-05	5.163D-05	6.670D 00
1310	1416.45	1.3048	0.8728	4.4588	3.399D 00	8.576D 04	7.024D-01	3.456D-04	3.494D-05	5.224D-05	6.615D 00
1320	1429.53	1.3073	0.8726	4.4687	3.643D 00	8.553D 04	7.000D-01	3.468D-04	3.528D-05	5.285D-05	6.561D 00
1330	1442.63	1.3099	0.8726	4.4785	3.901D 00	8.531D 04	6.976D-01	3.479D-04	3.562D-05	5.348D-05	6.506D 00
1340	1455.77	1.3126	0.8726	4.4884	4.173D 00	8.508D 04	6.952D-01	3.491D-04	3.597D-05	5.411D-05	6.452D 00
1350	1468.93	1.3154	0.8727	4.4981	4.459D 00	8.485D 04	6.928D-01	3.504D-04	3.633D-05	5.475D-05	6.399D 00
1360	1482.12	1.3182	0.8728	4.5078	4.760D 00	8.462D 04	6.903D-01	3.516D-04	3.669D-05	5.540D-05	6.346D 00
1370	1495.34	1.3211	0.8731	4.5175	5.076D 00	8.439D 04	6.879D-01	3.528D-04	3.705D-05	5.606D-05	6.293D 00
1380	1508.59	1.3240	0.8734	4.5271	5.409D 00	8.415D 04	6.855D-01	3.540D-04	3.743D-05	5.674D-05	6.240D 00
1390	1521.87	1.3270	0.8738	4.5366	5.757D 00	8.392D 04	6.831D-01	3.553D-04	3.781D-05	5.742D-05	6.188D 00
1400	1535.18	1.3301	0.8742	4.5461	6.122D 00	8.368D 04	6.807D-01	3.565D-04	3.819D-05	5.811D-05	6.135D 00
1410	1548.53	1.3332	0.8748	4.5556	6.505D 00	8.344D 04	6.783D-01	3.578D-04	3.859D-05	5.881D-05	6.084D 00
1420	1561.91	1.3364	0.8754	4.5650	6.905D 00	8.320D 04	6.759D-01	3.590D-04	3.899D-05	5.952D-05	6.032D 00

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	DH (J/G)	RHO (G/CC)	ALPHA P (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMA V (ATM/K)
1430	1575.32	1.3397	0.8761	4.5744	7.324D 00	8.296D 04	6.735D-01	3.603D-04	3.940D-05	6.024D-05	5.981D 00
1440	1588.76	1.3431	0.8769	4.5837	7.762D 00	8.272D 04	6.711D-01	3.616D-04	3.981D-05	6.098D-05	5.930D 00
1450	1602.24	1.3465	0.8777	4.5930	8.218D 00	8.247D 04	6.686D-01	3.629D-04	4.024D-05	6.172D-05	5.879D 00
1460	1615.76	1.3499	0.8786	4.6022	8.695D 00	8.222D 04	6.662D-01	3.642D-04	4.067D-05	6.248D-05	5.828D 00
1470	1629.31	1.3535	0.8796	4.6114	9.192D 00	8.197D 04	6.638D-01	3.655D-04	4.111D-05	6.325D-05	5.778D 00
1480	1642.90	1.3571	0.8807	4.6206	9.711D 00	8.172D 04	6.614D-01	3.668D-04	4.156D-05	6.403D-05	5.728D 00
1490	1656.53	1.3608	0.8819	4.6297	1.025D 01	8.147D 04	6.590D-01	3.681D-04	4.201D-05	6.483D-05	5.678D 00
1500	1670.19	1.3645	0.8831	4.6388	1.081D 01	8.121D 04	6.566D-01	3.695D-04	4.248D-05	6.564D-05	5.629D 00
1510	1683.90	1.3683	0.8844	4.6479	1.140D 01	8.095D 04	6.542D-01	3.708D-04	4.296D-05	6.646D-05	5.580D 00
1520	1697.64	1.3722	0.8858	4.6569	1.200D 01	8.069D 04	6.518D-01	3.722D-04	4.344D-05	6.729D-05	5.531D 00
1530	1711.43	1.3762	0.8873	4.6659	1.263D 01	8.043D 04	6.494D-01	3.736D-04	4.394D-05	6.814D-05	5.482D 00
1540	1725.25	1.3802	0.8889	4.6749	1.329D 01	8.016D 04	6.470D-01	3.749D-04	4.444D-05	6.901D-05	5.433D 00
1550	1739.12	1.3843	0.8905	4.6838	1.397D 01	7.990D 04	6.446D-01	3.763D-04	4.496D-05	6.989D-05	5.385D 00
1560	1753.03	1.3884	0.8923	4.6927	1.467D 01	7.963D 04	6.422D-01	3.777D-04	4.549D-05	7.078D-05	5.337D 00
1570	1766.98	1.3927	0.8941	4.7015	1.540D 01	7.936D 04	6.398D-01	3.792D-04	4.603D-05	7.169D-05	5.289D 00
1580	1780.98	1.3970	0.8960	4.7103	1.615D 01	7.908D 04	6.375D-01	3.806D-04	4.658D-05	7.262D-05	5.241D 00
1590	1795.02	1.4013	0.8980	4.7191	1.694D 01	7.881D 04	6.351D-01	3.820D-04	4.714D-05	7.356D-05	5.193D 00
1600	1809.10	1.4057	0.9001	4.7279	1.775D 01	7.853D 04	6.327D-01	3.835D-04	4.771D-05	7.452D-05	5.146D 00
1610	1823.23	1.4103	0.9022	4.7367	1.858D 01	7.825D 04	6.303D-01	3.849D-04	4.830D-05	7.550D-05	5.099D 00
1620	1837.41	1.4148	0.9045	4.7454	1.945D 01	7.797D 04	6.279D-01	3.864D-04	4.890D-05	7.649D-05	5.052D 00
1630	1851.64	1.4195	0.9068	4.7541	2.034D 01	7.769D 04	6.255D-01	3.879D-04	4.951D-05	7.751D-05	5.005D 00
1640	1865.91	1.4242	0.9092	4.7627	2.126D 01	7.740D 04	6.231D-01	3.894D-04	5.014D-05	7.854D-05	4.958D 00
1650	1880.23	1.4290	0.9118	4.7713	2.221D 01	7.711D 04	6.208D-01	3.910D-04	5.078D-05	7.959D-05	4.912D 00
1660	1894.60	1.4339	0.9144	4.7799	2.319D 01	7.682D 04	6.184D-01	3.925D-04	5.144D-05	8.067D-05	4.866D 00
1670	1909.02	1.4389	0.9170	4.7885	2.421D 01	7.653D 04	6.160D-01	3.942D-04	5.212D-05	8.178D-05	4.820D 00
1680	1923.50	1.4441	0.9197	4.7970	2.525D 01	7.623D 04	6.136D-01	3.959D-04	5.281D-05	8.291D-05	4.775D 00

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	DH (J/G)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
1690	1938.02	1.4493	0.9224	4.8055	2.632D 01	7.594D 04	6.113D-01	3.976D-04	5.351D-05	8.408D-05	4.729D 00
1700	1952.60	1.4547	0.9253	4.8140	2.743D 01	7.564D 04	6.089D-01	3.995D-04	5.424D-05	8.527D-05	4.685D 00
1710	1967.23	1.4601	0.9281	4.8225	2.857D 01	7.533D 04	6.065D-01	4.013D-04	5.498D-05	8.649D-05	4.640D 00
1720	1981.92	1.4657	0.9310	4.8310	2.974D 01	7.503D 04	6.041D-01	4.033D-04	5.574D-05	8.775D-05	4.596D 00
1730	1996.67	1.4715	0.9340	4.8394	3.094D 01	7.472D 04	6.018D-01	4.053D-04	5.652D-05	8.904D-05	4.552D 00
1740	2011.48	1.4774	0.9371	4.8478	3.218D 01	7.441D 04	5.994D-01	4.074D-04	5.732D-05	9.037D-05	4.508D 00
1750	2026.34	1.4834	0.9402	4.8562	3.345D 01	7.410D 04	5.970D-01	4.096D-04	5.814D-05	9.174D-05	4.465D 00
1760	2041.27	1.4895	0.9433	4.8646	3.476D 01	7.378D 04	5.946D-01	4.119D-04	5.899D-05	9.314D-05	4.422D 00
1770	2056.26	1.4958	0.9466	4.8729	3.610D 01	7.346D 04	5.923D-01	4.142D-04	5.985D-05	9.459D-05	4.379D 00
1780	2071.31	1.5023	0.9498	4.8813	3.748D 01	7.314D 04	5.899D-01	4.166D-04	6.074D-05	9.608D-05	4.337D 00
1790	2086.43	1.5090	0.9532	4.8896	3.889D 01	7.282D 04	5.875D-01	4.192D-04	6.166D-05	9.761D-05	4.294D 00
1800	2101.61	1.5158	0.9566	4.8979	4.034D 01	7.249D 04	5.851D-01	4.218D-04	6.260D-05	9.919D-05	4.253D 00
1810	2116.87	1.5227	0.9601	4.9062	4.183D 01	7.216D 04	5.827D-01	4.245D-04	6.357D-05	1.008D-04	4.211D 00
1820	2132.19	1.5299	0.9637	4.9145	4.335D 01	7.182D 04	5.803D-01	4.274D-04	6.456D-05	1.025D-04	4.169D 00
1830	2147.59	1.5373	0.9674	4.9228	4.491D 01	7.149D 04	5.780D-01	4.303D-04	6.559D-05	1.042D-04	4.128D 00
1840	2163.05	1.5448	0.9711	4.9311	4.651D 01	7.115D 04	5.756D-01	4.333D-04	6.664D-05	1.060D-04	4.087D 00
1850	2178.60	1.5526	0.9749	4.9394	4.814D 01	7.080D 04	5.732D-01	4.365D-04	6.773D-05	1.079D-04	4.047D 00
1860	2194.22	1.5606	0.9788	4.9476	4.981D 01	7.045D 04	5.708D-01	4.398D-04	6.885D-05	1.098D-04	4.006D 00
1870	2209.92	1.5688	0.9827	4.9559	5.153D 01	7.010D 04	5.684D-01	4.433D-04	7.001D-05	1.118D-04	3.966D 00
1880	2225.70	1.5773	0.9868	4.9641	5.328D 01	6.975D 04	5.659D-01	4.468D-04	7.120D-05	1.138D-04	3.926D 00
1890	2241.57	1.5860	0.9909	4.9724	5.507D 01	6.939D 04	5.635D-01	4.506D-04	7.244D-05	1.159D-04	3.886D 00
1900	2257.52	1.5950	0.9952	4.9806	5.690D 01	6.903D 04	5.611D-01	4.544D-04	7.371D-05	1.181D-04	3.847D 00
1910	2273.56	1.6042	0.9995	4.9889	5.877D 01	6.866D 04	5.587D-01	4.585D-04	7.502D-05	1.204D-04	3.808D 00
1920	2289.69	1.6138	1.0039	4.9971	6.069D 01	6.829D 04	5.562D-01	4.627D-04	7.638D-05	1.228D-04	3.768D 00
1930	2305.91	1.6236	1.0085	5.0054	6.264D 01	6.791D 04	5.538D-01	4.671D-04	7.779D-05	1.252D-04	3.729D 00
1940	2322.23	1.6338	1.0131	5.0136	6.463D 01	6.753D 04	5.513D-01	4.716D-04	7.924D-05	1.278D-04	3.691D 00

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	DH (J/G)	RHO (G/CC)	ALPHA P (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMA V (ATM/K)
1950	2338.65	1.6443	1.0179	5.0219	6.667D 01	6.715D 04	5.489D-01	4.764D-04	8.075D-05	1.304D-04	3.652D 00
1960	2355.17	1.6551	1.0227	5.0301	6.875D 01	6.676D 04	5.464D-01	4.814D-04	8.231D-05	1.332D-04	3.614D 00
1970	2371.80	1.6663	1.0277	5.0384	7.087D 01	6.636D 04	5.439D-01	4.866D-04	8.393D-05	1.361D-04	3.576D 00
1980	2388.53	1.6779	1.0329	5.0466	7.303D 01	6.597D 04	5.414D-01	4.920D-04	8.562D-05	1.391D-04	3.538D 00
1990	2405.38	1.6899	1.0381	5.0549	7.523D 01	6.556D 04	5.389D-01	4.977D-04	8.736D-05	1.422D-04	3.500D 00
2000	2422.34	1.7024	1.0435	5.0632	7.748D 01	6.515D 04	5.364D-01	5.037D-04	8.918D-05	1.455D-04	3.462D 00
2010	2439.42	1.7153	1.0491	5.0715	7.977D 01	6.474D 04	5.339D-01	5.099D-04	9.106D-05	1.489D-04	3.425D 00
2020	2456.63	1.7287	1.0547	5.0798	8.211D 01	6.432D 04	5.313D-01	5.165D-04	9.303D-05	1.525D-04	3.387D 00
2030	2473.96	1.7426	1.0606	5.0882	8.449D 01	6.389D 04	5.288D-01	5.233D-04	9.508D-05	1.562D-04	3.350D 00
2040	2491.42	1.7570	1.0666	5.0965	8.691D 01	6.346D 04	5.262D-01	5.305D-04	9.721D-05	1.601D-04	3.313D 00
2050	2509.02	1.7720	1.0728	5.1049	8.937D 01	6.302D 04	5.236D-01	5.380D-04	9.944D-05	1.642D-04	3.276D 00
2060	2526.77	1.7876	1.0792	5.1133	9.188D 01	6.257D 04	5.210D-01	5.459D-04	1.018D-04	1.686D-04	3.239D 00
2070	2544.65	1.8039	1.0858	5.1217	9.444D 01	6.212D 04	5.183D-01	5.543D-04	1.042D-04	1.731D-04	3.202D 00
2080	2562.70	1.8209	1.0926	5.1302	9.704D 01	6.166D 04	5.157D-01	5.630D-04	1.067D-04	1.779D-04	3.165D 00
2090	2580.90	1.8386	1.0996	5.1386	9.968D 01	6.120D 04	5.130D-01	5.723D-04	1.094D-04	1.829D-04	3.128D 00
2100	2599.26	1.8571	1.1068	5.1471	1.024D 02	6.072D 04	5.103D-01	5.820D-04	1.122D-04	1.883D-04	3.092D 00
2110	2617.80	1.8764	1.1143	5.1557	1.051D 02	6.024D 04	5.076D-01	5.923D-04	1.151D-04	1.939D-04	3.055D 00
2120	2636.52	1.8967	1.1221	5.1643	1.079D 02	5.975D 04	5.049D-01	6.031D-04	1.182D-04	1.998D-04	3.018D 00
2130	2655.43	1.9179	1.1301	5.1729	1.107D 02	5.925D 04	5.021D-01	6.146D-04	1.215D-04	2.061D-04	2.982D 00
2140	2674.53	1.9402	1.1385	5.1816	1.136D 02	5.874D 04	4.993D-01	6.268D-04	1.249D-04	2.128D-04	2.945D 00
2150	2693.83	1.9636	1.1472	5.1903	1.165D 02	5.823D 04	4.964D-01	6.397D-04	1.285D-04	2.200D-04	2.908D 00
2160	2713.35	1.9862	1.1562	5.1991	1.195D 02	5.770D 04	4.936D-01	6.534D-04	1.323D-04	2.276D-04	2.871D 00
2170	2733.09	2.0141	1.1657	5.2079	1.225D 02	5.716D 04	4.907D-01	6.680D-04	1.364D-04	2.357D-04	2.834D 00
2180	2753.07	2.0415	1.1755	5.2168	1.255D 02	5.661D 04	4.877D-01	6.835D-04	1.407D-04	2.443D-04	2.797D 00
2190	2773.30	2.0704	1.1858	5.2258	1.287D 02	5.605D 04	4.847D-01	7.000D-04	1.452D-04	2.536D-04	2.760D 00
2200	2793.79	2.1010	1.1966	5.2348	1.318D 02	5.548D 04	4.817D-01	7.177D-04	1.501D-04	2.636D-04	2.723D 00

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	DH (J/G)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
2210	2814.55	2.1335	1.2079	5.2439	1.350D 02	5.490D 04	4.786D-01	7.366D-04	1.553D-04	2.743D-04	2.686D 00
2220	2835.61	2.1679	1.2197	5.2531	1.382D 02	5.430D 04	4.755D-01	7.569D-04	1.608D-04	2.859D-04	2.648D 00
2230	2856.97	2.2047	1.2322	5.2624	1.415D 02	5.369D 04	4.723D-01	7.787D-04	1.668D-04	2.984D-04	2.610D 00
2240	2878.66	2.2438	1.2454	5.2718	1.449D 02	5.306D 04	4.691D-01	8.023D-04	1.731D-04	3.119D-04	2.572D 00
2250	2900.69	2.2857	1.2594	5.2813	1.483D 02	5.242D 04	4.658D-01	8.277D-04	1.800D-04	3.267D-04	2.533D 00
2260	2923.10	2.3307	1.2742	5.2909	1.517D 02	5.176D 04	4.624D-01	8.551D-04	1.874D-04	3.428D-04	2.494D 00
2270	2945.90	2.3790	1.2900	5.3006	1.552D 02	5.108D 04	4.589D-01	8.850D-04	1.955D-04	3.605D-04	2.455D 00
2280	2969.13	2.4311	1.3069	5.3105	1.587D 02	5.038D 04	4.554D-01	9.176D-04	2.042D-04	3.799D-04	2.415D 00
2290	2992.81	2.4874	1.3249	5.3205	1.623D 02	4.967D 04	4.518D-01	9.531D-04	2.138D-04	4.013D-04	2.375D 00
2300	3016.98	2.5487	1.3443	5.3307	1.659D 02	4.893D 04	4.481D-01	9.921D-04	2.242D-04	4.251D-04	2.334D 00
2310	3041.68	2.6154	1.3652	5.3410	1.696D 02	4.816D 04	4.443D-01	1.035D-03	2.357D-04	4.515D-04	2.293D 00
2320	3066.95	2.6884	1.3879	5.3516	1.733D 02	4.737D 04	4.404D-01	1.083D-03	2.484D-04	4.812D-04	2.250D 00
2330	3092.85	2.7687	1.4126	5.3623	1.771D 02	4.655D 04	4.364D-01	1.136D-03	2.625D-04	5.146D-04	2.207D 00
2340	3119.45	2.8575	1.4396	5.3733	1.809D 02	4.570D 04	4.322D-01	1.195D-03	2.783D-04	5.525D-04	2.163D 00
2350	3146.79	2.9563	1.4694	5.3846	1.848D 02	4.481D 04	4.279D-01	1.262D-03	2.961D-04	5.957D-04	2.118D 00
2360	3174.98	3.0669	1.5024	5.3962	1.887D 02	4.388D 04	4.234D-01	1.337D-03	3.163D-04	6.456D-04	2.071D 00
2370	3204.10	3.1916	1.5393	5.4081	1.927D 02	4.291D 04	4.187D-01	1.424D-03	3.393D-04	7.035D-04	2.024D 00
2380	3234.27	3.3335	1.5809	5.4204	1.967D 02	4.190D 04	4.138D-01	1.523D-03	3.659D-04	7.716D-04	1.974D 00
2390	3265.63	3.4966	1.6282	5.4331	2.007D 02	4.083D 04	4.086D-01	1.639D-03	3.970D-04	8.525D-04	1.923D 00
2400	3298.35	3.6863	1.6826	5.4463	2.049D 02	3.969D 04	4.032D-01	1.777D-03	4.337D-04	9.501D-04	1.870D 00
2410	3332.65	3.9099	1.7462	5.4602	2.090D 02	3.849D 04	3.975D-01	1.941D-03	4.778D-04	1.070D-03	1.814D 00
2420	3368.81	4.1778	1.8216	5.4747	2.132D 02	3.719D 04	3.913D-01	2.142D-03	5.318D-04	1.220D-03	1.756D 00
2430	3407.18	4.5057	1.9127	5.4901	2.175D 02	3.580D 04	3.847D-01	2.392D-03	5.993D-04	1.412D-03	1.694D 00
2440	3448.27	4.9173	2.0258	5.5065	2.218D 02	3.428D 04	3.775D-01	2.712D-03	6.864D-04	1.666D-03	1.628D 00
2450	3492.75	5.4515	2.1705	5.5242	2.261D 02	3.261D 04	3.696D-01	3.138D-03	8.027D-04	2.016D-03	1.557D 00
2460	3541.66	6.1767	2.3638	5.5436	2.305D 02	3.073D 04	3.608D-01	3.732D-03	9.660D-04	2.524D-03	1.479D 00

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	DH (J/G)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
2470	3596.64	7.2260	2.6381	5.5654	2.350D 02	2.857D 04	3.506D-01	4.619D-03	1.212D-03	3.320D-03	1.391D 00
2480	3660.54	8.9011	3.0652	5.5907	2.395D 02	2.600D 04	3.385D-01	6.091D-03	1.625D-03	4.719D-03	1.291D 00
2490	3739.34	12.0779	3.8465	5.6218	2.440D 02	2.275D 04	3.232D-01	9.030D-03	2.463D-03	7.734D-03	1.168D 00
2500	3850.01	21.0032	5.9052	5.6657	2.486D 02	1.803D 04	3.009D-01	1.799D-02	5.072D-03	1.804D-02	9.971D-01
2508	4033.85	99.5617	20.5016	5.7411	2.523D 02	9.874D 03	2.622D-01	1.141D-01	3.289D-02	1.597D-01	7.146D-01

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	DH (KJ/MOL)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMA V (MPA/K)
380	5.035	31.82	28.70	65.60	2.548D-11	1.035D 02	9.254D 02	2.515D-04	1.723D-04	1.910D-04	1.316D 00
390	5.353	31.70	28.49	66.43	6.012D-11	1.034D 02	9.230D 02	2.524D-04	1.733D-04	1.929D-04	1.309D 00
400	5.669	31.58	28.28	67.23	1.358D-10	1.033D 02	9.207D 02	2.533D-04	1.744D-04	1.947D-04	1.301D 00
410	5.984	31.46	28.09	68.01	2.946D-10	1.032D 02	9.184D 02	2.542D-04	1.755D-04	1.965D-04	1.293D 00
420	6.298	31.35	27.89	68.76	6.157D-10	1.031D 02	9.160D 02	2.551D-04	1.765D-04	1.984D-04	1.286D 00
430	6.611	31.24	27.70	69.50	1.243D-09	1.029D 02	9.137D 02	2.560D-04	1.776D-04	2.003D-04	1.278D 00
440	6.923	31.14	27.51	70.22	2.428D-09	1.028D 02	9.114D 02	2.569D-04	1.787D-04	2.023D-04	1.270D 00
450	7.234	31.04	27.33	70.92	4.603D-09	1.027D 02	9.090D 02	2.579D-04	1.798D-04	2.042D-04	1.263D 00
460	7.544	30.94	27.15	71.60	8.484D-09	1.026D 02	9.067D 02	2.588D-04	1.810D-04	2.062D-04	1.255D 00
470	7.853	30.84	26.97	72.26	1.523D-08	1.024D 02	9.043D 02	2.597D-04	1.821D-04	2.082D-04	1.247D 00
480	8.161	30.75	26.80	72.91	2.666D-08	1.023D 02	9.020D 02	2.606D-04	1.832D-04	2.103D-04	1.239D 00
490	8.468	30.67	26.63	73.54	4.562D-08	1.022D 02	8.996D 02	2.616D-04	1.844D-04	2.123D-04	1.232D 00
500	8.774	30.58	26.46	74.16	7.635D-08	1.021D 02	8.973D 02	2.625D-04	1.856D-04	2.144D-04	1.224D 00
510	9.079	30.50	26.30	74.77	1.252D-07	1.019D 02	8.949D 02	2.634D-04	1.868D-04	2.166D-04	1.216D 00
520	9.384	30.42	26.14	75.36	2.014D-07	1.018D 02	8.926D 02	2.643D-04	1.879D-04	2.187D-04	1.209D 00
530	9.688	30.34	25.98	75.94	3.180D-07	1.016D 02	8.902D 02	2.653D-04	1.891D-04	2.209D-04	1.201D 00
540	9.991	30.27	25.82	76.50	4.936D-07	1.015D 02	8.878D 02	2.662D-04	1.904D-04	2.231D-04	1.193D 00
550	10.293	30.19	25.67	77.06	7.538D-07	1.013D 02	8.855D 02	2.671D-04	1.916D-04	2.253D-04	1.185D 00
560	10.595	30.12	25.52	77.60	1.134D-06	1.012D 02	8.831D 02	2.681D-04	1.928D-04	2.276D-04	1.178D 00
570	10.896	30.06	25.37	78.14	1.680D-06	1.010D 02	8.807D 02	2.690D-04	1.941D-04	2.299D-04	1.170D 00
580	11.196	29.99	25.23	78.66	2.455D-06	1.009D 02	8.784D 02	2.700D-04	1.954D-04	2.322D-04	1.162D 00
590	11.495	29.93	25.08	79.17	3.542D-06	1.007D 02	8.760D 02	2.709D-04	1.966D-04	2.346D-04	1.155D 00
600	11.794	29.87	24.94	79.67	5.047D-06	1.006D 02	8.736D 02	2.719D-04	1.979D-04	2.370D-04	1.147D 00
610	12.093	29.81	24.80	80.17	7.106D-06	1.004D 02	8.712D 02	2.728D-04	1.992D-04	2.394D-04	1.139D 00
620	12.390	29.75	24.67	80.65	9.893D-06	1.002D 02	8.689D 02	2.738D-04	2.006D-04	2.419D-04	1.132D 00
630	12.688	29.70	24.53	81.13	1.363D-05	1.001D 02	8.665D 02	2.747D-04	2.019D-04	2.444D-04	1.124D 00

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	DH (KJ/MOL)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMA V (MPA/K)
640	12.984	29.64	24.40	81.59	1.858D-05	9.988D 01	8.641D 02	2.757D-04	2.032D-04	2.469D-04	1.117D 00
650	13.281	29.59	24.27	82.05	2.508D-05	9.971D 01	8.617D 02	2.766D-04	2.046D-04	2.494D-04	1.109D 00
660	13.576	29.54	24.15	82.50	3.355D-05	9.953D 01	8.593D 02	2.776D-04	2.060D-04	2.520D-04	1.101D 00
670	13.871	29.50	24.02	82.95	4.449D-05	9.934D 01	8.569D 02	2.785D-04	2.074D-04	2.547D-04	1.094D 00
680	14.166	29.45	23.90	83.38	5.849D-05	9.916D 01	8.546D 02	2.795D-04	2.088D-04	2.573D-04	1.086D 00
690	14.461	29.41	23.78	83.81	7.627D-05	9.897D 01	8.522D 02	2.805D-04	2.102D-04	2.600D-04	1.079D 00
700	14.754	29.37	23.66	84.24	9.869D-05	9.878D 01	8.498D 02	2.814D-04	2.116D-04	2.627D-04	1.071D 00
710	15.048	29.33	23.54	84.65	1.268D-04	9.859D 01	8.474D 02	2.824D-04	2.131D-04	2.655D-04	1.064D 00
720	15.341	29.29	23.43	85.06	1.617D-04	9.839D 01	8.450D 02	2.834D-04	2.146D-04	2.683D-04	1.056D 00
730	15.634	29.25	23.32	85.47	2.048D-04	9.820D 01	8.426D 02	2.843D-04	2.161D-04	2.711D-04	1.049D 00
740	15.926	29.22	23.20	85.87	2.577D-04	9.800D 01	8.402D 02	2.853D-04	2.176D-04	2.740D-04	1.041D 00
750	16.218	29.19	23.10	86.26	3.222D-04	9.780D 01	8.378D 02	2.863D-04	2.191D-04	2.769D-04	1.034D 00
760	16.510	29.16	22.99	86.64	4.005D-04	9.759D 01	8.354D 02	2.873D-04	2.206D-04	2.798D-04	1.027D 00
770	16.801	29.13	22.89	87.02	4.949D-04	9.739D 01	8.330D 02	2.882D-04	2.222D-04	2.828D-04	1.019D 00
780	17.092	29.10	22.78	87.40	6.083D-04	9.718D 01	8.306D 02	2.892D-04	2.238D-04	2.858D-04	1.012D 00
790	17.383	29.08	22.68	87.77	7.436D-04	9.698D 01	8.282D 02	2.902D-04	2.254D-04	2.889D-04	1.005D 00
800	17.674	29.05	22.59	88.14	9.043D-04	9.677D 01	8.258D 02	2.912D-04	2.270D-04	2.920D-04	9.973D-01
810	17.964	29.03	22.49	88.50	1.094D-03	9.656D 01	8.234D 02	2.922D-04	2.286D-04	2.951D-04	9.901D-01
820	18.255	29.01	22.40	88.85	1.318D-03	9.635D 01	8.210D 02	2.932D-04	2.303D-04	2.983D-04	9.828D-01
830	18.545	28.99	22.30	89.21	1.580D-03	9.613D 01	8.186D 02	2.942D-04	2.319D-04	3.015D-04	9.757D-01
840	18.835	28.98	22.21	89.55	1.886D-03	9.592D 01	8.162D 02	2.951D-04	2.336D-04	3.047D-04	9.685D-01
850	19.124	28.96	22.13	89.90	2.241D-03	9.571D 01	8.138D 02	2.961D-04	2.353D-04	3.080D-04	9.614D-01
860	19.414	28.95	22.04	90.23	2.653D-03	9.549D 01	8.114D 02	2.971D-04	2.371D-04	3.114D-04	9.543D-01
870	19.703	28.94	21.96	90.57	3.128D-03	9.528D 01	8.089D 02	2.981D-04	2.388D-04	3.148D-04	9.472D-01
880	19.993	28.93	21.87	90.90	3.673D-03	9.506D 01	8.065D 02	2.991D-04	2.406D-04	3.182D-04	9.402D-01
890	20.282	28.92	21.79	91.23	4.298D-03	9.485D 01	8.041D 02	3.002D-04	2.424D-04	3.217D-04	9.332D-01

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	DH (KJ/MOL)	RHO (KG/M**3)	ALPHA (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMA (MPA/K)
900	20.571	28.91	21.71	91.55	5.010D-03	9.463D 01	8.017D 02	3.012D-04	2.442D-04	3.252D-04	9.262D-01
910	20.860	28.91	21.64	91.87	5.821D-03	9.442D 01	7.993D 02	3.022D-04	2.460D-04	3.287D-04	9.192D-01
920	21.149	28.91	21.56	92.19	6.740D-03	9.420D 01	7.969D 02	3.032D-04	2.479D-04	3.323D-04	9.123D-01
930	21.438	28.90	21.49	92.50	7.780D-03	9.398D 01	7.945D 02	3.042D-04	2.498D-04	3.360D-04	9.055D-01
940	21.727	28.90	21.42	92.81	8.951D-03	9.377D 01	7.920D 02	3.052D-04	2.517D-04	3.397D-04	8.986D-01
950	22.017	28.90	21.35	93.11	1.027D-02	9.355D 01	7.896D 02	3.062D-04	2.536D-04	3.434D-04	8.918D-01
960	22.306	28.91	21.28	93.42	1.174D-02	9.333D 01	7.872D 02	3.073D-04	2.556D-04	3.472D-04	8.850D-01
970	22.595	28.91	21.22	93.72	1.339D-02	9.312D 01	7.848D 02	3.083D-04	2.576D-04	3.510D-04	8.783D-01
980	22.884	28.92	21.15	94.01	1.523D-02	9.290D 01	7.824D 02	3.093D-04	2.596D-04	3.549D-04	8.716D-01
990	23.173	28.93	21.09	94.31	1.728D-02	9.268D 01	7.799D 02	3.104D-04	2.616D-04	3.588D-04	8.649D-01
1000	23.463	28.94	21.03	94.60	1.955D-02	9.247D 01	7.775D 02	3.114D-04	2.637D-04	3.628D-04	8.583D-01
1010	23.752	28.95	20.97	94.89	2.206D-02	9.225D 01	7.751D 02	3.124D-04	2.658D-04	3.668D-04	8.517D-01
1020	24.042	28.96	20.92	95.17	2.484D-02	9.204D 01	7.727D 02	3.135D-04	2.679D-04	3.709D-04	8.452D-01
1030	24.331	28.97	20.86	95.45	2.789D-02	9.182D 01	7.703D 02	3.145D-04	2.701D-04	3.751D-04	8.386D-01
1040	24.621	28.99	20.81	95.73	3.126D-02	9.161D 01	7.678D 02	3.156D-04	2.723D-04	3.792D-04	8.321D-01
1050	24.911	29.01	20.76	96.01	3.495D-02	9.139D 01	7.654D 02	3.166D-04	2.745D-04	3.835D-04	8.257D-01
1060	25.202	29.03	20.71	96.29	3.899D-02	9.118D 01	7.630D 02	3.177D-04	2.767D-04	3.878D-04	8.193D-01
1070	25.492	29.05	20.67	96.56	4.340D-02	9.096D 01	7.606D 02	3.188D-04	2.790D-04	3.921D-04	8.129D-01
1080	25.783	29.07	20.62	96.83	4.822D-02	9.075D 01	7.581D 02	3.198D-04	2.813D-04	3.965D-04	8.065D-01
1090	26.074	29.09	20.58	97.10	5.347D-02	9.053D 01	7.557D 02	3.209D-04	2.836D-04	4.010D-04	8.002D-01
1100	26.365	29.12	20.54	97.36	5.917D-02	9.032D 01	7.533D 02	3.220D-04	2.860D-04	4.055D-04	7.940D-01
1110	26.656	29.14	20.50	97.63	6.536D-02	9.010D 01	7.509D 02	3.230D-04	2.884D-04	4.101D-04	7.877D-01
1120	26.948	29.17	20.46	97.89	7.206D-02	8.989D 01	7.485D 02	3.241D-04	2.908D-04	4.147D-04	7.815D-01
1130	27.240	29.20	20.42	98.15	7.931D-02	8.967D 01	7.460D 02	3.252D-04	2.933D-04	4.194D-04	7.753D-01
1140	27.532	29.23	20.39	98.40	8.714D-02	8.946D 01	7.436D 02	3.263D-04	2.958D-04	4.242D-04	7.692D-01
1150	27.825	29.27	20.35	98.66	9.558D-02	8.925D 01	7.412D 02	3.274D-04	2.984D-04	4.290D-04	7.631D-01

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	DH (KJ/MOL)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
1160	28.118	29.30	20.32	98.91	1.047D-01	8.903D 01	7.388D 02	3.285D-04	3.009D-04	4.339D-04	7.571D-01
1170	28.411	29.34	20.29	99.16	1.144D-01	8.882D 01	7.363D 02	3.296D-04	3.036D-04	4.388D-04	7.510D-01
1180	28.705	29.37	20.27	99.41	1.249D-01	8.860D 01	7.339D 02	3.307D-04	3.062D-04	4.438D-04	7.450D-01
1190	28.999	29.41	20.24	99.66	1.361D-01	8.839D 01	7.315D 02	3.318D-04	3.089D-04	4.489D-04	7.391D-01
1200	29.294	29.45	20.22	99.91	1.482D-01	8.817D 01	7.291D 02	3.329D-04	3.117D-04	4.541D-04	7.332D-01
1210	29.589	29.50	20.19	100.15	1.610D-01	8.795D 01	7.266D 02	3.340D-04	3.145D-04	4.593D-04	7.273D-01
1220	29.884	29.54	20.17	100.40	1.748D-01	8.774D 01	7.242D 02	3.352D-04	3.173D-04	4.646D-04	7.214D-01
1230	30.180	29.58	20.15	100.64	1.894D-01	8.752D 01	7.218D 02	3.363D-04	3.202D-04	4.699D-04	7.156D-01
1240	30.476	29.63	20.14	100.88	2.050D-01	8.730D 01	7.194D 02	3.374D-04	3.231D-04	4.754D-04	7.098D-01
1250	30.773	29.68	20.12	101.11	2.216D-01	8.709D 01	7.170D 02	3.386D-04	3.260D-04	4.809D-04	7.041D-01
1260	31.071	29.73	20.11	101.35	2.392D-01	8.687D 01	7.145D 02	3.397D-04	3.291D-04	4.865D-04	6.984D-01
1270	31.368	29.78	20.10	101.59	2.579D-01	8.665D 01	7.121D 02	3.409D-04	3.321D-04	4.921D-04	6.927D-01
1280	31.667	29.83	20.09	101.82	2.777D-01	8.643D 01	7.097D 02	3.420D-04	3.352D-04	4.979D-04	6.870D-01
1290	31.966	29.89	20.08	102.05	2.987D-01	8.620D 01	7.073D 02	3.432D-04	3.384D-04	5.037D-04	6.814D-01
1300	32.265	29.94	20.07	102.28	3.209D-01	8.598D 01	7.049D 02	3.444D-04	3.416D-04	5.096D-04	6.758D-01
1310	32.565	30.00	20.07	102.51	3.444D-01	8.576D 01	7.024D 02	3.456D-04	3.449D-04	5.156D-04	6.703D-01
1320	32.866	30.06	20.06	102.74	3.691D-01	8.553D 01	7.000D 02	3.468D-04	3.482D-04	5.216D-04	6.647D-01
1330	33.168	30.12	20.06	102.97	3.953D-01	8.531D 01	6.976D 02	3.479D-04	3.516D-04	5.278D-04	6.593D-01
1340	33.469	30.18	20.06	103.19	4.228D-01	8.508D 01	6.952D 02	3.491D-04	3.550D-04	5.340D-04	6.538D-01
1350	33.772	30.24	20.06	103.42	4.518D-01	8.485D 01	6.928D 02	3.504D-04	3.585D-04	5.404D-04	6.484D-01
1360	34.075	30.31	20.07	103.64	4.823D-01	8.462D 01	6.903D 02	3.516D-04	3.621D-04	5.468D-04	6.430D-01
1370	34.379	30.37	20.07	103.86	5.144D-01	8.439D 01	6.879D 02	3.528D-04	3.657D-04	5.533D-04	6.376D-01
1380	34.684	30.44	20.08	104.08	5.480D-01	8.415D 01	6.855D 02	3.540D-04	3.694D-04	5.599D-04	6.323D-01
1390	34.989	30.51	20.09	104.30	5.833D-01	8.392D 01	6.831D 02	3.553D-04	3.731D-04	5.667D-04	6.270D-01
1400	35.295	30.58	20.10	104.52	6.203D-01	8.368D 01	6.807D 02	3.565D-04	3.769D-04	5.735D-04	6.217D-01
1410	35.602	30.65	20.11	104.74	6.591D-01	8.344D 01	6.783D 02	3.578D-04	3.808D-04	5.804D-04	6.164D-01

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	DH (KJ/MOL)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAHHAV (MPA/K)
1420	35.910	30.73	20.13	104.95	6.997D-01	8.320D 01	6.759D 02	3.590D-04	3.848D-04	5.874D-04	6.112D-01
1430	36.218	30.80	20.14	105.17	7.421D-01	8.296D 01	6.735D 02	3.603D-04	3.888D-04	5.946D-04	6.060D-01
1440	36.527	30.88	20.16	105.38	7.864D-01	8.272D 01	6.711D 02	3.616D-04	3.929D-04	6.018D-04	6.008D-01
1450	36.837	30.96	20.18	105.60	8.327D-01	8.247D 01	6.686D 02	3.629D-04	3.971D-04	6.092D-04	5.957D-01
1460	37.148	31.04	20.20	105.81	8.810D-01	8.222D 01	6.662D 02	3.642D-04	4.014D-04	6.167D-04	5.906D-01
1470	37.459	31.12	20.22	106.02	9.314D-01	8.197D 01	6.638D 02	3.655D-04	4.057D-04	6.243D-04	5.855D-01
1480	37.772	31.20	20.25	106.23	9.839D-01	8.172D 01	6.614D 02	3.668D-04	4.101D-04	6.320D-04	5.804D-01
1490	38.085	31.29	20.28	106.44	1.039D 00	8.147D 01	6.590D 02	3.681D-04	4.146D-04	6.398D-04	5.754D-01
1500	38.399	31.37	20.30	106.65	1.095D 00	8.121D 01	6.566D 02	3.695D-04	4.193D-04	6.478D-04	5.704D-01
1510	38.714	31.46	20.33	106.86	1.155D 00	8.095D 01	6.542D 02	3.708D-04	4.240D-04	6.559D-04	5.654D-01
1520	39.030	31.55	20.37	107.07	1.216D 00	8.069D 01	6.518D 02	3.722D-04	4.287D-04	6.641D-04	5.604D-01
1530	39.347	31.64	20.40	107.27	1.280D 00	8.043D 01	6.494D 02	3.736D-04	4.336D-04	6.725D-04	5.554D-01
1540	39.665	31.73	20.44	107.48	1.346D 00	8.016D 01	6.470D 02	3.749D-04	4.386D-04	6.811D-04	5.505D-01
1550	39.984	31.83	20.47	107.68	1.415D 00	7.990D 01	6.446D 02	3.763D-04	4.437D-04	6.897D-04	5.456D-01
1560	40.304	31.92	20.51	107.89	1.486D 00	7.963D 01	6.422D 02	3.777D-04	4.489D-04	6.986D-04	5.407D-01
1570	40.625	32.02	20.56	108.09	1.560D 00	7.936D 01	6.398D 02	3.792D-04	4.542D-04	7.075D-04	5.359D-01
1580	40.946	32.12	20.60	108.30	1.637D 00	7.908D 01	6.375D 02	3.806D-04	4.597D-04	7.167D-04	5.310D-01
1590	41.269	32.22	20.65	108.50	1.716D 00	7.881D 01	6.351D 02	3.820D-04	4.652D-04	7.260D-04	5.262D-01
1600	41.593	32.32	20.69	108.70	1.798D 00	7.853D 01	6.327D 02	3.835D-04	4.709D-04	7.354D-04	5.214D-01
1610	41.918	32.42	20.74	108.90	1.883D 00	7.825D 01	6.303D 02	3.849D-04	4.767D-04	7.451D-04	5.166D-01
1620	42.244	32.53	20.79	109.10	1.970D 00	7.797D 01	6.279D 02	3.864D-04	4.826D-04	7.549D-04	5.119D-01
1630	42.571	32.63	20.85	109.30	2.061D 00	7.769D 01	6.255D 02	3.879D-04	4.887D-04	7.649D-04	5.071D-01
1640	42.899	32.74	20.90	109.50	2.154D 00	7.740D 01	6.231D 02	3.894D-04	4.949D-04	7.751D-04	5.024D-01
1650	43.228	32.85	20.96	109.70	2.251D 00	7.711D 01	6.208D 02	3.910D-04	5.012D-04	7.855D-04	4.977D-01
1660	43.559	32.97	21.02	109.90	2.350D 00	7.682D 01	6.184D 02	3.925D-04	5.077D-04	7.962D-04	4.930D-01
1670	43.890	33.08	21.08	110.09	2.453D 00	7.653D 01	6.160D 02	3.942D-04	5.143D-04	8.071D-04	4.884D-01

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	DH (KJ/MOL)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
1680	44.223	33.20	21.14	110.29	2.558D 00	7.623D 01	6.136D 02	3.959D-04	5.212D-04	8.183D-04	4.838D-01
1690	44.557	33.32	21.21	110.48	2.667D 00	7.594D 01	6.113D 02	3.976D-04	5.281D-04	8.298D-04	4.792D-01
1700	44.892	33.44	21.27	110.68	2.779D 00	7.564D 01	6.089D 02	3.995D-04	5.353D-04	8.415D-04	4.747D-01
1710	45.229	33.57	21.34	110.87	2.895D 00	7.533D 01	6.065D 02	4.013D-04	5.426D-04	8.536D-04	4.702D-01
1720	45.566	33.70	21.41	111.07	3.013D 00	7.503D 01	6.041D 02	4.033D-04	5.501D-04	8.660D-04	4.657D-01
1730	45.905	33.83	21.47	111.26	3.135D 00	7.472D 01	6.018D 02	4.053D-04	5.578D-04	8.788D-04	4.612D-01
1740	46.246	33.97	21.54	111.46	3.261D 00	7.441D 01	5.994D 02	4.074D-04	5.657D-04	8.919D-04	4.568D-01
1750	46.588	34.10	21.62	111.65	3.390D 00	7.410D 01	5.970D 02	4.096D-04	5.738D-04	9.054D-04	4.524D-01
1760	46.931	34.25	21.69	111.84	3.522D 00	7.378D 01	5.946D 02	4.119D-04	5.822D-04	9.192D-04	4.481D-01
1770	47.275	34.39	21.76	112.03	3.658D 00	7.346D 01	5.923D 02	4.142D-04	5.907D-04	9.335D-04	4.437D-01
1780	47.622	34.54	21.84	112.23	3.797D 00	7.314D 01	5.899D 02	4.166D-04	5.995D-04	9.482D-04	4.394D-01
1790	47.969	34.69	21.92	112.42	3.941D 00	7.282D 01	5.875D 02	4.192D-04	6.085D-04	9.633D-04	4.351D-01
1800	48.318	34.85	21.99	112.61	4.087D 00	7.249D 01	5.851D 02	4.218D-04	6.178D-04	9.789D-04	4.309D-01
1810	48.669	35.01	22.07	112.80	4.238D 00	7.216D 01	5.827D 02	4.245D-04	6.274D-04	9.950D-04	4.267D-01
1820	49.021	35.17	22.16	112.99	4.392D 00	7.182D 01	5.803D 02	4.274D-04	6.372D-04	1.012D-03	4.225D-01
1830	49.375	35.34	22.24	113.18	4.550D 00	7.149D 01	5.780D 02	4.303D-04	6.473D-04	1.029D-03	4.183D-01
1840	49.731	35.52	22.33	113.37	4.712D 00	7.115D 01	5.756D 02	4.333D-04	6.577D-04	1.046D-03	4.141D-01
1850	50.088	35.70	22.41	113.56	4.878D 00	7.080D 01	5.732D 02	4.365D-04	6.685D-04	1.065D-03	4.100D-01
1860	50.447	35.88	22.50	113.75	5.047D 00	7.045D 01	5.708D 02	4.398D-04	6.795D-04	1.083D-03	4.059D-01
1870	50.808	36.07	22.59	113.94	5.221D 00	7.010D 01	5.684D 02	4.433D-04	6.910D-04	1.103D-03	4.019D-01
1880	51.171	36.26	22.69	114.13	5.399D 00	6.975D 01	5.659D 02	4.468D-04	7.027D-04	1.123D-03	3.978D-01
1890	51.536	36.46	22.78	114.32	5.580D 00	6.939D 01	5.635D 02	4.506D-04	7.149D-04	1.144D-03	3.938D-01
1900	51.903	36.67	22.88	114.51	5.766D 00	6.903D 01	5.611D 02	4.544D-04	7.274D-04	1.166D-03	3.898D-01
1910	52.271	36.88	22.98	114.70	5.955D 00	6.866D 01	5.587D 02	4.585D-04	7.404D-04	1.188D-03	3.858D-01
1920	52.642	37.10	23.08	114.89	6.149D 00	6.829D 01	5.562D 02	4.627D-04	7.538D-04	1.212D-03	3.818D-01
1930	53.015	37.33	23.19	115.08	6.347D 00	6.791D 01	5.538D 02	4.671D-04	7.677D-04	1.236D-03	3.779D-01

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	DH (KJ/MOL)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
1940	53.390	37.56	23.29	115.27	6.549D 00	6.753D 01	5.513D 02	4.716D-04	7.821D-04	1.261D-03	3.740D-01
1950	53.768	37.80	23.40	115.46	6.755D 00	6.715D 01	5.489D 02	4.764D-04	7.969D-04	1.287D-03	3.701D-01
1960	54.148	38.05	23.51	115.65	6.966D 00	6.676D 01	5.464D 02	4.814D-04	8.124D-04	1.315D-03	3.662D-01
1970	54.530	38.31	23.63	115.84	7.181D 00	6.636D 01	5.439D 02	4.866D-04	8.284D-04	1.343D-03	3.623D-01
1980	54.915	38.58	23.75	116.03	7.400D 00	6.597D 01	5.414D 02	4.920D-04	8.450D-04	1.373D-03	3.585D-01
1990	55.302	38.85	23.87	116.22	7.623D 00	6.556D 01	5.389D 02	4.977D-04	8.622D-04	1.404D-03	3.546D-01
2000	55.692	39.14	23.99	116.41	7.851D 00	6.515D 01	5.364D 02	5.037D-04	8.801D-04	1.436D-03	3.508D-01
2010	56.085	39.44	24.12	116.60	8.083D 00	6.474D 01	5.339D 02	5.099D-04	8.987D-04	1.469D-03	3.470D-01
2020	56.480	39.74	24.25	116.79	8.320D 00	6.432D 01	5.313D 02	5.165D-04	9.181D-04	1.505D-03	3.432D-01
2030	56.879	40.06	24.38	116.98	8.560D 00	6.389D 01	5.288D 02	5.233D-04	9.383D-04	1.542D-03	3.394D-01
2040	57.280	40.40	24.52	117.17	8.806D 00	6.346D 01	5.262D 02	5.305D-04	9.594D-04	1.580D-03	3.357D-01
2050	57.685	40.74	24.66	117.37	9.056D 00	6.302D 01	5.236D 02	5.380D-04	9.814D-04	1.621D-03	3.319D-01
2060	58.093	41.10	24.81	117.56	9.310D 00	6.257D 01	5.210D 02	5.459D-04	1.004D-03	1.664D-03	3.282D-01
2070	58.504	41.47	24.96	117.75	9.569D 00	6.212D 01	5.183D 02	5.543D-04	1.028D-03	1.708D-03	3.244D-01
2080	58.919	41.86	25.12	117.95	9.832D 00	6.166D 01	5.157D 02	5.630D-04	1.053D-03	1.756D-03	3.207D-01
2090	59.337	42.27	25.28	118.14	1.010D 01	6.120D 01	5.130D 02	5.723D-04	1.080D-03	1.805D-03	3.170D-01
2100	59.760	42.70	25.45	118.34	1.037D 01	6.072D 01	5.103D 02	5.820D-04	1.107D-03	1.858D-03	3.133D-01
2110	60.186	43.14	25.62	118.53	1.065D 01	6.024D 01	5.076D 02	5.923D-04	1.136D-03	1.913D-03	3.095D-01
2120	60.616	43.61	25.80	118.73	1.093D 01	5.975D 01	5.049D 02	6.031D-04	1.167D-03	1.972D-03	3.058D-01
2130	61.051	44.09	25.98	118.93	1.122D 01	5.925D 01	5.021D 02	6.146D-04	1.199D-03	2.035D-03	3.021D-01
2140	61.490	44.61	26.18	119.13	1.151D 01	5.874D 01	4.993D 02	6.268D-04	1.233D-03	2.101D-03	2.984D-01
2150	61.934	45.14	26.38	119.33	1.181D 01	5.823D 01	4.964D 02	6.397D-04	1.268D-03	2.171D-03	2.947D-01
2160	62.383	45.71	26.58	119.53	1.211D 01	5.770D 01	4.936D 02	6.534D-04	1.306D-03	2.246D-03	2.909D-01
2170	62.837	46.31	26.80	119.74	1.241D 01	5.716D 01	4.907D 02	6.680D-04	1.346D-03	2.326D-03	2.872D-01
2180	63.296	46.94	27.03	119.94	1.272D 01	5.661D 01	4.877D 02	6.835D-04	1.388D-03	2.411D-03	2.834D-01
2190	63.761	47.60	27.26	120.15	1.304D 01	5.605D 01	4.847D 02	7.000D-04	1.433D-03	2.503D-03	2.797D-01

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	DH (KJ/MOL)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
2200	64.232	48.30	27.51	120.35	1.335D 01	5.548D 01	4.817D 02	7.177D-04	1.481D-03	2.601D-03	2.759D-01
2210	64.709	49.05	27.77	120.56	1.368D 01	5.490D 01	4.786D 02	7.366D-04	1.533D-03	2.707D-03	2.721D-01
2220	65.193	49.84	28.04	120.77	1.401D 01	5.430D 01	4.755D 02	7.569D-04	1.587D-03	2.821D-03	2.683D-01
2230	65.685	50.69	28.33	120.99	1.434D 01	5.369D 01	4.723D 02	7.787D-04	1.646D-03	2.945D-03	2.645D-01
2240	66.183	51.59	28.63	121.20	1.468D 01	5.306D 01	4.691D 02	8.023D-04	1.709D-03	3.079D-03	2.606D-01
2250	66.690	52.55	28.96	121.42	1.502D 01	5.242D 01	4.658D 02	8.277D-04	1.777D-03	3.224D-03	2.567D-01
2260	67.205	53.58	29.30	121.64	1.537D 01	5.176D 01	4.624D 02	8.551D-04	1.850D-03	3.383D-03	2.527D-01
2270	67.729	54.70	29.66	121.87	1.572D 01	5.108D 01	4.589D 02	8.850D-04	1.929D-03	3.558D-03	2.488D-01
2280	68.263	55.89	30.05	122.09	1.608D 01	5.038D 01	4.554D 02	9.176D-04	2.015D-03	3.749D-03	2.447D-01
2290	68.808	57.19	30.46	122.32	1.645D 01	4.967D 01	4.518D 02	9.531D-04	2.110D-03	3.961D-03	2.406D-01
2300	69.363	58.60	30.91	122.56	1.681D 01	4.893D 01	4.481D 02	9.921D-04	2.213D-03	4.195D-03	2.365D-01
2310	69.931	60.13	31.39	122.80	1.719D 01	4.816D 01	4.443D 02	1.035D-03	2.326D-03	4.456D-03	2.323D-01
2320	70.512	61.81	31.91	123.04	1.756D 01	4.737D 01	4.404D 02	1.083D-03	2.452D-03	4.749D-03	2.280D-01
2330	71.108	63.66	32.48	123.29	1.794D 01	4.655D 01	4.364D 02	1.136D-03	2.591D-03	5.079D-03	2.236D-01
2340	71.719	65.70	33.10	123.54	1.833D 01	4.570D 01	4.322D 02	1.195D-03	2.747D-03	5.452D-03	2.192D-01
2350	72.348	67.97	33.78	123.80	1.872D 01	4.481D 01	4.279D 02	1.262D-03	2.922D-03	5.879D-03	2.146D-01
2360	72.996	70.51	34.54	124.06	1.912D 01	4.388D 01	4.234D 02	1.337D-03	3.121D-03	6.371D-03	2.099D-01
2370	73.665	73.38	35.39	124.34	1.952D 01	4.291D 01	4.187D 02	1.424D-03	3.349D-03	6.943D-03	2.050D-01
2380	74.359	76.64	36.35	124.62	1.993D 01	4.190D 01	4.138D 02	1.523D-03	3.611D-03	7.615D-03	2.000D-01
2390	75.080	80.39	37.43	124.91	2.034D 01	4.083D 01	4.086D 02	1.639D-03	3.918D-03	8.413D-03	1.949D-01
2400	75.832	84.75	38.69	125.22	2.076D 01	3.969D 01	4.032D 02	1.777D-03	4.280D-03	9.377D-03	1.895D-01
2410	76.621	89.89	40.15	125.53	2.118D 01	3.849D 01	3.975D 02	1.941D-03	4.716D-03	1.056D-02	1.838D-01
2420	77.452	96.05	41.88	125.87	2.160D 01	3.719D 01	3.913D 02	2.142D-03	5.248D-03	1.204D-02	1.779D-01
2430	78.335	103.59	43.98	126.22	2.204D 01	3.580D 01	3.847D 02	2.392D-03	5.915D-03	1.393D-02	1.716D-01
2440	79.279	113.05	46.57	126.60	2.247D 01	3.428D 01	3.775D 02	2.712D-03	6.774D-03	1.644D-02	1.650D-01
2450	80.302	125.34	49.90	127.01	2.291D 01	3.261D 01	3.696D 02	3.138D-03	7.922D-03	1.990D-02	1.577D-01

PROPERTIES OF SATURATED SODIUM LIQUID

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	DH (KJ/MOL)	BHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMA V (MPA/K)
2460	81.426	142.01	54.35	127.45	2.336D 01	3.073D 01	3.608D 02	3.732D-03	9.533D-03	2.491D-02	1.498D-01
2470	82.690	166.13	60.65	127.95	2.381D 01	2.857D 01	3.506D 02	4.619D-03	1.196D-02	3.276D-02	1.410D-01
2480	84.160	204.65	70.47	128.54	2.427D 01	2.600D 01	3.385D 02	6.091D-03	1.604D-02	4.658D-02	1.308D-01
2490	85.971	277.68	88.44	129.25	2.473D 01	2.275D 01	3.232D 02	9.030D-03	2.431D-02	7.632D-02	1.183D-01
2500	88.516	482.89	135.77	130.26	2.519D 01	1.803D 01	3.009D 02	1.799D-02	5.006D-02	1.780D-01	1.010D-01
2508	92.742	2289.02	471.35	131.99	2.557D 01	9.874D 00	2.622D 02	1.141D-01	3.246D-01	1.576D 00	7.240D-02

CRITICAL VALUES

TCRIT (K)	PCRIT (ATB),	PHOCRIT (G/CC)	HCRIT (J/G)
2509	253.00	0.21410	4249.8

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 500.0 K, CV= 0.11511D 01 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
7.6352D-08	3.8162D 02	1.3301D 00	3.2258D 00	8.9727D-01	2.6248D-04	1.8803D-05	2.1728D-05	1.2080D 01
1.0000D 01	3.9130D 02	1.3292D 00	3.2228D 00	8.9918D-01	2.6040D-04	1.8572D-05	2.1446D-05	1.2142D 01
2.0000D 01	4.0097D 02	1.3284D 00	3.2200D 00	9.0107D-01	2.5837D-04	1.8347D-05	2.1172D-05	1.2203D 01
3.0000D 01	4.1063D 02	1.3275D 00	3.2171D 00	9.0295D-01	2.5640D-04	1.8128D-05	2.0907D-05	1.2264D 01
4.0000D 01	4.2028D 02	1.3267D 00	3.2143D 00	9.0480D-01	2.5448D-04	1.7916D-05	2.0649D-05	1.2324D 01
5.0000D 01	4.2992D 02	1.3259D 00	3.2115D 00	9.0664D-01	2.5261D-04	1.7710D-05	2.0399D-05	1.2383D 01
6.0000D 01	4.3956D 02	1.3251D 00	3.2087D 00	9.0845D-01	2.5079D-04	1.7509D-05	2.0156D-05	1.2442D 01
7.0000D 01	4.4918D 02	1.3243D 00	3.2060D 00	9.1025D-01	2.4901D-04	1.7314D-05	1.9920D-05	1.2501D 01
8.0000D 01	4.5879D 02	1.3236D 00	3.2032D 00	9.1203D-01	2.4728D-04	1.7124D-05	1.9691D-05	1.2558D 01
9.0000D 01	4.6840D 02	1.3228D 00	3.2005D 00	9.1379D-01	2.4559D-04	1.6939D-05	1.9467D-05	1.2615D 01
1.0000D 02	4.7799D 02	1.3221D 00	3.1979D 00	9.1554D-01	2.4394D-04	1.6760D-05	1.9250D-05	1.2672D 01
1.1000D 02	4.8758D 02	1.3214D 00	3.1952D 00	9.1727D-01	2.4233D-04	1.6584D-05	1.9039D-05	1.2728D 01
1.2000D 02	4.9715D 02	1.3207D 00	3.1926D 00	9.1899D-01	2.4076D-04	1.6414D-05	1.8833D-05	1.2784D 01
1.3000D 02	5.0672D 02	1.3201D 00	3.1900D 00	9.2069D-01	2.3922D-04	1.6247D-05	1.8633D-05	1.2839D 01
1.4000D 02	5.1628D 02	1.3194D 00	3.1874D 00	9.2238D-01	2.3772D-04	1.6085D-05	1.8437D-05	1.2893D 01
1.5000D 02	5.2583D 02	1.3188D 00	3.1848D 00	9.2405D-01	2.3625D-04	1.5927D-05	1.8247D-05	1.2948D 01
1.6000D 02	5.3537D 02	1.3182D 00	3.1823D 00	9.2570D-01	2.3482D-04	1.5772D-05	1.8062D-05	1.3001D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 500.0 K, CV= 0.26464D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
7.6352D-08	8.7739D 00	3.0581D 01	7.4163D 01	8.9727D 02	2.6248D-04	1.8557D-04	2.1444D-04	1.2240D 00
1.0000D 01	8.9964D 00	3.0560D 01	7.4096D 01	8.9918D 02	2.6040D-04	1.8329D-04	2.1165D-04	1.2303D 00
2.0000D 01	9.2187D 00	3.0540D 01	7.4030D 01	9.0107D 02	2.5837D-04	1.8107D-04	2.0895D-04	1.2365D 00
3.0000D 01	9.4408D 00	3.0521D 01	7.3964D 01	9.0295D 02	2.5640D-04	1.7891D-04	2.0633D-04	1.2426D 00
4.0000D 01	9.6627D 00	3.0502D 01	7.3900D 01	9.0480D 02	2.5448D-04	1.7682D-04	2.0379D-04	1.2487D 00
5.0000D 01	9.8844D 00	3.0483D 01	7.3835D 01	9.0664D 02	2.5261D-04	1.7478D-04	2.0132D-04	1.2548D 00
6.0000D 01	1.0106D 01	3.0465D 01	7.3771D 01	9.0845D 02	2.5079D-04	1.7280D-04	1.9893D-04	1.2607D 00
7.0000D 01	1.0327D 01	3.0448D 01	7.3708D 01	9.1025D 02	2.4901D-04	1.7088D-04	1.9660D-04	1.2666D 00
8.0000D 01	1.0548D 01	3.0430D 01	7.3646D 01	9.1203D 02	2.4728D-04	1.6900D-04	1.9433D-04	1.2725D 00
9.0000D 01	1.0769D 01	3.0414D 01	7.3584D 01	9.1379D 02	2.4559D-04	1.6718D-04	1.9213D-04	1.2783D 00
1.0000D 02	1.0990D 01	3.0397D 01	7.3522D 01	9.1554D 02	2.4394D-04	1.6540D-04	1.8998D-04	1.2840D 00
1.1000D 02	1.1210D 01	3.0381D 01	7.3461D 01	9.1727D 02	2.4233D-04	1.6367D-04	1.8790D-04	1.2897D 00
1.2000D 02	1.1430D 01	3.0365D 01	7.3401D 01	9.1899D 02	2.4076D-04	1.6199D-04	1.8587D-04	1.2953D 00
1.3000D 02	1.1650D 01	3.0350D 01	7.3341D 01	9.2069D 02	2.3922D-04	1.6035D-04	1.8389D-04	1.3009D 00
1.4000D 02	1.1870D 01	3.0335D 01	7.3281D 01	9.2238D 02	2.3772D-04	1.5874D-04	1.8196D-04	1.3064D 00
1.5000D 02	1.2089D 01	3.0320D 01	7.3222D 01	9.2405D 02	2.3625D-04	1.5718D-04	1.8008D-04	1.3119D 00
1.6000D 02	1.2309D 01	3.0306D 01	7.3163D 01	9.2570D 02	2.3482D-04	1.5566D-04	1.7825D-04	1.3173D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 600.0 K, CV= 0.10849D 01 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAHHAV (ATM/K)
5.0470D-06	5.1300D 02	1.2991D 00	3.4654D 00	8.7361D-01	2.7186D-04	2.0055D-05	2.4014D-05	1.1321D 01
1.0000D 01	5.2257D 02	1.2979D 00	3.4623D 00	8.7567D-01	2.6949D-04	1.9783D-05	2.3668D-05	1.1386D 01
2.0000D 01	5.3214D 02	1.2968D 00	3.4592D 00	8.7771D-01	2.6718D-04	1.9519D-05	2.3332D-05	1.1451D 01
3.0000D 01	5.4171D 02	1.2957D 00	3.4562D 00	8.7971D-01	2.6494D-04	1.9264D-05	2.3008D-05	1.1515D 01
4.0000D 01	5.5126D 02	1.2947D 00	3.4532D 00	8.8170D-01	2.6277D-04	1.9016D-05	2.2694D-05	1.1579D 01
5.0000D 01	5.6082D 02	1.2937D 00	3.4502D 00	8.8366D-01	2.6065D-04	1.8776D-05	2.2389D-05	1.1642D 01
6.0000D 01	5.7036D 02	1.2927D 00	3.4473D 00	8.8561D-01	2.5860D-04	1.8543D-05	2.2094D-05	1.1704D 01
7.0000D 01	5.7990D 02	1.2917D 00	3.4444D 00	8.8753D-01	2.5659D-04	1.8316D-05	2.1808D-05	1.1766D 01
8.0000D 01	5.8942D 02	1.2908D 00	3.4415D 00	8.8943D-01	2.5464D-04	1.8096D-05	2.1530D-05	1.1827D 01
9.0000D 01	5.9895D 02	1.2898D 00	3.4387D 00	8.9131D-01	2.5274D-04	1.7883D-05	2.1261D-05	1.1888D 01
1.0000D 02	6.0846D 02	1.2889D 00	3.4358D 00	8.9317D-01	2.5090D-04	1.7675D-05	2.0999D-05	1.1948D 01
1.1000D 02	6.1797D 02	1.2881D 00	3.4330D 00	8.9501D-01	2.4909D-04	1.7473D-05	2.0745D-05	1.2007D 01
1.2000D 02	6.2747D 02	1.2872D 00	3.4303D 00	8.9683D-01	2.4733D-04	1.7276D-05	2.0498D-05	1.2066D 01
1.3000D 02	6.3696D 02	1.2864D 00	3.4275D 00	8.9864D-01	2.4562D-04	1.7085D-05	2.0258D-05	1.2125D 01
1.4000D 02	6.4644D 02	1.2855D 00	3.4248D 00	9.0043D-01	2.4395D-04	1.6899D-05	2.0025D-05	1.2182D 01
1.5000D 02	6.5592D 02	1.2848D 00	3.4221D 00	9.0220D-01	2.4232D-04	1.6718D-05	1.9798D-05	1.2240D 01
1.6000D 02	6.6539D 02	1.2840D 00	3.4194D 00	9.0395D-01	2.4072D-04	1.6541D-05	1.9577D-05	1.2297D 01
1.7000D 02	6.7485D 02	1.2832D 00	3.4168D 00	9.0569D-01	2.3917D-04	1.6369D-05	1.9361D-05	1.2353D 01
1.8000D 02	6.8430D 02	1.2825D 00	3.4142D 00	9.0741D-01	2.3765D-04	1.6201D-05	1.9152D-05	1.2409D 01
1.9000D 02	6.9375D 02	1.2817D 00	3.4115D 00	9.0912D-01	2.3616D-04	1.6038D-05	1.8948D-05	1.2464D 01
2.0000D 02	7.0319D 02	1.2810D 00	3.4090D 00	9.1081D-01	2.3471D-04	1.5878D-05	1.8749D-05	1.2519D 01
2.5000D 02	7.5025D 02	1.2777D 00	3.3963D 00	9.1906D-01	2.2792D-04	1.5136D-05	1.7825D-05	1.2786D 01
3.0000D 02	7.9712D 02	1.2746D 00	3.3841D 00	9.2699D-01	2.2181D-04	1.4475D-05	1.7006D-05	1.3043D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 600.0 K, CV= 0.24943D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMA V (MPa/K)
5.0470D-06	1.1794D 01	2.9867D 01	7.9672D 01	8.7361D 02	2.7186D-04	1.9793D-04	2.3700D-04	1.1471D 00
1.0000D 01	1.2014D 01	2.9841D 01	7.9601D 01	8.7567D 02	2.6949D-04	1.9524D-04	2.3358D-04	1.1537D 00
2.0000D 01	1.2235D 01	2.9815D 01	7.9531D 01	8.7771D 02	2.6718D-04	1.9264D-04	2.3027D-04	1.1603D 00
3.0000D 01	1.2454D 01	2.9790D 01	7.9461D 01	8.7971D 02	2.6494D-04	1.9012D-04	2.2707D-04	1.1668D 00
4.0000D 01	1.2674D 01	2.9766D 01	7.9392D 01	8.8170D 02	2.6277D-04	1.8767D-04	2.2397D-04	1.1732D 00
5.0000D 01	1.2894D 01	2.9743D 01	7.9324D 01	8.8366D 02	2.6065D-04	1.8530D-04	2.2096D-04	1.1796D 00
6.0000D 01	1.3113D 01	2.9720D 01	7.9257D 01	8.8561D 02	2.5860D-04	1.8300D-04	2.1805D-04	1.1859D 00
7.0000D 01	1.3332D 01	2.9697D 01	7.9190D 01	8.8753D 02	2.5659D-04	1.8077D-04	2.1523D-04	1.1922D 00
8.0000D 01	1.3551D 01	2.9676D 01	7.9124D 01	8.8943D 02	2.5464D-04	1.7860D-04	2.1249D-04	1.1984D 00
9.0000D 01	1.3770D 01	2.9655D 01	7.9058D 01	8.9131D 02	2.5274D-04	1.7649D-04	2.0983D-04	1.2045D 00
1.0000D 02	1.3989D 01	2.9634D 01	7.8993D 01	8.9317D 02	2.5090D-04	1.7444D-04	2.0725D-04	1.2106D 00
1.1000D 02	1.4208D 01	2.9614D 01	7.8929D 01	8.9501D 02	2.4909D-04	1.7244D-04	2.0474D-04	1.2166D 00
1.2000D 02	1.4426D 01	2.9594D 01	7.8865D 01	8.9683D 02	2.4733D-04	1.7051D-04	2.0230D-04	1.2226D 00
1.3000D 02	1.4644D 01	2.9575D 01	7.8802D 01	8.9864D 02	2.4562D-04	1.6862D-04	1.9993D-04	1.2285D 00
1.4000D 02	1.4862D 01	2.9556D 01	7.8740D 01	9.0043D 02	2.4395D-04	1.6678D-04	1.9763D-04	1.2344D 00
1.5000D 02	1.5080D 01	2.9538D 01	7.8678D 01	9.0220D 02	2.4232D-04	1.6499D-04	1.9539D-04	1.2402D 00
1.6000D 02	1.5298D 01	2.9520D 01	7.8616D 01	9.0395D 02	2.4072D-04	1.6325D-04	1.9321D-04	1.2459D 00
1.7000D 02	1.5516D 01	2.9502D 01	7.8555D 01	9.0569D 02	2.3917D-04	1.6155D-04	1.9108D-04	1.2517D 00
1.8000D 02	1.5733D 01	2.9485D 01	7.8495D 01	9.0741D 02	2.3765D-04	1.5989D-04	1.8901D-04	1.2573D 00
1.9000D 02	1.5950D 01	2.9468D 01	7.8435D 01	9.0912D 02	2.3616D-04	1.5828D-04	1.8700D-04	1.2629D 00
2.0000D 02	1.6167D 01	2.9452D 01	7.8375D 01	9.1081D 02	2.3471D-04	1.5670D-04	1.8503D-04	1.2685D 00
2.5000D 02	1.7249D 01	2.9375D 01	7.8085D 01	9.1906D 02	2.2792D-04	1.4938D-04	1.7592D-04	1.2956D 00
3.0000D 02	1.8326D 01	2.9305D 01	7.7805D 01	9.2699D 02	2.2181D-04	1.4286D-04	1.6784D-04	1.3216D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 700.0 K, CV= 0.10290D 01 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHA (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMA (ATM/K)
9.8688D-05	6.4175D 02	1.2774D 00	3.6639D 00	8.4978D-01	2.8142D-04	2.1445D-05	2.6620D-05	1.0572D 01
1.0000D 01	6.5120D 02	1.2759D 00	3.6606D 00	8.5200D-01	2.7872D-04	2.1126D-05	2.6195D-05	1.0640D 01
2.0000D 01	6.6064D 02	1.2745D 00	3.6574D 00	8.5418D-01	2.7611D-04	2.0817D-05	2.5784D-05	1.0708D 01
3.0000D 01	6.7008D 02	1.2732D 00	3.6542D 00	8.5634D-01	2.7357D-04	2.0519D-05	2.5388D-05	1.0776D 01
4.0000D 01	6.7952D 02	1.2719D 00	3.6510D 00	8.5848D-01	2.7112D-04	2.0230D-05	2.5005D-05	1.0843D 01
5.0000D 01	6.8896D 02	1.2706D 00	3.6478D 00	8.6058D-01	2.6873D-04	1.9951D-05	2.4635D-05	1.0909D 01
6.0000D 01	6.9839D 02	1.2694D 00	3.6447D 00	8.6266D-01	2.6641D-04	1.9680D-05	2.4277D-05	1.0974D 01
7.0000D 01	7.0782D 02	1.2682D 00	3.6417D 00	8.6472D-01	2.6416D-04	1.9417D-05	2.3931D-05	1.1039D 01
8.0000D 01	7.1725D 02	1.2671D 00	3.6386D 00	8.6675D-01	2.6198D-04	1.9163D-05	2.3596D-05	1.1103D 01
9.0000D 01	7.2667D 02	1.2659D 00	3.6356D 00	8.6875D-01	2.5985D-04	1.8916D-05	2.3271D-05	1.1166D 01
1.0000D 02	7.3608D 02	1.2648D 00	3.6326D 00	8.7074D-01	2.5778D-04	1.8677D-05	2.2956D-05	1.1229D 01
1.1000D 02	7.4549D 02	1.2638D 00	3.6297D 00	8.7270D-01	2.5577D-04	1.8444D-05	2.2651D-05	1.1292D 01
1.2000D 02	7.5489D 02	1.2627D 00	3.6268D 00	8.7464D-01	2.5381D-04	1.8218D-05	2.2356D-05	1.1353D 01
1.3000D 02	7.6429D 02	1.2617D 00	3.6239D 00	8.7656D-01	2.5190D-04	1.7999D-05	2.2069D-05	1.1414D 01
1.4000D 02	7.7369D 02	1.2607D 00	3.6210D 00	8.7846D-01	2.5004D-04	1.7786D-05	2.1790D-05	1.1475D 01
1.5000D 02	7.8308D 02	1.2597D 00	3.6182D 00	8.8034D-01	2.4823D-04	1.7578D-05	2.1519D-05	1.1535D 01
1.6000D 02	7.9246D 02	1.2588D 00	3.6154D 00	8.8220D-01	2.4647D-04	1.7377D-05	2.1256D-05	1.1595D 01
1.7000D 02	8.0184D 02	1.2579D 00	3.6126D 00	8.8404D-01	2.4474D-04	1.7180D-05	2.1001D-05	1.1654D 01
1.8000D 02	8.1121D 02	1.2570D 00	3.6099D 00	8.8586D-01	2.4306D-04	1.6989D-05	2.0753D-05	1.1712D 01
1.9000D 02	8.2057D 02	1.2561D 00	3.6071D 00	8.8767D-01	2.4143D-04	1.6803D-05	2.0511D-05	1.1771D 01
2.0000D 02	8.2993D 02	1.2552D 00	3.6044D 00	8.8946D-01	2.3983D-04	1.6622D-05	2.0276D-05	1.1828D 01
2.5000D 02	8.7663D 02	1.2512D 00	3.5912D 00	8.9815D-01	2.3236D-04	1.5782D-05	1.9190D-05	1.2109D 01
3.0000D 02	9.2316D 02	1.2476D 00	3.5785D 00	9.0648D-01	2.2570D-04	1.5038D-05	1.8233D-05	1.2378D 01
3.5000D 02	9.6952D 02	1.2444D 00	3.5663D 00	9.1448D-01	2.1970D-04	1.4376D-05	1.7385D-05	1.2638D 01
4.0000D 02	1.0157D 03	1.2414D 00	3.5545D 00	9.2218D-01	2.1428D-04	1.3783D-05	1.6627D-05	1.2887D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 700.0 K, CV= 0.23658D 02 J/MOL-K

P (MPa)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
9.8688D-05	1.4754D 01	2.9368D 01	8.4237D 01	8.4978D 02	2.8142D-04	2.1165D-04	2.6272D-04	1.0712D 00
1.0000D 01	1.4972D 01	2.9335D 01	8.4161D 01	8.5200D 02	2.7872D-04	2.0850D-04	2.5852D-04	1.0781D 00
2.0000D 01	1.5189D 01	2.9303D 01	8.4087D 01	8.5418D 02	2.7611D-04	2.0545D-04	2.5447D-04	1.0850D 00
3.0000D 01	1.5406D 01	2.9272D 01	8.4013D 01	8.5634D 02	2.7357D-04	2.0251D-04	2.5056D-04	1.0919D 00
4.0000D 01	1.5623D 01	2.9242D 01	8.3940D 01	8.5848D 02	2.7112D-04	1.9966D-04	2.4678D-04	1.0986D 00
5.0000D 01	1.5840D 01	2.9213D 01	8.3867D 01	8.6058D 02	2.6873D-04	1.9690D-04	2.4313D-04	1.1053D 00
6.0000D 01	1.6057D 01	2.9185D 01	8.3796D 01	8.6266D 02	2.6641D-04	1.9422D-04	2.3959D-04	1.1119D 00
7.0000D 01	1.6274D 01	2.9158D 01	8.3725D 01	8.6472D 02	2.6416D-04	1.9163D-04	2.3618D-04	1.1185D 00
8.0000D 01	1.6490D 01	2.9131D 01	8.3656D 01	8.6675D 02	2.6198D-04	1.8912D-04	2.3287D-04	1.1250D 00
9.0000D 01	1.6707D 01	2.9105D 01	8.3586D 01	8.6875D 02	2.5985D-04	1.8669D-04	2.2967D-04	1.1314D 00
1.0000D 02	1.6923D 01	2.9080D 01	8.3518D 01	8.7074D 02	2.5778D-04	1.8432D-04	2.2656D-04	1.1378D 00
1.1000D 02	1.7140D 01	2.9055D 01	8.3450D 01	8.7270D 02	2.5577D-04	1.8203D-04	2.2355D-04	1.1441D 00
1.2000D 02	1.7356D 01	2.9031D 01	8.3383D 01	8.7464D 02	2.5381D-04	1.7980D-04	2.2063D-04	1.1504D 00
1.3000D 02	1.7572D 01	2.9008D 01	8.3317D 01	8.7656D 02	2.5190D-04	1.7764D-04	2.1780D-04	1.1566D 00
1.4000D 02	1.7788D 01	2.8985D 01	8.3251D 01	8.7846D 02	2.5004D-04	1.7553D-04	2.1505D-04	1.1627D 00
1.5000D 02	1.8004D 01	2.8963D 01	8.3186D 01	8.8034D 02	2.4823D-04	1.7348D-04	2.1238D-04	1.1688D 00
1.6000D 02	1.8219D 01	2.8941D 01	8.3121D 01	8.8220D 02	2.4647D-04	1.7149D-04	2.0979D-04	1.1749D 00
1.7000D 02	1.8435D 01	2.8920D 01	8.3057D 01	8.8404D 02	2.4474D-04	1.6956D-04	2.0726D-04	1.1808D 00
1.8000D 02	1.8650D 01	2.8899D 01	8.2994D 01	8.8586D 02	2.4306D-04	1.6767D-04	2.0481D-04	1.1868D 00
1.9000D 02	1.8866D 01	2.8879D 01	8.2931D 01	8.8767D 02	2.4143D-04	1.6583D-04	2.0243D-04	1.1927D 00
2.0000D 02	1.9081D 01	2.8859D 01	8.2869D 01	8.8946D 02	2.3983D-04	1.6405D-04	2.0011D-04	1.1985D 00
2.5000D 02	2.0155D 01	2.8767D 01	8.2565D 01	8.9815D 02	2.3236D-04	1.5575D-04	1.8939D-04	1.2269D 00
3.0000D 02	2.1224D 01	2.8684D 01	8.2274D 01	9.0648D 02	2.2570D-04	1.4842D-04	1.7995D-04	1.2542D 00
3.5000D 02	2.2290D 01	2.8610D 01	8.1993D 01	9.1448D 02	2.1970D-04	1.4188D-04	1.7157D-04	1.2805D 00
4.0000D 02	2.3352D 01	2.8542D 01	8.1721D 01	9.2218D 02	2.1428D-04	1.3602D-04	1.6410D-04	1.3058D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 800.0 K, CV= 0.98240D 00 J/G-K

P (ATM)	H-H(298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
9.0430D-04	7.6874D 02	1.2637D 00	3.8335D 00	8.2580D-01	2.9118D-04	2.2998D-05	2.9584D-05	9.8426D 00
1.0000D 01	7.7803D 02	1.2620D 00	3.8300D 00	8.2819D-01	2.8812D-04	2.2623D-05	2.9062D-05	9.9141D 00
2.0000D 01	7.8732D 02	1.2603D 00	3.8266D 00	8.3055D-01	2.8516D-04	2.2262D-05	2.8560D-05	9.9848D 00
3.0000D 01	7.9661D 02	1.2587D 00	3.8232D 00	8.3287D-01	2.8230D-04	2.1914D-05	2.8076D-05	1.0055D 01
4.0000D 01	8.0591D 02	1.2571D 00	3.8198D 00	8.3516D-01	2.7953D-04	2.1577D-05	2.7610D-05	1.0124D 01
5.0000D 01	8.1521D 02	1.2555D 00	3.8165D 00	8.3742D-01	2.7685D-04	2.1252D-05	2.7161D-05	1.0193D 01
6.0000D 01	8.2450D 02	1.2541D 00	3.8132D 00	8.3965D-01	2.7425D-04	2.0938D-05	2.6728D-05	1.0260D 01
7.0000D 01	8.3380D 02	1.2526D 00	3.8100D 00	8.4185D-01	2.7172D-04	2.0635D-05	2.6310D-05	1.0328D 01
8.0000D 01	8.4310D 02	1.2512D 00	3.8067D 00	8.4403D-01	2.6928D-04	2.0341D-05	2.5906D-05	1.0394D 01
9.0000D 01	8.5239D 02	1.2499D 00	3.8036D 00	8.4617D-01	2.6691D-04	2.0056D-05	2.5516D-05	1.0460D 01
1.0000D 02	8.6169D 02	1.2485D 00	3.8004D 00	8.4829D-01	2.6460D-04	1.9780D-05	2.5139D-05	1.0526D 01
1.1000D 02	8.7098D 02	1.2473D 00	3.7973D 00	8.5038D-01	2.6236D-04	1.9513D-05	2.4774D-05	1.0590D 01
1.2000D 02	8.8027D 02	1.2460D 00	3.7943D 00	8.5245D-01	2.6019D-04	1.9254D-05	2.4421D-05	1.0654D 01
1.3000D 02	8.8956D 02	1.2448D 00	3.7912D 00	8.5449D-01	2.5807D-04	1.9003D-05	2.4078D-05	1.0718D 01
1.4000D 02	8.9884D 02	1.2436D 00	3.7882D 00	8.5651D-01	2.5601D-04	1.8759D-05	2.3747D-05	1.0781D 01
1.5000D 02	9.0813D 02	1.2425D 00	3.7852D 00	8.5850D-01	2.5401D-04	1.8522D-05	2.3425D-05	1.0843D 01
1.6000D 02	9.1741D 02	1.2414D 00	3.7823D 00	8.6048D-01	2.5206D-04	1.8292D-05	2.3114D-05	1.0905D 01
1.7000D 02	9.2668D 02	1.2403D 00	3.7794D 00	8.6243D-01	2.5016D-04	1.8069D-05	2.2811D-05	1.0967D 01
1.8000D 02	9.3596D 02	1.2392D 00	3.7765D 00	8.6436D-01	2.4831D-04	1.7851D-05	2.2518D-05	1.1027D 01
1.9000D 02	9.4523D 02	1.2382D 00	3.7736D 00	8.6627D-01	2.4651D-04	1.7640D-05	2.2233D-05	1.1088D 01
2.0000D 02	9.5449D 02	1.2372D 00	3.7708D 00	8.6816D-01	2.4475D-04	1.7434D-05	2.1956D-05	1.1148D 01
2.5000D 02	1.0008D 03	1.2325D 00	3.7570D 00	8.7734D-01	2.3658D-04	1.6485D-05	2.0681D-05	1.1439D 01
3.0000D 02	1.0469D 03	1.2283D 00	3.7438D 00	8.8609D-01	2.2932D-04	1.5650D-05	1.9567D-05	1.1720D 01
3.5000D 02	1.0929D 03	1.2245D 00	3.7311D 00	8.9446D-01	2.2283D-04	1.4910D-05	1.8585D-05	1.1990D 01
4.0000D 02	1.1388D 03	1.2211D 00	3.7189D 00	9.0251D-01	2.1698D-04	1.4250D-05	1.7713D-05	1.2250D 01
4.5000D 02	1.1845D 03	1.2181D 00	3.7071D 00	9.1025D-01	2.1169D-04	1.3658D-05	1.6934D-05	1.2501D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 800.0 K, CV= 0.98240D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
5.0000D 02	1.2300D 03	1.2153D 00	3.6956D 00	9.1773D-01	2.0688D-04	1.3124D-05	1.6235D-05	1.2743D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 800.0 K, CV= 0.22586D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPa)	BETA T (1/MPa)	GAMMA V (MPa/K)
9.0430D-04	1.7674D 01	2.9055D 01	8.8137D 01	8.2580D 02	2.9118D-04	2.2697D-04	2.9197D-04	9.9730D-01
1.0000D 01	1.7888D 01	2.9014D 01	8.8057D 01	8.2819D 02	2.8812D-04	2.2328D-04	2.8682D-04	1.0045D 00
2.0000D 01	1.8101D 01	2.8976D 01	8.7977D 01	8.3055D 02	2.8516D-04	2.1971D-04	2.8186D-04	1.0117D 00
3.0000D 01	1.8315D 01	2.8938D 01	8.7899D 01	8.3287D 02	2.8230D-04	2.1627D-04	2.7709D-04	1.0188D 00
4.0000D 01	1.8529D 01	2.8902D 01	8.7821D 01	8.3516D 02	2.7953D-04	2.1295D-04	2.7249D-04	1.0258D 00
5.0000D 01	1.8742D 01	2.8866D 01	8.7745D 01	8.3742D 02	2.7685D-04	2.0975D-04	2.6806D-04	1.0328D 00
6.0000D 01	1.8956D 01	2.8832D 01	8.7669D 01	8.3965D 02	2.7425D-04	2.0665D-04	2.6379D-04	1.0396D 00
7.0000D 01	1.9170D 01	2.8799D 01	8.7595D 01	8.4185D 02	2.7172D-04	2.0365D-04	2.5966D-04	1.0465D 00
8.0000D 01	1.9384D 01	2.8767D 01	8.7521D 01	8.4403D 02	2.6928D-04	2.0075D-04	2.5568D-04	1.0532D 00
9.0000D 01	1.9597D 01	2.8736D 01	8.7448D 01	8.4617D 02	2.6691D-04	1.9794D-04	2.5183D-04	1.0599D 00
1.0000D 02	1.9811D 01	2.8705D 01	8.7376D 01	8.4829D 02	2.6460D-04	1.9522D-04	2.4810D-04	1.0665D 00
1.1000D 02	2.0025D 01	2.8676D 01	8.7304D 01	8.5038D 02	2.6236D-04	1.9258D-04	2.4450D-04	1.0731D 00
1.2000D 02	2.0238D 01	2.8647D 01	8.7234D 01	8.5245D 02	2.6019D-04	1.9002D-04	2.4101D-04	1.0796D 00
1.3000D 02	2.0452D 01	2.8619D 01	8.7164D 01	8.5449D 02	2.5807D-04	1.8754D-04	2.3764D-04	1.0860D 00
1.4000D 02	2.0665D 01	2.8592D 01	8.7095D 01	8.5651D 02	2.5601D-04	1.8514D-04	2.3436D-04	1.0924D 00
1.5000D 02	2.0879D 01	2.8566D 01	8.7027D 01	8.5850D 02	2.5401D-04	1.8280D-04	2.3119D-04	1.0987D 00
1.6000D 02	2.1092D 01	2.8540D 01	8.6959D 01	8.6048D 02	2.5206D-04	1.8053D-04	2.2811D-04	1.1050D 00
1.7000D 02	2.1305D 01	2.8515D 01	8.6892D 01	8.6243D 02	2.5016D-04	1.7832D-04	2.2513D-04	1.1112D 00
1.8000D 02	2.1519D 01	2.8491D 01	8.6826D 01	8.6436D 02	2.4831D-04	1.7618D-04	2.2223D-04	1.1174D 00
1.9000D 02	2.1732D 01	2.8467D 01	8.6760D 01	8.6627D 02	2.4651D-04	1.7409D-04	2.1942D-04	1.1235D 00
2.0000D 02	2.1945D 01	2.8444D 01	8.6695D 01	8.6816D 02	2.4475D-04	1.7206D-04	2.1668D-04	1.1295D 00
2.5000D 02	2.3008D 01	2.8335D 01	8.6378D 01	8.7734D 02	2.3658D-04	1.6270D-04	2.0411D-04	1.1591D 00
3.0000D 02	2.4069D 01	2.8239D 01	8.6074D 01	8.8609D 02	2.2932D-04	1.5446D-04	1.9311D-04	1.1875D 00
3.5000D 02	2.5127D 01	2.8153D 01	8.5782D 01	8.9446D 02	2.2283D-04	1.4715D-04	1.8342D-04	1.2149D 00
4.0000D 02	2.6181D 01	2.8075D 01	8.5501D 01	9.0251D 02	2.1698D-04	1.4064D-04	1.7481D-04	1.2412D 00
4.5000D 02	2.7232D 01	2.8005D 01	8.5229D 01	9.1025D 02	2.1169D-04	1.3479D-04	1.6713D-04	1.2666D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 800.0 K, CV= 0.22586D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
5.0000D 02	2.8279D 01	2.7940D 01	8.4966D 01	9.1773D 02	2.0688D-04	1.2952D-04	1.6023D-04	1.2912D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 900.0 K, CV= 0.94446D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHA P (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMA V (ATM/K)
5.0103D-03	8.9475D 02	1.2576D 00	3.9820D 00	8.0170D-01	3.0116D-04	2.4744D-05	3.2947D-05	9.1407D 00
1.0000D 01	9.0384D 02	1.2555D 00	3.9783D 00	8.0428D-01	2.9770D-04	2.4304D-05	3.2308D-05	9.2144D 00
2.0000D 01	9.1295D 02	1.2535D 00	3.9746D 00	8.0683D-01	2.9435D-04	2.3881D-05	3.1694D-05	9.2873D 00
3.0000D 01	9.2206D 02	1.2515D 00	3.9710D 00	8.0933D-01	2.9113D-04	2.3474D-05	3.1105D-05	9.3595D 00
4.0000D 01	9.3118D 02	1.2496D 00	3.9674D 00	8.1180D-01	2.8801D-04	2.3082D-05	3.0540D-05	9.4308D 00
5.0000D 01	9.4031D 02	1.2478D 00	3.9639D 00	8.1423D-01	2.8500D-04	2.2705D-05	2.9996D-05	9.5015D 00
6.0000D 01	9.4945D 02	1.2460D 00	3.9604D 00	8.1662D-01	2.8209D-04	2.2340D-05	2.9473D-05	9.5714D 00
7.0000D 01	9.5859D 02	1.2443D 00	3.9570D 00	8.1898D-01	2.7928D-04	2.1989D-05	2.8969D-05	9.6407D 00
8.0000D 01	9.6773D 02	1.2426D 00	3.9536D 00	8.2130D-01	2.7656D-04	2.1649D-05	2.8484D-05	9.7092D 00
9.0000D 01	9.7688D 02	1.2410D 00	3.9503D 00	8.2360D-01	2.7392D-04	2.1321D-05	2.8016D-05	9.7771D 00
1.0000D 02	9.8603D 02	1.2394D 00	3.9469D 00	8.2586D-01	2.7136D-04	2.1004D-05	2.7565D-05	9.8444D 00
1.1000D 02	9.9518D 02	1.2379D 00	3.9437D 00	8.2809D-01	2.6888D-04	2.0698D-05	2.7129D-05	9.9111D 00
1.2000D 02	1.0043D 03	1.2365D 00	3.9405D 00	8.3029D-01	2.6647D-04	2.0401D-05	2.6708D-05	9.9771D 00
1.3000D 02	1.0135D 03	1.2350D 00	3.9373D 00	8.3247D-01	2.6413D-04	2.0113D-05	2.6301D-05	1.0043D 01
1.4000D 02	1.0227D 03	1.2337D 00	3.9341D 00	8.3461D-01	2.6186D-04	1.9835D-05	2.5908D-05	1.0107D 01
1.5000D 02	1.0318D 03	1.2323D 00	3.9310D 00	8.3673D-01	2.5965D-04	1.9564D-05	2.5527D-05	1.0172D 01
1.6000D 02	1.0410D 03	1.2310D 00	3.9279D 00	8.3883D-01	2.5751D-04	1.9303D-05	2.5159D-05	1.0235D 01
1.7000D 02	1.0501D 03	1.2297D 00	3.9248D 00	8.4090D-01	2.5542D-04	1.9048D-05	2.4802D-05	1.0299D 01
1.8000D 02	1.0593D 03	1.2285D 00	3.9218D 00	8.4295D-01	2.5340D-04	1.8802D-05	2.4456D-05	1.0361D 01
1.9000D 02	1.0684D 03	1.2273D 00	3.9188D 00	8.4497D-01	2.5142D-04	1.8562D-05	2.4121D-05	1.0423D 01
2.0000D 02	1.0776D 03	1.2261D 00	3.9159D 00	8.4697D-01	2.4950D-04	1.8330D-05	2.3796D-05	1.0485D 01
2.5000D 02	1.1234D 03	1.2207D 00	3.9015D 00	8.5665D-01	2.4059D-04	1.7259D-05	2.2307D-05	1.0785D 01
3.0000D 02	1.1690D 03	1.2159D 00	3.8878D 00	8.6585D-01	2.3271D-04	1.6322D-05	2.1014D-05	1.1074D 01
3.5000D 02	1.2147D 03	1.2116D 00	3.8746D 00	8.7463D-01	2.2570D-04	1.5497D-05	1.9880D-05	1.1353D 01
4.0000D 02	1.2602D 03	1.2078D 00	3.8619D 00	8.8303D-01	2.1941D-04	1.4763D-05	1.8880D-05	1.1621D 01
4.5000D 02	1.3055D 03	1.2044D 00	3.8497D 00	8.9109D-01	2.1374D-04	1.4108D-05	1.7990D-05	1.1881D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 900.0 K, CV= 0.94446D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
5.0000D 02	1.3508D 03	1.2012D 00	3.8379D 00	8.9886D-01	2.0861D-04	1.3520D-05	1.7195D-05	1.2132D 01
6.0000D 02	1.4409D 03	1.1958D 00	3.8154D 00	9.1361D-01	1.9967D-04	1.2507D-05	1.5835D-05	1.2609D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 900.0 K, CV= 0.21714D 02 J/MOL-K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	PHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
5.0103D-03	2.0571D 01	2.8914D 01	9.1551D 01	8.0170D 02	3.0116D-04	2.4420D-04	3.2517D-04	9.2618D-01
1.0000D 01	2.0780D 01	2.8865D 01	9.1465D 01	8.0428D 02	2.9770D-04	2.3986D-04	3.1885D-04	9.3365D-01
2.0000D 01	2.0990D 01	2.8818D 01	9.1380D 01	8.0683D 02	2.9435D-04	2.3569D-04	3.1280D-04	9.4104D-01
3.0000D 01	2.1199D 01	2.8773D 01	9.1297D 01	8.0933D 02	2.9113D-04	2.3167D-04	3.0698D-04	9.4835D-01
4.0000D 01	2.1409D 01	2.8729D 01	9.1215D 01	8.1180D 02	2.8801D-04	2.2780D-04	3.0140D-04	9.5558D-01
5.0000D 01	2.1619D 01	2.8687D 01	9.1134D 01	8.1423D 02	2.8500D-04	2.2408D-04	2.9603D-04	9.6274D-01
6.0000D 01	2.1829D 01	2.8647D 01	9.1054D 01	8.1662D 02	2.8209D-04	2.2048D-04	2.9087D-04	9.6983D-01
7.0000D 01	2.2039D 01	2.8607D 01	9.0975D 01	8.1898D 02	2.7928D-04	2.1701D-04	2.8590D-04	9.7684D-01
8.0000D 01	2.2249D 01	2.8569D 01	9.0897D 01	8.2130D 02	2.7656D-04	2.1366D-04	2.8111D-04	9.8379D-01
9.0000D 01	2.2459D 01	2.8532D 01	9.0820D 01	8.2360D 02	2.7392D-04	2.1043D-04	2.7650D-04	9.9067D-01
1.0000D 02	2.2670D 01	2.8496D 01	9.0744D 01	8.2586D 02	2.7136D-04	2.0730D-04	2.7204D-04	9.9749D-01
1.1000D 02	2.2880D 01	2.8461D 01	9.0669D 01	8.2809D 02	2.6888D-04	2.0427D-04	2.6774D-04	1.0042D 00
1.2000D 02	2.3091D 01	2.8428D 01	9.0595D 01	8.3029D 02	2.6647D-04	2.0134D-04	2.6359D-04	1.0109D 00
1.3000D 02	2.3301D 01	2.8395D 01	9.0522D 01	8.3247D 02	2.6413D-04	1.9850D-04	2.5957D-04	1.0176D 00
1.4000D 02	2.3512D 01	2.8363D 01	9.0449D 01	8.3461D 02	2.6186D-04	1.9575D-04	2.5569D-04	1.0241D 00
1.5000D 02	2.3722D 01	2.8332D 01	9.0377D 01	8.3673D 02	2.5965D-04	1.9309D-04	2.5193D-04	1.0306D 00
1.6000D 02	2.3933D 01	2.8302D 01	9.0306D 01	8.3883D 02	2.5751D-04	1.9050D-04	2.4830D-04	1.0371D 00
1.7000D 02	2.4143D 01	2.8273D 01	9.0236D 01	8.4090D 02	2.5542D-04	1.8799D-04	2.4478D-04	1.0435D 00
1.8000D 02	2.4354D 01	2.8244D 01	9.0167D 01	8.4295D 02	2.5340D-04	1.8556D-04	2.4136D-04	1.0498D 00
1.9000D 02	2.4565D 01	2.8217D 01	9.0098D 01	8.4497D 02	2.5142D-04	1.8319D-04	2.3806D-04	1.0561D 00
2.0000D 02	2.4775D 01	2.8190D 01	9.0030D 01	8.4697D 02	2.4950D-04	1.8090D-04	2.3485D-04	1.0624D 00
2.5000D 02	2.5827D 01	2.8065D 01	8.9699D 01	8.5665D 02	2.4059D-04	1.7033D-04	2.2015D-04	1.0928D 00
3.0000D 02	2.6878D 01	2.7955D 01	8.9383D 01	8.6585D 02	2.3271D-04	1.6109D-04	2.0739D-04	1.1221D 00
3.5000D 02	2.7926D 01	2.7857D 01	8.9081D 01	8.7463D 02	2.2570D-04	1.5294D-04	1.9620D-04	1.1503D 00
4.0000D 02	2.8972D 01	2.7769D 01	8.8790D 01	8.8303D 02	2.1941D-04	1.4570D-04	1.8633D-04	1.1775D 00
4.5000D 02	3.0016D 01	2.7689D 01	8.8509D 01	8.9109D 02	2.1374D-04	1.3924D-04	1.7755D-04	1.2038D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 900.0 K, CV= 0.21714D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	rho (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMA V (MPa/K)
5.0000D 02	3.1056D 01	2.7617D 01	8.8238D 01	8.9886D 02	2.0861D-04	1.3343D-04	1.6971D-04	1.2292D 00
6.0000D 02	3.3127D 01	2.7492D 01	8.7720D 01	9.1361D 02	1.9967D-04	1.2343D-04	1.5628D-04	1.2777D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1000.0 K, CV= 0.91483D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHA P (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMA V (ATM/K)
1.9549D-02	1.0205D 03	1.2586D 00	4.1145D 00	7.7752D-01	3.1140D-04	2.6721D-05	3.6761D-05	8.4709D 00
1.0000D 01	1.0294D 03	1.2561D 00	4.1106D 00	7.8031D-01	3.0748D-04	2.6204D-05	3.5978D-05	8.5464D 00
2.0000D 01	1.0382D 03	1.2536D 00	4.1067D 00	7.8306D-01	3.0371D-04	2.5708D-05	3.5228D-05	8.6211D 00
3.0000D 01	1.0471D 03	1.2513D 00	4.1028D 00	7.8576D-01	3.0008D-04	2.5231D-05	3.4511D-05	8.6951D 00
4.0000D 01	1.0561D 03	1.2491D 00	4.0990D 00	7.8841D-01	2.9658D-04	2.4774D-05	3.3825D-05	8.7682D 00
5.0000D 01	1.0650D 03	1.2469D 00	4.0953D 00	7.9102D-01	2.9321D-04	2.4335D-05	3.3167D-05	8.8405D 00
6.0000D 01	1.0739D 03	1.2448D 00	4.0916D 00	7.9359D-01	2.8997D-04	2.3912D-05	3.2536D-05	8.9121D 00
7.0000D 01	1.0829D 03	1.2428D 00	4.0880D 00	7.9612D-01	2.8683D-04	2.3505D-05	3.1931D-05	8.9830D 00
8.0000D 01	1.0918D 03	1.2408D 00	4.0844D 00	7.9861D-01	2.8380D-04	2.3113D-05	3.1349D-05	9.0531D 00
9.0000D 01	1.1008D 03	1.2389D 00	4.0809D 00	8.0106D-01	2.8088D-04	2.2735D-05	3.0789D-05	9.1226D 00
1.0000D 02	1.1098D 03	1.2371D 00	4.0774D 00	8.0348D-01	2.7804D-04	2.2370D-05	3.0251D-05	9.1914D 00
1.1000D 02	1.1188D 03	1.2354D 00	4.0740D 00	8.0586D-01	2.7530D-04	2.2018D-05	2.9732D-05	9.2595D 00
1.2000D 02	1.1278D 03	1.2337D 00	4.0706D 00	8.0821D-01	2.7265D-04	2.1677D-05	2.9232D-05	9.3270D 00
1.3000D 02	1.1368D 03	1.2320D 00	4.0672D 00	8.1052D-01	2.7008D-04	2.1349D-05	2.8750D-05	9.3939D 00
1.4000D 02	1.1458D 03	1.2304D 00	4.0639D 00	8.1281D-01	2.6758D-04	2.1031D-05	2.8285D-05	9.4602D 00
1.5000D 02	1.1548D 03	1.2288D 00	4.0606D 00	8.1506D-01	2.6516D-04	2.0723D-05	2.7836D-05	9.5259D 00
1.6000D 02	1.1638D 03	1.2273D 00	4.0574D 00	8.1729D-01	2.6281D-04	2.0425D-05	2.7402D-05	9.5910D 00
1.7000D 02	1.1729D 03	1.2259D 00	4.0542D 00	8.1948D-01	2.6053D-04	2.0136D-05	2.6983D-05	9.6556D 00
1.8000D 02	1.1819D 03	1.2245D 00	4.0510D 00	8.2165D-01	2.5832D-04	1.9856D-05	2.6577D-05	9.7196D 00
1.9000D 02	1.1909D 03	1.2231D 00	4.0479D 00	8.2379D-01	2.5616D-04	1.9585D-05	2.6184D-05	9.7830D 00
2.0000D 02	1.1999D 03	1.2217D 00	4.0448D 00	8.2591D-01	2.5407D-04	1.9322D-05	2.5804D-05	9.8460D 00
2.5000D 02	1.2451D 03	1.2155D 00	4.0298D 00	8.3613D-01	2.4440D-04	1.8116D-05	2.4071D-05	1.0153D 01
3.0000D 02	1.2903D 03	1.2101D 00	4.0155D 00	8.4580D-01	2.3589D-04	1.7067D-05	2.2576D-05	1.0449D 01
3.5000D 02	1.3354D 03	1.2053D 00	4.0019D 00	8.5499D-01	2.2834D-04	1.6147D-05	2.1274D-05	1.0734D 01
4.0000D 02	1.3805D 03	1.2010D 00	3.9888D 00	8.6377D-01	2.2160D-04	1.5333D-05	2.0130D-05	1.1009D 01
4.5000D 02	1.4256D 03	1.1972D 00	3.9762D 00	8.7217D-01	2.1555D-04	1.4609D-05	1.9118D-05	1.1275D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1000.0 K, CV= 0.91483D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
5.0000D 02	1.4705D 03	1.1937D 00	3.9641D 00	8.8023D-01	2.1009D-04	1.3962D-05	1.8218D-05	1.1532D 01
6.0000D 02	1.5600D 03	1.1878D 00	3.9410D 00	8.9550D-01	2.0061D-04	1.2852D-05	1.6686D-05	1.2023D 01
7.0000D 02	1.6490D 03	1.1828D 00	3.9192D 00	9.0979D-01	1.9270D-04	1.1937D-05	1.5434D-05	1.2486D 01
8.0000D 02	1.7375D 03	1.1786D 00	3.8985D 00	9.2327D-01	1.8600D-04	1.1172D-05	1.4393D-05	1.2922D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1000.0 K, CV= 0.21033D 02 J/MOL-K

P (MPA)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMA V (MPA/K)
1.9549D-02	2.3463D 01	2.8936D 01	9.4597D 01	7.7752D 02	3.1140D-04	2.6371D-04	3.6281D-04	8.5831D-01
1.0000D 01	2.3666D 01	2.8878D 01	9.4506D 01	7.8031D 02	3.0748D-04	2.5861D-04	3.5508D-04	8.6596D-01
2.0000D 01	2.3870D 01	2.8822D 01	9.4416D 01	7.8306D 02	3.0371D-04	2.5371D-04	3.4768D-04	8.7354D-01
3.0000D 01	2.4075D 01	2.8769D 01	9.4328D 01	7.8576D 02	3.0008D-04	2.4901D-04	3.4060D-04	8.8103D-01
4.0000D 01	2.4280D 01	2.8717D 01	9.4241D 01	7.8841D 02	2.9658D-04	2.4450D-04	3.3383D-04	8.8844D-01
5.0000D 01	2.4485D 01	2.8667D 01	9.4155D 01	7.9102D 02	2.9321D-04	2.4016D-04	3.2733D-04	8.9577D-01
6.0000D 01	2.4691D 01	2.8619D 01	9.4070D 01	7.9359D 02	2.8997D-04	2.3599D-04	3.2111D-04	9.0302D-01
7.0000D 01	2.4897D 01	2.8573D 01	9.3987D 01	7.9612D 02	2.8683D-04	2.3197D-04	3.1513D-04	9.1020D-01
8.0000D 01	2.5103D 01	2.8528D 01	9.3905D 01	7.9861D 02	2.8380D-04	2.2810D-04	3.0939D-04	9.1731D-01
9.0000D 01	2.5309D 01	2.8485D 01	9.3823D 01	8.0106D 02	2.8088D-04	2.2437D-04	3.0386D-04	9.2435D-01
1.0000D 02	2.5515D 01	2.8443D 01	9.3743D 01	8.0348D 02	2.7804D-04	2.2077D-04	2.9855D-04	9.3132D-01
1.1000D 02	2.5722D 01	2.8402D 01	9.3664D 01	8.0586D 02	2.7530D-04	2.1730D-04	2.9343D-04	9.3822D-01
1.2000D 02	2.5929D 01	2.8363D 01	9.3586D 01	8.0821D 02	2.7265D-04	2.1394D-04	2.8850D-04	9.4506D-01
1.3000D 02	2.6136D 01	2.8325D 01	9.3509D 01	8.1052D 02	2.7008D-04	2.1069D-04	2.8374D-04	9.5184D-01
1.4000D 02	2.6343D 01	2.8288D 01	9.3433D 01	8.1281D 02	2.6758D-04	2.0755D-04	2.7915D-04	9.5856D-01
1.5000D 02	2.6550D 01	2.8252D 01	9.3358D 01	8.1506D 02	2.6516D-04	2.0452D-04	2.7472D-04	9.6521D-01
1.6000D 02	2.6758D 01	2.8218D 01	9.3283D 01	8.1729D 02	2.6281D-04	2.0158D-04	2.7044D-04	9.7181D-01
1.7000D 02	2.6965D 01	2.8184D 01	9.3210D 01	8.1948D 02	2.6053D-04	1.9873D-04	2.6630D-04	9.7835D-01
1.8000D 02	2.7173D 01	2.8152D 01	9.3137D 01	8.2165D 02	2.5832D-04	1.9597D-04	2.6229D-04	9.8484D-01
1.9000D 02	2.7380D 01	2.8120D 01	9.3065D 01	8.2379D 02	2.5616D-04	1.9329D-04	2.5842D-04	9.9127D-01
2.0000D 02	2.7588D 01	2.8089D 01	9.2994D 01	8.2591D 02	2.5407D-04	1.9069D-04	2.5467D-04	9.9764D-01
2.5000D 02	2.8626D 01	2.7947D 01	9.2650D 01	8.3613D 02	2.4440D-04	1.7879D-04	2.3756D-04	1.0288D 00
3.0000D 02	2.9665D 01	2.7822D 01	9.2321D 01	8.4580D 02	2.3589D-04	1.6844D-04	2.2280D-04	1.0587D 00
3.5000D 02	3.0703D 01	2.7711D 01	9.2008D 01	8.5499D 02	2.2834D-04	1.5936D-04	2.0995D-04	1.0876D 00
4.0000D 02	3.1740D 01	2.7613D 01	9.1707D 01	8.6377D 02	2.2160D-04	1.5133D-04	1.9867D-04	1.1155D 00
4.5000D 02	3.2775D 01	2.7524D 01	9.1417D 01	8.7217D 02	2.1555D-04	1.4418D-04	1.8868D-04	1.1424D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1000.0 K, CV= 0.21033D 02 J/MOL-K

F (MPA)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	PHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
5.0000D 02	3.3808D 01	2.7445D 01	9.1138D 01	8.8023D 02	2.1009D-04	1.3779D-04	1.7980D-04	1.1685D 00
6.0000D 02	3.5866D 01	2.7308D 01	9.0607D 01	8.9550D 02	2.0061D-04	1.2684D-04	1.6467D-04	1.2183D 00
7.0000D 02	3.7912D 01	2.7194D 01	9.0106D 01	9.0979D 02	1.9270D-04	1.1781D-04	1.5232D-04	1.2651D 00
8.0000D 02	3.9946D 01	2.7097D 01	8.9631D 01	9.2327D 02	1.8600D-04	1.1026D-04	1.4205D-04	1.3094D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1100.0 K, CV= 0.89320D 00 J/G-K

F (ATM)	H-H(298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
5.9173D-02	1.1467D 03	1.2665D 00	4.2348D 00	7.5330D-01	3.2196D-04	2.8978D-05	4.1088D-05	7.8357D 00
1.0000D 01	1.1553D 03	1.2635D 00	4.2306D 00	7.5631D-01	3.1753D-04	2.8369D-05	4.0129D-05	7.9126D 00
2.0000D 01	1.1639D 03	1.2606D 00	4.2264D 00	7.5927D-01	3.1326D-04	2.7784D-05	3.9212D-05	7.9890D 00
3.0000D 01	1.1725D 03	1.2578D 00	4.2223D 00	7.6218D-01	3.0918D-04	2.7225D-05	3.8338D-05	8.0645D 00
4.0000D 01	1.1812D 03	1.2552D 00	4.2183D 00	7.6504D-01	3.0526D-04	2.6689D-05	3.7505D-05	8.1391D 00
5.0000D 01	1.1899D 03	1.2526D 00	4.2144D 00	7.6785D-01	3.0149D-04	2.6176D-05	3.6709D-05	8.2129D 00
6.0000D 01	1.1986D 03	1.2502D 00	4.2105D 00	7.7061D-01	2.9787D-04	2.5684D-05	3.5949D-05	8.2858D 00
7.0000D 01	1.2074D 03	1.2478D 00	4.2066D 00	7.7332D-01	2.9438D-04	2.5212D-05	3.5222D-05	8.3580D 00
8.0000D 01	1.2161D 03	1.2456D 00	4.2029D 00	7.7598D-01	2.9103D-04	2.4758D-05	3.4525D-05	8.4294D 00
9.0000D 01	1.2249D 03	1.2434D 00	4.1991D 00	7.7861D-01	2.8779D-04	2.4321D-05	3.3857D-05	8.5001D 00
1.0000D 02	1.2337D 03	1.2413D 00	4.1955D 00	7.8119D-01	2.8466D-04	2.3901D-05	3.3216D-05	8.5701D 00
1.1000D 02	1.2425D 03	1.2393D 00	4.1918D 00	7.8373D-01	2.8164D-04	2.3497D-05	3.2600D-05	8.6394D 00
1.2000D 02	1.2513D 03	1.2373D 00	4.1883D 00	7.8623D-01	2.7873D-04	2.3107D-05	3.2008D-05	8.7080D 00
1.3000D 02	1.2601D 03	1.2354D 00	4.1847D 00	7.8870D-01	2.7590D-04	2.2730D-05	3.1438D-05	8.7760D 00
1.4000D 02	1.2689D 03	1.2336D 00	4.1813D 00	7.9113D-01	2.7317D-04	2.2367D-05	3.0890D-05	8.8434D 00
1.5000D 02	1.2778D 03	1.2318D 00	4.1778D 00	7.9352D-01	2.7053D-04	2.2016D-05	3.0362D-05	8.9101D 00
1.6000D 02	1.2866D 03	1.2301D 00	4.1745D 00	7.9588D-01	2.6796D-04	2.1677D-05	2.9852D-05	8.9763D 00
1.7000D 02	1.2955D 03	1.2284D 00	4.1711D 00	7.9821D-01	2.6548D-04	2.1349D-05	2.9361D-05	9.0419D 00
1.8000D 02	1.3044D 03	1.2268D 00	4.1678D 00	8.0051D-01	2.6307D-04	2.1032D-05	2.8887D-05	9.1069D 00
1.9000D 02	1.3133D 03	1.2252D 00	4.1645D 00	8.0277D-01	2.6073D-04	2.0725D-05	2.8429D-05	9.1713D 00
2.0000D 02	1.3222D 03	1.2237D 00	4.1613D 00	8.0501D-01	2.5845D-04	2.0427D-05	2.7986D-05	9.2352D 00
2.5000D 02	1.3667D 03	1.2167D 00	4.1457D 00	8.1579D-01	2.4800D-04	1.9070D-05	2.5976D-05	9.5472D 00
3.0000D 02	1.4113D 03	1.2106D 00	4.1309D 00	8.2596D-01	2.3885D-04	1.7896D-05	2.4255D-05	9.8474D 00
3.5000D 02	1.4559D 03	1.2052D 00	4.1167D 00	8.3559D-01	2.3077D-04	1.6872D-05	2.2766D-05	1.0137D 01
4.0000D 02	1.5006D 03	1.2005D 00	4.1032D 00	8.4475D-01	2.2358D-04	1.5970D-05	2.1464D-05	1.0417D 01
4.5000D 02	1.5452D 03	1.1963D 00	4.0903D 00	8.5350D-01	2.1715D-04	1.5171D-05	2.0319D-05	1.0687D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1100.0 K, CV= 0.89320D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
5.0000D 02	1.5897D 03	1.1925D 00	4.0778D 00	8.6188D-01	2.1135D-04	1.4458D-05	1.9303D-05	1.0949D 01
6.0000D 02	1.6786D 03	1.1860D 00	4.0541D 00	8.7768D-01	2.0134D-04	1.3243D-05	1.7584D-05	1.1450D 01
7.0000D 02	1.7671D 03	1.1806D 00	4.0318D 00	8.9241D-01	1.9301D-04	1.2247D-05	1.6188D-05	1.1923D 01
8.0000D 02	1.8551D 03	1.1762D 00	4.0107D 00	9.0625D-01	1.8599D-04	1.1417D-05	1.5034D-05	1.2371D 01
9.0000D 02	1.9427D 03	1.1724D 00	3.9907D 00	9.1935D-01	1.8000D-04	1.0717D-05	1.4068D-05	1.2795D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1100.0 K, CV= 0.20536D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMA V (MPa/K)
5.9173D-02	2.6365D 01	2.9118D 01	9.7362D 01	7.5330D 02	3.2196D-04	2.8599D-04	4.0551D-04	7.9395D-01
1.0000D 01	2.6561D 01	2.9049D 01	9.7266D 01	7.5631D 02	3.1753D-04	2.7998D-04	3.9605D-04	8.0174D-01
2.0000D 01	2.6759D 01	2.8982D 01	9.7170D 01	7.5927D 02	3.1326D-04	2.7421D-04	3.8699D-04	8.0949D-01
3.0000D 01	2.6958D 01	2.8919D 01	9.7076D 01	7.6218D 02	3.0918D-04	2.6869D-04	3.7837D-04	8.1713D-01
4.0000D 01	2.7157D 01	2.8858D 01	9.6983D 01	7.6504D 02	3.0526D-04	2.6340D-04	3.7015D-04	8.2469D-01
5.0000D 01	2.7357D 01	2.8799D 01	9.6892D 01	7.6785D 02	3.0149D-04	2.5834D-04	3.6229D-04	8.3217D-01
6.0000D 01	2.7558D 01	2.8743D 01	9.6803D 01	7.7061D 02	2.9787D-04	2.5348D-04	3.5479D-04	8.3956D-01
7.0000D 01	2.7758D 01	2.8689D 01	9.6715D 01	7.7332D 02	2.9438D-04	2.4882D-04	3.4761D-04	8.4688D-01
8.0000D 01	2.7960D 01	2.8637D 01	9.6628D 01	7.7598D 02	2.9103D-04	2.4434D-04	3.4073D-04	8.5411D-01
9.0000D 01	2.8161D 01	2.8587D 01	9.6542D 01	7.7861D 02	2.8779D-04	2.4003D-04	3.3414D-04	8.6128D-01
1.0000D 02	2.8363D 01	2.8538D 01	9.6458D 01	7.8119D 02	2.8466D-04	2.3589D-04	3.2781D-04	8.6837D-01
1.1000D 02	2.8566D 01	2.8492D 01	9.6375D 01	7.8373D 02	2.8164D-04	2.3189D-04	3.2174D-04	8.7539D-01
1.2000D 02	2.8768D 01	2.8447D 01	9.6293D 01	7.8623D 02	2.7873D-04	2.2804D-04	3.1589D-04	8.8234D-01
1.3000D 02	2.8971D 01	2.8403D 01	9.6212D 01	7.8870D 02	2.7590D-04	2.2433D-04	3.1027D-04	8.8923D-01
1.4000D 02	2.9174D 01	2.8361D 01	9.6132D 01	7.9113D 02	2.7317D-04	2.2075D-04	3.0486D-04	8.9606D-01
1.5000D 02	2.9378D 01	2.8320D 01	9.6053D 01	7.9352D 02	2.7053D-04	2.1728D-04	2.9965D-04	9.0282D-01
1.6000D 02	2.9581D 01	2.8280D 01	9.5975D 01	7.9588D 02	2.6796D-04	2.1394D-04	2.9462D-04	9.0952D-01
1.7000D 02	2.9785D 01	2.8242D 01	9.5898D 01	7.9821D 02	2.6548D-04	2.1070D-04	2.8977D-04	9.1617D-01
1.8000D 02	2.9989D 01	2.8205D 01	9.5822D 01	8.0051D 02	2.6307D-04	2.0757D-04	2.8509D-04	9.2275D-01
1.9000D 02	3.0193D 01	2.8169D 01	9.5747D 01	8.0277D 02	2.6073D-04	2.0454D-04	2.8057D-04	9.2928D-01
2.0000D 02	3.0398D 01	2.8134D 01	9.5673D 01	8.0501D 02	2.5845D-04	2.0160D-04	2.7620D-04	9.3576D-01
2.5000D 02	3.1421D 01	2.7973D 01	9.5314D 01	8.1579D 02	2.4800D-04	1.8820D-04	2.5637D-04	9.6737D-01
3.0000D 02	3.2447D 01	2.7833D 01	9.4973D 01	8.2596D 02	2.3885D-04	1.7662D-04	2.3938D-04	9.9779D-01
3.5000D 02	3.3473D 01	2.7710D 01	9.4648D 01	8.3559D 02	2.3077D-04	1.6651D-04	2.2468D-04	1.0271D 00
4.0000D 02	3.4500D 01	2.7601D 01	9.4337D 01	8.4475D 02	2.2358D-04	1.5761D-04	2.1184D-04	1.0555D 00
4.5000D 02	3.5525D 01	2.7503D 01	9.4039D 01	8.5350D 02	2.1715D-04	1.4973D-04	2.0053D-04	1.0829D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1100.0 K, CV= 0.20536D 02 J/MOL-K

F (MPA)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/dPA)	GAMMAV (MPA/K)
5.0000D 02	3.6550D 01	2.7416D 01	9.3752D 01	8.6188D 02	2.1135D-04	1.4269D-04	1.5050D-04	1.1094D 00
6.0000D 02	3.8593D 01	2.7267D 01	9.3207D 01	8.7768D 02	2.0134D-04	1.3070D-04	1.7354D-04	1.1602D 00
7.0000D 02	4.0628D 01	2.7144D 01	9.2695D 01	8.9241D 02	1.9301D-04	1.2086D-04	1.5976D-04	1.2081D 00
8.0000D 02	4.2652D 01	2.7042D 01	9.2211D 01	9.0625D 02	1.8599D-04	1.1268D-04	1.4838D-04	1.2535D 00
9.0000D 02	4.4664D 01	2.6956D 01	9.1750D 01	9.1935D 02	1.8000D-04	1.0577D-04	1.3884D-04	1.2965D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1200.0 K, CV= 0.87932D 00 J/G-K

F (ATM)	H-H(298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
1.4818D-01	1.2741D 03	1.2811D 00	4.3455D 00	7.2907D-01	3.3291D-04	3.1580D-05	4.6009D-05	7.2358D 00
1.0000D 01	1.2823D 03	1.2775D 00	4.3411D 00	7.3229D-01	3.2792D-04	3.0860D-05	4.4836D-05	7.3136D 00
2.0000D 01	1.2906D 03	1.2741D 00	4.3366D 00	7.3550D-01	3.2308D-04	3.0165D-05	4.3709D-05	7.3916D 00
3.0000D 01	1.2989D 03	1.2709D 00	4.3323D 00	7.3864D-01	3.1847D-04	2.9504D-05	4.2642D-05	7.4686D 00
4.0000D 01	1.3073D 03	1.2678D 00	4.3280D 00	7.4172D-01	3.1407D-04	2.8873D-05	4.1628D-05	7.5446D 00
5.0000D 01	1.3157D 03	1.2648D 00	4.3238D 00	7.4473D-01	3.0985D-04	2.8271D-05	4.0665D-05	7.6197D 00
6.0000D 01	1.3242D 03	1.2620D 00	4.3197D 00	7.4769D-01	3.0582D-04	2.7696D-05	3.9748D-05	7.6938D 00
7.0000D 01	1.3327D 03	1.2592D 00	4.3156D 00	7.5060D-01	3.0194D-04	2.7146D-05	3.8874D-05	7.7671D 00
8.0000D 01	1.3412D 03	1.2566D 00	4.3117D 00	7.5345D-01	2.9822D-04	2.6619D-05	3.8040D-05	7.8396D 00
9.0000D 01	1.3497D 03	1.2541D 00	4.3077D 00	7.5626D-01	2.9464D-04	2.6113D-05	3.7243D-05	7.9114D 00
1.0000D 02	1.3583D 03	1.2517D 00	4.3039D 00	7.5901D-01	2.9120D-04	2.5628D-05	3.6481D-05	7.9823D 00
1.1000D 02	1.3668D 03	1.2494D 00	4.3001D 00	7.6172D-01	2.8789D-04	2.5162D-05	3.5751D-05	8.0525D 00
1.2000D 02	1.3755D 03	1.2471D 00	4.2963D 00	7.6439D-01	2.8469D-04	2.4714D-05	3.5051D-05	8.1220D 00
1.3000D 02	1.3841D 03	1.2450D 00	4.2926D 00	7.6701D-01	2.8160D-04	2.4282D-05	3.4380D-05	8.1909D 00
1.4000D 02	1.3927D 03	1.2429D 00	4.2890D 00	7.6960D-01	2.7862D-04	2.3867D-05	3.3735D-05	8.2590D 00
1.5000D 02	1.4014D 03	1.2409D 00	4.2854D 00	7.7214D-01	2.7574D-04	2.3467D-05	3.3115D-05	8.3266D 00
1.6000D 02	1.4100D 03	1.2389D 00	4.2818D 00	7.7464D-01	2.7295D-04	2.3080D-05	3.2519D-05	8.3935D 00
1.7000D 02	1.4187D 03	1.2370D 00	4.2783D 00	7.7711D-01	2.7025D-04	2.2708D-05	3.1946D-05	8.4598D 00
1.8000D 02	1.4274D 03	1.2352D 00	4.2749D 00	7.7954D-01	2.6764D-04	2.2348D-05	3.1393D-05	8.5255D 00
1.9000D 02	1.4362D 03	1.2335D 00	4.2714D 00	7.8194D-01	2.6511D-04	2.2000D-05	3.0860D-05	8.5907D 00
2.0000D 02	1.4449D 03	1.2318D 00	4.2681D 00	7.8431D-01	2.6265D-04	2.1663D-05	3.0346D-05	8.6553D 00
2.5000D 02	1.4887D 03	1.2239D 00	4.2518D 00	7.9567D-01	2.5140D-04	2.0134D-05	2.8026D-05	8.9704D 00
3.0000D 02	1.5326D 03	1.2172D 00	4.2364D 00	8.0635D-01	2.4161D-04	1.8821D-05	2.6053D-05	9.2736D 00
3.5000D 02	1.5767D 03	1.2113D 00	4.2218D 00	8.1643D-01	2.3300D-04	1.7682D-05	2.4357D-05	9.5660D 00
4.0000D 02	1.6208D 03	1.2060D 00	4.2079D 00	8.2600D-01	2.2536D-04	1.6683D-05	2.2883D-05	9.8486D 00
4.5000D 02	1.6650D 03	1.2014D 00	4.1945D 00	8.3511D-01	2.1854D-04	1.5802D-05	2.1590D-05	1.0122D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1200.0 K, CV= 0.87932D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
5.0000D 02	1.7092D 03	1.1973D 00	4.1817D 00	8.4381D-01	2.1242D-04	1.5019D-05	2.0450D-05	1.0388D 01
6.0000D 02	1.7974D 03	1.1903D 00	4.1574D 00	8.6016D-01	2.0188D-04	1.3688D-05	1.8529D-05	1.0895D 01
7.0000D 02	1.8853D 03	1.1845D 00	4.1346D 00	8.7535D-01	1.9314D-04	1.2604D-05	1.6978D-05	1.1376D 01
8.0000D 02	1.9729D 03	1.1798D 00	4.1132D 00	8.8956D-01	1.8580D-04	1.1704D-05	1.5704D-05	1.1831D 01
9.0000D 02	2.0600D 03	1.1759D 00	4.0928D 00	9.0297D-01	1.7956D-04	1.0948D-05	1.4640D-05	1.2265D 01
1.0000D 03	2.1467E 03	1.1726D 00	4.0734D 00	9.1569D-01	1.7421D-04	1.0305D-05	1.3742D-05	1.2677D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1200.0 K, CV= 0.20216D 02 J/MOL-K

F (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
1.4818D-01	2.9294D 01	2.9453D 01	9.9908D 01	7.2907D 02	3.3291D-04	3.1167D-04	4.5407D-04	7.3317D-01
1.0000D 01	2.9481D 01	2.9372D 01	9.9806D 01	7.3229D 02	3.2792D-04	3.0457D-04	4.4250D-04	7.4106D-01
2.0000D 01	2.9672D 01	2.9293D 01	9.9704D 01	7.3550D 02	3.2308D-04	2.9771D-04	4.3138D-04	7.4896D-01
3.0000D 01	2.9864D 01	2.9219D 01	9.9604D 01	7.3864D 02	3.1847D-04	2.9118D-04	4.2084D-04	7.5676D-01
4.0000D 01	3.0056D 01	2.9147D 01	9.9506D 01	7.4172D 02	3.1407D-04	2.8496D-04	4.1084D-04	7.6446D-01
5.0000D 01	3.0250D 01	2.9079D 01	9.9409D 01	7.4473D 02	3.0985D-04	2.7902D-04	4.0133D-04	7.7206D-01
6.0000D 01	3.0444D 01	2.9014D 01	9.9314D 01	7.4769D 02	3.0582D-04	2.7334D-04	3.9228D-04	7.7958D-01
7.0000D 01	3.0639D 01	2.8951D 01	9.9221D 01	7.5060D 02	3.0194D-04	2.6791D-04	3.8366D-04	7.8701D-01
8.0000D 01	3.0835D 01	2.8891D 01	9.9129D 01	7.5345D 02	2.9822D-04	2.6271D-04	3.7543D-04	7.9435D-01
9.0000D 01	3.1031D 01	2.8833D 01	9.9039D 01	7.5626D 02	2.9464D-04	2.5772D-04	3.6756D-04	8.0162D-01
1.0000D 02	3.1228D 01	2.8778D 01	9.8950D 01	7.5901D 02	2.9120D-04	2.5293D-04	3.6004D-04	8.0881D-01
1.1000D 02	3.1425D 01	2.8724D 01	9.8863D 01	7.6172D 02	2.8789D-04	2.4833D-04	3.5283D-04	8.1592D-01
1.2000D 02	3.1623D 01	2.8673D 01	9.8776D 01	7.6439D 02	2.8469D-04	2.4390D-04	3.4593D-04	8.2297D-01
1.3000D 02	3.1821D 01	2.8623D 01	9.8691D 01	7.6701D 02	2.8160D-04	2.3965D-04	3.3930D-04	8.2994D-01
1.4000D 02	3.2020D 01	2.8575D 01	9.8607D 01	7.6960D 02	2.7862D-04	2.3555D-04	3.3294D-04	8.3685D-01
1.5000D 02	3.2219D 01	2.8529D 01	9.8525D 01	7.7214D 02	2.7574D-04	2.3160D-04	3.2682D-04	8.4369D-01
1.6000D 02	3.2418D 01	2.8484D 01	9.8443D 01	7.7464D 02	2.7295D-04	2.2778D-04	3.2094D-04	8.5047D-01
1.7000D 02	3.2618D 01	2.8441D 01	9.8363D 01	7.7711D 02	2.7025D-04	2.2411D-04	3.1528D-04	8.5719D-01
1.8000D 02	3.2818D 01	2.8399D 01	9.8283D 01	7.7954D 02	2.6764D-04	2.2055D-04	3.0982D-04	8.6385D-01
1.9000D 02	3.3019D 01	2.8359D 01	9.8205D 01	7.8194D 02	2.6511D-04	2.1712D-04	3.0456D-04	8.7045D-01
2.0000D 02	3.3219D 01	2.8319D 01	9.8127D 01	7.8431D 02	2.6265D-04	2.1380D-04	2.9949D-04	8.7699D-01
2.5000D 02	3.4226D 01	2.8140D 01	9.7754D 01	7.9567D 02	2.5140D-04	1.9871D-04	2.7659D-04	9.0893D-01
3.0000D 02	3.5236D 01	2.7984D 01	9.7400D 01	8.0635D 02	2.4161D-04	1.8575D-04	2.5713D-04	9.3964D-01
3.5000D 02	3.6250D 01	2.7848D 01	9.7064D 01	8.1643D 02	2.3300D-04	1.7451D-04	2.4038D-04	9.6927D-01
4.0000D 02	3.7265D 01	2.7728D 01	9.6743D 01	8.2600D 02	2.2536D-04	1.6465D-04	2.2583D-04	9.9791D-01
4.5000D 02	3.8280D 01	2.7622D 01	9.6436D 01	8.3511D 02	2.1854D-04	1.5596D-04	2.1308D-04	1.0256D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1200.0 K, CV= 0.20216D 02 J/MOL-K

P (MPa)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
5.0000D 02	3.9296D 01	2.7527D 01	9.6141D 01	8.4381D 02	2.1242D-04	1.4822D-04	2.0182D-04	1.0525D 00
6.0000D 02	4.1324D 01	2.7365D 01	9.5582D 01	8.6016D 02	2.0188D-04	1.3509D-04	1.8286D-04	1.1040D 00
7.0000D 02	4.3346D 01	2.7233D 01	9.5059D 01	8.7535D 02	1.9314D-04	1.2439D-04	1.6756D-04	1.1527D 00
8.0000D 02	4.5359D 01	2.7125D 01	9.4566D 01	8.8956D 02	1.8580D-04	1.1551D-04	1.5498D-04	1.1988D 00
9.0000D 02	4.7362D 01	2.7034D 01	9.4098D 01	9.0297D 02	1.7956D-04	1.0805D-04	1.4449D-04	1.2427D 00
1.0000D 03	4.9354D 01	2.6959D 01	9.3651D 01	9.1569D 02	1.7421D-04	1.0171D-04	1.3562D-04	1.2845D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1300.0 K, CV= 0.87301D 00 J/G-K

F (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	FHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
3.2090D-01	1.4034D 03	1.3023D 00	4.4488D 00	7.0485D-01	3.4438D-04	3.4613D-05	5.1633D-05	6.6699D 00
1.0000D 01	1.4110D 03	1.2982D 00	4.4441D 00	7.0829D-01	3.3876D-04	3.3759D-05	5.0199D-05	6.7482D 00
2.0000D 01	1.4189D 03	1.2941D 00	4.4394D 00	7.1176D-01	3.3325D-04	3.2924D-05	4.8806D-05	6.8280D 00
3.0000D 01	1.4269D 03	1.2903D 00	4.4347D 00	7.1515D-01	3.2802D-04	3.2135D-05	4.7495D-05	6.9065D 00
4.0000D 01	1.4350D 03	1.2867D 00	4.4302D 00	7.1846D-01	3.2306D-04	3.1385D-05	4.6257D-05	6.9840D 00
5.0000D 01	1.4431D 03	1.2832D 00	4.4257D 00	7.2171D-01	3.1833D-04	3.0674D-05	4.5087D-05	7.0604D 00
6.0000D 01	1.4512D 03	1.2799D 00	4.4214D 00	7.2488D-01	3.1382D-04	2.9997D-05	4.3979D-05	7.1358D 00
7.0000D 01	1.4594D 03	1.2768D 00	4.4171D 00	7.2800D-01	3.0951D-04	2.9351D-05	4.2927D-05	7.2102D 00
8.0000D 01	1.4676D 03	1.2738D 00	4.4129D 00	7.3105D-01	3.0539D-04	2.8735D-05	4.1928D-05	7.2837D 00
9.0000D 01	1.4759D 03	1.2709D 00	4.4087D 00	7.3405D-01	3.0144D-04	2.8147D-05	4.0977D-05	7.3564D 00
1.0000D 02	1.4842D 03	1.2682D 00	4.4047D 00	7.3699D-01	2.9765D-04	2.7584D-05	4.0071D-05	7.4282D 00
1.1000D 02	1.4925D 03	1.2656D 00	4.4006D 00	7.3988D-01	2.9401D-04	2.7045D-05	3.9206D-05	7.4992D 00
1.2000D 02	1.5009D 03	1.2630D 00	4.3967D 00	7.4272D-01	2.9052D-04	2.6528D-05	3.8380D-05	7.5695D 00
1.3000D 02	1.5093D 03	1.2606D 00	4.3928D 00	7.4551D-01	2.8715D-04	2.6032D-05	3.7590D-05	7.6390D 00
1.4000D 02	1.5177D 03	1.2582D 00	4.3890D 00	7.4825D-01	2.8390D-04	2.5556D-05	3.6833D-05	7.7078D 00
1.5000D 02	1.5262D 03	1.2560D 00	4.3852D 00	7.5095D-01	2.8077D-04	2.5098D-05	3.6108D-05	7.7760D 00
1.6000D 02	1.5346D 03	1.2538D 00	4.3815D 00	7.5360D-01	2.7775D-04	2.4657D-05	3.5412D-05	7.8434D 00
1.7000D 02	1.5431D 03	1.2517D 00	4.3779D 00	7.5622D-01	2.7483D-04	2.4232D-05	3.4744D-05	7.9103D 00
1.8000D 02	1.5516D 03	1.2497D 00	4.3743D 00	7.5879D-01	2.7201D-04	2.3823D-05	3.4101D-05	7.9765D 00
1.9000D 02	1.5602D 03	1.2477D 00	4.3707D 00	7.6132D-01	2.6928D-04	2.3428D-05	3.3484D-05	8.0421D 00
2.0000D 02	1.5687D 03	1.2458D 00	4.3672D 00	7.6382D-01	2.6664D-04	2.3047D-05	3.2889D-05	8.1072D 00
2.5000D 02	1.6117D 03	1.2372D 00	4.3503D 00	7.7579D-01	2.5458D-04	2.1325D-05	3.0220D-05	8.4243D 00
3.0000D 02	1.6549D 03	1.2297D 00	4.3343D 00	7.8700D-01	2.4414D-04	1.9856D-05	2.7969D-05	8.7292D 00
3.5000D 02	1.6984D 03	1.2232D 00	4.3192D 00	7.9755D-01	2.3501D-04	1.8588D-05	2.6045D-05	9.0232D 00
4.0000D 02	1.7420D 03	1.2176D 00	4.3048D 00	8.0753D-01	2.2694D-04	1.7483D-05	2.4383D-05	9.3074D 00
4.5000D 02	1.7857D 03	1.2125D 00	4.2911D 00	8.1700D-01	2.1975D-04	1.6511D-05	2.2933D-05	9.5827D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1300.0 K, CV= 0.87301D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
5.0000D 02	1.8294D 03	1.2081D 00	4.2779D 00	8.2603D-01	2.1332D-04	1.5650D-05	2.1657D-05	9.8497D 00
6.0000D 02	1.9169D 03	1.2005D 00	4.2530D 00	8.4296D-01	2.0226D-04	1.4195D-05	1.9520D-05	1.0361D 01
7.0000D 02	2.0042D 03	1.1944D 00	4.2298D 00	8.5860D-01	1.9312D-04	1.3014D-05	1.7805D-05	1.0846D 01
8.0000D 02	2.0913D 03	1.1894D 00	4.2079D 00	8.7320D-01	1.8546D-04	1.2039D-05	1.6402D-05	1.1307D 01
9.0000D 02	2.1780D 03	1.1852D 00	4.1872D 00	8.8692D-01	1.7897D-04	1.1222D-05	1.5236D-05	1.1747D 01
1.0000D 03	2.2643D 03	1.1818D 00	4.1675D 00	8.9991D-01	1.7342D-04	1.0530D-05	1.4255D-05	1.2166D 01
1.2000D 03	2.4355D 03	1.1766D 00	4.1305D 00	9.2410D-01	1.6446D-04	9.4236D-06	1.2700D-05	1.2949D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1300.0 K, CV= 0.200710 02 J/MOL-K

P (MPa)	H-B (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
3.20900D-01	3.2265D 01	2.9941D 01	1.0228D 02	7.0485D 02	3.4438D-04	3.4160D-04	5.0958D-04	6.7582D-01
1.0000D 01	3.2440D 01	2.9846D 01	1.0217D 02	7.0829D 02	3.3876D-04	3.3317D-04	4.9543D-04	6.8376D-01
2.0000D 01	3.2623D 01	2.9753D 01	1.0207D 02	7.1176D 02	3.3325D-04	3.2494D-04	4.8168D-04	6.9184D-01
3.0000D 01	3.2807D 01	2.9665D 01	1.0196D 02	7.1515D 02	3.2802D-04	3.1714D-04	4.6874D-04	6.9980D-01
4.0000D 01	3.2992D 01	2.9582D 01	1.0185D 02	7.1846D 02	3.2306D-04	3.0975D-04	4.5652D-04	7.0765D-01
5.0000D 01	3.3178D 01	2.9503D 01	1.0175D 02	7.2171D 02	3.1833D-04	3.0273D-04	4.4497D-04	7.1539D-01
6.0000D 01	3.3365D 01	2.9427D 01	1.0165D 02	7.2488D 02	3.1382D-04	2.9604D-04	4.3404D-04	7.2303D-01
7.0000D 01	3.3553D 01	2.9355D 01	1.0155D 02	7.2800D 02	3.0951D-04	2.8967D-04	4.2366D-04	7.3057D-01
8.0000D 01	3.3743D 01	2.9286D 01	1.0146D 02	7.3105D 02	3.0539D-04	2.8360D-04	4.1380D-04	7.3802D-01
9.0000D 01	3.3933D 01	2.9220D 01	1.0136D 02	7.3405D 02	3.0144D-04	2.7779D-04	4.0441D-04	7.4538D-01
1.0000D 02	3.4123D 01	2.9157D 01	1.0127D 02	7.3699D 02	2.9765D-04	2.7223D-04	3.9547D-04	7.5266D-01
1.1000D 02	3.4315D 01	2.9096D 01	1.0118D 02	7.3988D 02	2.9401D-04	2.6691D-04	3.8693D-04	7.5986D-01
1.2000D 02	3.4507D 01	2.9038D 01	1.0108D 02	7.4272D 02	2.9052D-04	2.6181D-04	3.7878D-04	7.6698D-01
1.3000D 02	3.4700D 01	2.8982D 01	1.0100D 02	7.4551D 02	2.8715D-04	2.5692D-04	3.7098D-04	7.7402D-01
1.4000D 02	3.4894D 01	2.8928D 01	1.0091D 02	7.4825D 02	2.8390D-04	2.5222D-04	3.6351D-04	7.8100D-01
1.5000D 02	3.5088D 01	2.8876D 01	1.0082D 02	7.5095D 02	2.8077D-04	2.4770D-04	3.5635D-04	7.8790D-01
1.6000D 02	3.5283D 01	2.8826D 01	1.0074D 02	7.5360D 02	2.7775D-04	2.4334D-04	3.4949D-04	7.9474D-01
1.7000D 02	3.5478D 01	2.8778D 01	1.0065D 02	7.5622D 02	2.7483D-04	2.3915D-04	3.4289D-04	8.0151D-01
1.8000D 02	3.5674D 01	2.8731D 01	1.0057D 02	7.5879D 02	2.7201D-04	2.3512D-04	3.3656D-04	8.0822D-01
1.9000D 02	3.5870D 01	2.8686D 01	1.0049D 02	7.6132D 02	2.6928D-04	2.3122D-04	3.3046D-04	8.1487D-01
2.0000D 02	3.6066D 01	2.8642D 01	1.0041D 02	7.6382D 02	2.6664D-04	2.2746D-04	3.2459D-04	8.2146D-01
2.5000D 02	3.7054D 01	2.8444D 01	1.0002D 02	7.7579D 02	2.5458D-04	2.1046D-04	2.9824D-04	8.5359D-01
3.0000D 02	3.8048D 01	2.8273D 01	9.9650D 01	7.8700D 02	2.4414D-04	1.9596D-04	2.7603D-04	8.8449D-01
3.5000D 02	3.9047D 01	2.8124D 01	9.9303D 01	7.9755D 02	2.3501D-04	1.8345D-04	2.5705D-04	9.1427D-01
4.0000D 02	4.0050D 01	2.7993D 01	9.8972D 01	8.0753D 02	2.2694D-04	1.7254D-04	2.4064D-04	9.4307D-01
4.5000D 02	4.1054D 01	2.7877D 01	9.8656D 01	8.1700D 02	2.1975D-04	1.6295D-04	2.2633D-04	9.7096D-01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1300.0 K, CV= 0.20071D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
5.0000D 02	4.2060D 01	2.7775D 01	9.8353D 01	8.2603D 02	2.1332D-04	1.5446D-04	2.1374D-04	9.9802D-01
6.0000D 02	4.4071D 01	2.7601D 01	9.7781D 01	8.4296D 02	2.0226D-04	1.4010D-04	1.9265D-04	1.0499D 00
7.0000D 02	4.6079D 01	2.7460D 01	9.7247D 01	8.5860D 02	1.9312D-04	1.2844D-04	1.7572D-04	1.0990D 00
8.0000D 02	4.8081D 01	2.7345D 01	9.6745D 01	8.7320D 02	1.8546D-04	1.1882D-04	1.6187D-04	1.1457D 00
9.0000D 02	5.0075D 01	2.7250D 01	9.6269D 01	8.8692D 02	1.7897D-04	1.1076D-04	1.5037D-04	1.1902D 00
1.0000D 03	5.2059D 01	2.7171D 01	9.5816D 01	8.9991D 02	1.7342D-04	1.0392D-04	1.4068D-04	1.2327D 00
1.2000D 03	5.5994D 01	2.7051D 01	9.4965D 01	9.2410D 02	1.6446D-04	9.3003D-05	1.2534D-04	1.3121D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1400.0 K, CV= 0.87423D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
6.2034D-01	1.5352D 03	1.3301D 00	4.5461D 00	6.8069D-01	3.5651D-04	3.8192D-05	5.8107D-05	6.1354D 00
1.0000D 01	1.5421D 03	1.3253D 00	4.5413D 00	6.8431D-01	3.5020D-04	3.7177D-05	5.6360D-05	6.2136D 00
2.0000D 01	1.5496D 03	1.3206D 00	4.5362D 00	6.8806D-01	3.4386D-04	3.6160D-05	5.4620D-05	6.2956D 00
3.0000D 01	1.5572D 03	1.3161D 00	4.5313D 00	6.9173D-01	3.3790D-04	3.5204D-05	5.2996D-05	6.3761D 00
4.0000D 01	1.5649D 03	1.3118D 00	4.5264D 00	6.9530D-01	3.3227D-04	3.4303D-05	5.1474D-05	6.4552D 00
5.0000D 01	1.5726D 03	1.3079D 00	4.5217D 00	6.9879D-01	3.2695D-04	3.3452D-05	5.0045D-05	6.5332D 00
6.0000D 01	1.5804D 03	1.3041D 00	4.5171D 00	7.0221D-01	3.2190D-04	3.2647D-05	4.8699D-05	6.6099D 00
7.0000D 01	1.5882D 03	1.3005D 00	4.5125D 00	7.0554D-01	3.1710D-04	3.1884D-05	4.7429D-05	6.6856D 00
8.0000D 01	1.5961D 03	1.2971D 00	4.5081D 00	7.0881D-01	3.1252D-04	3.1159D-05	4.6229D-05	6.7603D 00
9.0000D 01	1.6041D 03	1.2938D 00	4.5037D 00	7.1201D-01	3.0816D-04	3.0469D-05	4.5093D-05	6.8339D 00
1.0000D 02	1.6121D 03	1.2907D 00	4.4994D 00	7.1515D-01	3.0399D-04	2.9812D-05	4.4014D-05	6.9067D 00
1.1000D 02	1.6202D 03	1.2877D 00	4.4952D 00	7.1823D-01	3.0000D-04	2.9185D-05	4.2989D-05	6.9785D 00
1.2000D 02	1.6283D 03	1.2849D 00	4.4911D 00	7.2125D-01	2.9618D-04	2.8586D-05	4.2014D-05	7.0495D 00
1.3000D 02	1.6364D 03	1.2822D 00	4.4870D 00	7.2421D-01	2.9251D-04	2.8013D-05	4.1084D-05	7.1197D 00
1.4000D 02	1.6446D 03	1.2795D 00	4.4830D 00	7.2712D-01	2.8898D-04	2.7464D-05	4.0197D-05	7.1891D 00
1.5000D 02	1.6528D 03	1.2770D 00	4.4791D 00	7.2998D-01	2.8559D-04	2.6938D-05	3.9350D-05	7.2578D 00
1.6000D 02	1.6610D 03	1.2746D 00	4.4752D 00	7.3279D-01	2.8233D-04	2.6433D-05	3.8539D-05	7.3258D 00
1.7000D 02	1.6693D 03	1.2723D 00	4.4714D 00	7.3555D-01	2.7918D-04	2.5948D-05	3.7763D-05	7.3930D 00
1.8000D 02	1.6776D 03	1.2700D 00	4.4676D 00	7.3827D-01	2.7614D-04	2.5481D-05	3.7018D-05	7.4597D 00
1.9000D 02	1.6859D 03	1.2679D 00	4.4639D 00	7.4095D-01	2.7321D-04	2.5032D-05	3.6304D-05	7.5256D 00
2.0000D 02	1.6942D 03	1.2658D 00	4.4602D 00	7.4358D-01	2.7038D-04	2.4600D-05	3.5618D-05	7.5910D 00
2.5000D 02	1.7363D 03	1.2563D 00	4.4426D 00	7.5618D-01	2.5751D-04	2.2656D-05	3.2558D-05	7.9093D 00
3.0000D 02	1.7788D 03	1.2482D 00	4.4261D 00	7.6793D-01	2.4645D-04	2.1011D-05	3.0000D-05	8.2150D 00
3.5000D 02	1.8215D 03	1.2412D 00	4.4105D 00	7.7895D-01	2.3680D-04	1.9601D-05	2.7828D-05	8.5095D 00
4.0000D 02	1.8646D 03	1.2351D 00	4.3957D 00	7.8935D-01	2.2832D-04	1.8377D-05	2.5962D-05	8.7941D 00
4.5000D 02	1.9077D 03	1.2297D 00	4.3815D 00	7.9920D-01	2.2078D-04	1.7306D-05	2.4342D-05	9.0699D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1400.0 K, CV= 0.87423D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHA P (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMA V (ATM/K)
5.0000D 02	1.9510D 03	1.2249D 00	4.3680D 00	8.0857D-01	2.1404D-04	1.6361D-05	2.2923D-05	9.3375D 00
6.0000D 02	2.0377D 03	1.2168D 00	4.3426D 00	8.2607D-01	2.0250D-04	1.4769D-05	2.0556D-05	9.8507D 00
7.0000D 02	2.1244D 03	1.2103D 00	4.3189D 00	8.4218D-01	1.9298D-04	1.3484D-05	1.8667D-05	1.0338D 01
8.0000D 02	2.2110D 03	1.2050D 00	4.2966D 00	8.5717D-01	1.8502D-04	1.2427D-05	1.7128D-05	1.0802D 01
9.0000D 02	2.2973D 03	1.2006D 00	4.2756D 00	8.7122D-01	1.7828D-04	1.1544D-05	1.5854D-05	1.1245D 01
1.0000D 03	2.3832D 03	1.1971D 00	4.2557D 00	8.8448D-01	1.7252D-04	1.0798D-05	1.4785D-05	1.1668D 01
1.2000D 03	2.5539D 03	1.1917D 00	4.2183D 00	9.0908D-01	1.6326D-04	9.6100D-06	1.3100D-05	1.2463D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1400.0 K, CV= 0.20099D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
6.2034D-01	3.5295D 01	3.0580D 01	1.0452D 02	6.8069D 02	3.5651D-04	3.7693D-04	5.7347D-04	6.2167D-01
1.0000D 01	3.5455D 01	3.0470D 01	1.0441D 02	6.8431D 02	3.5020D-04	3.6691D-04	5.5623D-04	6.2960D-01
2.0000D 01	3.5627D 01	3.0361D 01	1.0429D 02	6.8806D 02	3.4386D-04	3.5687D-04	5.3906D-04	6.3790D-01
3.0000D 01	3.5802D 01	3.0258D 01	1.0418D 02	6.9173D 02	3.3790D-04	3.4743D-04	5.2303D-04	6.4605D-01
4.0000D 01	3.5978D 01	3.0161D 01	1.0407D 02	6.9530D 02	3.3227D-04	3.3854D-04	5.0801D-04	6.5408D-01
5.0000D 01	3.6155D 01	3.0069D 01	1.0396D 02	6.9879D 02	3.2695D-04	3.3015D-04	4.9390D-04	6.6197D-01
6.0000D 01	3.6334D 01	2.9982D 01	1.0385D 02	7.0221D 02	3.2190D-04	3.2220D-04	4.8062D-04	6.6975D-01
7.0000D 01	3.6515D 01	2.9899D 01	1.0375D 02	7.0554D 02	3.1710D-04	3.1467D-04	4.6809D-04	6.7742D-01
8.0000D 01	3.6697D 01	2.9821D 01	1.0365D 02	7.0881D 02	3.1252D-04	3.0751D-04	4.5625D-04	6.8499D-01
9.0000D 01	3.6880D 01	2.9746D 01	1.0355D 02	7.1201D 02	3.0816D-04	3.0071D-04	4.4503D-04	6.9245D-01
1.0000D 02	3.7064D 01	2.9675D 01	1.0345D 02	7.1515D 02	3.0399D-04	2.9422D-04	4.3439D-04	6.9982D-01
1.1000D 02	3.7249D 01	2.9606D 01	1.0335D 02	7.1823D 02	3.0000D-04	2.8803D-04	4.2427D-04	7.0710D-01
1.2000D 02	3.7435D 01	2.9541D 01	1.0325D 02	7.2125D 02	2.9618D-04	2.8212D-04	4.1464D-04	7.1429D-01
1.3000D 02	3.7622D 01	2.9478D 01	1.0316D 02	7.2421D 02	2.9251D-04	2.7647D-04	4.0547D-04	7.2140D-01
1.4000D 02	3.7810D 01	2.9418D 01	1.0307D 02	7.2712D 02	2.8898D-04	2.7105D-04	3.9672D-04	7.2844D-01
1.5000D 02	3.7999D 01	2.9360D 01	1.0298D 02	7.2998D 02	2.8559D-04	2.6586D-04	3.8835D-04	7.3540D-01
1.6000D 02	3.8188D 01	2.9305D 01	1.0289D 02	7.3279D 02	2.8233D-04	2.6087D-04	3.8035D-04	7.4228D-01
1.7000D 02	3.8378D 01	2.9251D 01	1.0280D 02	7.3555D 02	2.7918D-04	2.5609D-04	3.7269D-04	7.4910D-01
1.8000D 02	3.8569D 01	2.9200D 01	1.0271D 02	7.3827D 02	2.7614D-04	2.5148D-04	3.6534D-04	7.5585D-01
1.9000D 02	3.8760D 01	2.9150D 01	1.0263D 02	7.4095D 02	2.7321D-04	2.4705D-04	3.5829D-04	7.6253D-01
2.0000D 02	3.8952D 01	2.9102D 01	1.0254D 02	7.4358D 02	2.7038D-04	2.4278D-04	3.5152D-04	7.6916D-01
2.5000D 02	3.9919D 01	2.8884D 01	1.0214D 02	7.5618D 02	2.5751D-04	2.2360D-04	3.2132D-04	8.0141D-01
3.0000D 02	4.0896D 01	2.8698D 01	1.0176D 02	7.6793D 02	2.4645D-04	2.0736D-04	2.9607D-04	8.3238D-01
3.5000D 02	4.1879D 01	2.8537D 01	1.0140D 02	7.7895D 02	2.3680D-04	1.9344D-04	2.7464D-04	8.6222D-01
4.0000D 02	4.2868D 01	2.8396D 01	1.0106D 02	7.8935D 02	2.2832D-04	1.8137D-04	2.5623D-04	8.9107D-01
4.5000D 02	4.3860D 01	2.8271D 01	1.0074D 02	7.9920D 02	2.2078D-04	1.7080D-04	2.4024D-04	9.1900D-01

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SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1400.0 K, CV= 0.20099D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	BHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMA V (MPa/K)
5.0000D 02	4.4855D 01	2.8161D 01	1.0042D 02	8.0857D 02	2.1404D-04	1.6147D-04	2.2623D-04	9.4612D-01
6.0000D 02	4.6849D 01	2.7975D 01	9.9840D 01	8.2607D 02	2.0250D-04	1.4576D-04	2.0288D-04	9.9812D-01
7.0000D 02	4.8842D 01	2.7825D 01	9.9295D 01	8.4218D 02	1.9298D-04	1.3308D-04	1.8423D-04	1.0475D 00
8.0000D 02	5.0832D 01	2.7703D 01	9.8784D 01	8.5717D 02	1.8502D-04	1.2264D-04	1.6904D-04	1.0945D 00
9.0000D 02	5.2816D 01	2.7604D 01	9.8301D 01	8.7122D 02	1.7828D-04	1.1393D-04	1.5647D-04	1.1394D 00
1.0000D 03	5.4793D 01	2.7522D 01	9.7842D 01	8.8448D 02	1.7252D-04	1.0657D-04	1.4592D-04	1.1823D 00
1.2000D 03	5.8716D 01	2.7399D 01	9.6982D 01	9.0908D 02	1.6326D-04	9.4843D-05	1.2929D-04	1.2628D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1500.J K, CV= 0.88312D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	PHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
1.0955D 00	1.6702D 03	1.3645D 00	4.6388D 00	6.5662D-01	3.6947D-04	4.2481D-05	6.5638D-05	5.6290D 00
1.0000D 01	1.6763D 03	1.3591D 00	4.6339D 00	6.6036D-01	3.6243D-04	4.1272D-05	6.3517D-05	5.7061D 00
2.0000D 01	1.6833D 03	1.3535D 00	4.6285D 00	6.6444D-01	3.5506D-04	4.0007D-05	6.1315D-05	5.7908D 00
3.0000D 01	1.6904D 03	1.3482D 00	4.6232D 00	6.6840D-01	3.4819D-04	3.8829D-05	5.9278D-05	5.8739D 00
4.0000D 01	1.6976D 03	1.3433D 00	4.6181D 00	6.7226D-01	3.4176D-04	3.7729D-05	5.7388D-05	5.9553D 00
5.0000D 01	1.7049D 03	1.3387D 00	4.6130D 00	6.7602D-01	3.3573D-04	3.6697D-05	5.5628D-05	6.0352D 00
6.0000D 01	1.7122D 03	1.3343D 00	4.6081D 00	6.7969D-01	3.3004D-04	3.5728D-05	5.3983D-05	6.1138D 00
7.0000D 01	1.7197D 03	1.3303D 00	4.6033D 00	6.8326D-01	3.2467D-04	3.4815D-05	5.2442D-05	6.1910D 00
8.0000D 01	1.7273D 03	1.3264D 00	4.5986D 00	6.8676D-01	3.1958D-04	3.3953D-05	5.0995D-05	6.2670D 00
9.0000D 01	1.7349D 03	1.3227D 00	4.5940D 00	6.9018D-01	3.1476D-04	3.3137D-05	4.9631D-05	6.3419D 00
1.0000D 02	1.7426D 03	1.3192D 00	4.5895D 00	6.9352D-01	3.1017D-04	3.2363D-05	4.8345D-05	6.4157D 00
1.1000D 02	1.7503D 03	1.3159D 00	4.5851D 00	6.9680D-01	3.0580D-04	3.1628D-05	4.7129D-05	6.4885D 00
1.2000D 02	1.7581D 03	1.3128D 00	4.5807D 00	7.0001D-01	3.0162D-04	3.0929D-05	4.5976D-05	6.5604D 00
1.3000D 02	1.7659D 03	1.3097D 00	4.5764D 00	7.0315D-01	2.9763D-04	3.0263D-05	4.4883D-05	6.6313D 00
1.4000D 02	1.7738D 03	1.3069D 00	4.5722D 00	7.0624D-01	2.9381D-04	2.9627D-05	4.3843D-05	6.7014D 00
1.5000D 02	1.7818D 03	1.3041D 00	4.5681D 00	7.0926D-01	2.9014D-04	2.9020D-05	4.2853D-05	6.7706D 00
1.6000D 02	1.7898D 03	1.3014D 00	4.5641D 00	7.1224D-01	2.8662D-04	2.8439D-05	4.1910D-05	6.8391D 00
1.7000D 02	1.7978D 03	1.2989D 00	4.5601D 00	7.1516D-01	2.8324D-04	2.7882D-05	4.1009D-05	6.9068D 00
1.8000D 02	1.8058D 03	1.2964D 00	4.5561D 00	7.1803D-01	2.7998D-04	2.7349D-05	4.0148D-05	6.9738D 00
1.9000D 02	1.8139D 03	1.2941D 00	4.5523D 00	7.2085D-01	2.7685D-04	2.6836D-05	3.9324D-05	7.0401D 00
2.0000D 02	1.8221D 03	1.2918D 00	4.5485D 00	7.2362D-01	2.7382D-04	2.6344D-05	3.8535D-05	7.1057D 00
2.5000D 02	1.8631D 03	1.2816D 00	4.5302D 00	7.3686D-01	2.6015D-04	2.4145D-05	3.5038D-05	7.4249D 00
3.0000D 02	1.9048D 03	1.2728D 00	4.5131D 00	7.4916D-01	2.4848D-04	2.2301D-05	3.2142D-05	7.7306D 00
3.5000D 02	1.9468D 03	1.2653D 00	4.4970D 00	7.6066D-01	2.3836D-04	2.0730D-05	2.9702D-05	8.0250D 00
4.0000D 02	1.9892D 03	1.2588D 00	4.4817D 00	7.7149D-01	2.2947D-04	1.9375D-05	2.7617D-05	8.3092D 00
4.5000D 02	2.0318D 03	1.2530D 00	4.4672D 00	7.8172D-01	2.2161D-04	1.8194D-05	2.5815D-05	8.5845D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1500.0 K, CV= 0.88312D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
5.0000D 02	2.0746D 03	1.2479D 00	4.4533D 00	7.9142D-01	2.1459D-04	1.7156D-05	2.4243D-05	8.8517D 00
6.0000D 02	2.1604D 03	1.2393D 00	4.4273D 00	8.0950D-01	2.0259D-04	1.5416D-05	2.1634D-05	9.3644D 00
7.0000D 02	2.2465D 03	1.2324D 00	4.4031D 00	8.2610D-01	1.9272D-04	1.4018D-05	1.9562D-05	9.8516D 00
8.0000D 02	2.3325D 03	1.2269D 00	4.3805D 00	8.4148D-01	1.8447D-04	1.2872D-05	1.7882D-05	1.0316D 01
9.0000D 02	2.4184D 03	1.2223D 00	4.3592D 00	8.5586D-01	1.7750D-04	1.1918D-05	1.6495D-05	1.0761D 01
1.0000D 03	2.5039D 03	1.2186D 00	4.3390D 00	8.6939D-01	1.7154D-04	1.1113D-05	1.5335D-05	1.1187D 01
1.2000D 03	2.6740D 03	1.2131D 00	4.3012D 00	8.9442D-01	1.6199D-04	9.8366D-06	1.3512D-05	1.1988D 01
1.4000D 03	2.8424D 03	1.2095D 00	4.2663D 00	9.1731D-01	1.5475D-04	8.8764D-06	1.2157D-05	1.2729D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1500.0 K, CV= 0.20304D 02 J/MOL-K

F (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMA V (MPa/K)
1.0955D 00	3.8399D 01	3.1372D 01	1.0665D 02	6.5662D 02	3.6947D-04	4.1925D-04	6.4780D-04	5.7035D-01
1.0000D 01	3.8540D 01	3.1247D 01	1.0654D 02	6.6036D 02	3.6243D-04	4.0732D-04	6.2687D-04	5.7817D-01
2.0000D 01	3.8700D 01	3.1117D 01	1.0641D 02	6.6444D 02	3.5506D-04	3.9484D-04	6.0513D-04	5.8676D-01
3.0000D 01	3.8863D 01	3.0996D 01	1.0629D 02	6.6840D 02	3.4819D-04	3.8322D-04	5.8503D-04	5.9517D-01
4.0000D 01	3.9029D 01	3.0883D 01	1.0617D 02	6.7226D 02	3.4176D-04	3.7235D-04	5.6637D-04	6.0342D-01
5.0000D 01	3.9196D 01	3.0777D 01	1.0606D 02	6.7602D 02	3.3573D-04	3.6218D-04	5.4900D-04	6.1152D-01
6.0000D 01	3.9366D 01	3.0678D 01	1.0595D 02	6.7969D 02	3.3004D-04	3.5261D-04	5.3277D-04	6.1948D-01
7.0000D 01	3.9538D 01	3.0584D 01	1.0583D 02	6.8326D 02	3.2467D-04	3.4360D-04	5.1756D-04	6.2730D-01
8.0000D 01	3.9711D 01	3.0495D 01	1.0573D 02	6.8676D 02	3.1958D-04	3.3509D-04	5.0328D-04	6.3501D-01
9.0000D 01	3.9886D 01	3.0411D 01	1.0562D 02	6.9018D 02	3.1476D-04	3.2703D-04	4.8982D-04	6.4260D-01
1.0000D 02	4.0063D 01	3.0331D 01	1.0552D 02	6.9352D 02	3.1017D-04	3.1940D-04	4.7713D-04	6.5007D-01
1.1000D 02	4.0241D 01	3.0254D 01	1.0542D 02	6.9680D 02	3.0580D-04	3.1215D-04	4.6512D-04	6.5745D-01
1.2000D 02	4.0420D 01	3.0182D 01	1.0532D 02	7.0001D 02	3.0162D-04	3.0525D-04	4.5375D-04	6.6473D-01
1.3000D 02	4.0601D 01	3.0112D 01	1.0522D 02	7.0315D 02	2.9763D-04	2.9867D-04	4.4296D-04	6.7192D-01
1.4000D 02	4.0782D 01	3.0046D 01	1.0512D 02	7.0624D 02	2.9381D-04	2.9240D-04	4.3270D-04	6.7902D-01
1.5000D 02	4.0965D 01	2.9982D 01	1.0503D 02	7.0926D 02	2.9014D-04	2.8640D-04	4.2293D-04	6.8603D-01
1.6000D 02	4.1148D 01	2.9921D 01	1.0493D 02	7.1224D 02	2.8662D-04	2.8067D-04	4.1362D-04	6.9297D-01
1.7000D 02	4.1333D 01	2.9863D 01	1.0484D 02	7.1516D 02	2.8324D-04	2.7518D-04	4.0473D-04	6.9983D-01
1.8000D 02	4.1518D 01	2.9806D 01	1.0475D 02	7.1803D 02	2.7998D-04	2.6991D-04	3.9623D-04	7.0662D-01
1.9000D 02	4.1704D 01	2.9752D 01	1.0466D 02	7.2085D 02	2.7685D-04	2.6485D-04	3.8810D-04	7.1334D-01
2.0000D 02	4.1891D 01	2.9700D 01	1.0457D 02	7.2362D 02	2.7382D-04	2.6000D-04	3.8031D-04	7.1999D-01
2.5000D 02	4.2835D 01	2.9464D 01	1.0415D 02	7.3686D 02	2.6015D-04	2.3829D-04	3.4580D-04	7.5233D-01
3.0000D 02	4.3792D 01	2.9264D 01	1.0376D 02	7.4916D 02	2.4848D-04	2.2009D-04	3.1722D-04	7.8331D-01
3.5000D 02	4.4759D 01	2.9091D 01	1.0339D 02	7.6066D 02	2.3836D-04	2.0459D-04	2.9313D-04	8.1313D-01
4.0000D 02	4.5734D 01	2.8940D 01	1.0304D 02	7.7149D 02	2.2947D-04	1.9122D-04	2.7256D-04	8.4193D-01
4.5000D 02	4.6713D 01	2.8808D 01	1.0271D 02	7.8172D 02	2.2161D-04	1.7956D-04	2.5478D-04	8.6982D-01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1500.0 K, CV= 0.20304D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMA V (MPa/K)
5.0000D 02	4.7697D 01	2.8691D 01	1.0239D 02	7.9142D 02	2.1459D-04	1.6932D-04	2.3926D-04	8.9690D-01
6.0000D 02	4.9671D 01	2.8493D 01	1.0179D 02	8.0950D 02	2.0259D-04	1.5215D-04	2.1351D-04	9.4885D-01
7.0000D 02	5.1649D 01	2.8335D 01	1.0123D 02	8.2610D 02	1.9272D-04	1.3834D-04	1.9307D-04	9.9821D-01
8.0000D 02	5.3627D 01	2.8207D 01	1.0071D 02	8.4148D 02	1.8447D-04	1.2703D-04	1.7648D-04	1.0453D 00
9.0000D 02	5.5601D 01	2.8102D 01	1.0022D 02	8.5586D 02	1.7750D-04	1.1762D-04	1.6279D-04	1.0903D 00
1.0000D 03	5.7568D 01	2.8017D 01	9.9758D 01	8.6939D 02	1.7154D-04	1.0968D-04	1.5134D-04	1.1335D 00
1.2000D 03	6.1479D 01	2.7891D 01	9.8890D 01	8.9442D 02	1.6199D-04	9.7080D-05	1.3336D-04	1.2147D 00
1.4000D 03	6.5350D 01	2.7808D 01	9.8087D 01	9.1731D 02	1.5475D-04	8.7603D-05	1.1998D-04	1.2898D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1600.0 K, CV= 0.90006D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	ENH (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
1.7980D 00	1.8091D 03	1.4057D 00	4.7279D 00	6.3268D-01	3.8348D-04	4.7712D-05	7.4519D-05	5.1461D 00
1.0000D 01	1.8142D 03	1.3997D 00	4.7230D 00	6.3644D-01	3.7572D-04	4.6277D-05	7.1967D-05	5.2207D 00
2.0000D 01	1.8205D 03	1.3930D 00	4.7172D 00	6.4088D-01	3.6700D-04	4.4662D-05	6.9122D-05	5.3095D 00
3.0000D 01	1.8271D 03	1.3868D 00	4.7116D 00	6.4519D-01	3.5898D-04	4.3177D-05	6.6526D-05	5.3960D 00
4.0000D 01	1.8337D 03	1.3811D 00	4.7061D 00	6.4936D-01	3.5155D-04	4.1805D-05	6.4147D-05	5.4805D 00
5.0000D 01	1.8405D 03	1.3758D 00	4.7007D 00	6.5341D-01	3.4466D-04	4.0531D-05	6.1955D-05	5.5631D 00
6.0000D 01	1.8474D 03	1.3709D 00	4.6955D 00	6.5735D-01	3.3822D-04	3.9346D-05	5.9926D-05	5.6439D 00
7.0000D 01	1.8545D 03	1.3662D 00	4.6904D 00	6.6119D-01	3.3219D-04	3.8237D-05	5.8042D-05	5.7232D 00
8.0000D 01	1.8616D 03	1.3619D 00	4.6855D 00	6.6493D-01	3.2651D-04	3.7198D-05	5.6285D-05	5.8011D 00
9.0000D 01	1.8688D 03	1.3578D 00	4.6806D 00	6.6858D-01	3.2117D-04	3.6222D-05	5.4643D-05	5.8776D 00
1.0000D 02	1.8762D 03	1.3539D 00	4.6758D 00	6.7214D-01	3.1611D-04	3.5301D-05	5.3103D-05	5.9528D 00
1.1000D 02	1.8836D 03	1.3503D 00	4.6712D 00	6.7562D-01	3.1132D-04	3.4432D-05	5.1656D-05	6.0268D 00
1.2000D 02	1.8910D 03	1.3468D 00	4.6666D 00	6.7903D-01	3.0676D-04	3.3609D-05	5.0292D-05	6.0997D 00
1.3000D 02	1.8985D 03	1.3435D 00	4.6622D 00	6.8237D-01	3.0243D-04	3.2829D-05	4.9003D-05	6.1716D 00
1.4000D 02	1.9061D 03	1.3404D 00	4.6578D 00	6.8563D-01	2.9829D-04	3.2088D-05	4.7785D-05	6.2424D 00
1.5000D 02	1.9138D 03	1.3374D 00	4.6535D 00	6.8883D-01	2.9434D-04	3.1382D-05	4.6629D-05	6.3124D 00
1.6000D 02	1.9215D 03	1.3345D 00	4.6492D 00	6.9197D-01	2.9056D-04	3.0710D-05	4.5532D-05	6.3815D 00
1.7000D 02	1.9293D 03	1.3317D 00	4.6451D 00	6.9505D-01	2.8694D-04	3.0068D-05	4.4488D-05	6.4497D 00
1.8000D 02	1.9371D 03	1.3291D 00	4.6410D 00	6.9808D-01	2.8346D-04	2.9454D-05	4.3494D-05	6.5171D 00
1.9000D 02	1.9449D 03	1.3266D 00	4.6369D 00	7.0105D-01	2.8011D-04	2.8867D-05	4.2546D-05	6.5838D 00
2.0000D 02	1.9528D 03	1.3241D 00	4.6330D 00	7.0397D-01	2.7690D-04	2.8305D-05	4.1640D-05	6.6498D 00
2.5000D 02	1.9928D 03	1.3132D 00	4.6140D 00	7.1785D-01	2.6245D-04	2.5810D-05	3.7656D-05	6.9697D 00
3.0000D 02	2.0335D 03	1.3039D 00	4.5963D 00	7.3071D-01	2.5020D-04	2.3738D-05	3.4390D-05	7.2753D 00
3.5000D 02	2.0748D 03	1.2960D 00	4.5797D 00	7.4270D-01	2.3963D-04	2.1988D-05	3.1660D-05	7.5689D 00
4.0000D 02	2.1165D 03	1.2891D 00	4.5640D 00	7.5395D-01	2.3039D-04	2.0486D-05	2.9341D-05	7.8522D 00
4.5000D 02	2.1585D 03	1.2830D 00	4.5491D 00	7.6456D-01	2.2223D-04	1.9184D-05	2.7346D-05	8.1264D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1600.0 K, CV= 0.90006D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	FHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
5.0000D 02	2.2008D 03	1.2776D 00	4.5349D 00	7.7461D-01	2.1496D-04	1.8044D-05	2.5613D-05	8.3925D 00
6.0000D 02	2.2858D 03	1.2686D 00	4.5083D 00	7.9327D-01	2.0255D-04	1.6141D-05	2.2751D-05	8.9031D 00
7.0000D 02	2.3711D 03	1.2614D 00	4.4837D 00	8.1034D-01	1.9236D-04	1.4619D-05	2.0488D-05	9.3887D 00
8.0000D 02	2.4566D 03	1.2555D 00	4.4607D 00	8.2612D-01	1.8385D-04	1.3377D-05	1.8660D-05	9.8524D 00
9.0000D 02	2.5420D 03	1.2508D 00	4.4391D 00	8.4084D-01	1.7666D-04	1.2346D-05	1.7157D-05	1.0297D 01
1.0000D 03	2.6272D 03	1.2469D 00	4.4187D 00	8.5465D-01	1.7052D-04	1.1479D-05	1.5902D-05	1.0723D 01
1.2000D 03	2.7967D 03	1.2412D 00	4.3805D 00	8.8010D-01	1.6066D-04	1.0106D-05	1.3937D-05	1.1528D 01
1.4000D 03	2.9647D 03	1.2376D 00	4.3454D 00	9.0329D-01	1.5322D-04	9.0774D-06	1.2482D-05	1.2275D 01
1.6000D 03	3.1309D 03	1.2354D 00	4.3125D 00	9.2476D-01	1.4748D-04	8.2839D-06	1.1371D-05	1.2971D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1600.0 K, CV= 0.20693D 02 J/MOL-K

F (MPa)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
1.7980D 00	4.1593D 01	3.2320D 01	1.0870D 02	6.3268D 02	3.8348D-04	4.7088D-04	7.3544D-04	5.2142D-01
1.0000D 01	4.1710D 01	3.2181D 01	1.0859D 02	6.3644D 02	3.7572D-04	4.5671D-04	7.1026D-04	5.2899D-01
2.0000D 01	4.1856D 01	3.2026D 01	1.0845D 02	6.4088D 02	3.6700D-04	4.4078D-04	6.8218D-04	5.3798D-01
3.0000D 01	4.2006D 01	3.1884D 01	1.0832D 02	6.4519D 02	3.5898D-04	4.2612D-04	6.5656D-04	5.4675D-01
4.0000D 01	4.2159D 01	3.1753D 01	1.0820D 02	6.4936D 02	3.5155D-04	4.1258D-04	6.3308D-04	5.5531D-01
5.0000D 01	4.2316D 01	3.1631D 01	1.0807D 02	6.5341D 02	3.4466D-04	4.0001D-04	6.1144D-04	5.6368D-01
6.0000D 01	4.2475D 01	3.1517D 01	1.0795D 02	6.5735D 02	3.3822D-04	3.8831D-04	5.9142D-04	5.7187D-01
7.0000D 01	4.2636D 01	3.1411D 01	1.0784D 02	6.6119D 02	3.3219D-04	3.7737D-04	5.7283D-04	5.7991D-01
8.0000D 01	4.2800D 01	3.1311D 01	1.0772D 02	6.6493D 02	3.2651D-04	3.6712D-04	5.5549D-04	5.8779D-01
9.0000D 01	4.2967D 01	3.1217D 01	1.0761D 02	6.6858D 02	3.2117D-04	3.5748D-04	5.3928D-04	5.9554D-01
1.0000D 02	4.3135D 01	3.1129D 01	1.0750D 02	6.7214D 02	3.1611D-04	3.4840D-04	5.2409D-04	6.0316D-01
1.1000D 02	4.3305D 01	3.1044D 01	1.0740D 02	6.7562D 02	3.1132D-04	3.3982D-04	5.0980D-04	6.1066D-01
1.2000D 02	4.3476D 01	3.0965D 01	1.0729D 02	6.7903D 02	3.0676D-04	3.3170D-04	4.9634D-04	6.1805D-01
1.3000D 02	4.3649D 01	3.0889D 01	1.0719D 02	6.8237D 02	3.0243D-04	3.2400D-04	4.8363D-04	6.2533D-01
1.4000D 02	4.3824D 01	3.0816D 01	1.0709D 02	6.8563D 02	2.9829D-04	3.1668D-04	4.7160D-04	6.3252D-01
1.5000D 02	4.4000D 01	3.0747D 01	1.0699D 02	6.8883D 02	2.9434D-04	3.0972D-04	4.6019D-04	6.3960D-01
1.6000D 02	4.4177D 01	3.0681D 01	1.0689D 02	6.9197D 02	2.9056D-04	3.0308D-04	4.4937D-04	6.4660D-01
1.7000D 02	4.4356D 01	3.0618D 01	1.0679D 02	6.9505D 02	2.8694D-04	2.9675D-04	4.3907D-04	6.5352D-01
1.8000D 02	4.4535D 01	3.0557D 01	1.0670D 02	6.9808D 02	2.8346D-04	2.9069D-04	4.2925D-04	6.6035D-01
1.9000D 02	4.4716D 01	3.0499D 01	1.0661D 02	7.0105D 02	2.8011D-04	2.8490D-04	4.1990D-04	6.6710D-01
2.0000D 02	4.4897D 01	3.0443D 01	1.0652D 02	7.0397D 02	2.7690D-04	2.7935D-04	4.1096D-04	6.7379D-01
2.5000D 02	4.5817D 01	3.0191D 01	1.0608D 02	7.1785D 02	2.6245D-04	2.5472D-04	3.7164D-04	7.0620D-01
3.0000D 02	4.6753D 01	2.9979D 01	1.0567D 02	7.3071D 02	2.5020D-04	2.3428D-04	3.3940D-04	7.3717D-01
3.5000D 02	4.7702D 01	2.9796D 01	1.0529D 02	7.4270D 02	2.3963D-04	2.1700D-04	3.1246D-04	7.6692D-01
4.0000D 02	4.8661D 01	2.9637D 01	1.0493D 02	7.5395D 02	2.3039D-04	2.0218D-04	2.8957D-04	7.9563D-01
4.5000D 02	4.9627D 01	2.9498D 01	1.0459D 02	7.6456D 02	2.2223D-04	1.8933D-04	2.6989D-04	8.2341D-01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1600.0 K, CV= 0.20693D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
5.0000D 02	5.0599D 01	2.9374D 01	1.0426D 02	7.7461D 02	2.1496D-04	1.7808D-04	2.5278D-04	8.5037D-01
6.0000D 02	5.2552D 01	2.9167D 01	1.0365D 02	7.9327D 02	2.0255D-04	1.5930D-04	2.2453D-04	9.0211D-01
7.0000D 02	5.4514D 01	2.9001D 01	1.0309D 02	8.1034D 02	1.9236D-04	1.4428D-04	2.0220D-04	9.5131D-01
8.0000D 02	5.6479D 01	2.8866D 01	1.0256D 02	8.2612D 02	1.8385D-04	1.3202D-04	1.8416D-04	9.9829D-01
9.0000D 02	5.8442D 01	2.8757D 01	1.0206D 02	8.4084D 02	1.7666D-04	1.2185D-04	1.6932D-04	1.0433D 00
1.0000D 03	6.0401D 01	2.8668D 01	1.0159D 02	8.5465D 02	1.7052D-04	1.1328D-04	1.5694D-04	1.0865D 00
1.2000D 03	6.4299D 01	2.8537D 01	1.0071D 02	8.8010D 02	1.6066D-04	9.9741D-05	1.3755D-04	1.1681D 00
1.4000D 03	6.8162D 01	2.8454D 01	9.9904D 01	9.0329D 02	1.5322D-04	8.9587D-05	1.2319D-04	1.2438D 00
1.6000D 03	7.1983D 01	2.8404D 01	9.9149D 01	9.2476D 02	1.4748D-04	8.1755D-05	1.1222D-04	1.3143D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1700.0 K, CV= 0.92526D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	PHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
2.7793D 00	1.9526D 03	1.4547D 00	4.8140D 00	6.0888D-01	3.9945D-04	5.4237D-05	8.5269D-05	4.6846D 00
1.0000D 01	1.9565D 03	1.4478D 00	4.8094D 00	6.1252D-01	3.9086D-04	5.2549D-05	8.2224D-05	4.7535D 00
2.0000D 01	1.9621D 03	1.4392D 00	4.8031D 00	6.1740D-01	3.8006D-04	5.0412D-05	7.8414D-05	4.8468D 00
3.0000D 01	1.9679D 03	1.4316D 00	4.7970D 00	6.2209D-01	3.7036D-04	4.8475D-05	7.5005D-05	4.9378D 00
4.0000D 01	1.9740D 03	1.4250D 00	4.7912D 00	6.2661D-01	3.6166D-04	4.6719D-05	7.1952D-05	5.0264D 00
5.0000D 01	1.9802D 03	1.4189D 00	4.7855D 00	6.3099D-01	3.5370D-04	4.5112D-05	6.9181D-05	5.1127D 00
6.0000D 01	1.9866D 03	1.4133D 00	4.7800D 00	6.3523D-01	3.4635D-04	4.3632D-05	6.6649D-05	5.1967D 00
7.0000D 01	1.9932D 03	1.4082D 00	4.7746D 00	6.3935D-01	3.3954D-04	4.2263D-05	6.4322D-05	5.2788D 00
8.0000D 01	1.9998D 03	1.4034D 00	4.7693D 00	6.4335D-01	3.3319D-04	4.0992D-05	6.2174D-05	5.3591D 00
9.0000D 01	2.0066D 03	1.3989D 00	4.7642D 00	6.4725D-01	3.2726D-04	3.9808D-05	6.0183D-05	5.4377D 00
1.0000D 02	2.0135D 03	1.3946D 00	4.7592D 00	6.5104D-01	3.2168D-04	3.8700D-05	5.8331D-05	5.5147D 00
1.1000D 02	2.0206D 03	1.3907D 00	4.7543D 00	6.5474D-01	3.1643D-04	3.7660D-05	5.6603D-05	5.5904D 00
1.2000D 02	2.0277D 03	1.3869D 00	4.7496D 00	6.5836D-01	3.1147D-04	3.6682D-05	5.4984D-05	5.6647D 00
1.3000D 02	2.0348D 03	1.3833D 00	4.7449D 00	6.6189D-01	3.0677D-04	3.5760D-05	5.3465D-05	5.7378D 00
1.4000D 02	2.0421D 03	1.3800D 00	4.7403D 00	6.6535D-01	3.0231D-04	3.4889D-05	5.2035D-05	5.8098D 00
1.5000D 02	2.0495D 03	1.3768D 00	4.7358D 00	6.6873D-01	2.9807D-04	3.4063D-05	5.0686D-05	5.8807D 00
1.6000D 02	2.0569D 03	1.3737D 00	4.7314D 00	6.7204D-01	2.9402D-04	3.3280D-05	4.9410D-05	5.9506D 00
1.7000D 02	2.0643D 03	1.3708D 00	4.7270D 00	6.7528D-01	2.9015D-04	3.2536D-05	4.8202D-05	6.0195D 00
1.8000D 02	2.0719D 03	1.3680D 00	4.7228D 00	6.7846D-01	2.8645D-04	3.1827D-05	4.7056D-05	6.0875D 00
1.9000D 02	2.0795D 03	1.3653D 00	4.7186D 00	6.8158D-01	2.8291D-04	3.1151D-05	4.5966D-05	6.1547D 00
2.0000D 02	2.0871D 03	1.3627D 00	4.7145D 00	6.8465D-01	2.7951D-04	3.0505D-05	4.4929D-05	6.2210D 00
2.5000D 02	2.1260D 03	1.3513D 00	4.6948D 00	6.9919D-01	2.6432D-04	2.7666D-05	4.0403D-05	6.5420D 00
3.0000D 02	2.1658D 03	1.3416D 00	4.6766D 00	7.1260D-01	2.5154D-04	2.5334D-05	3.6735D-05	6.8475D 00
3.5000D 02	2.2063D 03	1.3334D 00	4.6595D 00	7.2507D-01	2.4058D-04	2.3381D-05	3.3693D-05	7.1403D 00
4.0000D 02	2.2472D 03	1.3262D 00	4.6434D 00	7.3675D-01	2.3103D-04	2.1716D-05	3.1126D-05	7.4223D 00
4.5000D 02	2.2886D 03	1.3199D 00	4.6281D 00	7.4774D-01	2.2261D-04	2.0280D-05	2.8929D-05	7.6950D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1700.0 K, CV= 0.92526D 00 J/G-K

P (ATM)	H-H(298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
5.0000D 02	2.3303D 03	1.3143D 00	4.6136D 00	7.5813D-01	2.1512D-04	1.9027D-05	2.7027D-05	7.9594D 00
6.0000D 02	2.4144D 03	1.3049D 00	4.5864D 00	7.7737D-01	2.0236D-04	1.6947D-05	2.3901D-05	8.4667D 00
7.0000D 02	2.4990D 03	1.2974D 00	4.5613D 00	7.9492D-01	1.9189D-04	1.5292D-05	2.1442D-05	8.9494D 00
8.0000D 02	2.5839D 03	1.2913D 00	4.5380D 00	8.1110D-01	1.8315D-04	1.3945D-05	1.9462D-05	9.4107D 00
9.0000D 02	2.6688D 03	1.2863D 00	4.5161D 00	8.2615D-01	1.7576D-04	1.2831D-05	1.7838D-05	9.8531D 00
1.0000D 03	2.7536D 03	1.2823D 00	4.4954D 00	8.4025D-01	1.6945D-04	1.1895D-05	1.6486D-05	1.0279D 01
1.2000D 03	2.9225D 03	1.2764D 00	4.4569D 00	8.6613D-01	1.5932D-04	1.0420D-05	1.4375D-05	1.1083D 01
1.4000D 03	3.0902D 03	1.2727D 00	4.4215D 00	8.8963D-01	1.5166D-04	9.3167D-06	1.2816D-05	1.1834D 01
1.6000D 03	3.2562D 03	1.2706D 00	4.3885D 00	9.1130D-01	1.4577D-04	8.4682D-06	1.1629D-05	1.2535D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1700.0 K, CV= 0.21273D 02 J/MOL-K

F (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
2.7793D 00	4.4892D 01	3.3444D 01	1.1068D 02	6.0888D 02	3.9945D-04	5.3527D-04	8.4154D-04	4.7467D-01
1.0000D 01	4.4981D 01	3.3285D 01	1.1057D 02	6.1252D 02	3.9086D-04	5.1862D-04	8.1149D-04	4.8165D-01
2.0000D 01	4.5110D 01	3.3089D 01	1.1043D 02	6.1740D 02	3.8006D-04	4.9753D-04	7.7389D-04	4.9110D-01
3.0000D 01	4.5245D 01	3.2915D 01	1.1029D 02	6.2209D 02	3.7036D-04	4.7841D-04	7.4024D-04	5.0032D-01
4.0000D 01	4.5384D 01	3.2762D 01	1.1015D 02	6.2661D 02	3.6166D-04	4.6108D-04	7.1011D-04	5.0930D-01
5.0000D 01	4.5527D 01	3.2623D 01	1.1002D 02	6.3099D 02	3.5370D-04	4.4522D-04	6.8276D-04	5.1804D-01
6.0000D 01	4.5674D 01	3.2494D 01	1.0990D 02	6.3523D 02	3.4635D-04	4.3061D-04	6.5777D-04	5.2656D-01
7.0000D 01	4.5825D 01	3.2375D 01	1.0977D 02	6.3935D 02	3.3954D-04	4.1711D-04	6.3480D-04	5.3488D-01
8.0000D 01	4.5978D 01	3.2264D 01	1.0965D 02	6.4335D 02	3.3319D-04	4.0456D-04	6.1361D-04	5.4301D-01
9.0000D 01	4.6135D 01	3.2161D 01	1.0953D 02	6.4725D 02	3.2726D-04	3.9287D-04	5.9396D-04	5.5097D-01
1.0000D 02	4.6293D 01	3.2064D 01	1.0942D 02	6.5104D 02	3.2168D-04	3.8193D-04	5.7569D-04	5.5878D-01
1.1000D 02	4.6455D 01	3.1973D 01	1.0931D 02	6.5474D 02	3.1643D-04	3.7167D-04	5.5862D-04	5.6645D-01
1.2000D 02	4.6618D 01	3.1886D 01	1.0920D 02	6.5836D 02	3.1147D-04	3.6202D-04	5.4265D-04	5.7398D-01
1.3000D 02	4.6783D 01	3.1805D 01	1.0909D 02	6.6189D 02	3.0677D-04	3.5292D-04	5.2766D-04	5.8139D-01
1.4000D 02	4.6950D 01	3.1727D 01	1.0898D 02	6.6535D 02	3.0231D-04	3.4432D-04	5.1354D-04	5.8868D-01
1.5000D 02	4.7119D 01	3.1653D 01	1.0888D 02	6.6873D 02	2.9807D-04	3.3618D-04	5.0023D-04	5.9586D-01
1.6000D 02	4.7289D 01	3.1583D 01	1.0878D 02	6.7204D 02	2.9402D-04	3.2845D-04	4.8764D-04	6.0294D-01
1.7000D 02	4.7461D 01	3.1516D 01	1.0868D 02	6.7528D 02	2.9015D-04	3.2110D-04	4.7572D-04	6.0992D-01
1.8000D 02	4.7635D 01	3.1451D 01	1.0858D 02	6.7846D 02	2.8645D-04	3.1411D-04	4.6441D-04	6.1682D-01
1.9000D 02	4.7809D 01	3.1390D 01	1.0849D 02	6.8158D 02	2.8291D-04	3.0743D-04	4.5365D-04	6.2362D-01
2.0000D 02	4.7985D 01	3.1331D 01	1.0839D 02	6.8465D 02	2.7951D-04	3.0106D-04	4.4342D-04	6.3035D-01
2.5000D 02	4.8879D 01	3.1067D 01	1.0794D 02	6.9919D 02	2.6432D-04	2.7304D-04	3.9875D-04	6.6287D-01
3.0000D 02	4.9793D 01	3.0845D 01	1.0752D 02	7.1260D 02	2.5154D-04	2.5003D-04	3.6254D-04	6.9382D-01
3.5000D 02	5.0724D 01	3.0655D 01	1.0713D 02	7.2507D 02	2.4058D-04	2.3075D-04	3.3252D-04	7.2349D-01
4.0000D 02	5.1666D 01	3.0490D 01	1.0676D 02	7.3675D 02	2.3103D-04	2.1432D-04	3.0719D-04	7.5206D-01
4.5000D 02	5.2618D 01	3.0345D 01	1.0640D 02	7.4774D 02	2.2261D-04	2.0015D-04	2.8551D-04	7.7969D-01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1700.0 K, CV= 0.21273D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/H**3)	ALPHA P (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMA V (MPa/K)
5.0000D 02	5.3577D 01	3.0217D 01	1.0607D 02	7.5813D 02	2.1512D-04	1.8778D-04	2.6674D-04	8.0649D-01
6.0000D 02	5.5510D 01	3.0001D 01	1.0545D 02	7.7737D 02	2.0236D-04	1.6725D-04	2.3588D-04	8.5789D-01
7.0000D 02	5.7455D 01	2.9828D 01	1.0487D 02	7.9492D 02	1.9189D-04	1.5092D-04	2.1161D-04	9.0680D-01
8.0000D 02	5.9405D 01	2.9688D 01	1.0433D 02	8.1110D 02	1.8315D-04	1.3763D-04	1.9207D-04	9.5354D-01
9.0000D 02	6.1358D 01	2.9574D 01	1.0383D 02	8.2615D 02	1.7576D-04	1.2663D-04	1.7605D-04	9.9837D-01
1.0000D 03	6.3307D 01	2.9482D 01	1.0335D 02	8.4025D 02	1.6945D-04	1.1740D-04	1.6270D-04	1.0415D 00
1.2000D 03	6.7192D 01	2.9347D 01	1.0247D 02	8.6613D 02	1.5932D-04	1.0284D-04	1.4187D-04	1.1230D 00
1.4000D 03	7.1046D 01	2.9262D 01	1.0166D 02	8.8963D 02	1.5166D-04	9.1948D-05	1.2648D-04	1.1990D 00
1.6000D 03	7.4863D 01	2.9213D 01	1.0090D 02	9.1130D 02	1.4577D-04	8.3574D-05	1.1477D-04	1.2701D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1800.0 K, CV= 0.95663D 00 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
4.0874D 00	2.1016D 03	1.5158D 00	4.8979D 00	5.8512D-01	4.2180D-04	6.2600D-05	9.9188D-05	4.2525D 00
1.0000D 01	2.1041D 03	1.5076D 00	4.8937D 00	5.8845D-01	4.1231D-04	6.0684D-05	9.5634D-05	4.3113D 00
2.0000D 01	2.1087D 03	1.4954D 00	4.8869D 00	5.9387D-01	3.9795D-04	5.7750D-05	9.0274D-05	4.4082D 00
3.0000D 01	2.1137D 03	1.4848D 00	4.8803D 00	5.9905D-01	3.8533D-04	5.5142D-05	8.5588D-05	4.5021D 00
4.0000D 01	2.1189D 03	1.4756D 00	4.8740D 00	6.0400D-01	3.7414D-04	5.2805D-05	8.1450D-05	4.5935D 00
5.0000D 01	2.1245D 03	1.4675D 00	4.8679D 00	6.0876D-01	3.6413D-04	5.0694D-05	7.7765D-05	4.6824D 00
6.0000D 01	2.1302D 03	1.4603D 00	4.8620D 00	6.1335D-01	3.5511D-04	4.8778D-05	7.4457D-05	4.7693D 00
7.0000D 01	2.1362D 03	1.4538D 00	4.8563D 00	6.1778D-01	3.4693D-04	4.7027D-05	7.1469D-05	4.8543D 00
8.0000D 01	2.1424D 03	1.4481D 00	4.8508D 00	6.2207D-01	3.3946D-04	4.5419D-05	6.8752D-05	4.9375D 00
9.0000D 01	2.1487D 03	1.4432D 00	4.8454D 00	6.2623D-01	3.3283D-04	4.3958D-05	6.6314D-05	5.0190D 00
1.0000D 02	2.1552D 03	1.4386D 00	4.8402D 00	6.3027D-01	3.2668D-04	4.2607D-05	6.4074D-05	5.0985D 00
1.1000D 02	2.1618D 03	1.4344D 00	4.8351D 00	6.3420D-01	3.2094D-04	4.1350D-05	6.2001D-05	5.1763D 00
1.2000D 02	2.1685D 03	1.4304D 00	4.8301D 00	6.3804D-01	3.1555D-04	4.0177D-05	6.0076D-05	5.2526D 00
1.3000D 02	2.1753D 03	1.4267D 00	4.8252D 00	6.4177D-01	3.1048D-04	3.9078D-05	5.8280D-05	5.3273D 00
1.4000D 02	2.1822D 03	1.4232D 00	4.8204D 00	6.4542D-01	3.0568D-04	3.8046D-05	5.6600D-05	5.4007D 00
1.5000D 02	2.1893D 03	1.4198D 00	4.8157D 00	6.4898D-01	3.0114D-04	3.7074D-05	5.5025D-05	5.4729D 00
1.6000D 02	2.1964D 03	1.4166D 00	4.8111D 00	6.5247D-01	2.9684D-04	3.6157D-05	5.3543D-05	5.5438D 00
1.7000D 02	2.2035D 03	1.4136D 00	4.8066D 00	6.5588D-01	2.9273D-04	3.5289D-05	5.2146D-05	5.6137D 00
1.8000D 02	2.2108D 03	1.4107D 00	4.8022D 00	6.5922D-01	2.8882D-04	3.4466D-05	5.0827D-05	5.6825D 00
1.9000D 02	2.2181D 03	1.4080D 00	4.7978D 00	6.6250D-01	2.8509D-04	3.3685D-05	4.9577D-05	5.7504D 00
2.0000D 02	2.2255D 03	1.4053D 00	4.7936D 00	6.6571D-01	2.8151D-04	3.2942D-05	4.8392D-05	5.8173D 00
2.5000D 02	2.2632D 03	1.3936D 00	4.7733D 00	6.8090D-01	2.6566D-04	2.9702D-05	4.3268D-05	6.1399D 00
3.0000D 02	2.3020D 03	1.3837D 00	4.7544D 00	6.9486D-01	2.5243D-04	2.7076D-05	3.9164D-05	6.4455D 00
3.5000D 02	2.3416D 03	1.3753D 00	4.7369D 00	7.0782D-01	2.4114D-04	2.4896D-05	3.5791D-05	6.7375D 00
4.0000D 02	2.3819D 03	1.3680D 00	4.7203D 00	7.1991D-01	2.3133D-04	2.3051D-05	3.2963D-05	7.0181D 00
4.5000D 02	2.4227D 03	1.3615D 00	4.7047D 00	7.3127D-01	2.2271D-04	2.1468D-05	3.0555D-05	7.2890D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1800.0 K, CV= 0.95663D 00 J/G-K

P (ATM)	H-B(298) (KJ/G)	CP (J/G-K)	S (J/G-K)	PHO (G/CC)	ALPHA P (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMA V (ATM/K)
5.0000D 02	2.4638D 03	1.3558D 00	4.6898D 00	7.4199D-01	2.1505D-04	2.0094D-05	2.8478D-05	7.5515D 00
6.0000D 02	2.5469D 03	1.3462D 00	4.6621D 00	7.6181D-01	2.0201D-04	1.7822D-05	2.5080D-05	8.0547D 00
7.0000D 02	2.6308D 03	1.3384D 00	4.6366D 00	7.7984D-01	1.9131D-04	1.6023D-05	2.2419D-05	8.5334D 00
8.0000D 02	2.7150D 03	1.3322D 00	4.6129D 00	7.9641D-01	1.8237D-04	1.4565D-05	2.0283D-05	8.9912D 00
9.0000D 02	2.7994D 03	1.3270D 00	4.5907D 00	8.1179D-01	1.7481D-04	1.3362D-05	1.8536D-05	9.4307D 00
1.0000D 03	2.8838D 03	1.3229D 00	4.5698D 00	8.2617D-01	1.6835D-04	1.2355D-05	1.7085D-05	9.8538D 00
1.2000D 03	3.0522D 03	1.3168D 00	4.5310D 00	8.5250D-01	1.5797D-04	1.0770D-05	1.4824D-05	1.0656D 01
1.4000D 03	3.2194D 03	1.3130D 00	4.4954D 00	8.7630D-01	1.5010D-04	9.5877D-06	1.3159D-05	1.1406D 01
1.6000D 03	3.3852D 03	1.3109D 00	4.4623D 00	8.9819D-01	1.4404D-04	8.6803D-06	1.1895D-05	1.2110D 01
1.8000D 03	3.5492D 03	1.3100D 00	4.4311D 00	9.1860D-01	1.3935D-04	7.9678D-06	1.0911D-05	1.2771D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1800.0 K, CV= 0.21994D 02 J/MOL-K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	FHO (KG/H**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
4.0874D 00	4.8318D 01	3.4849D 01	1.1261D 02	5.8512D 02	4.2180D-04	6.1781D-04	9.7891D-04	4.3089D-01
1.0000D 01	4.8376D 01	3.4661D 01	1.1251D 02	5.8845D 02	4.1231D-04	5.9890D-04	9.4384D-04	4.3685D-01
2.0000D 01	4.8481D 01	3.4380D 01	1.1235D 02	5.9387D 02	3.9795D-04	5.6995D-04	8.9094D-04	4.4666D-01
3.0000D 01	4.8595D 01	3.4137D 01	1.1220D 02	5.9905D 02	3.8533D-04	5.4421D-04	8.4469D-04	4.5618D-01
4.0000D 01	4.8716D 01	3.3925D 01	1.1206D 02	6.0400D 02	3.7414D-04	5.2114D-04	8.0385D-04	4.6543D-01
5.0000D 01	4.8844D 01	3.3739D 01	1.1192D 02	6.0876D 02	3.6413D-04	5.0031D-04	7.6748D-04	4.7445D-01
6.0000D 01	4.8976D 01	3.3573D 01	1.1178D 02	6.1335D 02	3.5511D-04	4.8140D-04	7.3483D-04	4.8325D-01
7.0000D 01	4.9114D 01	3.3425D 01	1.1165D 02	6.1778D 02	3.4693D-04	4.6412D-04	7.0534D-04	4.9186D-01
8.0000D 01	4.9256D 01	3.3292D 01	1.1152D 02	6.2207D 02	3.3946D-04	4.4825D-04	6.7853D-04	5.0029D-01
9.0000D 01	4.9401D 01	3.3179D 01	1.1140D 02	6.2623D 02	3.3283D-04	4.3383D-04	6.5447D-04	5.0855D-01
1.0000D 02	4.9550D 01	3.3076D 01	1.1128D 02	6.3027D 02	3.2668D-04	4.2050D-04	6.3236D-04	5.1661D-01
1.1000D 02	4.9702D 01	3.2978D 01	1.1116D 02	6.3420D 02	3.2094D-04	4.0809D-04	6.1191D-04	5.2449D-01
1.2000D 02	4.9856D 01	3.2887D 01	1.1105D 02	6.3804D 02	3.1555D-04	3.9651D-04	5.9290D-04	5.3222D-01
1.3000D 02	5.0013D 01	3.2801D 01	1.1094D 02	6.4177D 02	3.1048D-04	3.8567D-04	5.7518D-04	5.3979D-01
1.4000D 02	5.0172D 01	3.2720D 01	1.1083D 02	6.4542D 02	3.0568D-04	3.7548D-04	5.5860D-04	5.4723D-01
1.5000D 02	5.0333D 01	3.2643D 01	1.1072D 02	6.4898D 02	3.0114D-04	3.6589D-04	5.4305D-04	5.5454D-01
1.6000D 02	5.0496D 01	3.2570D 01	1.1061D 02	6.5247D 02	2.9684D-04	3.5684D-04	5.2843D-04	5.6173D-01
1.7000D 02	5.0661D 01	3.2500D 01	1.1051D 02	6.5588D 02	2.9273D-04	3.4827D-04	5.1465D-04	5.6881D-01
1.8000D 02	5.0828D 01	3.2434D 01	1.1041D 02	6.5922D 02	2.8882D-04	3.4016D-04	5.0162D-04	5.7578D-01
1.9000D 02	5.0996D 01	3.2370D 01	1.1031D 02	6.6250D 02	2.8509D-04	3.3245D-04	4.8929D-04	5.8266D-01
2.0000D 02	5.1166D 01	3.2310D 01	1.1021D 02	6.6571D 02	2.8151D-04	3.2511D-04	4.7759D-04	5.8944D-01
2.5000D 02	5.2033D 01	3.2039D 01	1.0974D 02	6.8090D 02	2.6566D-04	2.9314D-04	4.2702D-04	6.2212D-01
3.0000D 02	5.2925D 01	3.1813D 01	1.0931D 02	6.9486D 02	2.5243D-04	2.6722D-04	3.8652D-04	6.5309D-01
3.5000D 02	5.3837D 01	3.1619D 01	1.0891D 02	7.0782D 02	2.4114D-04	2.4570D-04	3.5323D-04	6.8267D-01
4.0000D 02	5.4763D 01	3.1451D 01	1.0852D 02	7.1991D 02	2.3133D-04	2.2750D-04	3.2532D-04	7.1111D-01
4.5000D 02	5.5700D 01	3.1303D 01	1.0817D 02	7.3127D 02	2.2271D-04	2.1188D-04	3.0155D-04	7.3856D-01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1800.0 K, CV= 0.21994D 02 J/MOL-K

P (MPA)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	PHO (KG/M**3)	ALPHA (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
5.0000D 02	5.6645D 01	3.1172D 01	1.0782D 02	7.4199D 02	2.1505D-04	1.9831D-04	2.8106D-04	7.6515D-01
6.0000D 02	5.8556D 01	3.0950D 01	1.0719D 02	7.6181D 02	2.0201D-04	1.7589D-04	2.4752D-04	8.1618D-01
7.0000D 02	6.0484D 01	3.0772D 01	1.0660D 02	7.7984D 02	1.9131D-04	1.5814D-04	2.2126D-04	8.6465D-01
8.0000D 02	6.2420D 01	3.0628D 01	1.0606D 02	7.9641D 02	1.8237D-04	1.4375D-04	2.0018D-04	9.1104D-01
9.0000D 02	6.4361D 01	3.0510D 01	1.0555D 02	8.1179D 02	1.7481D-04	1.3188D-04	1.8294D-04	9.5557D-01
1.0000D 03	6.6301D 01	3.0414D 01	1.0506D 02	8.2617D 02	1.6835D-04	1.2193D-04	1.6861D-04	9.9844D-01
1.2000D 03	7.0172D 01	3.0274D 01	1.0417D 02	8.5250D 02	1.5797D-04	1.0629D-04	1.4630D-04	1.0797D 00
1.4000D 03	7.4018D 01	3.0187D 01	1.0335D 02	8.7630D 02	1.5010D-04	9.4623D-05	1.2987D-04	1.1558D 00
1.6000D 03	7.7829D 01	3.0138D 01	1.0259D 02	8.9819D 02	1.4404D-04	8.5668D-05	1.1739D-04	1.2271D 00
1.8000D 03	8.1601D 01	3.0118D 01	1.0188D 02	9.1860D 02	1.3935D-04	7.8636D-05	1.0768D-04	1.2940D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1900.0 K, CV= 0.99517D 00 J/G-K

P (ATM)	H-H(298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
5.7657D 00	2.2575D 03	1.5950D 00	4.9806D 00	5.6111D-01	4.5443D-04	7.3708D-05	1.1813D-04	3.8468D 00
1.0000D 01	2.2586D 03	1.5861D 00	4.9773D 00	5.6384D-01	4.4473D-04	7.1707D-05	1.1429D-04	3.8913D 00
2.0000D 01	2.2617D 03	1.5677D 00	4.9696D 00	5.7000D-01	4.2446D-04	6.7473D-05	1.0629D-04	3.9934D 00
3.0000D 01	2.2654D 03	1.5522D 00	4.9623D 00	5.7581D-01	4.0721D-04	6.3807D-05	9.9525D-05	4.0916D 00
4.0000D 01	2.2695D 03	1.5391D 00	4.9554D 00	5.8133D-01	3.9232D-04	6.0595D-05	9.3715D-05	4.1863D 00
5.0000D 01	2.2741D 03	1.5278D 00	4.9488D 00	5.8658D-01	3.7931D-04	5.7752D-05	8.8661D-05	4.2782D 00
6.0000D 01	2.2790D 03	1.5179D 00	4.9425D 00	5.9160D-01	3.6781D-04	5.5214D-05	8.4218D-05	4.3674D 00
7.0000D 01	2.2843D 03	1.5093D 00	4.9364D 00	5.9642D-01	3.5757D-04	5.2931D-05	8.0275D-05	4.4543D 00
8.0000D 01	2.2898D 03	1.5017D 00	4.9305D 00	6.0106D-01	3.4837D-04	5.0863D-05	7.6749D-05	4.5390D 00
9.0000D 01	2.2955D 03	1.4949D 00	4.9248D 00	6.0553D-01	3.4005D-04	4.8979D-05	7.3573D-05	4.6219D 00
1.0000D 02	2.3015D 03	1.4888D 00	4.9192D 00	6.0986D-01	3.3248D-04	4.7255D-05	7.0695D-05	4.7030D 00
1.1000D 02	2.3076D 03	1.4833D 00	4.9139D 00	6.1405D-01	3.2556D-04	4.5670D-05	6.8072D-05	4.7826D 00
1.2000D 02	2.3139D 03	1.4784D 00	4.9086D 00	6.1811D-01	3.1920D-04	4.4205D-05	6.5671D-05	4.8606D 00
1.3000D 02	2.3203D 03	1.4739D 00	4.9035D 00	6.2206D-01	3.1332D-04	4.2847D-05	6.3460D-05	4.9373D 00
1.4000D 02	2.3269D 03	1.4703D 00	4.8986D 00	6.2591D-01	3.0816D-04	4.1611D-05	6.1477D-05	5.0126D 00
1.5000D 02	2.3336D 03	1.4669D 00	4.8937D 00	6.2966D-01	3.0334D-04	4.0458D-05	5.9638D-05	5.0864D 00
1.6000D 02	2.3403D 03	1.4637D 00	4.8889D 00	6.3332D-01	2.9879D-04	3.9378D-05	5.7918D-05	5.1588D 00
1.7000D 02	2.3472D 03	1.4607D 00	4.8843D 00	6.3690D-01	2.9447D-04	3.8361D-05	5.6306D-05	5.2299D 00
1.8000D 02	2.3542D 03	1.4578D 00	4.8797D 00	6.4040D-01	2.9038D-04	3.7402D-05	5.4790D-05	5.2998D 00
1.9000D 02	2.3612D 03	1.4551D 00	4.8752D 00	6.4383D-01	2.8647D-04	3.6495D-05	5.3361D-05	5.3686D 00
2.0000D 02	2.3683D 03	1.4524D 00	4.8708D 00	6.4718D-01	2.8275D-04	3.5637D-05	5.2011D-05	5.4364D 00
2.5000D 02	2.4049D 03	1.4408D 00	4.8498D 00	6.6302D-01	2.6635D-04	3.1933D-05	4.6231D-05	5.7613D 00
3.0000D 02	2.4427D 03	1.4310D 00	4.8305D 00	6.7753D-01	2.5278D-04	2.8973D-05	4.1661D-05	6.0675D 00
3.5000D 02	2.4815D 03	1.4226D 00	4.8125D 00	6.9095D-01	2.4125D-04	2.6540D-05	3.7939D-05	6.3588D 00
4.0000D 02	2.5210D 03	1.4153D 00	4.7955D 00	7.0345D-01	2.3126D-04	2.4497D-05	3.4839D-05	6.6381D 00
4.5000D 02	2.5611D 03	1.4089D 00	4.7795D 00	7.1517D-01	2.2250D-04	2.2753D-05	3.2212D-05	6.9072D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1900.0 K, CV= 0.99517D 00 J/G-K

P (ATM)	H-H(298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHA P (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMA V (ATM/K)
5.0000D 02	2.6017D 03	1.4032D 00	4.7644D 00	7.2622D-01	2.1472D-04	2.1246D-05	2.9957D-05	7.1675D 00
6.0000D 02	2.6838D 03	1.3935D 00	4.7361D 00	7.4659D-01	2.0147D-04	1.8769D-05	2.6281D-05	7.6662D 00
7.0000D 02	2.7669D 03	1.3856D 00	4.7102D 00	7.6509D-01	1.9060D-04	1.6817D-05	2.3415D-05	8.1402D 00
8.0000D 02	2.8505D 03	1.3792D 00	4.6862D 00	7.8205D-01	1.8151D-04	1.5241D-05	2.1121D-05	8.5937D 00
9.0000D 02	2.9344D 03	1.3739D 00	4.6637D 00	7.9777D-01	1.7381D-04	1.3943D-05	1.9250D-05	9.0293D 00
1.0000D 03	3.0184D 03	1.3696D 00	4.6425D 00	8.1243D-01	1.6722D-04	1.2859D-05	1.7697D-05	9.4491D 00
1.2000D 03	3.1861D 03	1.3633D 00	4.6034D 00	8.3920D-01	1.5661D-04	1.1157D-05	1.5285D-05	1.0247D 01
1.4000D 03	3.3530D 03	1.3594D 00	4.5676D 00	8.6332D-01	1.4855D-04	9.8914D-06	1.3512D-05	1.0995D 01
1.6000D 03	3.5185D 03	1.3572D 00	4.5343D 00	8.8542D-01	1.4234D-04	8.9215D-06	1.2167D-05	1.1698D 01
1.8000D 03	3.6825D 03	1.3564D 00	4.5031D 00	9.0597D-01	1.3751D-04	8.1611D-06	1.1124D-05	1.2362D 01
2.0000D 03	3.8447D 03	1.3566D 00	4.4735D 00	9.2530D-01	1.3373D-04	7.5535D-06	1.0297D-05	1.2988D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1900.0 K, CV= 0.22880D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
5.7657D 00	5.1903D 01	3.6670D 01	1.1451D 02	5.6111D 02	4.5443D-04	7.2744D-04	1.1659D-03	3.8978D-01
1.0000D 01	5.1928D 01	3.6466D 01	1.1443D 02	5.6384D 02	4.4473D-04	7.0770D-04	1.1279D-03	3.9429D-01
2.0000D 01	5.1999D 01	3.6043D 01	1.1426D 02	5.7000D 02	4.2446D-04	6.6591D-04	1.0490D-03	4.0463D-01
3.0000D 01	5.2083D 01	3.5688D 01	1.1409D 02	5.7581D 02	4.0721D-04	6.2973D-04	9.8224D-04	4.1458D-01
4.0000D 01	5.2179D 01	3.5385D 01	1.1393D 02	5.8133D 02	3.9232D-04	5.9803D-04	9.2489D-04	4.2418D-01
5.0000D 01	5.2284D 01	3.5125D 01	1.1378D 02	5.8658D 02	3.7931D-04	5.6997D-04	8.7501D-04	4.3349D-01
6.0000D 01	5.2397D 01	3.4899D 01	1.1363D 02	5.9160D 02	3.6781D-04	5.4492D-04	8.3117D-04	4.4252D-01
7.0000D 01	5.2518D 01	3.4700D 01	1.1349D 02	5.9642D 02	3.5757D-04	5.2238D-04	7.9225D-04	4.5133D-01
8.0000D 01	5.2644D 01	3.4524D 01	1.1336D 02	6.0106D 02	3.4837D-04	5.0198D-04	7.5746D-04	4.5992D-01
9.0000D 01	5.2776D 01	3.4368D 01	1.1323D 02	6.0553D 02	3.4005D-04	4.8339D-04	7.2611D-04	4.6831D-01
1.0000D 02	5.2913D 01	3.4229D 01	1.1310D 02	6.0986D 02	3.3248D-04	4.6637D-04	6.9770D-04	4.7653D-01
1.1000D 02	5.3054D 01	3.4103D 01	1.1297D 02	6.1405D 02	3.2556D-04	4.5072D-04	6.7182D-04	4.8459D-01
1.2000D 02	5.3198D 01	3.3990D 01	1.1285D 02	6.1811D 02	3.1920D-04	4.3627D-04	6.4812D-04	4.9250D-01
1.3000D 02	5.3346D 01	3.3887D 01	1.1274D 02	6.2206D 02	3.1332D-04	4.2287D-04	6.2630D-04	5.0027D-01
1.4000D 02	5.3497D 01	3.3804D 01	1.1262D 02	6.2591D 02	3.0816D-04	4.1066D-04	6.0673D-04	5.0790D-01
1.5000D 02	5.3651D 01	3.3726D 01	1.1251D 02	6.2966D 02	3.0334D-04	3.9929D-04	5.8858D-04	5.1538D-01
1.6000D 02	5.3807D 01	3.3653D 01	1.1240D 02	6.3332D 02	2.9879D-04	3.8863D-04	5.7161D-04	5.2272D-01
1.7000D 02	5.3965D 01	3.3583D 01	1.1229D 02	6.3690D 02	2.9447D-04	3.7859D-04	5.5569D-04	5.2992D-01
1.8000D 02	5.4125D 01	3.3517D 01	1.1219D 02	6.4040D 02	2.9038D-04	3.6913D-04	5.4073D-04	5.3701D-01
1.9000D 02	5.4286D 01	3.3453D 01	1.1209D 02	6.4383D 02	2.8647D-04	3.6018D-04	5.2663D-04	5.4397D-01
2.0000D 02	5.4450D 01	3.3393D 01	1.1198D 02	6.4718D 02	2.8275D-04	3.5171D-04	5.1331D-04	5.5084D-01
2.5000D 02	5.5290D 01	3.3124D 01	1.1150D 02	6.6302D 02	2.6635D-04	3.1515D-04	4.5626D-04	5.8377D-01
3.0000D 02	5.6160D 01	3.2900D 01	1.1106D 02	6.7753D 02	2.5278D-04	2.8594D-04	4.1116D-04	6.1479D-01
3.5000D 02	5.7052D 01	3.2707D 01	1.1064D 02	6.9095D 02	2.4125D-04	2.6193D-04	3.7443D-04	6.4431D-01
4.0000D 02	5.7961D 01	3.2539D 01	1.1025D 02	7.0345D 02	2.3126D-04	2.4176D-04	3.4383D-04	6.7260D-01
4.5000D 02	5.8883D 01	3.2391D 01	1.0989D 02	7.1517D 02	2.2250D-04	2.2456D-04	3.1791D-04	6.9987D-01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 1900.0 K, CV= 0.22880D 02 J/MOL-K

P (MPa)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
5.0000D 02	5.9816D 01	3.2260D 01	1.0954D 02	7.2622D 02	2.1472D-04	2.0969D-04	2.9565D-04	7.2625D-01
6.0000D 02	6.1704D 01	3.2037D 01	1.0889D 02	7.4659D 02	2.0147D-04	1.8524D-04	2.5937D-04	7.7678D-01
7.0000D 02	6.3614D 01	3.1856D 01	1.0829D 02	7.6509D 02	1.9060D-04	1.6597D-04	2.3108D-04	8.2481D-01
8.0000D 02	6.5536D 01	3.1708D 01	1.0774D 02	7.8205D 02	1.8151D-04	1.5041D-04	2.0845D-04	8.7076D-01
9.0000D 02	6.7464D 01	3.1587D 01	1.0722D 02	7.9777D 02	1.7381D-04	1.3761D-04	1.8998D-04	9.1490D-01
1.0000D 03	6.9395D 01	3.1489D 01	1.0674D 02	8.1243D 02	1.6722D-04	1.2691D-04	1.7466D-04	9.5743D-01
1.2000D 03	7.3252D 01	3.1344D 01	1.0584D 02	8.3920D 02	1.5661D-04	1.1011D-04	1.5085D-04	1.0382D 00
1.4000D 03	7.7088D 01	3.1254D 01	1.0501D 02	8.6332D 02	1.4855D-04	9.7620D-05	1.3335D-04	1.1140D 00
1.6000D 03	8.0895D 01	3.1204D 01	1.0425D 02	8.8542D 02	1.4234D-04	8.8049D-05	1.2008D-04	1.1853D 00
1.8000D 03	8.4664D 01	3.1185D 01	1.0353D 02	9.0597D 02	1.3751D-04	8.0544D-05	1.0978D-04	1.2526D 00
2.0000D 03	8.8393D 01	3.1189D 01	1.0285D 02	9.2530D 02	1.3373D-04	7.4547D-05	1.0162D-04	1.3160D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2000.0 K, CV= 0.10435D 01 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
7.8509D 00	2.4223D 03	1.7024D 00	5.0632D 00	5.3640D-01	5.0369D-04	8.9176D-05	1.4548D-04	3.4623D 00
1.0000D 01	2.4223D 03	1.6950D 00	5.0612D 00	5.3804D-01	4.9606D-04	8.7589D-05	1.4227D-04	3.4867D 00
2.0000D 01	2.4231D 03	1.6652D 00	5.0523D 00	5.4529D-01	4.6510D-04	8.1033D-05	1.2931D-04	3.5967D 00
3.0000D 01	2.4248D 03	1.6413D 00	5.0441D 00	5.5199D-01	4.3995D-04	7.5574D-05	1.1887D-04	3.7011D 00
4.0000D 01	2.4274D 03	1.6217D 00	5.0364D 00	5.5826D-01	4.1903D-04	7.0940D-05	1.1024D-04	3.8009D 00
5.0000D 01	2.4306D 03	1.6052D 00	5.0291D 00	5.6416D-01	4.0131D-04	6.6947D-05	1.0299D-04	3.8967D 00
6.0000D 01	2.4343D 03	1.5913D 00	5.0221D 00	5.6975D-01	3.8606D-04	6.3462D-05	9.6776D-05	3.9892D 00
7.0000D 01	2.4386D 03	1.5793D 00	5.0155D 00	5.7506D-01	3.7278D-04	6.0387D-05	9.1395D-05	4.0787D 00
8.0000D 01	2.4432D 03	1.5690D 00	5.0092D 00	5.8013D-01	3.6108D-04	5.7651D-05	8.6680D-05	4.1657D 00
9.0000D 01	2.4481D 03	1.5599D 00	5.0030D 00	5.8499D-01	3.5069D-04	5.5196D-05	8.2509D-05	4.2503D 00
1.0000D 02	2.4534D 03	1.5519D 00	4.9972D 00	5.8967D-01	3.4137D-04	5.2979D-05	7.6787D-05	4.3329D 00
1.1000D 02	2.4589D 03	1.5447D 00	4.9915D 00	5.9417D-01	3.3297D-04	5.0964D-05	7.5444D-05	4.4135D 00
1.2000D 02	2.4646D 03	1.5384D 00	4.9859D 00	5.9852D-01	3.2535D-04	4.9123D-05	7.2421D-05	4.4925D 00
1.3000D 02	2.4705D 03	1.5327D 00	4.9806D 00	6.0273D-01	3.1839D-04	4.7434D-05	6.9671D-05	4.5699D 00
1.4000D 02	2.4766D 03	1.5276D 00	4.9754D 00	6.0681D-01	3.1201D-04	4.5876D-05	6.7159D-05	4.6458D 00
1.5000D 02	2.4829D 03	1.5230D 00	4.9703D 00	6.1078D-01	3.0612D-04	4.4435D-05	6.4851D-05	4.7204D 00
1.6000D 02	2.4893D 03	1.5188D 00	4.9653D 00	6.1463D-01	3.0068D-04	4.3096D-05	6.2724D-05	4.7938D 00
1.7000D 02	2.4959D 03	1.5149D 00	4.9605D 00	6.1839D-01	2.9563D-04	4.1849D-05	6.0755D-05	4.8660D 00
1.8000D 02	2.5026D 03	1.5114D 00	4.9558D 00	6.2205D-01	2.9092D-04	4.0682D-05	5.8925D-05	4.9371D 00
1.9000D 02	2.5093D 03	1.5087D 00	4.9511D 00	6.2563D-01	2.8683D-04	3.9621D-05	5.7285D-05	5.0071D 00
2.0000D 02	2.5162D 03	1.5062D 00	4.9466D 00	6.2913D-01	2.8300D-04	3.8626D-05	5.5753D-05	5.0759D 00
2.5000D 02	2.5516D 03	1.4952D 00	4.9251D 00	6.4559D-01	2.6624D-04	3.4383D-05	4.9264D-05	5.4043D 00
3.0000D 02	2.5885D 03	1.4859D 00	4.9052D 00	6.6062D-01	2.5246D-04	3.1043D-05	4.4202D-05	5.7115D 00
3.5000D 02	2.6264D 03	1.4778D 00	4.8868D 00	6.7449D-01	2.4081D-04	2.8328D-05	4.0117D-05	6.0026D 00
4.0000D 02	2.6652D 03	1.4708D 00	4.8695D 00	6.8738D-01	2.3074D-04	2.6066D-05	3.6738D-05	6.2807D 00
4.5000D 02	2.7047D 03	1.4645D 00	4.8532D 00	6.9945D-01	2.2191D-04	2.4147D-05	3.3890D-05	6.5480D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2000.0 K, CV= 0.10435D 01 J/G-K

F (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
5.0000D 02	2.7447D 03	1.4589D 00	4.8377D 00	7.1081D-01	2.1407D-04	2.2497D-05	3.1452D-05	6.8062D 00
6.0000D 02	2.8259D 03	1.4493D 00	4.8090D 00	7.3173D-01	2.0072D-04	1.9797D-05	2.7496D-05	7.3000D 00
7.0000D 02	2.9082D 03	1.4415D 00	4.7827D 00	7.5067D-01	1.8975D-04	1.7681D-05	2.4424D-05	7.7690D 00
8.0000D 02	2.9911D 03	1.4350D 00	4.7583D 00	7.6802D-01	1.8055D-04	1.5978D-05	2.1972D-05	8.2175D 00
9.0000D 02	3.0745D 03	1.4297D 00	4.7356D 00	7.8406D-01	1.7275D-04	1.4579D-05	1.9975D-05	8.6485D 00
1.0000D 03	3.1580D 03	1.4253D 00	4.7142D 00	7.9900D-01	1.6606D-04	1.3414D-05	1.8321D-05	9.0641D 00
1.2000D 03	3.3251D 03	1.4188D 00	4.6747D 00	8.2621D-01	1.5527D-04	1.1587D-05	1.5755D-05	9.8550D 00
1.4000D 03	3.4916D 03	1.4148D 00	4.6387D 00	8.5065D-01	1.4703D-04	1.0232D-05	1.3873D-05	1.0599D 01
1.6000D 03	3.6569D 03	1.4125D 00	4.6053D 00	8.7298D-01	1.4066D-04	9.1957D-06	1.2448D-05	1.1301D 01
1.8000D 03	3.8208D 03	1.4117D 00	4.5741D 00	8.9368D-01	1.3570D-04	8.3840D-06	1.1342D-05	1.1964D 01
2.0000D 03	3.9830D 03	1.4119D 00	4.5445D 00	9.1310D-01	1.3182D-04	7.7364D-06	1.0468D-05	1.2593D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2000.0 K, CV= 0.23991D 02 J/MOL-K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
7.8509D 00	5.5692D 01	3.9139D 01	1.1641D 02	5.3640D 02	5.0369D-04	8.8010D-04	1.4358D-03	3.5081D-01
1.0000D 01	5.5692D 01	3.8970D 01	1.1636D 02	5.3804D 02	4.9606D-04	8.6444D-04	1.4041D-03	3.5329D-01
2.0000D 01	5.5709D 01	3.8285D 01	1.1616D 02	5.4529D 02	4.6510D-04	7.9973D-04	1.2762D-03	3.6444D-01
3.0000D 01	5.5749D 01	3.7735D 01	1.1597D 02	5.5199D 02	4.3995D-04	7.4586D-04	1.1731D-03	3.7502D-01
4.0000D 01	5.5808D 01	3.7284D 01	1.1579D 02	5.5826D 02	4.1903D-04	7.0013D-04	1.0880D-03	3.8513D-01
5.0000D 01	5.5882D 01	3.6906D 01	1.1562D 02	5.6416D 02	4.0131D-04	6.6072D-04	1.0164D-03	3.9484D-01
6.0000D 01	5.5968D 01	3.6586D 01	1.1546D 02	5.6975D 02	3.8606D-04	6.2632D-04	9.5511D-04	4.0421D-01
7.0000D 01	5.6065D 01	3.6310D 01	1.1531D 02	5.7506D 02	3.7278D-04	5.9598D-04	9.0200D-04	4.1328D-01
8.0000D 01	5.6171D 01	3.6072D 01	1.1517D 02	5.8013D 02	3.6108D-04	5.6897D-04	8.5547D-04	4.2209D-01
9.0000D 01	5.6285D 01	3.5863D 01	1.1502D 02	5.8499D 02	3.5069D-04	5.4474D-04	8.1430D-04	4.3066D-01
1.0000D 02	5.6405D 01	3.5679D 01	1.1489D 02	5.8967D 02	3.4137D-04	5.2286D-04	7.7757D-04	4.3903D-01
1.1000D 02	5.6532D 01	3.5515D 01	1.1476D 02	5.9417D 02	3.3297D-04	5.0297D-04	7.4457D-04	4.4720D-01
1.2000D 02	5.6664D 01	3.5370D 01	1.1463D 02	5.9852D 02	3.2535D-04	4.8481D-04	7.1474D-04	4.5520D-01
1.3000D 02	5.6800D 01	3.5239D 01	1.1451D 02	6.0273D 02	3.1839D-04	4.6813D-04	6.8760D-04	4.6304D-01
1.4000D 02	5.6941D 01	3.5121D 01	1.1439D 02	6.0681D 02	3.1201D-04	4.5276D-04	6.6280D-04	4.7074D-01
1.5000D 02	5.7085D 01	3.5015D 01	1.1427D 02	6.1078D 02	3.0612D-04	4.3854D-04	6.4003D-04	4.7830D-01
1.6000D 02	5.7232D 01	3.4918D 01	1.1416D 02	6.1463D 02	3.0068D-04	4.2532D-04	6.1903D-04	4.8573D-01
1.7000D 02	5.7383D 01	3.4830D 01	1.1405D 02	6.1839D 02	2.9563D-04	4.1301D-04	5.9960D-04	4.9305D-01
1.8000D 02	5.7536D 01	3.4749D 01	1.1394D 02	6.2205D 02	2.9092D-04	4.0150D-04	5.8154D-04	5.0025D-01
1.9000D 02	5.7692D 01	3.4687D 01	1.1383D 02	6.2563D 02	2.8683D-04	3.9103D-04	5.6535D-04	5.0735D-01
2.0000D 02	5.7850D 01	3.4630D 01	1.1373D 02	6.2913D 02	2.8300D-04	3.8121D-04	5.5024D-04	5.1432D-01
2.5000D 02	5.8663D 01	3.4375D 01	1.1323D 02	6.4559D 02	2.6624D-04	3.3933D-04	4.8620D-04	5.4759D-01
3.0000D 02	5.9511D 01	3.4161D 01	1.1278D 02	6.6062D 02	2.5246D-04	3.0637D-04	4.3624D-04	5.7872D-01
3.5000D 02	6.0384D 01	3.3977D 01	1.1235D 02	6.7449D 02	2.4081D-04	2.7957D-04	3.9593D-04	6.0821D-01
4.0000D 02	6.1277D 01	3.3814D 01	1.1195D 02	6.8738D 02	2.3074D-04	2.5725D-04	3.6258D-04	6.3639D-01
4.5000D 02	6.2184D 01	3.3671D 01	1.1158D 02	6.9945D 02	2.2191D-04	2.3832D-04	3.3446D-04	6.6347D-01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2000.0 K, CV= 0.23991D 02 J/MOL-K

P (MPA)	H-E (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
5.0000D 02	6.3104D 01	3.3542D 01	1.1122D 02	7.1081D 02	2.1407D-04	2.2203D-04	3.1041D-04	6.8964D-01
6.0000D 02	6.4970D 01	3.3322D 01	1.1056D 02	7.3173D 02	2.0072D-04	1.9538D-04	2.7137D-04	7.3967D-01
7.0000D 02	6.6862D 01	3.3141D 01	1.0996D 02	7.5067D 02	1.8975D-04	1.7450D-04	2.4104D-04	7.8719D-01
8.0000D 02	6.8769D 01	3.2992D 01	1.0940D 02	7.6802D 02	1.8055D-04	1.5769D-04	2.1685D-04	8.3264D-01
9.0000D 02	7.0685D 01	3.2870D 01	1.0888D 02	7.8406D 02	1.7275D-04	1.4389D-04	1.9714D-04	8.7631D-01
1.0000D 03	7.2606D 01	3.2769D 01	1.0838D 02	7.9900D 02	1.6606D-04	1.3238D-04	1.8081D-04	9.1842D-01
1.2000D 03	7.6448D 01	3.2620D 01	1.0748D 02	8.2621D 02	1.5527D-04	1.1436D-04	1.5549D-04	9.9856D-01
1.4000D 03	8.0275D 01	3.2527D 01	1.0665D 02	8.5065D 02	1.4703D-04	1.0099D-04	1.3691D-04	1.0739D 00
1.6000D 03	8.4077D 01	3.2475D 01	1.0588D 02	8.7298D 02	1.4066D-04	9.0755D-05	1.2285D-04	1.1450D 00
1.8000D 03	8.7844D 01	3.2456D 01	1.0516D 02	8.9368D 02	1.3570D-04	8.2744D-05	1.1194D-04	1.2123D 00
2.0000D 03	9.1573D 01	3.2462D 01	1.0448D 02	9.1310D 02	1.3182D-04	7.6353D-05	1.0331D-04	1.2760D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2100.0 K, CV= 0.11068D 01 J/G-K

P (ATM)	H-H(298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
1.0373D 01	2.5993D 03	1.8571D 00	5.1471D 00	5.1032D-01	5.8201D-04	1.1220D-04	1.8826D-04	3.0916D 00
2.0000D 01	2.5962D 03	1.8058D 00	5.1368D 00	5.1894D-01	5.3099D-04	1.0138D-04	1.6541D-04	3.2102D 00
3.0000D 01	2.5948D 03	1.7657D 00	5.1270D 00	5.2700D-01	4.9082D-04	9.2547D-05	1.4764D-04	3.3245D 00
4.0000D 01	2.5949D 03	1.7345D 00	5.1181D 00	5.3435D-01	4.5926D-04	8.5397D-05	1.3382D-04	3.4319D 00
5.0000D 01	2.5960D 03	1.7094D 00	5.1098D 00	5.4115D-01	4.3370D-04	7.9468D-05	1.2273D-04	3.5336D 00
6.0000D 01	2.5981D 03	1.6889D 00	5.1020D 00	5.4749D-01	4.1248D-04	7.4452D-05	1.1360D-04	3.6308D 00
7.0000D 01	2.6009E 03	1.6717D 00	5.0947D 00	5.5345D-01	3.9454D-04	7.0142D-05	1.0594D-04	3.7241D 00
8.0000D 01	2.6043D 03	1.6572D 00	5.0877D 00	5.5908D-01	3.7913D-04	6.6390D-05	9.9403D-05	3.8141D 00
9.0000D 01	2.6081D 03	1.6447D 00	5.0811D 00	5.6443D-01	3.6573D-04	6.3090D-05	9.3749D-05	3.9012D 00
1.0000D 02	2.6125D 03	1.6339D 00	5.0748D 00	5.6954D-01	3.5395D-04	6.0158D-05	8.8806D-05	3.9857D 00
1.1000D 02	2.6171D 03	1.6245D 00	5.0687D 00	5.7443D-01	3.4350D-04	5.7534D-05	8.4441D-05	4.0680D 00
1.2000D 02	2.6221D 03	1.6161D 00	5.0628D 00	5.7912D-01	3.3415D-04	5.5168D-05	8.0554D-05	4.1482D 00
1.3000D 02	2.6274D 03	1.6088D 00	5.0571D 00	5.8364D-01	3.2573D-04	5.3022D-05	7.7067D-05	4.2266D 00
1.4000D 02	2.6330D 03	1.6022D 00	5.0516D 00	5.8800D-01	3.1810D-04	5.1064D-05	7.3919D-05	4.3033D 00
1.5000D 02	2.6387D 03	1.5963D 00	5.0463D 00	5.9222D-01	3.1114D-04	4.9271D-05	7.1061D-05	4.3785D 00
1.6000D 02	2.6447D 03	1.5910D 00	5.0411D 00	5.9631D-01	3.0477D-04	4.7620D-05	6.8452D-05	4.4523D 00
1.7000D 02	2.6508D 03	1.5863D 00	5.0361D 00	6.0028D-01	2.9891D-04	4.6094D-05	6.6060D-05	4.5248D 00
1.8000D 02	2.6571D 03	1.5819D 00	5.0311D 00	6.0414D-01	2.9349D-04	4.4678D-05	6.3857D-05	4.5961D 00
1.9000D 02	2.6635D 03	1.5780D 00	5.0263D 00	6.0790D-01	2.8847D-04	4.3361D-05	6.1820D-05	4.6662D 00
2.0000D 02	2.6700D 03	1.5744D 00	5.0217D 00	6.1156D-01	2.8379D-04	4.2132D-05	5.9931D-05	4.7353D 00
2.5000D 02	2.7043D 03	1.5615D 00	4.9996D 00	6.2866D-01	2.6513D-04	3.7091D-05	5.2328D-05	5.0668D 00
3.0000D 02	2.7403D 03	1.5532D 00	4.9793D 00	6.4418D-01	2.5136D-04	3.3320D-05	4.6758D-05	5.3758D 00
3.5000D 02	2.7775D 03	1.5459D 00	4.9605D 00	6.5847D-01	2.3974D-04	3.0289D-05	4.2304D-05	5.6670D 00
4.0000D 02	2.8156D 03	1.5393D 00	4.9428D 00	6.7174D-01	2.2970D-04	2.7785D-05	3.8643D-05	5.9442D 00
4.5000D 02	2.8545D 03	1.5335D 00	4.9262D 00	6.8414D-01	2.2089D-04	2.5674D-05	3.5571D-05	6.2099D 00
5.0000D 02	2.8939D 03	1.5282D 00	4.9105D 00	6.9579D-01	2.1307D-04	2.3867D-05	3.2953D-05	6.4660D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2100.0 K, CV= 0.11068D 01 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATH)	BETAT (1/ATH)	GAMMAV (ATH/K)
6.0000D 02	2.9742D 03	1.5190D 00	4.8813D 00	7.1722D-01	1.9973D-04	2.0926D-05	2.8718D-05	6.9549D 00
7.0000D 02	3.0557D 03	1.5113D 00	4.8546D 00	7.3660D-01	1.8873D-04	1.8632D-05	2.5440D-05	7.4186D 00
8.0000D 02	3.1380D 03	1.5049D 00	4.8299D 00	7.5432D-01	1.7949D-04	1.6792D-05	2.2831D-05	7.8617D 00
9.0000D 02	3.2208D 03	1.4996D 00	4.8069D 00	7.7068D-01	1.7163D-04	1.5285D-05	2.0709D-05	8.2877D 00
1.0000D 03	3.3039D 03	1.4951D 00	4.7853D 00	7.8589D-01	1.6487D-04	1.4031D-05	1.8953D-05	8.6986D 00
1.2000D 03	3.4703D 03	1.4885D 00	4.7455D 00	8.1354D-01	1.5392D-04	1.2071D-05	1.6234D-05	9.4814D 00
1.4000D 03	3.6364D 03	1.4843D 00	4.7093D 00	8.3830D-01	1.4554D-04	1.0619D-05	1.4242D-05	1.0219D 01
1.6000D 03	3.8015D 03	1.4820D 00	4.6758D 00	8.6086D-01	1.3903D-04	9.5110D-06	1.2735D-05	1.0917D 01
1.8000D 03	3.9653D 03	1.4811D 00	4.6445D 00	8.8171D-01	1.3394D-04	8.6438D-06	1.1567D-05	1.1579D 01
2.0000D 03	4.1275D 03	1.4814D 00	4.6150D 00	9.0122D-01	1.2994D-04	7.9527D-06	1.0644D-05	1.2208D 01
2.2000D 03	4.2880D 03	1.4826D 00	4.5868D 00	9.1966D-01	1.2681D-04	7.3932D-06	9.9029D-06	1.2806D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2100.0 K, CV= 0.25447D 02 J/MOL-K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
1.0373D 01	5.9760D 01	4.2696D 01	1.1834D 02	5.1032D 02	5.8201D-04	1.1073D-03	1.8579D-03	3.1326D-01
2.0000D 01	5.9688D 01	4.1517D 01	1.1810D 02	5.1894D 02	5.3099D-04	1.0006D-03	1.6324D-03	3.2527D-01
3.0000D 01	5.9657D 01	4.0595D 01	1.1788D 02	5.2700D 02	4.9082D-04	9.1337D-04	1.4571D-03	3.3686D-01
4.0000D 01	5.9658D 01	3.9877D 01	1.1767D 02	5.3435D 02	4.5926D-04	8.4280D-04	1.3207D-03	3.4774D-01
5.0000D 01	5.9686D 01	3.9302D 01	1.1748D 02	5.4115D 02	4.3370D-04	7.8428D-04	1.2113D-03	3.5805D-01
6.0000D 01	5.9733D 01	3.8829D 01	1.1730D 02	5.4749D 02	4.1248D-04	7.3478D-04	1.1212D-03	3.6789D-01
7.0000D 01	5.9797D 01	3.8435D 01	1.1713D 02	5.5345D 02	3.9454D-04	6.9225D-04	1.0456D-03	3.7734D-01
8.0000D 01	5.9875D 01	3.8100D 01	1.1697D 02	5.5908D 02	3.7913D-04	6.5522D-04	9.8103D-04	3.8646D-01
9.0000D 01	5.9964D 01	3.7814D 01	1.1682D 02	5.6443D 02	3.6573D-04	6.2265D-04	9.2523D-04	3.9529D-01
1.0000D 02	6.0063D 01	3.7565D 01	1.1667D 02	5.6954D 02	3.5395D-04	5.9372D-04	8.7645D-04	4.0385D-01
1.1000D 02	6.0171D 01	3.7348D 01	1.1653D 02	5.7443D 02	3.4350D-04	5.6781D-04	8.3336D-04	4.1219D-01
1.2000D 02	6.0286D 01	3.7157D 01	1.1640D 02	5.7912D 02	3.3415D-04	5.4446D-04	7.9500D-04	4.2032D-01
1.3000D 02	6.0407D 01	3.6987D 01	1.1627D 02	5.8364D 02	3.2573D-04	5.2328D-04	7.6059D-04	4.2826D-01
1.4000D 02	6.0534D 01	3.6836D 01	1.1614D 02	5.8800D 02	3.1810D-04	5.0397D-04	7.2953D-04	4.3604D-01
1.5000D 02	6.0667D 01	3.6701D 01	1.1602D 02	5.9222D 02	3.1114D-04	4.8626D-04	7.0132D-04	4.4365D-01
1.6000D 02	6.0803D 01	3.6579D 01	1.1590D 02	5.9631D 02	3.0477D-04	4.6997D-04	6.7557D-04	4.5113D-01
1.7000D 02	6.0944D 01	3.6470D 01	1.1578D 02	6.0028D 02	2.9891D-04	4.5491D-04	6.5196D-04	4.5848D-01
1.8000D 02	6.1088D 01	3.6370D 01	1.1567D 02	6.0414D 02	2.9349D-04	4.4094D-04	6.3022D-04	4.6570D-01
1.9000D 02	6.1236D 01	3.6280D 01	1.1556D 02	6.0790D 02	2.8847D-04	4.2794D-04	6.1012D-04	4.7281D-01
2.0000D 02	6.1387D 01	3.6197D 01	1.1545D 02	6.1156D 02	2.8379D-04	4.1581D-04	5.9148D-04	4.7981D-01
2.5000D 02	6.2174D 01	3.5901D 01	1.1495D 02	6.2866D 02	2.6513D-04	3.6606D-04	5.1644D-04	5.1339D-01
3.0000D 02	6.3002D 01	3.5709D 01	1.1448D 02	6.4418D 02	2.5136D-04	3.2885D-04	4.6146D-04	5.4471D-01
3.5000D 02	6.3857D 01	3.5541D 01	1.1405D 02	6.5847D 02	2.3974D-04	2.9893D-04	4.1750D-04	5.7421D-01
4.0000D 02	6.4734D 01	3.5391D 01	1.1364D 02	6.7174D 02	2.2970D-04	2.7422D-04	3.8137D-04	6.0229D-01
4.5000D 02	6.5627D 01	3.5256D 01	1.1326D 02	6.8414D 02	2.2089D-04	2.5339D-04	3.5106D-04	6.2922D-01
5.0000D 02	6.6534D 01	3.5134D 01	1.1290D 02	6.9579D 02	2.1307D-04	2.3555D-04	3.2522D-04	6.5517D-01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2100.0 K, CV= 0.25447D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMA V (MPa/K)
6.0000D 02	6.8379D 01	3.4922D 01	1.1223D 02	7.1722D 02	1.9973D-04	2.0652D-04	2.8342D-04	7.0471D-01
7.0000D 02	7.0252D 01	3.4746D 01	1.1161D 02	7.3660D 02	1.8873D-04	1.8388D-04	2.5108D-04	7.5168D-01
8.0000D 02	7.2145D 01	3.4599D 01	1.1105D 02	7.5432D 02	1.7949D-04	1.6572D-04	2.2532D-04	7.9659D-01
9.0000D 02	7.4049D 01	3.4476D 01	1.1052D 02	7.7068D 02	1.7163D-04	1.5085D-04	2.0438D-04	8.3975D-01
1.0000D 03	7.5959D 01	3.4375D 01	1.1002D 02	7.8589D 02	1.6487D-04	1.3848D-04	1.8706D-04	8.8138D-01
1.2000D 03	7.9786D 01	3.4223D 01	1.0910D 02	8.1354D 02	1.5392D-04	1.1913D-04	1.6022D-04	9.6071D-01
1.4000D 03	8.3605D 01	3.4127D 01	1.0827D 02	8.3830D 02	1.4554D-04	1.0481D-04	1.4055D-04	1.0355D 00
1.6000D 03	8.7401D 01	3.4073D 01	1.0750D 02	8.6086D 02	1.3903D-04	9.3866D-05	1.2568D-04	1.1062D 00
1.8000D 03	9.1166D 01	3.4052D 01	1.0678D 02	8.8171D 02	1.3394D-04	8.5308D-05	1.1416D-04	1.1733D 00
2.0000D 03	9.4896D 01	3.4059D 01	1.0610D 02	9.0122D 02	1.2994D-04	7.8487D-05	1.0505D-04	1.2370D 00
2.2000D 03	9.8585D 01	3.4086D 01	1.0545D 02	9.1966D 02	1.2681D-04	7.2965D-05	9.7734D-05	1.2975D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2200.0 K, CV= 0.11966D 01 J/G-K

P (ATM)	H-H(298) (KJ/G)	CP (J/G-K)	S (J/G-K)	FHO (G/CC)	ALPHA P (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMA V (ATM/K)
1.3355D 01	2.7938D 03	2.1010D 00	5.2348D 00	4.8169D-01	7.1770D-04	1.5010D-04	2.6356D-04	2.7230D 00
2.0000D 01	2.7870D 03	2.0299D 00	5.2255D 00	4.8952D-01	6.4889D-04	1.3563D-04	2.3009D-04	2.8201D 00
3.0000D 01	2.7800D 03	1.9538D 00	5.2132D 00	4.9984D-01	5.7514D-04	1.1931D-04	1.9482D-04	2.9522D 00
4.0000D 01	2.7760D 03	1.8997D 00	5.2023D 00	5.0889D-01	5.2251D-04	1.0712D-04	1.7008D-04	3.0721D 00
5.0000D 01	2.7740D 03	1.8591D 00	5.1925D 00	5.1701D-01	4.8269D-04	9.7598D-05	1.5164D-04	3.1832D 00
6.0000D 01	2.7735D 03	1.8273D 00	5.1836D 00	5.2442D-01	4.5134D-04	8.9900D-05	1.3729D-04	3.2875D 00
7.0000D 01	2.7741D 03	1.8017D 00	5.1753D 00	5.3126D-01	4.2589D-04	8.3525D-05	1.2577D-04	3.3863D 00
8.0000D 01	2.7758D 03	1.7807D 00	5.1675D 00	5.3763D-01	4.0476D-04	7.8141D-05	1.1629D-04	3.4807D 00
9.0000D 01	2.7782D 03	1.7631D 00	5.1602D 00	5.4362D-01	3.8688D-04	7.3521D-05	1.0833D-04	3.5712D 00
1.0000D 02	2.7812D 03	1.7482D 00	5.1532D 00	5.4928D-01	3.7152D-04	6.9507D-05	1.0155D-04	3.6585D 00
1.1000D 02	2.7848D 03	1.7354D 00	5.1466D 00	5.5464D-01	3.5817D-04	6.5979D-05	9.5691D-05	3.7430D 00
1.2000D 02	2.7888D 03	1.7243D 00	5.1403D 00	5.5976D-01	3.4644D-04	6.2851D-05	9.0571D-05	3.8250D 00
1.3000D 02	2.7933D 03	1.7146D 00	5.1342D 00	5.6466D-01	3.3603D-04	6.0054D-05	8.6054D-05	3.9049D 00
1.4000D 02	2.7980D 03	1.7060D 00	5.1284D 00	5.6936D-01	3.2672D-04	5.7536D-05	8.2035D-05	3.9827D 00
1.5000D 02	2.8031D 03	1.6985D 00	5.1228D 00	5.7389D-01	3.1835D-04	5.5256D-05	7.8434D-05	4.0588D 00
1.6000D 02	2.8085D 03	1.6917D 00	5.1173D 00	5.7825D-01	3.1076D-04	5.3178D-05	7.5185D-05	4.1333D 00
1.7000D 02	2.8141D 03	1.6857D 00	5.1120D 00	5.8247D-01	3.0385D-04	5.1277D-05	7.2238D-05	4.2062D 00
1.8000D 02	2.8199D 03	1.6803D 00	5.1069D 00	5.8656D-01	2.9752D-04	4.9528D-05	6.9550D-05	4.2778D 00
1.9000D 02	2.8258D 03	1.6754D 00	5.1019D 00	5.9053D-01	2.9171D-04	4.7914D-05	6.7087D-05	4.3482D 00
2.0000D 02	2.8320D 03	1.6709D 00	5.0970D 00	5.9438D-01	2.8634D-04	4.6418D-05	6.4821D-05	4.4174D 00
2.5000D 02	2.8647D 03	1.6540D 00	5.0742D 00	6.1224D-01	2.6460D-04	4.0314D-05	5.5727D-05	4.7483D 00
3.0000D 02	2.8999D 03	1.6441D 00	5.0535D 00	6.2825D-01	2.4933D-04	3.5871D-05	4.9287D-05	5.0587D 00
3.5000D 02	2.9364D 03	1.6379D 00	5.0344D 00	6.4293D-01	2.3792D-04	3.2484D-05	4.4467D-05	5.3505D 00
4.0000D 02	2.9739D 03	1.6323D 00	5.0165D 00	6.5653D-01	2.2806D-04	2.9710D-05	4.0529D-05	5.6271D 00
4.5000D 02	3.0122D 03	1.6271D 00	4.9996D 00	6.6924D-01	2.1939D-04	2.7385D-05	3.7239D-05	5.8914D 00
5.0000D 02	3.0512D 03	1.6223D 00	4.9836D 00	6.8117D-01	2.1167D-04	2.5404D-05	3.4443D-05	6.1456D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2200.0 K, CV= 0.11966D 01 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	BHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
6.0000D 02	3.1305D 03	1.6137D 00	4.9540D 00	7.0308D-01	1.9846D-04	2.2197D-05	2.9935D-05	6.6297D 00
7.0000D 02	3.2112D 03	1.6064D 00	4.9270D 00	7.2287D-01	1.8752D-04	1.9706D-05	2.6457D-05	7.0879D 00
8.0000D 02	3.2929D 03	1.6002D 00	4.9020D 00	7.4094D-01	1.7830D-04	1.7716D-05	2.3693D-05	7.5255D 00
9.0000D 02	3.3752D 03	1.5950D 00	4.8788D 00	7.5761D-01	1.7042D-04	1.6089D-05	2.1447D-05	7.9460D 00
1.0000D 03	3.4579D 03	1.5906D 00	4.8569D 00	7.7308D-01	1.6363D-04	1.4738D-05	1.9592D-05	8.3518D 00
1.2000D 03	3.6237D 03	1.5840D 00	4.8168D 00	8.0117D-01	1.5257D-04	1.2630D-05	1.6719D-05	9.1255D 00
1.4000D 03	3.7893D 03	1.5797D 00	4.7804D 00	8.2625D-01	1.4407D-04	1.1072D-05	1.4617D-05	9.8560D 00
1.6000D 03	3.9542D 03	1.5772D 00	4.7468D 00	8.4904D-01	1.3744D-04	9.8843D-06	1.3029D-05	1.0549D 01
1.8000D 03	4.1179D 03	1.5763D 00	4.7155D 00	8.7006D-01	1.3223D-04	8.9559D-06	1.1798D-05	1.1208D 01
2.0000D 03	4.2801D 03	1.5765D 00	4.6859D 00	8.8967D-01	1.2812D-04	8.2165D-06	1.0825D-05	1.1835D 01
2.2000D 03	4.4407D 03	1.5777D 00	4.6578D 00	9.0816D-01	1.2489D-04	7.6184D-06	1.0045D-05	1.2433D 01
2.4000D 03	4.5995D 03	1.5797D 00	4.6308D 00	9.2575D-01	1.2236D-04	7.1282D-06	9.4105D-06	1.3003D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2200.0 K, CV= 0.27510D 02 J/MOL-K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
1.3355D 01	6.4232D 01	4.8304D 01	1.2035D 02	4.8169D 02	7.1770D-04	1.4814D-03	2.6012D-03	2.7591D-01
2.0000D 01	6.4075D 01	4.6669D 01	1.2014D 02	4.8952D 02	6.4889D-04	1.3386D-03	2.2708D-03	2.8575D-01
3.0000D 01	6.3916D 01	4.4920D 01	1.1986D 02	4.9984D 02	5.7514D-04	1.1775D-03	1.9227D-03	2.9913D-01
4.0000D 01	6.3823D 01	4.3677D 01	1.1961D 02	5.0889D 02	5.2251D-04	1.0572D-03	1.6785D-03	3.1129D-01
5.0000D 01	6.3776D 01	4.2742D 01	1.1938D 02	5.1701D 02	4.8269D-04	9.6321D-04	1.4965D-03	3.2254D-01
6.0000D 01	6.3765D 01	4.2011D 01	1.1918D 02	5.2442D 02	4.5134D-04	8.8725D-04	1.3549D-03	3.3311D-01
7.0000D 01	6.3780D 01	4.1423D 01	1.1898D 02	5.3126D 02	4.2589D-04	8.2432D-04	1.2412D-03	3.4312D-01
8.0000D 01	6.3818D 01	4.0940D 01	1.1881D 02	5.3763D 02	4.0476D-04	7.7119D-04	1.1477D-03	3.5268D-01
9.0000D 01	6.3873D 01	4.0536D 01	1.1864D 02	5.4362D 02	3.8688D-04	7.2560D-04	1.0692D-03	3.6185D-01
1.0000D 02	6.3943D 01	4.0193D 01	1.1848D 02	5.4928D 02	3.7152D-04	6.8598D-04	1.0022D-03	3.7070D-01
1.1000D 02	6.4025D 01	3.9898D 01	1.1833D 02	5.5464D 02	3.5817D-04	6.5116D-04	9.4439D-04	3.7926D-01
1.2000D 02	6.4118D 01	3.9643D 01	1.1818D 02	5.5976D 02	3.4644D-04	6.2029D-04	8.9386D-04	3.8757D-01
1.3000D 02	6.4220D 01	3.9420D 01	1.1804D 02	5.6466D 02	3.3603D-04	5.9269D-04	8.4928D-04	3.9566D-01
1.4000D 02	6.4330D 01	3.9223D 01	1.1791D 02	5.6936D 02	3.2672D-04	5.6784D-04	8.0962D-04	4.0355D-01
1.5000D 02	6.4447D 01	3.9049D 01	1.1778D 02	5.7389D 02	3.1835D-04	5.4533D-04	7.7408D-04	4.1126D-01
1.6000D 02	6.4570D 01	3.8894D 01	1.1765D 02	5.7825D 02	3.1076D-04	5.2483D-04	7.4202D-04	4.1880D-01
1.7000D 02	6.4698D 01	3.8756D 01	1.1753D 02	5.8247D 02	3.0385D-04	5.0606D-04	7.1293D-04	4.2620D-01
1.8000D 02	6.4831D 01	3.8631D 01	1.1741D 02	5.8656D 02	2.9752D-04	4.8880D-04	6.8640D-04	4.3345D-01
1.9000D 02	6.4969D 01	3.8518D 01	1.1730D 02	5.9053D 02	2.9171D-04	4.7287D-04	6.6210D-04	4.4056D-01
2.0000D 02	6.5110D 01	3.8417D 01	1.1718D 02	5.9438D 02	2.8634D-04	4.5811D-04	6.3974D-04	4.4759D-01
2.5000D 02	6.5863D 01	3.8028D 01	1.1666D 02	6.1224D 02	2.6460D-04	3.9787D-04	5.4998D-04	4.8112D-01
3.0000D 02	6.6671D 01	3.7799D 01	1.1619D 02	6.2825D 02	2.4933D-04	3.5402D-04	4.8643D-04	5.1257D-01
3.5000D 02	6.7510D 01	3.7658D 01	1.1575D 02	6.4293D 02	2.3792D-04	3.2059D-04	4.3886D-04	5.4214D-01
4.0000D 02	6.8373D 01	3.7528D 01	1.1533D 02	6.5653D 02	2.2806D-04	2.9321D-04	3.9999D-04	5.7017D-01
4.5000D 02	6.9254D 01	3.7408D 01	1.1495D 02	6.6924D 02	2.1939D-04	2.7027D-04	3.6752D-04	5.9695D-01
5.0000D 02	7.0149D 01	3.7298D 01	1.1458D 02	6.8117D 02	2.1167D-04	2.5072D-04	3.3992D-04	6.2271D-01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2200.0 K, CV= 0.27510D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMA V (MPa/K)
6.0000D 02	7.1974D 01	3.7101D 01	1.1390D 02	7.0308D 02	1.9846D-04	2.1906D-04	2.9544D-04	6.7175D-01
7.0000D 02	7.3830D 01	3.6934D 01	1.1328D 02	7.2287D 02	1.8752D-04	1.9449D-04	2.6111D-04	7.1818D-01
8.0000D 02	7.5708D 01	3.6791D 01	1.1270D 02	7.4094D 02	1.7830D-04	1.7484D-04	2.3383D-04	7.6252D-01
9.0000D 02	7.7599D 01	3.6671D 01	1.1217D 02	7.5761D 02	1.7042D-04	1.5879D-04	2.1167D-04	8.0513D-01
1.0000D 03	7.9500D 01	3.6570D 01	1.1167D 02	7.7308D 02	1.6363D-04	1.4545D-04	1.9336D-04	8.4624D-01
1.2000D 03	8.3312D 01	3.6417D 01	1.1074D 02	8.0117D 02	1.5257D-04	1.2465D-04	1.6501D-04	9.2465D-01
1.4000D 03	8.7120D 01	3.6318D 01	1.0991D 02	8.2625D 02	1.4407D-04	1.0928D-04	1.4426D-04	9.9866D-01
1.6000D 03	9.0911D 01	3.6262D 01	1.0913D 02	8.4904D 02	1.3744D-04	9.7550D-05	1.2858D-04	1.0689D 00
1.8000D 03	9.4674D 01	3.6240D 01	1.0841D 02	8.7006D 02	1.3223D-04	8.8388D-05	1.1644D-04	1.1356D 00
2.0000D 03	9.8404D 01	3.6245D 01	1.0773D 02	8.8967D 02	1.2812D-04	8.1090D-05	1.0684D-04	1.1992D 00
2.2000D 03	1.0210D 02	3.6273D 01	1.0709D 02	9.0816D 02	1.2489D-04	7.5188D-05	9.9138D-05	1.2598D 00
2.4000D 03	1.0575D 02	3.6318D 01	1.0647D 02	9.2575D 02	1.2236D-04	7.0350D-05	9.2874D-05	1.3175D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2300.0 K, CV= 0.13443D 01 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMHAY (ATM/K)
1.6813D 01	3.0170D 03	2.5487D 00	5.3307D 00	4.4811D-01	9.9215D-04	2.2420D-04	4.2507D-04	2.3341D 00
2.0000D 01	3.0086D 03	2.4592D 00	5.3240D 00	4.5379D-01	9.0572D-04	2.0654D-04	3.7785D-04	2.3970D 00
3.0000D 01	2.9899D 03	2.2779D 00	5.3064D 00	4.6865D-01	7.3142D-04	1.6815D-04	2.8494D-04	2.5669D 00
4.0000D 01	2.9782D 03	2.1707D 00	5.2922D 00	4.8066D-01	6.2887D-04	1.4369D-04	2.3202D-04	2.7104D 00
5.0000D 01	2.9708D 03	2.0986D 00	5.2800D 00	4.9090D-01	5.5999D-04	1.2642D-04	1.9736D-04	2.8375D 00
6.0000D 01	2.9662D 03	2.0464D 00	5.2692D 00	4.9991D-01	5.0996D-04	1.1344D-04	1.7268D-04	2.9532D 00
7.0000D 01	2.9636D 03	2.0065D 00	5.2595D 00	5.0802D-01	4.7170D-04	1.0326D-04	1.5413D-04	3.0605D 00
8.0000D 01	2.9627D 03	1.9751D 00	5.2505D 00	5.1542D-01	4.4133D-04	9.5016D-05	1.3960D-04	3.1613D 00
9.0000D 01	2.9630D 03	1.9497D 00	5.2423D 00	5.2226D-01	4.1655D-04	8.8185D-05	1.2790D-04	3.2569D 00
1.0000D 02	2.9642D 03	1.9286D 00	5.2346D 00	5.2863D-01	3.9588D-04	8.2415D-05	1.1824D-04	3.3481D 00
1.1000D 02	2.9663D 03	1.9109D 00	5.2273D 00	5.3462D-01	3.7835D-04	7.7466D-05	1.1012D-04	3.4358D 00
1.2000D 02	2.9690D 03	1.8959D 00	5.2204D 00	5.4027D-01	3.6326D-04	7.3166D-05	1.0319D-04	3.5203D 00
1.3000D 02	2.9724D 03	1.8830D 00	5.2138D 00	5.4564D-01	3.5012D-04	6.9391D-05	9.7197D-05	3.6021D 00
1.4000D 02	2.9762D 03	1.8717D 00	5.2075D 00	5.5075D-01	3.3855D-04	6.6046D-05	9.1959D-05	3.6816D 00
1.5000D 02	2.9804D 03	1.8619D 00	5.2015D 00	5.5564D-01	3.2829D-04	6.3058D-05	8.7336D-05	3.7589D 00
1.6000D 02	2.9850D 03	1.8532D 00	5.1957D 00	5.6034D-01	3.1911D-04	6.0370D-05	8.3224D-05	3.8343D 00
1.7000D 02	2.9899D 03	1.8455D 00	5.1901D 00	5.6485D-01	3.1084D-04	5.7937D-05	7.9538D-05	3.9080D 00
1.8000D 02	2.9950D 03	1.8386D 00	5.1847D 00	5.6921D-01	3.0335D-04	5.5723D-05	7.6214D-05	3.9802D 00
1.9000D 02	3.0005D 03	1.8325D 00	5.1795D 00	5.7342D-01	2.9653D-04	5.3698D-05	7.3200D-05	4.0509D 00
2.0000D 02	3.0061D 03	1.8270D 00	5.1744D 00	5.7750D-01	2.9028D-04	5.1838D-05	7.0451D-05	4.1204D 00
2.5000D 02	3.0370D 03	1.8062D 00	5.1507D 00	5.9623D-01	2.6553D-04	4.4400D-05	5.9659D-05	4.4509D 00
3.0000D 02	3.0709D 03	1.7930D 00	5.1296D 00	6.1284D-01	2.4792D-04	3.9053D-05	5.2089D-05	4.7596D 00
3.5000D 02	3.1068D 03	1.7854D 00	5.1101D 00	6.2789D-01	2.3526D-04	3.5065D-05	4.6572D-05	5.0516D 00
4.0000D 02	3.1438D 03	1.7810D 00	5.0920D 00	6.4180D-01	2.2574D-04	3.1980D-05	4.2370D-05	5.3279D 00
4.5000D 02	3.1817D 03	1.7768D 00	5.0749D 00	6.5478D-01	2.1733D-04	2.9409D-05	3.8871D-05	5.5911D 00
5.0000D 02	3.2202D 03	1.7727D 00	5.0587D 00	6.6696D-01	2.0982D-04	2.7228D-05	3.5906D-05	5.8435D 00

SUBCOOLED SODIUM LIQUID PROPPRTIES AT T = 2300.0 K, CV= 0.13443D 01 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
6.0000D 02	3.2987D 03	1.7652D 00	5.0288D 00	6.8932D-01	1.9688D-04	2.3713D-05	3.1138D-05	6.3230D 00
7.0000D 02	3.3788D 03	1.7585D 00	5.0014D 00	7.0949D-01	1.8610D-04	2.0996D-05	2.7466D-05	6.7758D 00
8.0000D 02	3.4598D 03	1.7527D 00	4.9762D 00	7.2790D-01	1.7696D-04	1.8831D-05	2.4552D-05	7.2078D 00
9.0000D 02	3.5416D 03	1.7476D 00	4.9527D 00	7.4485D-01	1.6912D-04	1.7066D-05	2.2186D-05	7.6226D 00
1.0000D 03	3.6238D 03	1.7433D 00	4.9307D 00	7.6059D-01	1.6233D-04	1.5601D-05	2.0233D-05	8.0230D 00
1.2000D 03	3.7890D 03	1.7367D 00	4.8903D 00	7.8909D-01	1.5122D-04	1.3321D-05	1.7210D-05	8.7869D 00
1.4000D 03	3.9542D 03	1.7324D 00	4.8537D 00	8.1449D-01	1.4263D-04	1.1639D-05	1.4999D-05	9.5091D 00
1.6000D 03	4.1188D 03	1.7298D 00	4.8200D 00	8.3752D-01	1.3589D-04	1.0358D-05	1.3328D-05	1.0195D 01
1.8000D 03	4.2824D 03	1.7288D 00	4.7886D 00	8.5870D-01	1.3057D-04	9.3580D-06	1.2034D-05	1.0850D 01
2.0000D 03	4.4447D 03	1.7289D 00	4.7590D 00	8.7842D-01	1.2636D-04	8.5622D-06	1.1012D-05	1.1474D 01
2.2000D 03	4.6054D 03	1.7301D 00	4.7310D 00	8.9697D-01	1.2303D-04	7.9191D-06	1.0192D-05	1.2071D 01
2.4000D 03	4.7644D 03	1.7321D 00	4.7041D 00	9.1458D-01	1.2041D-04	7.3925D-06	9.5255D-06	1.2641D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2300.0 K, CV= 0.30906D 02 J/MOL-K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
1.6813D 01	6.9363D 01	5.8596D 01	1.2256D 02	4.4811D 02	9.9215D-04	2.2127D-03	4.1951D-03	2.3650D-01
2.0000D 01	6.9172D 01	5.6540D 01	1.2240D 02	4.5379D 02	9.0572D-04	2.0384D-03	3.7291D-03	2.4288D-01
3.0000D 01	6.8742D 01	5.2372D 01	1.2200D 02	4.6865D 02	7.3142D-04	1.6595D-03	2.8121D-03	2.6009D-01
4.0000D 01	6.8473D 01	4.9907D 01	1.2167D 02	4.8066D 02	6.2887D-04	1.4181D-03	2.2899D-03	2.7463D-01
5.0000D 01	6.8301D 01	4.8250D 01	1.2139D 02	4.9090D 02	5.5999D-04	1.2476D-03	1.9478D-03	2.8750D-01
6.0000D 01	6.8195D 01	4.7048D 01	1.2114D 02	4.9991D 02	5.0996D-04	1.1195D-03	1.7043D-03	2.9923D-01
7.0000D 01	6.8137D 01	4.6132D 01	1.2092D 02	5.0802D 02	4.7170D-04	1.0191D-03	1.5211D-03	3.1010D-01
8.0000D 01	6.8115D 01	4.5410D 01	1.2072D 02	5.1542D 02	4.4133D-04	9.3773D-04	1.3778D-03	3.2032D-01
9.0000D 01	6.8121D 01	4.4825D 01	1.2053D 02	5.2226D 02	4.1655D-04	8.7032D-04	1.2623D-03	3.3000D-01
1.0000D 02	6.8151D 01	4.4341D 01	1.2035D 02	5.2863D 02	3.9588D-04	8.1337D-04	1.1669D-03	3.3925D-01
1.1000D 02	6.8198D 01	4.3935D 01	1.2018D 02	5.3462D 02	3.7835D-04	7.6453D-04	1.0868D-03	3.4813D-01
1.2000D 02	6.8261D 01	4.3589D 01	1.2002D 02	5.4027D 02	3.6326D-04	7.2210D-04	1.0184D-03	3.5669D-01
1.3000D 02	6.8337D 01	4.3291D 01	1.1987D 02	5.4564D 02	3.5012D-04	6.8484D-04	9.5926D-04	3.6498D-01
1.4000D 02	6.8425D 01	4.3032D 01	1.1973D 02	5.5075D 02	3.3855D-04	6.5182D-04	9.0756D-04	3.7303D-01
1.5000D 02	6.8522D 01	4.2806D 01	1.1959D 02	5.5564D 02	3.2829D-04	6.2233D-04	8.6194D-04	3.8087D-01
1.6000D 02	6.8627D 01	4.2606D 01	1.1945D 02	5.6034D 02	3.1911D-04	5.9580D-04	8.2135D-04	3.8851D-01
1.7000D 02	6.8740D 01	4.2430D 01	1.1933D 02	5.6485D 02	3.1084D-04	5.7179D-04	7.8498D-04	3.9598D-01
1.8000D 02	6.8859D 01	4.2272D 01	1.1920D 02	5.6921D 02	3.0335D-04	5.4994D-04	7.5218D-04	4.0329D-01
1.9000D 02	6.8984D 01	4.2131D 01	1.1908D 02	5.7342D 02	2.9653D-04	5.2996D-04	7.2243D-04	4.1046D-01
2.0000D 02	6.9114D 01	4.2004D 01	1.1896D 02	5.7750D 02	2.9028D-04	5.1160D-04	6.9530D-04	4.1750D-01
2.5000D 02	6.9823D 01	4.1527D 01	1.1842D 02	5.9623D 02	2.6553D-04	4.3820D-04	5.8878D-04	4.5098D-01
3.0000D 02	7.0604D 01	4.1223D 01	1.1793D 02	6.1284D 02	2.4792D-04	3.8542D-04	5.1408D-04	4.8227D-01
3.5000D 02	7.1429D 01	4.1048D 01	1.1749D 02	6.2789D 02	2.3526D-04	3.4607D-04	4.5963D-04	5.1185D-01
4.0000D 02	7.2280D 01	4.0947D 01	1.1707D 02	6.4180D 02	2.2574D-04	3.1562D-04	4.1816D-04	5.3985D-01
4.5000D 02	7.3150D 01	4.0850D 01	1.1668D 02	6.5478D 02	2.1733D-04	2.9025D-04	3.8363D-04	5.6651D-01
5.0000D 02	7.4035D 01	4.0756D 01	1.1631D 02	6.6696D 02	2.0982D-04	2.6872D-04	3.5436D-04	5.9210D-01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2300.0 K, CV= 0.30906D 02 J/MOL-K

P (MPa)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMA (MPa/K)
6.0000D 02	7.5841D 01	4.0583D 01	1.1562D 02	6.8932D 02	1.9688D-04	2.3403D-04	3.0731D-04	6.4068D-01
7.0000D 02	7.7681D 01	4.0430D 01	1.1499D 02	7.0949D 02	1.8610D-04	2.0722D-04	2.7107D-04	6.8656D-01
8.0000D 02	7.9545D 01	4.0295D 01	1.1441D 02	7.2790D 02	1.7696D-04	1.8585D-04	2.4231D-04	7.3033D-01
9.0000D 02	8.1425D 01	4.0180D 01	1.1387D 02	7.4485D 02	1.6912D-04	1.6843D-04	2.1896D-04	7.7236D-01
1.0000D 03	8.3316D 01	4.0081D 01	1.1336D 02	7.6059D 02	1.6233D-04	1.5397D-04	1.9968D-04	8.1293D-01
1.2000D 03	8.7112D 01	3.9929D 01	1.1243D 02	7.8909D 02	1.5122D-04	1.3147D-04	1.6985D-04	8.9033D-01
1.4000D 03	9.0910D 01	3.9828D 01	1.1159D 02	8.1449D 02	1.4263D-04	1.1487D-04	1.4803D-04	9.6351D-01
1.6000D 03	9.4695D 01	3.9770D 01	1.1082D 02	8.3752D 02	1.3589D-04	1.0222D-04	1.3154D-04	1.0331D 00
1.8000D 03	9.8457D 01	3.9746D 01	1.1009D 02	8.5870D 02	1.3057D-04	9.2356D-05	1.1877D-04	1.0993D 00
2.0000D 03	1.0219D 02	3.9750D 01	1.0942D 02	8.7842D 02	1.2636D-04	8.4503D-05	1.0868D-04	1.1626D 00
2.2000D 03	1.0588D 02	3.9777D 01	1.0877D 02	8.9697D 02	1.2303D-04	7.8156D-05	1.0059D-04	1.2231D 00
2.4000D 03	1.0954D 02	3.9824D 01	1.0815D 02	9.1458D 02	1.2041D-04	7.2958D-05	9.4009D-05	1.2808D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2400.0 K, CV= 0.16826D 01 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMHAY (ATM/K)
2.0757D 01	3.2984D 03	3.6863D 00	5.4463D 00	4.0322D-01	1.7766D-03	4.3368D-04	9.5011D-04	1.8699D 00
3.0000D 01	3.2480D 03	3.0015D 00	5.4161D 00	4.2906D-01	1.0923D-03	2.8747D-04	5.1279D-04	2.1302D 00
4.0000D 01	3.2191D 03	2.7304D 00	5.3946D 00	4.4739D-01	8.2863D-04	2.1953D-04	3.5623D-04	2.3261D 00
5.0000D 01	3.2013D 03	2.5851D 00	5.3780D 00	4.6144D-01	6.8954D-04	1.8072D-04	2.7765D-04	2.4835D 00
6.0000D 01	3.1897D 03	2.4923D 00	5.3643D 00	4.7306D-01	6.0141D-04	1.5503D-04	2.2964D-04	2.6190D 00
7.0000D 01	3.1821D 03	2.4272D 00	5.3524D 00	4.8307D-01	5.3977D-04	1.3657D-04	1.9699D-04	2.7400D 00
8.0000D 01	3.1772E 03	2.3786D 00	5.3418D 00	4.9195D-01	4.9384D-04	1.2254D-04	1.7323D-04	2.8508D 00
9.0000D 01	3.1744D 03	2.3408D 00	5.3322D 00	4.9997D-01	4.5811D-04	1.1148D-04	1.5508D-04	2.9539D 00
1.0000D 02	3.1731D 03	2.3106D 00	5.3234D 00	5.0731D-01	4.2940D-04	1.0249D-04	1.4074D-04	3.0510D 00
1.1000D 02	3.1731D 03	2.2859D 00	5.3152D 00	5.1410D-01	4.0576D-04	9.5026D-05	1.2910D-04	3.1431D 00
1.2000D 02	3.1740D 03	2.2653D 00	5.3076D 00	5.2044D-01	3.8592D-04	8.8716D-05	1.1944D-04	3.2311D 00
1.3000D 02	3.1758D 03	2.2479D 00	5.3004D 00	5.2639D-01	3.6900D-04	8.3303D-05	1.1129D-04	3.3157D 00
1.4000D 02	3.1783D 03	2.2330D 00	5.2935D 00	5.3201D-01	3.5438D-04	7.8600D-05	1.0431D-04	3.3974D 00
1.5000D 02	3.1814D 03	2.2201D 00	5.2870D 00	5.3736D-01	3.4160D-04	7.4472D-05	9.8259D-05	3.4765D 00
1.6000D 02	3.1850D 03	2.2088D 00	5.2808D 00	5.4245D-01	3.3033D-04	7.0817D-05	9.2963D-05	3.5533D 00
1.7000D 02	3.1891D 03	2.1990D 00	5.2748D 00	5.4732D-01	3.2030D-04	6.7554D-05	8.8284D-05	3.6281D 00
1.8000D 02	3.1935D 03	2.1903D 00	5.2691D 00	5.5199D-01	3.1133D-04	6.4622D-05	8.4117D-05	3.7011D 00
1.9000D 02	3.1982D 03	2.1825D 00	5.2636D 00	5.5649D-01	3.0323D-04	6.1970D-05	8.0381D-05	3.7724D 00
2.0000D 02	3.2032D 03	2.1756D 00	5.2582D 00	5.6083D-01	2.9589D-04	5.9559D-05	7.7008D-05	3.8423D 00
2.5000D 02	3.2318D 03	2.1501D 00	5.2336D 00	5.8056D-01	2.6742D-04	5.0150D-05	6.4082D-05	4.1731D 00
3.0000D 02	3.2643D 03	2.1342D 00	5.2118D 00	5.9784D-01	2.4778D-04	4.3604D-05	5.5306D-05	4.4801D 00
3.5000D 02	3.2993D 03	2.1238D 00	5.1920D 00	6.1337D-01	2.3327D-04	3.8749D-05	4.8908D-05	4.7696D 00
4.0000D 02	3.3358D 03	2.1180D 00	5.1736D 00	6.2757D-01	2.2266D-04	3.5062D-05	4.4133D-05	5.0452D 00
4.5000D 02	3.3733D 03	2.1150D 00	5.1564D 00	6.4078D-01	2.1466D-04	3.2176D-05	4.0445D-05	5.3075D 00
5.0000D 02	3.4114D 03	2.1120D 00	5.1401D 00	6.5318D-01	2.0746D-04	2.9736D-05	3.7323D-05	5.5584D 00
6.0000D 02	3.4893D 03	2.1058D 00	5.1098D 00	6.7594D-01	1.9496D-04	2.5819D-05	3.2313D-05	6.0335D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2400.0 K, CV= 0.16826D 01 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
7.0000D 02	3.5687D 03	2.1000D 00	5.0822D 00	6.9646D-01	1.8444D-04	2.2802D-05	2.8459D-05	6.4811D 00
8.0000D 02	3.6492D 03	2.0948D 00	5.0567D 00	7.1518D-01	1.7546D-04	2.0404D-05	2.5402D-05	6.9074D 00
9.0000D 02	3.7305D 03	2.0901D 00	5.0330D 00	7.3241D-01	1.6771D-04	1.8453D-05	2.2921D-05	7.3166D 00
1.0000D 03	3.8123D 03	2.0860D 00	5.0109D 00	7.4839D-01	1.6096D-04	1.6837D-05	2.0873D-05	7.7113D 00
1.2000D 03	3.9768D 03	2.0795D 00	4.9702D 00	7.7730D-01	1.4986D-04	1.4325D-05	1.7703D-05	8.4648D 00
1.4000D 03	4.1416D 03	2.0751D 00	4.9334D 00	8.0301D-01	1.4120D-04	1.2475D-05	1.5385D-05	9.1780D 00
1.6000D 03	4.3059D 03	2.0725D 00	4.8996D 00	8.2628D-01	1.3438D-04	1.1069D-05	1.3633D-05	9.8569D 00
1.8000D 03	4.4694D 03	2.0713D 00	4.8681D 00	8.4763D-01	1.2897D-04	9.9725D-06	1.2276D-05	1.0505D 01
2.0000D 03	4.6317D 03	2.0714D 00	4.8386D 00	8.6747D-01	1.2465D-04	9.1013D-06	1.1204D-05	1.1126D 01
2.2000D 03	4.7925D 03	2.0726D 00	4.8106D 00	8.8609D-01	1.2123D-04	8.3978D-06	1.0344D-05	1.1720D 01
2.4000D 03	4.9517D 03	2.0746D 00	4.7838D 00	9.0372D-01	1.1852D-04	7.8224D-06	9.6445D-06	1.2289D 01
2.6000D 03	5.1092D 03	2.0773D 00	4.7580D 00	9.2055D-01	1.1640D-04	7.3466D-06	9.0697D-06	1.2834D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2400.0 K, CV= 0.38685D 02 J/MOL-K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
2.0757D 01	7.5832D 01	8.4751D 01	1.2522D 02	4.0322D 02	1.7766D-03	4.2801D-03	9.3768D-03	1.8947D-01
3.0000D 01	7.4675D 01	6.9007D 01	1.2452D 02	4.2906D 02	1.0923D-03	2.8371D-03	5.0609D-03	2.1584D-01
4.0000D 01	7.4011D 01	6.2774D 01	1.2403D 02	4.4739D 02	8.2863D-04	2.1666D-03	3.5157D-03	2.3570D-01
5.0000D 01	7.3602D 01	5.9435D 01	1.2365D 02	4.6144D 02	6.8954D-04	1.7836D-03	2.7402D-03	2.5164D-01
6.0000D 01	7.3335D 01	5.7301D 01	1.2333D 02	4.7306D 02	6.0141D-04	1.5301D-03	2.2664D-03	2.6537D-01
7.0000D 01	7.3159D 01	5.5803D 01	1.2306D 02	4.8307D 02	5.3977D-04	1.3478D-03	1.9442D-03	2.7763D-01
8.0000D 01	7.3047D 01	5.4686D 01	1.2281D 02	4.9195D 02	4.9384D-04	1.2094D-03	1.7096D-03	2.8886D-01
9.0000D 01	7.2982D 01	5.3818D 01	1.2259D 02	4.9997D 02	4.5811D-04	1.1002D-03	1.5306D-03	2.9931D-01
1.0000D 02	7.2952D 01	5.3124D 01	1.2239D 02	5.0731D 02	4.2940D-04	1.0115D-03	1.3890D-03	3.0914D-01
1.1000D 02	7.2952D 01	5.2556D 01	1.2220D 02	5.1410D 02	4.0576D-04	9.3783D-04	1.2741D-03	3.1847D-01
1.2000D 02	7.2974D 01	5.2082D 01	1.2203D 02	5.2044D 02	3.8592D-04	8.7556D-04	1.1788D-03	3.2740D-01
1.3000D 02	7.3016D 01	5.1681D 01	1.2186D 02	5.2639D 02	3.6900D-04	8.2214D-04	1.0983D-03	3.3597D-01
1.4000D 02	7.3073D 01	5.1338D 01	1.2170D 02	5.3201D 02	3.5438D-04	7.7572D-04	1.0294D-03	3.4424D-01
1.5000D 02	7.3144D 01	5.1042D 01	1.2155D 02	5.3736D 02	3.4160D-04	7.3499D-04	9.6975D-04	3.5226D-01
1.6000D 02	7.3227D 01	5.0784D 01	1.2141D 02	5.4245D 02	3.3033D-04	6.9891D-04	9.1748D-04	3.6004D-01
1.7000D 02	7.3320D 01	5.0557D 01	1.2127D 02	5.4732D 02	3.2030D-04	6.6671D-04	8.7130D-04	3.6762D-01
1.8000D 02	7.3421D 01	5.0356D 01	1.2114D 02	5.5199D 02	3.1133D-04	6.3777D-04	8.3017D-04	3.7501D-01
1.9000D 02	7.3530D 01	5.0178D 01	1.2101D 02	5.5649D 02	3.0323D-04	6.1160D-04	7.9329D-04	3.8224D-01
2.0000D 02	7.3646D 01	5.0020D 01	1.2089D 02	5.6083D 02	2.9589D-04	5.8780D-04	7.6001D-04	3.8932D-01
2.5000D 02	7.4302D 01	4.9433D 01	1.2033D 02	5.8056D 02	2.6742D-04	4.9494D-04	6.3244D-04	4.2284D-01
3.0000D 02	7.5049D 01	4.9067D 01	1.1982D 02	5.9784D 02	2.4778D-04	4.3034D-04	5.4582D-04	4.5395D-01
3.5000D 02	7.5853D 01	4.8827D 01	1.1937D 02	6.1337D 02	2.3327D-04	3.8243D-04	4.8269D-04	4.8328D-01
4.0000D 02	7.6694D 01	4.8694D 01	1.1895D 02	6.2757D 02	2.2266D-04	3.4604D-04	4.3556D-04	5.1121D-01
4.5000D 02	7.7555D 01	4.8627D 01	1.1855D 02	6.4078D 02	2.1466D-04	3.1756D-04	3.9916D-04	5.3778D-01
5.0000D 02	7.8432D 01	4.8556D 01	1.1818D 02	6.5318D 02	2.0746D-04	2.9347D-04	3.6835D-04	5.6321D-01
6.0000D 02	8.0222D 01	4.8415D 01	1.1748D 02	6.7594D 02	1.9496D-04	2.5481D-04	3.1890D-04	6.1135D-01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2400.0 K, CV= 0.38685D 02 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
7.0000D 02	8.2048D 01	4.8282D 01	1.1685D 02	6.9646D 02	1.8444D-04	2.2504D-04	2.8087D-04	6.5670D-01
8.0000D 02	8.3899D 01	4.8160D 01	1.1626D 02	7.1518D 02	1.7546D-04	2.0137D-04	2.5070D-04	6.9990D-01
9.0000D 02	8.5768D 01	4.8052D 01	1.1571D 02	7.3241D 02	1.6771D-04	1.8212D-04	2.2622D-04	7.4135D-01
1.0000D 03	8.7649D 01	4.7958D 01	1.1520D 02	7.4839D 02	1.6096D-04	1.6617D-04	2.0600D-04	7.8135D-01
1.2000D 03	9.1430D 01	4.7810D 01	1.1427D 02	7.7730D 02	1.4986D-04	1.4137D-04	1.7472D-04	8.5770D-01
1.4000D 03	9.5218D 01	4.7709D 01	1.1342D 02	8.0301D 02	1.4120D-04	1.2312D-04	1.5184D-04	9.2996D-01
1.6000D 03	9.8997D 01	4.7648D 01	1.1265D 02	8.2628D 02	1.3438D-04	1.0924D-04	1.3455D-04	9.9875D-01
1.8000D 03	1.0276D 02	4.7622D 01	1.1192D 02	8.4763D 02	1.2897D-04	9.8421D-05	1.2116D-04	1.0644D 00
2.0000D 03	1.0649D 02	4.7624D 01	1.1124D 02	8.6747D 02	1.2465D-04	8.9822D-05	1.1058D-04	1.1273D 00
2.2000D 03	1.1018D 02	4.7650D 01	1.1060D 02	8.8609D 02	1.2123D-04	8.2879D-05	1.0209D-04	1.1875D 00
2.4000D 03	1.1385D 02	4.7697D 01	1.0998D 02	9.0372D 02	1.1852D-04	7.7201D-05	9.5183D-05	1.2452D 00
2.6000D 03	1.1747D 02	4.7759D 01	1.0939D 02	9.2055D 02	1.1640D-04	7.2505D-05	8.9511D-05	1.3004D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2500.0 K, CV= 0.59052D 01 J/G-K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
2.5192D 01	3.8500D 03	2.1003D 01	5.6657D 00	3.0091D-01	1.7987D-02	5.0720D-03	1.8040D-02	9.9708D-01
3.0000D 01	3.6814D 03	8.6319D 00	5.5926D 00	3.6496D-01	2.5927D-03	1.1706D-03	1.7111D-03	1.5152D 00
4.0000D 01	3.5940D 03	7.4094D 00	5.5473D 00	4.0403D-01	1.2776D-03	5.4228D-04	6.8041D-04	1.8777D 00
5.0000D 01	3.5533D 03	7.0582D 00	5.5214D 00	4.2620D-01	9.2355D-04	3.6786D-04	4.3969D-04	2.1005D 00
6.0000D 01	3.5286D 03	6.8793D 00	5.5023D 00	4.4244D-01	7.4878D-04	2.8288D-04	3.2954D-04	2.2722D 00
7.0000D 01	3.5124D 03	6.7680D 00	5.4869D 00	4.5551D-01	6.4206D-04	2.3184D-04	2.6572D-04	2.4163D 00
8.0000D 01	3.5013D 03	6.6910D 00	5.4738D 00	4.6659D-01	5.6920D-04	1.9755D-04	2.2383D-04	2.5430D 00
9.0000D 01	3.4938D 03	6.6343D 00	5.4624D 00	4.7628D-01	5.1587D-04	1.7279D-04	1.9412D-04	2.6575D 00
1.0000D 02	3.4889D 03	6.5907D 00	5.4521D 00	4.8493D-01	4.7493D-04	1.5402D-04	1.7189D-04	2.7630D 00
1.1000D 02	3.4859D 03	6.5559D 00	5.4427D 00	4.9279D-01	4.4240D-04	1.3926D-04	1.5460D-04	2.8615D 00
1.2000D 02	3.4845D 03	6.5277D 00	5.4341D 00	5.0002D-01	4.1586D-04	1.2733D-04	1.4075D-04	2.9546D 00
1.3000D 02	3.4843D 03	6.5042D 00	5.4260D 00	5.0672D-01	3.9375D-04	1.1748D-04	1.2939D-04	3.0431D 00
1.4000D 02	3.4850D 03	6.4844D 00	5.4185D 00	5.1298D-01	3.7502D-04	1.0919D-04	1.1990D-04	3.1278D 00
1.5000D 02	3.4867D 03	6.4676D 00	5.4114D 00	5.1888D-01	3.5893D-04	1.0211D-04	1.1184D-04	3.2093D 00
1.6000D 02	3.4890D 03	6.4530D 00	5.4046D 00	5.2445D-01	3.4495D-04	9.6003D-05	1.0491D-04	3.2880D 00
1.7000D 02	3.4919D 03	6.4404D 00	5.3982D 00	5.2975D-01	3.3267D-04	9.0665D-05	9.8882D-05	3.3644D 00
1.8000D 02	3.4953D 03	6.4293D 00	5.3921D 00	5.3480D-01	3.2181D-04	8.5959D-05	9.3589D-05	3.4385D 00
1.9000D 02	3.4992D 03	6.4196D 00	5.3862D 00	5.3964D-01	3.1211D-04	8.1779D-05	8.8902D-05	3.5108D 00
2.0000D 02	3.5034D 03	6.4109D 00	5.3805D 00	5.4428D-01	3.0341D-04	7.8037D-05	8.4720D-05	3.5813D 00
2.5000D 02	3.5291D 03	6.3794D 00	5.3547D 00	5.6516D-01	2.7040D-04	6.3963D-05	6.9100D-05	3.9131D 00
3.0000D 02	3.5599D 03	6.3602D 00	5.3322D 00	5.8320D-01	2.4832D-04	5.4648D-05	5.8860D-05	4.2189D 00
3.5000D 02	3.5937D 03	6.3479D 00	5.3119D 00	5.9925D-01	2.3241D-04	4.7981D-05	5.1578D-05	4.5059D 00
4.0000D 02	3.6295D 03	6.3396D 00	5.2933D 00	6.1383D-01	2.2030D-04	4.2942D-05	4.6102D-05	4.7785D 00
4.5000D 02	3.6667D 03	6.3352D 00	5.2759D 00	6.2728D-01	2.1132D-04	3.9086D-05	4.1933D-05	5.0395D 00
5.0000D 02	3.7046D 03	6.3335D 00	5.2595D 00	6.3986D-01	2.0455D-04	3.6059D-05	3.8675D-05	5.2891D 00
6.0000D 02	3.7819D 03	6.3292D 00	5.2291D 00	6.6296D-01	1.9266D-04	3.1206D-05	3.3447D-05	5.7601D 00

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2500.0 K, CV= 0.59052D 01 J/G-K

P (ATM)	H-H(298) (KJ/G)	CP (J/G-K)	S (J/G-K)	PHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
7.0000D 02	3.8608D 03	6.3246D 00	5.2012D 00	6.8380D-01	1.8252D-04	2.7475D-05	2.9426D-05	6.2026D 00
8.0000D 02	3.9408D 03	6.3200D 00	5.1755D 00	7.0280D-01	1.7378D-04	2.4514D-05	2.6237D-05	6.6234D 00
9.0000D 02	4.0217D 03	6.3158D 00	5.1517D 00	7.2029D-01	1.6617D-04	2.2110D-05	2.3648D-05	7.0269D 00
1.0000D 03	4.1031D 03	6.3120D 00	5.1293D 00	7.3649D-01	1.5951D-04	2.0122D-05	2.1509D-05	7.4160D 00
1.2000D 03	4.2669D 03	6.3059D 00	5.0884D 00	7.6579D-01	1.4847D-04	1.7041D-05	1.8198D-05	8.1587D 00
1.4000D 03	4.4313D 03	6.3015D 00	5.0514D 00	7.9181D-01	1.3979D-04	1.4782D-05	1.5774D-05	8.8623D 00
1.6000D 03	4.5954D 03	6.2989D 00	5.0175D 00	8.1531D-01	1.3291D-04	1.3071D-05	1.3942D-05	9.5331D 00
1.8000D 03	4.7587D 03	6.2976D 00	4.9860D 00	8.3684D-01	1.2741D-04	1.1742D-05	1.2523D-05	1.0175D 01
2.0000D 03	4.9210D 03	6.2976D 00	4.9565D 00	8.5679D-01	1.2301D-04	1.0691D-05	1.1401D-05	1.0790D 01
2.2000D 03	5.0820D 03	6.2987D 00	4.9285D 00	8.7549D-01	1.1950D-04	9.8443D-06	1.0500D-05	1.1380D 01
2.4000D 03	5.2414D 03	6.3006D 00	4.9018D 00	8.9315D-01	1.1670D-04	9.1548D-06	9.7679D-06	1.1947D 01
2.6000D 03	5.3991D 03	6.3034D 00	4.8761D 00	9.0998D-01	1.1450D-04	8.5869D-06	9.1659D-06	1.2492D 01
2.8000D 03	5.5551D 03	6.3067D 00	4.8514D 00	9.2613D-01	1.1279D-04	8.1147D-06	8.6664D-06	1.3015D 01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2500.0 K, CV= 0.13577D 03 J/MOL-K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
2.5192D 01	8.8516D 01	4.8289D 02	1.3026D 02	3.0091D 02	1.7987D-02	5.0056D-02	1.7804D-01	1.0103D-01
3.0000D 01	8.4639D 01	1.9845D 02	1.2858D 02	3.6496D 02	2.5927D-03	1.1553D-02	1.6888D-02	1.5352D-01
4.0000D 01	8.2630D 01	1.7035D 02	1.2754D 02	4.0403D 02	1.2776D-03	5.3519D-03	6.7151D-03	1.9026D-01
5.0000D 01	8.1693D 01	1.6228D 02	1.2694D 02	4.2620D 02	9.2355D-04	3.6305D-03	4.3394D-03	2.1283D-01
6.0000D 01	8.1127D 01	1.5816D 02	1.2650D 02	4.4244D 02	7.4878D-04	2.7918D-03	3.2523D-03	2.3023D-01
7.0000D 01	8.0753D 01	1.5560D 02	1.2615D 02	4.5551D 02	6.4206D-04	2.2881D-03	2.6224D-03	2.4483D-01
8.0000D 01	8.0499D 01	1.5383D 02	1.2585D 02	4.6659D 02	5.6920D-04	1.9496D-03	2.2091D-03	2.5767D-01
9.0000D 01	8.0327D 01	1.5253D 02	1.2559D 02	4.7628D 02	5.1587D-04	1.7053D-03	1.9158D-03	2.6927D-01
1.0000D 02	8.0214D 01	1.5153D 02	1.2535D 02	4.8493D 02	4.7493D-04	1.5200D-03	1.6965D-03	2.7996D-01
1.1000D 02	8.0145D 01	1.5073D 02	1.2513D 02	4.9279D 02	4.4240D-04	1.3744D-03	1.5258D-03	2.8994D-01
1.2000D 02	8.0112D 01	1.5008D 02	1.2493D 02	5.0002D 02	4.1586D-04	1.2566D-03	1.3891D-03	2.9937D-01
1.3000D 02	8.0107D 01	1.4954D 02	1.2475D 02	5.0672D 02	3.9375D-04	1.1594D-03	1.2770D-03	3.0834D-01
1.4000D 02	8.0125D 01	1.4908D 02	1.2458D 02	5.1298D 02	3.7502D-04	1.0776D-03	1.1833D-03	3.1692D-01
1.5000D 02	8.0162D 01	1.4870D 02	1.2441D 02	5.1888D 02	3.5893D-04	1.0078D-03	1.1038D-03	3.2518D-01
1.6000D 02	8.0215D 01	1.4836D 02	1.2426D 02	5.2445D 02	3.4495D-04	9.4748D-04	1.0354D-03	3.3316D-01
1.7000D 02	8.0282D 01	1.4807D 02	1.2411D 02	5.2975D 02	3.3267D-04	8.9479D-04	9.7589D-04	3.4089D-01
1.8000D 02	8.0360D 01	1.4782D 02	1.2397D 02	5.3480D 02	3.2181D-04	8.4835D-04	9.2365D-04	3.4841D-01
1.9000D 02	8.0449D 01	1.4759D 02	1.2383D 02	5.3964D 02	3.1211D-04	8.0709D-04	8.7739D-04	3.5573D-01
2.0000D 02	8.0547D 01	1.4739D 02	1.2370D 02	5.4428D 02	3.0341D-04	7.7016D-04	8.3612D-04	3.6287D-01
2.5000D 02	8.1139D 01	1.4667D 02	1.2311D 02	5.6516D 02	2.7040D-04	6.3126D-04	6.8196D-04	3.9650D-01
3.0000D 02	8.1845D 01	1.4623D 02	1.2259D 02	5.8320D 02	2.4832D-04	5.3934D-04	5.8090D-04	4.2748D-01
3.5000D 02	8.2623D 01	1.4594D 02	1.2213D 02	5.9925D 02	2.3241D-04	4.7354D-04	5.0904D-04	4.5656D-01
4.0000D 02	8.3447D 01	1.4575D 02	1.2170D 02	6.1383D 02	2.2030D-04	4.2381D-04	4.5499D-04	4.8418D-01
4.5000D 02	8.4301D 01	1.4565D 02	1.2130D 02	6.2728D 02	2.1132D-04	3.8575D-04	4.1384D-04	5.1063D-01
5.0000D 02	8.5173D 01	1.4561D 02	1.2092D 02	6.3986D 02	2.0455D-04	3.5588D-04	3.8169D-04	5.3592D-01
6.0000D 02	8.6951D 01	1.4551D 02	1.2022D 02	6.6296D 02	1.9266D-04	3.0798D-04	3.3009D-04	5.8365D-01

SUBCOOLED SODIUM LIQUID PROPERTIES AT T = 2500.0 K, CV= 0.13577D 03 J/MOL-K

P (MPa)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPa)	BETAT (1/MPa)	GAMMAV (MPa/K)
7.0000D 02	8.8764D 01	1.4541D 02	1.1958D 02	6.8380D 02	1.8252D-04	2.7116D-04	2.9041D-04	6.2848D-01
8.0000D 02	9.0604D 01	1.4530D 02	1.1899D 02	7.0280D 02	1.7378D-04	2.4194D-04	2.5893D-04	6.7112D-01
9.0000D 02	9.2462D 01	1.4521D 02	1.1844D 02	7.2029D 02	1.6617D-04	2.1821D-04	2.3338D-04	7.1200D-01
1.0000D 03	9.4334D 01	1.4512D 02	1.1793D 02	7.3649D 02	1.5951D-04	1.9859D-04	2.1228D-04	7.5142D-01
1.2000D 03	9.8101D 01	1.4498D 02	1.1699D 02	7.6579D 02	1.4847D-04	1.6818D-04	1.7960D-04	8.2668D-01
1.4000D 03	1.0188D 02	1.4488D 02	1.1614D 02	7.9181D 02	1.3979D-04	1.4588D-04	1.5568D-04	8.9798D-01
1.6000D 03	1.0565D 02	1.4482D 02	1.1536D 02	8.1531D 02	1.3291D-04	1.2900D-04	1.3760D-04	9.6594D-01
1.8000D 03	1.0941D 02	1.4479D 02	1.1463D 02	8.3684D 02	1.2741D-04	1.1589D-04	1.2359D-04	1.0310D 00
2.0000D 03	1.1314D 02	1.4479D 02	1.1395D 02	8.5679D 02	1.2301D-04	1.0551D-04	1.1252D-04	1.0933D 00
2.2000D 03	1.1684D 02	1.4481D 02	1.1331D 02	8.7549D 02	1.1950D-04	9.7156D-05	1.0363D-04	1.1531D 00
2.4000D 03	1.2050D 02	1.4486D 02	1.1270D 02	8.9315D 02	1.1670D-04	9.0351D-05	9.6401D-05	1.2106D 00
2.6000D 03	1.2413D 02	1.4492D 02	1.1211D 02	9.0998D 02	1.1450D-04	8.4746D-05	9.0461D-05	1.2657D 00
2.8000D 03	1.2772D 02	1.4500D 02	1.1154D 02	9.2613D 02	1.1279D-04	8.0085D-05	8.5531D-05	1.3187D 00

NAVAPOR

B. NAVAPOR

The computer code NAVAPOR is used to calculate the thermodynamic properties of saturated sodium vapor, and incorporates programming techniques of the computer code SODIPROP and the code NAPROP. NAVAPOR is divided into four parts: the main program and three subroutines, designated PARSET, NAPROP, and DER.

The main code is modeled on the saturated liquid section of the main program of SODIPROP, with modifications for the saturated vapor. The subroutine PARSET is identical to the subroutine of that name in SODIPROP. The subroutine NAPROP is identical to Padilla's¹³ code, except for the equations used to determine the vapor pressure and saturated liquid-sodium enthalpy. Padilla modified Golden and Tokar's¹⁴ routine NAPROP in which the quasi-chemical method is used to calculate thermodynamic properties. The heat of vaporization and the thermal pressure coefficient of saturated sodium vapor below 1644.26 K are calculated in the subroutine NAPROP using the quasi-chemical method. All other thermodynamic properties were calculated in the main program, NAVAPOR, using standard thermodynamic relations. In subroutine DER, the derivative of the heat of vaporization (below 1644.26 K) with respect to temperature and the derivative of the vapor density with respect to temperature are calculated. The temperature steps for the differentiation were varied over the temperature range 400-2500 K so that each step was sufficiently small for accuracy at the low temperatures and large enough at the higher temperatures to produce essentially no change in the value of the function. This temperature step is calculated from the relation,

$$\Delta T = 1/2 (-0.2 + 5 \times 10^{-4} T + 2 \times 10^{-7} T^2) \quad (88)$$

After the derivative is calculated for $T + \Delta T$ and $T - \Delta T$, then another derivative is calculated for $T + \Delta T/2$ and $T - \Delta T/2$. These derivatives are then compared. If they do not agree within 0.001% for the heat of vaporization or 0.1% for the density, then the temperature step is halved and the derivative recalculated. This process continues until convergence is obtained.

A listing of the computer code follows. Comments appear throughout the code and units are periodically given in columns 73-80 to aid in understanding the code. Some of the major variables of saturated sodium vapor are defined in the following table.

Vapor Property Variables*

<u>Computer Code Variables</u>	<u>Definition</u>
TSAT	Temperature
PSAT	Vapor pressure
RHOL	Liquid density
RHOV	Vapor density
HLSAT	Liquid enthalpy
HVSAT	Vapor enthalpy
DH	Heat of vaporization
SLSAT	Liquid density
SVSAT	Vapor entropy
APSAT	Vapor volumetric thermal expansion coefficient (α)
BSSAT	Vapor adiabatic compressibility (β_S)
BTSAT	Vapor isothermal compressibility (β_T)
CPSAT	Vapor heat capacity at constant pressure
CVSAT	Vapor heat capacity at constant volume
GV	Vapor thermal pressure coefficient (γ_V)
DRHOV	Temperature derivative of vapor density ($\partial \rho_v / \partial T$)
DHVSAT	Temperature derivative of enthalpy (dH/dT)
DPSAT	Temperature derivative of vapor pressure (γ_{SAT})
ASAT	Volumetric thermal expansion coefficient ($-1/\rho_v \partial \rho_v / \partial T$)
DHDT	Temperature derivative of heat of vaporization
TCRIT	Critical temperature
ROCRIT	Critical density
PCRIT	Critical pressure
GVCRT	Critical thermal pressure coefficient [$\gamma_{SAT}(T_c)$]

* Computer code variables with identical names except for an 's' appended are the same variables in SI units, e.g., PSATS is vapor pressure in MPa.

COMPILER OPTIONS - NAME= MAIN,OPT=00,LINECNT=57,SIZE=0000K,
SOURCE,EBCDIC,NOLIST,MODECK,LOAD,MAP,NOEDIT,ID,NOXREF

```

C
C      NAVAPOR - PROGRAM TO CALCULATE PROPERTIES OF
C      SATURATED SODIUM VAPOR
C
ISM 0002      IMPLICIT REAL*8 (A-H,O-Z)
ISM 0003      DIMENSION TSAT(1300),PSAT(1300),RHOL(1300),RHOV(1300),HLSAT(1300),
1             HVSAT(1300),SLSAT(1300),SVSAT(1300),APSAT(1300),
2             BSSAT(1300),BTSAT(1300),CPSAT(1300),CVSAT(1300),
3             GV(1300),DRHOV(1300),CSATV(1300),
4             DRHOL(1300)
ISM 0004      DIMENSION PSATS(1300),BHOLS(1300),RHOVS(1300),HLSATS(1300),
1             HVSATS(1300),SLSATS(1300),SVSATS(1300),
2             BSSATS(1300),BTSATS(1300),CPSATS(1300),
3             CVSATS(1300),GVSATS(1300),DHS(1300)
C
C      COMMON STATEMENTS
C
ISM 0005      COMMON /PAB/ TCROSS,RHOLA,RHOLB,RHOLC,B,BSMELT,E,F,DHA,DHB
ISM 0006      COMMON /PROP/ TCRIT,ROCRIT
C
C      CONVERSION FACTOR TO JOULES FROM ATM-CC
C
ISM 0007      CTOJ = 0.1013278
C
C      THERMAL PRESSURE COEFFICIENT AT THE CRITICAL POINT
C
ISM 0008      GVCRT=0.46652
C
C      SET UP TEMPERATURE GRID AND CONSTANTS
C
ISM 0009      TCROSS = (2500. + 459.7)/1.8
ISM 0010      THIN=372.
ISM 0011      TMELT=370.98
ISM 0012      DT=2.
ISM 0013      TPRINT=380.
ISM 0014      DPRINT = 10.
C
C      READ IN CRITICAL PARAMETERS
C
ISM 0015      READ 10,TCRIT,PCRT,ROCRIT
ISM 0016      IF (TCRIT.EQ.0.0) GO TO 2001
ISM 0018      10 FORMAT (3F10.3)
ISM 0019      CALL PARSET (TCRIT,PCRT,ROCRIT)
ISM 0020      PRINT 15,TCRIT,PCRT,ROCRIT,RHOLA,RHOLB,RHOLC,
*E,F,DHA,DHB,B,BSMELT
ISM 0021      15 FORMAT (1H1,'TCRIT =',F6.0,' DEG K',' PCRT =',F6.1,' ATM'/
*' ROCRIT =',F7.4,' G/CC'/
*' RHOLA =',E12.5/' RHOLB =',E12.5/' RHOLC =',E12.5/' E =',
*E12.5/' F =',E12.5/
*' DHA =',E12.5/' DHB =',E12.5/' B =',E12.5/' BSMELT=',E12.5)
ISM 0022      IHAX = (TCRIT-THIN)/DT +1
ISM 0023      30 FORMAT (2I5)
C

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J/ATM-CC

DEG K

```

C      DETERMINE THE CONSTANTS (AGV AND BGV) FOR THE CONTINUITY
C      OF THE THERMAL PRESSURE COEFFICIENT AT 2500 F
C
ISN 0024      X=1.0D0
ISN 0025      TCROSS=( (2500.+459.7)/1.8)
ISN 0026      TD1=TCROSS+X
ISN 0027      TD2=TCROSS-X
ISN 0028      CALL MAPROP(TCROSS,DH1,GVC)
ISN 0029      CALL MAPROP(TD1,DH1,GV1)
ISN 0030      CALL MAPROP(TD2,DH2,GV2)
ISN 0031      DCV=(GV1-GV2)/(2.0D0*X)
ISN 0032      AGV=2.0D0*(GVC-GVCRT+DGV*(TCRIT-TCROSS))/DSQRT(TCRIT-TCROSS)
ISN 0033      BGV=-AGV/(2.0D0*DSQRT(TCRIT-TCROSS))-DGV
ISN 0034      PRINT 100, GVCRT,GVC,AGV,BGV,DGV,GV1,GV2
ISN 0035      100 PCRNAT(1H,'GVCRT = ',E12.5/' GVC = ',E12.5/' AGV = ',
1      E12.5/' BGV = ',E12.5/' DGV = ',E12.5/' GV1 = ',E12.5/
2      ' GV2 = ',E12.5)

C
C      CALCULATION OF SATURATED PROPERTIES
C      PSAT DPSAT (DP/DT) SAT
C
ISN 0036      TSAT(1) = THIN
ISN 0037      ICOUNT = 1
ISN 0038      PRINT 1
ISN 0039      DO 400 I=1,IMAX
ISN 0040      IF (I.GT.1) TSAT(I)=TSAT(I-1)+DT
ISN 0042      TFR = 1.8*TSAT(I)
ISN 0043      TR = TSAT(I)/TCRIT
ISN 0044      TFF = TFR - 459.7
ISN 0045      PSAT(I)=DEXP (18.832381-13113.052/TSAT(I) +1.9777006E-4
1      *TSAT(I))/TSAT(I)**1.0947825
ISN 0046      DPSAT=PSAT(I)*(1.9777006E-4+13113.052/(TSAT(I)*TSAT(I))
1      -1.0947825/TSAT(I))
ISN 0047      IF (TFF.GT.2500.) GO TO 200

C
C      SATURATED PROPERTIES UP TO 2500 DEG F
C      HLSAT HVSAT RHOL RHOV SLSAT GV DH
C
ISN 0049      HLSAT(I) = ((-7.13927E3+35.2064*TSAT(I)-7.051302E-3*TSAT(I)
1      *TSAT(I) +2.571074E-6*(TSAT(I))**3 -1.24284E5/
2      TSAT(I))/22.991)

C
C      CALL SUBROUTINE MAPROP TO OBTAIN DH AND GV
C
ISN 0050      CALL MAPROP(TSAT(I),DH,GV(I))
ISN 0051      HVSAT(I)=HLSAT(I) + DH
ISN 0052      RHOL(I) = (59.566-7.9504D-3*TFF-0.2872D-6*TFF**2+0.06035D-9*
1      TFF**3)/62.4283
ISN 0053      RHOV(I) = 1./(1./RHOL(I) + DH/(TSAT(I)*DPSAT*CTOJ))
ISN 0054      DRHOL(I) = (-7.9504D-3-0.5744D-6*TFF+0.18105D-9*TFF**2)
1      *1.8/62.4283
ISN 0055      SISAT(I) = -5.90356+1.51103*DLOG(TSAT(I))-5.73462E-4*TSAT(I)
1      +1.57165E-7*TSAT(I)*TSAT(I)-3425.81/(TSAT(I)*TSAT(I))
ISN 0056      DHLSAT=(35.2064-1.410260E-2*TSAT(I)+7.71322E-6*TSAT(I)*TSAT(I)
1      +1.24284E5/(TSAT(I)*TSAT(I)))/22.991

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106.
G/CC
G/CC
109.
G/CC-K
111.
J/G-K
113.
J/G-K

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ISN 0057      CSAT = DHLSAT - CTOJ*DPSAT/RHOL(I)          J/G-K
C              CALL SUBROUTINE DER TO OBTAIN DHDT AND DRHOV 116.
C              CALL DER(TSAT(I),DH,RHOV(I),DHDT,DRHOV(I))    117.
C              DHVSAT=DHLSAT+DHDT                             118.
ISN 0058      CALL DER(TSAT(I),DH,RHOV(I),DHDT,DRHOV(I))    119.
ISN 0059      DHVSAT=DHLSAT+DHDT                             120.
ISN 0060      GO TO 240                                       121.
C              SATURATED PROPERTIES ABOVE 2500 DEG F        122.
C              HLSAT HVSAT RHOL RHOV GV DH                   123.
C              HLSAT HVSAT RHOL RHOV GV DH                   124.
C              HLSAT HVSAT RHOL RHOV GV DH                   125.
C              HLSAT HVSAT RHOL RHOV GV DH                   126.
ISN 0061      200 RHOL(I)=ROCRIT*(1.+RHOLA*(1.-TR)**RHOLB +RHOLC*(TCRIT-TSAT(I)) 127.
C              1      **2)                                     128.
ISN 0062      DRHOI(I)=-ROCRIT*(RHOLA*RHOLB/(TCRIT*(1.-TR)**(1.-RHOLB)) 129.
C              1      +2*RHOLC*(TCRIT-TSAT(I)))              130.
ISN 0063      LH=DHA*TCRIT*(1.-TR)**DHB                      131.
ISN 0064      HLSAT(I) = E + F*(TSAT(I) - TCROSS) - 0.5*DH   J/G
ISN 0065      DHLSAT= F +.5*DHA*DHB/(1.-TR)**(1.-DHB)       133.
ISN 0066      RHOV(I) = 1./(1./RHOL(I) + DH/(TSAT(I)*DPSAT*CTOJ)) G/CC
ISN 0067      HVSAT(I) = HLSAT(I) + DH                       J/G
ISN 0068      DHVSAT= F - .5*DHA*DHB/(1.-TR)**(1.-DHB)      136.
C              CALL SUBROUTINE DER TO CALCULATE DRHOV       137.
C              CALL SUBROUTINE DER TO CALCULATE DRHOV       138.
C              CALL SUBROUTINE DER TO CALCULATE DRHOV       139.
ISN 0069      CALL DER(TSAT(I),DH,RHOV(I),DHDT,DRHOV(I))    140.
ISN 0070      CSAT = DHLSAT - CTOJ*DPSAT/RHOL(I)            J/G-K
ISN 0071      CSATAV = 0.5*(CSAT + CSAT2)                   142.
ISN 0072      SLSAT(I) = SLSAT(I-1) + CSATAV*DLOG(TSAT(I)/TSAT(I-1)) J/G-K
ISN 0073      GV(I)=GVCRT+AGV*DSQRT(TCRIT-TSAT(I)) +BGV*(TCRIT-TSAT(I)) 144.
C              CALCULATE SATURATED PROPERTIES FOR ENTIRE TEMPERATURE RANGE 145.
C              APSAT CPSAT CVSAT BTSAT ESSAT SVSAT          146.
C              APSAT CPSAT CVSAT BTSAT ESSAT SVSAT          147.
C              APSAT CPSAT CVSAT BTSAT ESSAT SVSAT          148.
ISN 0074      240 ASAT = -DRHOV(I)/RHOV(I)                  K-1
ISN 0075      CSATV(I)=DHVSAT-DPSAT*CTOJ/RHOV(I)           150.
ISN 0076      251 AFSAT(I)=ASAT/(1.0D0-DPSAT/GV(I))         151.
ISN 0077      IF(APSAT(I).LE.0.) APSAT(I)=APSAT(I-1)        152.
ISN 0079      CPSAT(I) = CSATV(I) + CTOJ*TSAT(I)*APSAT(I)*DPSAT/RHOV(I) J/G-K
ISN 0080      CVSAT(I) = CSATV(I) + TSAT(I)*APSAT(I)*CTOJ*(DPSAT-GV(I)) 154.
C              1      /RHOV(I)                               155.
ISN 0081      260 FTSAT(I)=APSAT(I)/GV(I)                   156.
ISN 0082      BSSAT(I)=BTSAT(I)*CVSAT(I)/CPSAT(I)          157.
ISN 0083      SVSAT(I) = SLSAT(I) + DH/TSAT(I)              J/G-K
ISN 0084      DHS(I)=DH*22.991                               159.
ISN 0085      IF (TSAT(I).NE.TPRINT.AND.I.NE.IMAX) GO TO 350 160.
ISN 0087      ITSAT = TSAT(I)                                161.
C              PRINT SATURATED VAPOR PROPERTIES IN CGS UNITS 162.
C              PRINT SATURATED VAPOR PROPERTIES IN CGS UNITS 163.
C              PRINT SATURATED VAPOR PROPERTIES IN CGS UNITS 164.
ISN 0088      PRINT 2, ITSAT,HVSAT(I),CPSAT(I),CVSAT(I),SVSAT(I),PSAT(I), 165.
C              1      RHOV(I),APSAT(I),BSSAT(I),BTSAT(I),GV(I) 166.
ISN 0089      300 FORMAT (F6.0,6(1PE11.4)/6X,6E11.4)        167.
ISN 0090      TPRINT = TPRINT + DPRINT                       168.
ISN 0091      ICOUNT = ICOUNT + 1                          169.

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ISN 0092	IF (ICOUNT.I.T.27) GO TO 350	170.
ISN 0094	PRINT 1	171.
ISN 0095	ICOUNT = 1	172.
ISN 0096	350 CSAT2 = CSAT	173.
ISN 0097	400 CONTINUE	174.
C		175.
C	CCONVERSION TO SI UNITS	176.
C		177.
C	PAJKF CONVERTS ATM TO PASCALS	178.
C	ROJKF CONVERTS G/CC TO KG/M**3	179.
C	GKJKF CONVERTS J/G TO J/MOLE	180.
C	ATMJKF CONVERTS INVERSE ATM TO INVERSE PASCALS	181.
C		182.
ISN 0098	PAJKF=1.01325D5	183.
ISN 0099	ROJKF=1.00D3	184.
ISN 0100	GKJKF=22.991	185.
ISN 0101	ATMJKF=1.0D0/PAJKF	186.
ISN 0102	ICOUNT=1	187.
ISN 0103	TPRINT=380.	188.
ISN 0104	DPRINT=10.	189.
ISN 0105	PRINT 110	190.
ISN 0106	DO 410 I=1,IMAX	191.
ISN 0107	IF (TSAT(I).NE.TPRINT.AND.I.NE.IMAX) GO TO 410	192.
ISN 0109	ITSATS=TSAT(I)	193.
ISN 0110	ESATS(I)=PSAT(I)*PAJKF*1.0D-6	194.
ISN 0111	RHOLS(I)=RHOL(I)*ROJKF	195.
ISN 0112	RHOVS(I)=RHOV(I)*ROJKF	196.
ISN 0113	HLSATS(I)=HLSAT(I)*GKJKF*1.0D-3	197.
ISN 0114	HVSATS(I)=HVSAT(I)*GKJKF*1.0D-3	198.
ISN 0115	GVSATS(I)=GV(I)*PAJKF*1.0D-6	199.
ISN 0116	SISATS(I)=SLSAT(I)*GKJKF	200.
ISN 0117	SVSATS(I)=SVSAT(I)*GKJKF	201.
ISN 0118	ESSATS(I)=BSSAT(I)*ATMJKF*1.0D6	202.
ISN 0119	ETSATS(I)=BTSAT(I)*ATMJKF*1.0D6	203.
ISN 0120	CPSATS(I)=CPSAT(I)*GKJKF	204.
ISN 0121	CVSATS(I)=CVSAT(I)*GKJKF	205.
ISN 0122	ITSATS=TSAT(I)	206.
ISN 0123	PRINT 111, ITSATS, HVSATS(I), CPSATS(I), CVSATS(I),	207.
	1 SVSATS(I), PSATS(I), RHOVS(I), APSAT(I), BSSATS(I), BTSATS(I),	208.
	2 GVSATS(I)	209.
ISN 0124	TPRINT=TPRINT+DPRINT	210.
ISN 0125	ICOUNT=ICOUNT+1	211.
ISN 0126	IF (ICOUNT .LT. 27) GO TO 410	212.
ISN 0128	PRINT 110	213.
ISN 0129	ICOUNT=1	214.
ISN 0130	410 CONTINUE	215.
ISN 0131	413 CONTINUE	216.
ISN 0132	1000 CONTINUE	217.
ISN 0133	2000 CCNTINUE	218.
C		219.
C	FORMAT STATEMENTS	220.
C		221.
C		222.
ISN 0134	1 FORMAT (1H1/48X,'PROPERTIES OF SATURATED SODIUM VAPOR'	223.
	1 3X,'T',4X,'H-H(298)',6X,'CP',8X,'CV',8X,'S',11X,'P',11X,	224.

	2	'RHO',9X,'ALPHAP',8X,'BETAS',8X,'BETAT',8X,'GAMMAV' /	225.
	4	2X,'(K)',4X,'(J/G)',5X,'(J/G-K)',3X,'(J/G-K)',3X,'(J/G-K)',	226.
	5	6X,'(ATM)',7X,'(G/CC)',9X,'(1/K)',7X,'(1/ATM)',6X,	227.
	6	'(1/ATM)',6X,'(ATM/K)' //	228.
ISN 0135	2	FORMAT (I5,F10.2,1X,F10.4,F10.4,F10.4,1X,6(1PD13.3) /)	229.
ISN 0136	110	PCRMAT (1H1/51X,'PROPERTIES OF SATURATED SODIUM VAPOF' ///	230.
	1	2X,'T',5X,'H-H (298)',7X,'CP',9X,'CV',10X,'S',11X,'P',11X,	231.
	2	'RHO',9X,'ALPHAP',7X,'BETAS',8X,'BETAT',7X,'GAMMAV'	232.
	3	/ 1X,'(K)',4X,'(KJ/MOL)',4X,'(J/MOL-K)',2X,'(J/MOL-K)',	233.
	5	2X,'(J/MOL-K)',5X,'(MPA)',6X,'(KG/H**3)',6X,	234.
	6	'(1/K)',7X,'(1/MPA)',6X,'(1/MPA)',6X,'(MPA/K)' //	235.
ISN 0137	111	PCRMAT (I5,3X,F8.2,3X,F8.2,3X,F8.2,4X,F7.2,1X,6(1PD13.3) /)	236.
ISN 0138	2001	CONTINUE	237.
ISN 0139		STOP	238.
ISN 0140		END	239.


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      COMPILER OPTIONS - NAME= MAIN,OPT=00,LINECNT=57,SIZE=0000K,
                        SOURCE,EBCDIC,NOLIST,MODECK,LOAD,MAP,NOEDIT,ID,NOXREF
ISN 0002      SUBROUTINE PARSET (TCRIT,PCRIT,ROCRIT)      240.
ISN 0003      IMPLICIT REAL*8 (A-H,O-Z)      241.
ISN 0004      DIMENSION A(3,3),C(3),BETAS(15)      242.
ISN 0005      COMMON /PAR/ TCROSS,RHOLA,RHOLB,RHOLC,B,BSMELT,E,F,DHA,DHB      243.
      C      244.
      C      CALCULATION OF CONSTANTS FOR SATURATED PROPERTIES ABOVE 2500 F      245.
      C      THE FOLLOWING VALUES OBTAINED FROM GOLDEN AND TOKAR (ANL-7323)      246.
      C      HAVE BEEN USED TO GENERATE THESE CONSTANTS BY MATCHING PROPERTY      247.
      C      VALUES AND THEIR TEMPERATURE DERIVATIVES AT TCROSS (=2500F,=2959.67R,      249.
      C      =1644.26K)      250.
ISN 0006      TCROSS=1.8*TCROSS      251.
ISN 0007      TCROSSF=TCROSS-459.67      252.
ISN 0008      CTGCC=0.01601846      253.
ISN 0009      FCLCRO=(59.566-7.9504D-3*TCROSSF-0.2872D-6*TCROSSF**2+      254.
      1      0.06035D-9*TCROSSF**3)*CTGCC/ROCRIT      255.
ISN 0010      DRLCRO=(-7.9504D-3-0.5744D-6*TCROSSF+0.18105D-9*TCROSSF**2)*1.8      256.
      1      *CTGCC/ROCRIT      257.
ISN 0011      C2CRO=(-.57446D-6+.36210D-9*TCROSSF)*1.8*1.8*CTGCC/ROCRIT      258.
ISN 0012      FSAT=DEXP(18.832381-13113.052/TCROSS +1.9777006E-4      259.
      1      *TCROSS )/TCROSS **1.0947825      261.
      C      262.
      C      CALCULATION OF E F DHA DHB      263.
      C      FOR ENTHALPY USING HL HV DHL DHV AT 2500 F      264.
      C      265.
ISN 0013      HLSAT =((-7.13927E3+35.2064*TCROSS-7.051302E-3*TCROSS      266.
      1      *TCROSS +2.571074E-6*(TCROSS)**3 -1.24284E5/      268.
      2      TCROSS)/22.991 )      J/G
ISN 0014      CHLSAT=(35.2064-1.410260E-2*TCROSS+7.71322E-6*TCROSS*TCROSS      268.
      1      +1.24284E5/(TCROSS*TCROSS))/22.991      J/G-K
ISN 0015      TWO = DEXP(-9.95845 + (16588.3/TCROSS))      272.
ISN 0016      FOUR = DEXP(-24.59115 + (37589.7/TCROSS))      273.
ISN 0017      U = TWO*PSAT      274.
ISN 0018      W = FOUR*PSAT*PSAT*PSAT      275.
ISN 0019      X1 = 0.8      276.
ISN 0020      170 X1P = X1      277.
ISN 0021      X1 = X1 - (W*X1*X1*X1*X1 + U*X1*X1 + X1 - 1.)/      278.
      1      (4.*W*X1*X1*X1 + 2.*U*X1 + 1.)      279.
ISN 0022      DIFF = DABS(X1 - X1P)/X1 - 1.D-06      280.
ISN 0023      IF (DIFF) 180,180,170      281.
ISN 0024      180 X2 = U*X1*X1      282.
ISN 0025      X4 = 1. - X1 - X2      283.
ISN 0026      AB = 22.991*(X1 + 2.*X2 + 4.*X4)      284.
ISN 0027      DHF1 = 25775.33-3.44653*TCROSS +1.68530D-3*TCROSS *TCROSS      285.
      1      -6.14501D-7*TCROSS *TCROSS *TCROSS +2.97046D4/TCROSS      286.
ISN 0028      DHF2 = 2.*DHF1 - 18304.      287.
ISN 0029      DHF4 = 4.*DHF1 - 41478.      288.
ISN 0030      DH = 4.184*(X1*DHF1 + X2*DHF2 + X4*DHF4)/AB      289.
ISN 0031      HVSAT=HLSAT+DH      290.
      C      291.
      C      CALCULATION OF DERIV(DH) AT 2500 F      292.
      C

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	C		293.
ISM 0032		X=1.0D-1	294.
ISM 0033		ICOUNT=1	295.
ISM 0034	10	IC=1	296.
ISM 0035		TD=((2500.+459.7)/1.8) +X	297.
ISM 0036	11	TRR=TD*1.8	298.
ISM 0037		PSAT=DEXP(18.832381-13113.052/TD +1.9777006E-4	299.
		1 *TD)/TD**1.0947825	300.
ISM 0038		TWO = DEXP(-9.95845 + (16588.3/TRR))	ATN-1
ISM 0039		PCUR = DEXP(-24.59115 + (37589.7/TRR))	ATN-3
ISM 0040		U = TWO*PSAT	303.
ISM 0041		W = FOUR*PSAT*PSAT*PSAT	304.
ISM 0042		X1 = 0.8	305.
ISM 0043	17	X1P = X1	306.
ISM 0044		X1 = X1 - (W*X1*X1*X1*X1 + U*X1*X1 + X1 - 1.)/	307.
		1 (4.*W*X1*X1*X1 + 2.*U*X1 + 1.)	308.
ISM 0045		DIFF = DABS(X1 - X1P)/X1 - 1.D-06	309.
ISM 0046		IF (DIFF) 18,18,17	310.
ISM 0047	18	X2 = U*X1*X1	311.
ISM 0048		X4 = 1. - X1 - X2	312.
ISM 0049		AB = 22.991*(X1 + 2.*X2 + 4.*X4)	313.
ISM 0050		DHF1 = 25775.33-3.44653*TD+1.68530D-3*TD*TD	314.
		1 -6.14501D-7*TD*TD*TD +2.97046D4/TD	315.
ISM 0051		DHF2 = 2.*DHF1 - 18304.	CAL/MNA2
ISM 0052		DHF4 = 4.*DHF1 - 41478.	CAL/MNA4
ISM 0053		DH = 4.184*(X1*DHF1 + X2*DHF2 + X4*DHF4)/AB	318.
ISM 0054		IF(IC.EQ.1) DH1=DH	319.
ISM 0056		IF(IC.EQ.2) GO TO 19	320.
ISM 0058		IC=2	321.
ISM 0059		TD=((2500.+459.7)/1.8)-X	322.
ISM 0060		GO TO 11	323.
ISM 0061	19	DH2=DH	324.
ISM 0062		DERIV=(DH1-DH2)/(2.*X)	325.
ISM 0063		IF (ICCOUNT.EQ.1) GO TO 20	326.
ISM 0065		DL=DERIV-DERIV1	327.
ISM 0066		IF (DABS(DL)/DERIV.LT.1D-5) GO TO 30	328.
ISM 0068	20	DERIV1=DERIV	329.
ISM 0069		ICOUNT=ICOUNT+1	330.
ISM 0070		X=X/2.	331.
ISM 0071		GO TO 10	332.
ISM 0072	30	DHVSAT=DHLSAT+DERIV	333.
ISM 0073		E=(HLSAT + HVSAT)/2.0D0	334.
ISM 0074		F=(DHLSAT + DHVSAT)/2.0D0	335.
ISM 0075		DHB=(TCRIT-TCROSS)*(DHLSAT-DHVSAT)/(HVSAT-HLSAT)	336.
ISM 0076		DHA=(HVSAT-HLSAT)/(TCRIT*(1-TCROSS/TCRIT)**DHB)	337.
	C		338.
	C	CALCULATION OF RHOLA AND RHOLB	339.
	C		340.
ISM 0077		RHOLB=(DRLCRO*(TCRIT-TCROSS)-D2CRO*(TCRIT-TCROSS)**2)/	341.
		1 (2*(R0LCRO-1.)-DRLCRO*(TCRIT-TCROSS))	342.
ISM 0078		RHOLA=(DRLCRO*(TCRIT-TCROSS)-D2CRO*(TCRIT-TCROSS)**2)/	343.
		1 (RHOLB*(2.-RHOLB)*(1.-(TCROSS/TCRIT))**RHOLB)	344.
ISM 0079		RHOLC=((R0LCRO-1.)-RHOLA*(1.-TCROSS/TCRIT)**RHOLB)/	345.
		1 (TCRIT-TCROSS)**2	346.
	C		347.

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C      CALCULATION OF B FOR REVISED FORM OF GROSSE'S RELATION      348.
C      BETAS(T)=BETAS(TMELT)*(1+THETA/B)/(1-THETA)  WHERE          349.
C      THETA=(T - TMELT)/(TCRIT - TMELT)                          350.
C                                                                    351.
ISN 0080      TMELT=370.98                                          352.
ISN 0081      TLIMIT=1500.+273.15                                  353.
ISN 0082      DT=(TLIMIT-TMELT)/14.                                354.
ISN 0083      T=TMELT                                              355.
ISN 0084      SUM1=0.                                              356.
ISN 0085      SUM2=0.                                              357.
ISN 0086      SUM3=0.                                              358.
ISN 0087      DO 90 I=1,15                                         359.
ISN 0088      TF=1.8*T-459.67                                       360.
ISN 0089      TC=(TF-32.)/1.8                                       361.
C                                                                    362.
C      CALCULATION OF BS FROM THE SPEED OF SOUND(CO)             363.
C                                                                    364.
ISN 0090      IF(T.LE.TCROSS) RHOL=CTOGCC*(59.566-7.9504D-3*TF    365.
1 -0.2872D-6*TF**2 + 0.06035D-9*TF**3)                             366.
ISN 0092      IF(T.GT.TCROSS) RHOL=ROCRIT*(1.+RHOLA*(1-T/TCRIT)**RHOLB  367.
1 +RHOLC*(TCRIT-T)**2)                                             368.
ISN 0094      CO=(2660.7-0.37667*T-9.0356D-5*T**2)*1.0D2         369.
ISN 0095      BETAS(I)=1.01325E6/(RHOL*CO**2)                     370.
ISN 0096      IF(I.NE.1) GO TO 88                                   371.
ISN 0098      BSMELT=BETAS(1)                                       372.
ISN 0099      GC TO 89                                              373.
C                                                                    374.
C      DETERMINATION OF PARAMETER B                               375.
C                                                                    376.
ISN 0100      88 THETA=(T-TMELT)/(TCRIT-TMELT)                     377.
ISN 0101      SUM1=SUM1+BSMELT*THETA/(1.-THETA)*BETAS(I)           378.
ISN 0102      SUM2=SUM2+(BSMELT/(1.-THETA))**2*THETA               379.
ISN 0103      SUM3=SUM3+(BSMELT/(1.-THETA)*THETA)**2               380.
ISN 0104      89 T=T+DT                                             381.
ISN 0105      90 CONTINUE                                           382.
ISN 0106      B=SUM3/(SUM1-SUM2)                                     383.
ISN 0107      RETURN                                                384.
ISN 0108      END                                                  385.

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      COMPILE OPTIONS - NAME= MAIN,OPT=00,LINECNT=57,SIZE=0000K,
                        SOURCE,EBCDIC,NOLIST,NOCHECK,LOAD,MAP,NOEDIT,ID,NOXREF
      ISN 0002      SUBROUTINE NAPIOP (TSAT,DH,GAMMAV)      386.
      ISN 0003      IMPLICIT REAL*8(A-H,O-Z)              387.
      ISN 0004      COMMON /PROP/ TCRT,ROCRIT              388.
      C                                                     389.
      C                                                     390.
      C      PADILLAS SUBROUTINE FOR VAPOR PROPERTIES      391.
      C      ADAPTED FROM GOLDEN AND TOKAR'S ROUTINE NAPIOP IN ANL-7323 392.
      C      TO CALCULATE THERMAL PRESSURE COEFFICIENT, THERMAL EXPANSION 393.
      C      COEFFICIENT, CONSTANT-PRESSURE SPECIFIC HEAT, AND CONSTANT 394.
      C      VOLUME SPECIFIC HEAT FOR SATURATED SODIUM VAPOR USING THE 395.
      C      QUASI-CHEMICAL APPROACH                        396.
      C                                                     397.
      ISN 0005      TBR=1.8*TSAT                          398.
      ISN 0006      TF=TBR-459.67                        399.
      C                                                     400.
      C      DETERMINE SATURATION CONDITIONS                401.
      C                                                     402.
      C      CALCULATE DH                                    403.
      C                                                     404.
      ISN 0007      PSAT=DEXP(18.832381-13113.052/TSAT +1.9777006D-4 405.
      1      *TSAT)/TSAT**1.0947825                      406.
      ISN 0008      HISAT = ((-7.13927E3+35.2064*TSAT-7.051302E-3*TSAT 407.
      1      *TSAT +2.571074E-6*(TSAT)**3 -1.24284E5/
      2      TSAT)/22.991 )                               J/G
      ISN 0009      TWO = DEXP(-9.95845 + (16588.3/TBR))    411.
      ISN 0010      FOUR = DEXP(-24.59115 + (37589.7/TBR))  412.
      ISN 0011      U = TWO*PSAT                            413.
      ISN 0012      W = FOUR*PSAT*PSAT*PSAT                414.
      ISN 0013      X1 = 0.8                                415.
      ISN 0014      170 X1P = X1                            416.
      ISN 0015      X1 = X1 - (W*X1*X1*X1*X1 + U*X1*X1 + X1 - 1.)/
      1      (4.*W*X1*X1*X1 + 2.*U*X1 + 1.)                417.
      ISN 0016      DIFF = DABS(X1 - X1P)/X1 - 1.D-06      418.
      ISN 0017      IF (DIFF) 180,180,170                  419.
      ISN 0018      180 X2 = U*X1*X1                        420.
      ISN 0019      X4 = 1. - X1 - X2                       421.
      ISN 0020      AB = 22.991*(X1 + 2.*X2 + 4.*X4)        422.
      ISN 0021      VSAT = (0.730229*TBR)/(AB*PSAT)         423.
      ISN 0022      DHF1 = 25775.33-3.44653*TSAT+1.68530D-3*TSAT*TSAT
      1      -6.14501D-7*TSAT*TSAT*TSAT+2.97046D4/TSAT    CAL/MNA1
      ISN 0023      DHF2 = 2.*DHF1 - 18304.                 CAL/MNA2
      ISN 0024      DHF4 = 4.*DHF1 - 41478.                 CAL/MNA4
      ISN 0025      CB = 4.184*(X1*DHF1 + X2*DHF2 + X4*DHF4)/AB 427.
      ISN 0026      HVSAT = HLSAT + DH                      J/G
      C                                                     429.
      C      CALCULATE SATURATION CONDITIONS FOR TEMPERATURE TSAT+1 430.
      C                                                     431.
      ISN 0027      TSAT1=TSAT+1.0D0                       432.
      ISN 0028      TBR=1.8*TSAT1                          433.
      ISN 0029      TF=TBR-459.67                          434.
      ISN 0030      PSAT1=DEXP(18.832381-13113.052/TSAT1 +1.9777006E-4 435.
      1      *TSAT1)/TSAT1**1.0947825                      436.
      ISN 0031      HLSAT1 = ((-7.13927E3+35.2064*TSAT1-7.051302E-3*TSAT1
      1      *TSAT1 +2.571074E-6*(TSAT1)**3 -1.24284E5/    437.
      1      *TSAT1 +2.571074E-6*(TSAT1)**3 -1.24284E5/    438.

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2          TSAT1)/22.991 )
ISM 0032    TWO = DEXP(-9.95845 + (16588.3/TRR))
ISM 0033    FOUR = DEXP(-24.59115 + (37589.7/TRR))
ISM 0034    U = TWO*PSAT1
ISM 0035    W = FOUR*PSAT1*PSAT1*PSAT1
ISM 0036    X1 = 0.8
ISM 0037    240 X1P = X1
ISM 0038    X1 = X1 - (W*X1*X1*X1*X1 + U*X1*X1 + X1 - 1.)/
1          (4.*W*X1*X1*X1 + 2.*U*X1 + 1.)
ISM 0039    DIFF = DABS(X1 - X1P)/X1 - 1.D-06
ISM 0040    IF (DIFF) 250,250,240
ISM 0041    250 X2 = U*X1*X1
ISM 0042    X4 = 1. - X1 - X2
ISM 0043    AB = 22.991*(X1 + 2.*X2 + 4.*X4)
ISM 0044    DHF1 = 25775.33-3.44653*TSAT1+1.68530D-3*TSAT1*TSAT1
1          -6.14501D-7*TSAT1*TSAT1*TSAT1+2.97046D4/TSAT1
ISM 0045    DHF2 = 2.*DHF1 - 18304.
ISM 0046    DHF4 = 4.*DHF1 - 41478.
ISM 0047    DH1 = 4.184*(X1*DHF1 + X2*DHF2 + X4*DHF4)/AB
ISM 0048    HVSAT1 = HLSAT1 + DH1

C
C
C    DETERMINE INCREASE IN PRESSURE AND ENTHALPY FOR 1.0 KELVIN
C    INCREASE IN TEMPERATURE AT CONSTANT VOLUME VSAT
C
C    CALCULATE GAMMAV
C
ISM 0049    PATM=1.001D0*PSAT
ISM 0050    260 PTRI=PATH
ISM 0051    UB=PATH*TWO
ISM 0052    WB=((PATH)**3)*FOUR
ISM 0053    X1H = 0.8
ISM 0054    278 X1HP = X1H
ISM 0055    X1H = X1H - (WB*X1H*X1H*X1H*X1H + UB*X1H*X1H + X1H - 1.)/
1          (4.*WB*X1H*X1H*X1H + 2.*UB*X1H + 1.)
ISM 0056    DIFF = DABS(X1H - X1HP)/X1H - 1.D-06
ISM 0057    IF (DIFF) 284,284,278
ISM 0058    284 X2H = UB*X1H*X1H
ISM 0059    X4H = 1. - X1H - X2H
ISM 0060    ABH = 22.991*(X1H + 2.*X2H + 4.*X4H)
ISM 0061    VH=(.730229*TRR)/(ABH*PATH)
ISM 0062    PATH=(.730229*TRR)/(ABH*VSAT)
ISM 0063    IF(DABS(PATH-PTRI)/PATH-1.D-8) 300,300,260
ISM 0064    300 GAMMAV=(PATH-PSAT)
ISM 0065    ED=X1+2.*X2+4.*X4
ISM 0066    E2=2.*X2/BD
ISM 0067    B4=4.*X4/BD
ISM 0068    BDH=X1H+2.*X2H+4.*X4H
ISM 0069    E2H=2.*X2H/BDH
ISM 0070    B4H=4.*X4H/BDH
ISM 0071    HGI=HVSAT1+B2*716.54*4.184/1.8 + B4*811.85*4.184/1.8
ISM 0072    HGH=HGI-B2H*716.54*4.184/1.8 -B4H*811.85*4.184/1.8
ISM 0073    VSAT=VSAT/0.01601846
ISM 0074    VH=VH/0.01601846

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J/G
ATM-1
ATM-3
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CAL/DNA1
CAL/MNA2
CAL/MNA4
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J/G
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J/G
J/G
CC/G
CC/G

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ISN 0075	EGS=HVSAT-0.101325*PSAT*VSAT	J/G
ISN 0076	EGH=HGH-0.101325*PATH*VH	J/G
ISN 0077	CV=(EGH-EGS)	496.
C		497.
C	DETERMINE THE INCREASE IN VOLUME AND ENTHALPY FOR 1 KELVIN	498.
C	INCREASE IN TEMPERATURE AT CONSTANT PRESSURE PSAT	499.
C		500.
ISN 0078	PATH=PSAT	501.
ISN 0079	UH=PATH*TWO	502.
ISN 0080	WH=((PATH)**3)*FOUR	503.
ISN 0081	X1H = 0.8	504.
ISN 0082	378 X1HP = X1H	505.
ISN 0083	X1H = X1H - (WH*X1H*X1H*X1H*X1H + UH*X1H*X1H + X1H - 1.)/	506.
	1 (4.*WH*X1H*X1H*X1H + 2.*UH*X1H + 1.)	507.
ISN 0084	DIFF = DABS(X1H - X1HP)/X1H - 1.D-06	508.
ISN 0085	IF (DIFF) 384,384,378	509.
ISN 0086	384 X2H = UH*X1H*X1H	510.
ISN 0087	X4H = 1. - X1H - X2H	511.
ISN 0088	ABH = 22.991*(X1H + 2.*X2H + 4.*X4H)	512.
ISN 0089	VH=(.730229*TRR)/(ABH*PATH)	513.
ISN 0090	BD=X1+2.*X2+4.*X4	514.
ISN 0091	B2=2.*X2/BD	515.
ISN 0092	B4=4.*X4/BD	516.
ISN 0093	BDH=X1H+2.*X2H+4.*X4H	517.
ISN 0094	B2H=2.*X2H/BDH	518.
ISN 0095	B4H=4.*X4H/BDH	519.
ISN 0096	HGI=HVSAT1+B2*716.54*4.184/1.8 + B4*811.85*4.184/1.8	J/G
ISN 0097	HGH=HGI-B2H*716.54*4.184/1.8 - B4H*811.85*4.184/1.8	J/G
ISN 0098	VH=VH/0.01601846	CC/G
ISN 0099	ALPHA= (VH-VSAT)/VSAT	K-1
ISN 0100	CP= (HGH-HVSAT)	J/G-K
ISN 0101	RETURN	525.
ISN 0102	6 FCRMAT(7D15.5)	526.
ISN 0103	END	527.

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      COMPILER OPTIONS - NAME=  MAIN,OPT=00,LINECNT=57,SIZE=0000K,
                           SOURCE,EBCDIC,MOLIST,NODECK,LOAD,MAP,NOEDIT,ID,NOXREF
ISN 0002      SUBROUTINE DER(T,DB,RHOV,DBDT,DBHVV)
              C
              C      SUBROUTINE TO CALCULATE TEMPERATURE DERIVATIVES OF
              C      HEAT OF VAPORIZATION (WHEN HEAT OF VAPORIZATION IS
              C      CALCULATED VIA THE QUASI-CHEMICAL METHOD) AND
              C      TEMPERATURE DERIVATIVES OF VAPOR DENSITY
              C
ISN 0003      IMPLICIT REAL*8(A-H,O-Z)
ISN 0004      COMMON /PAR/ TCROSS,RHOLA,RHOLB,RHOLC,B,BSMELT,E,F,DHA,DHB
ISN 0005      COMMON /PROP/ TCRT,ROCRIT
ISN 0006      CTOJ=0.1013278
              C
              C      CALCULATION OF TEMPERATURE STEPS
              C
ISN 0007      DT=(-0.2+5.0D-4*T+2.0D-7*T*T)/2.0D0
ISN 0008      ICOUNT=0
ISN 0009      1 T2=T+DT
ISN 0010      IC=1
ISN 0011      2 TRR=1.8*T2
ISN 0012      TFF=TRR-459.67
ISN 0013      PSAT=DEXP(18.832381-13113.052/T2 +1.9777006D-4
              C      *T2)/T2**1.0947825
ISN 0014      EPSAT=PSAT*(1.9777006E-4+13113.052/(T2*T2)
              C      -1.0947825/T2)
ISN 0015      RHOL = (59.566-7.9504D-3*TFF-0.2872D-6*TFF**2+0.06035D-9*
              C      TFF**3)/62.4283
ISN 0016      IF(TFF.GT.2500.) GO TO 190
              C
              C      CALCULATE DERIVATIVES OF HEAT OF VAPORIZATION AND OF
              C      VAPOR DENSITY FOR TEMPERATURES AT OR BELOW 2500 DEG F
              C
ISN 0018      TWO = DEXP(-9.95845 + (16588.3/TRR))
ISN 0019      PCUR = DEXP(-24.59115 + (37589.7/TRR))
ISN 0020      U = TWO*PSAT
ISN 0021      W = FOUR*PSAT*PSAT*PSAT
ISN 0022      X1 = 0.8
ISN 0023      170 X1P = X1
ISN 0024      X1 = X1 - (W*X1*X1*X1*X1 + U*X1*X1 + X1 - 1.)/
              C      (4.*W*X1*X1*X1 + 2.*U*X1 + 1.)
ISN 0025      DIFF = DABS(X1 - X1P)/X1 - 1.D-06
ISN 0026      IF (DIFF) 180,180,170
ISN 0027      180 X2 = U*X1*X1
ISN 0028      X4 = 1. - X1 - X2
ISN 0029      AB = 22.991*(X1 + 2.*X2 + 4.*X4)
ISN 0030      DHP1 = 25775.33-3.44653*T2+1.68530D-3*T2*T2
              C      -6.14501D-7*T2*T2+2.97046D4/T2
ISN 0031      DHP2 = 2.*DHP1 - 18304.
ISN 0032      DHP4 = 4.*DHP1 - 41478.
ISN 0033      DH2 = 4.184*(X1*DHP1 + X2*DHP2 + X4*DHP4)/AB
ISN 0034      RHOV2 = 1./(1./RHOL + DH2/(T2*DPSAT*CTOJ))
ISN 0035      IF(IC.EQ.1) DH1=DH2
ISN 0037      IF(IC.EQ.1) RHOV1=RHOV2
ISN 0039      IF(IC.EQ.2) GO TO 9

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 ATH/K
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 G/CC
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 ATH-1
 ATH-3
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 CAL/HNA1
 CAL/HNA2
 CAL/HNA4
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ISM 0041	IC=2	581.
ISM 0042	T2=T-DT	582.
ISM 0043	GO TO 2	583.
ISM 0044	9 DRHOV=(RHOV1-RHOV2)/(DT*2.0D0)	584.
ISM 0045	CHDT=(DH1-DH2)/(DT*2.0D0)	585.
ISM 0046	ICOUNT=ICOUNT+1	586.
ISM 0047	IF(ICOUNT.LE.1) GO TO 10	587.
ISM 0049	DDR=DABS(DRHOV-DRHOV2)	588.
ISM 0050	CDH=DABS(DHDT-DHDT2)	589.
ISM 0051	IF(DDE/DRHOV.LT.1.D-3 .AND. DDH/DHDT.LT.1.D-5) GO TO 200	590.
ISM 0053	10 CRHOV2=DRHCV	591.
ISM 0054	CHDT2=DHDT	592.
ISM 0055	DT=DT/2.0D0	593.
ISM 0056	GO TO 1	594.
	C	595.
	C CALCULATE DERIVATIVE OF VAPOR DENSITY FOR TEMPERATURES	596.
	C ABOVE 2500 DEG F	597.
	C	598.
ISM 0057	190 DH2=DHA*TCRIT*(1.-T2/TCRIT)**DHB	599.
ISM 0058	RHOV2 = 1./(1./RHOL + DH2/(T2*DPSAT*CTOJ))	600.
ISM 0059	IF(IC.EQ.1) RHOV1=RHOV2	601.
ISM 0061	IF(IC.EQ.2) GO TO 191	602.
ISM 0063	IC=2	603.
ISM 0064	T2=T-DT	604.
ISM 0065	GO TO 2	605.
ISM 0066	191 DRHOV=(RHOV1-RHOV2)/(DT*2.0D0)	606.
ISM 0067	ICOUNT=ICOUNT+1	607.
ISM 0068	IF(ICOUNT.LE.1) GO TO 192	608.
ISM 0070	DDR=DABS(DRHOV-DRHOV2)	609.
ISM 0071	IF(DDE/DRHOV.LT.1.D-3) GO TO 200	610.
ISM 0073	192 CRHOV2=DRHOV	611.
ISM 0074	DT=DT/2.0D0	612.
ISM 0075	GO TO 1	613.
ISM 0076	200 RETURN	614.
ISM 0077	END	615.

TCRIT = 2509. DEG K
PCRIT = 253.0 ATM
RCCRIT = 0.2141 G/CC
RHOLA = 0.23709D 01
RHOLB = 0.31645D 00
RHOLC = 0.28467D-06
E = 0.35526D 04
F = 0.80577D 00
DHA = 0.18878D 01
DHB = 0.32227D 00
B = 0.34054D 01
BSHELT= 0.17361D-04
GVCRIT = 0.46652D 00
GVC = 0.21984D-01
AGV = -0.25165D-01
BGV = 0.34115D-03
DGV = 0.86027D-04
GV1 = 0.22071D-01
GV2 = 0.21898D-01

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
380	4722.39	0.9884	0.6278	14.7043	2.515D-10	1.895D-13	2.658D-03	2.528D 09	3.980D 09	6.678D-13
390	4731.07	1.0047	0.6426	14.4232	5.933D-10	4.358D-13	2.595D-03	1.079D 09	1.687D 09	1.538D-12
400	4739.68	1.0230	0.6593	14.1568	1.340D-09	9.601D-13	2.537D-03	4.814D 08	7.469D 08	3.396D-12
410	4748.22	1.0434	0.6777	13.9041	2.907D-09	2.033D-12	2.482D-03	2.237D 08	3.443D 08	7.209D-12
420	4756.67	1.0658	0.6979	13.6641	6.076D-09	4.149D-12	2.431D-03	1.079D 08	1.648D 08	1.475D-11
430	4765.03	1.0903	0.7199	13.4357	1.226D-08	8.184D-12	2.383D-03	5.392D 07	8.166D 07	2.919D-11
440	4773.29	1.1169	0.7437	13.2182	2.396D-08	1.563D-11	2.339D-03	2.783D 07	4.180D 07	5.596D-11
450	4781.44	1.1456	0.7692	13.0108	4.543D-08	2.900D-11	2.297D-03	1.481D 07	2.205D 07	1.042D-10
460	4789.48	1.1762	0.7963	12.8128	8.373D-08	5.230D-11	2.259D-03	8.104D 06	1.197D 07	1.887D-10
470	4797.39	1.2087	0.8250	12.6236	1.503D-07	9.193D-11	2.223D-03	4.554D 06	6.671D 06	3.332D-10
480	4805.18	1.2430	0.8552	12.4426	2.632D-07	1.577D-10	2.189D-03	2.622D 06	3.811D 06	5.744D-10
490	4812.83	1.2790	0.8867	12.2693	4.502D-07	2.644D-10	2.158D-03	1.545D 06	2.229D 06	9.683D-10
500	4820.35	1.3165	0.9194	12.1032	7.535D-07	4.340D-10	2.129D-03	9.302D 05	1.332D 06	1.598D-09
510	4827.72	1.3555	0.9531	11.9438	1.236D-06	6.981D-10	2.102D-03	5.715D 05	8.127D 05	2.586D-09
520	4834.94	1.3958	0.9878	11.7908	1.987D-06	1.102D-09	2.077D-03	3.578D 05	5.056D 05	4.108D-09
530	4842.01	1.4372	1.0233	11.6438	3.138D-06	1.709D-09	2.054D-03	2.281D 05	3.203D 05	6.411D-09
540	4848.92	1.4796	1.0595	11.5024	4.871D-06	2.605D-09	2.032D-03	1.479D 05	2.065D 05	9.842D-09
550	4855.68	1.5228	1.0961	11.3662	7.439D-06	3.909D-09	2.012D-03	9.739D 04	1.353D 05	1.487D-08
560	4862.27	1.5666	1.1330	11.2351	1.119D-05	5.777D-09	1.994D-03	6.511D 04	9.003D 04	2.214D-08
570	4868.70	1.6109	1.1701	11.1087	1.658D-05	8.419D-09	1.976D-03	4.416D 04	6.079D 04	3.251D-08
580	4874.98	1.6555	1.2072	10.9868	2.423D-05	1.210D-08	1.960D-03	3.035D 04	4.162D 04	4.710D-08
590	4881.09	1.7003	1.2442	10.8691	3.496D-05	1.718D-08	1.945D-03	2.113D 04	2.888D 04	6.737D-08
600	4887.04	1.7450	1.2809	10.7554	4.981D-05	2.409D-08	1.931D-03	1.489D 04	2.028D 04	9.522D-08
610	4892.83	1.7896	1.3172	10.6456	7.013D-05	3.340D-08	1.918D-03	1.061D 04	1.442D 04	1.330D-07
620	4898.46	1.8338	1.3529	10.5394	9.764D-05	4.579D-08	1.906D-03	7.648D 03	1.037D 04	1.839D-07
630	4903.94	1.8775	1.3880	10.4366	1.345D-04	6.214D-08	1.895D-03	5.569D 03	7.533D 03	2.515D-07

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	RHO (G/CC)	ALPHA P (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMA V (ATM/K)
640	4909.27	1.9207	1.4223	10.3372	1.834D-04	8.348D-08	1.884D-03	4.096D 03	5.531D 03	3.406D-07
650	4914.45	1.9631	1.4557	10.2409	2.476D-04	1.111D-07	1.873D-03	3.041D 03	4.101D 03	4.569D-07
660	4919.48	2.0046	1.4881	10.1476	3.311D-04	1.465D-07	1.864D-03	2.278D 03	3.069D 03	6.073D-07
670	4924.37	2.0452	1.5194	10.0571	4.391D-04	1.916D-07	1.854D-03	1.721D 03	2.317D 03	8.002D-07
680	4929.13	2.0847	1.5496	9.9694	5.772D-04	2.485D-07	1.845D-03	1.312D 03	1.764D 03	1.046D-06
690	4933.76	2.1230	1.5786	9.8843	7.527D-04	3.197D-07	1.836D-03	1.007D 03	1.355D 03	1.356D-06
700	4938.26	2.1602	1.6063	9.8018	9.740D-04	4.083D-07	1.828D-03	7.793D 02	1.048D 03	1.744D-06
710	4942.64	2.1960	1.6327	9.7216	1.251D-03	5.177D-07	1.820D-03	6.074D 02	8.170D 02	2.227D-06
720	4946.91	2.2304	1.6578	9.6438	1.595D-03	6.520D-07	1.812D-03	4.767D 02	6.414D 02	2.825D-06
730	4951.07	2.2634	1.6815	9.5682	2.021D-03	8.156D-07	1.804D-03	3.766D 02	5.070D 02	3.558D-06
740	4955.13	2.2950	1.7038	9.4947	2.543D-03	1.014D-06	1.796D-03	2.995D 02	4.034D 02	4.452D-06
750	4959.08	2.3251	1.7246	9.4233	3.180D-03	1.253D-06	1.788D-03	2.396D 02	3.230D 02	5.536D-06
760	4962.95	2.3536	1.7441	9.3539	3.953D-03	1.539D-06	1.780D-03	1.928D 02	2.602D 02	6.842D-06
770	4966.73	2.3807	1.7621	9.2864	4.885D-03	1.880D-06	1.772D-03	1.560D 02	2.168D 02	8.408D-06
780	4970.44	2.4061	1.7788	9.2207	6.003D-03	2.284D-06	1.765D-03	1.270D 02	1.717D 02	1.027D-05
790	4974.07	2.4301	1.7940	9.1568	7.339D-03	2.761D-06	1.757D-03	1.039D 02	1.407D 02	1.249D-05
800	4977.63	2.4525	1.8079	9.0947	8.925D-03	3.321D-06	1.749D-03	8.539D 01	1.158D 02	1.510D-05
810	4981.13	2.4733	1.8205	9.0341	1.080D-02	3.975D-06	1.741D-03	7.054D 01	9.584D 01	1.816D-05
820	4984.58	2.4927	1.8317	8.9752	1.301D-02	4.736D-06	1.733D-03	5.855D 01	7.968D 01	2.175D-05
830	4987.98	2.5105	1.8416	8.9178	1.559D-02	5.619D-06	1.725D-03	4.882D 01	6.655D 01	2.591D-05
840	4991.33	2.5269	1.8503	8.8619	1.861D-02	6.637D-06	1.716D-03	4.088D 01	5.583D 01	3.074D-05
850	4994.64	2.5419	1.8578	8.8075	2.212D-02	7.808D-06	1.708D-03	3.438D 01	4.704D 01	3.631D-05
860	4997.92	2.5555	1.8642	8.7544	2.618D-02	9.149D-06	1.700D-03	2.903D 01	3.980D 01	4.270D-05
870	5001.16	2.5677	1.8694	8.7028	3.087D-02	1.068D-05	1.691D-03	2.461D 01	3.380D 01	5.002D-05
880	5004.38	2.5786	1.8735	8.6524	3.625D-02	1.242D-05	1.682D-03	2.094D 01	2.882D 01	5.837D-05
890	5007.58	2.5882	1.8766	8.6033	4.241D-02	1.439D-05	1.674D-03	1.788D 01	2.467D 01	6.785D-05

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
900	5010.77	2.5966	1.8787	8.5554	4.945D-02	1.662D-05	1.665D-03	1.533D 01	2.119D 01	7.858D-05
910	5013.94	2.6038	1.8799	8.5087	5.745D-02	1.913D-05	1.656D-03	1.318D 01	1.826D 01	9.069D-05
920	5017.10	2.6099	1.8802	8.4631	6.652D-02	2.195D-05	1.647D-03	1.137D 01	1.579D 01	1.043D-04
930	5020.25	2.6149	1.8797	8.4187	7.678D-02	2.510D-05	1.638D-03	9.846D 00	1.370D 01	1.196D-04
940	5023.41	2.6188	1.8784	8.3754	8.834D-02	2.862D-05	1.629D-03	8.550D 00	1.192D 01	1.366D-04
950	5026.56	2.6218	1.8763	8.3331	1.013D-01	3.254D-05	1.619D-03	7.446D 00	1.041D 01	1.556D-04
960	5029.71	2.6239	1.8735	8.2918	1.159D-01	3.690D-05	1.610D-03	6.504D 00	9.109D 00	1.768D-04
970	5032.87	2.6250	1.8701	8.2516	1.322D-01	4.172D-05	1.601D-03	5.697D 00	7.998D 00	2.002D-04
980	5036.04	2.6254	1.8660	8.2123	1.503D-01	4.705D-05	1.592D-03	5.004D 00	7.041D 00	2.260D-04
990	5039.22	2.6250	1.8614	8.1739	1.705D-01	5.292D-05	1.582D-03	4.407D 00	6.215D 00	2.546D-04
1000	5042.41	2.6238	1.8562	8.1364	1.929D-01	5.938D-05	1.573D-03	3.891D 00	5.501D 00	2.860D-04
1010	5045.61	2.6220	1.8506	8.0998	2.177D-01	6.646D-05	1.564D-03	3.445D 00	4.880D 00	3.204D-04
1020	5048.82	2.6195	1.8445	8.0641	2.451D-01	7.422D-05	1.554D-03	3.056D 00	4.341D 00	3.581D-04
1030	5052.05	2.6164	1.8380	8.0292	2.753D-01	8.269D-05	1.545D-03	2.718D 00	3.870D 00	3.992D-04
1040	5055.30	2.6129	1.8311	7.9951	3.085D-01	9.193D-05	1.536D-03	2.423D 00	3.458D 00	4.441D-04
1050	5058.56	2.6088	1.8239	7.9618	3.449D-01	1.020D-04	1.526D-03	2.165D 00	3.097D 00	4.929D-04
1060	5061.83	2.6042	1.8164	7.9292	3.848D-01	1.129D-04	1.517D-03	1.939D 00	2.779D 00	5.459D-04
1070	5065.13	2.5993	1.8086	7.8974	4.284D-01	1.247D-04	1.508D-03	1.739D 00	2.500D 00	6.033D-04
1080	5068.44	2.5940	1.8006	7.8662	4.759D-01	1.376D-04	1.499D-03	1.564D 00	2.253D 00	6.654D-04
1090	5071.76	2.5884	1.7923	7.8358	5.277D-01	1.514D-04	1.490D-03	1.409D 00	2.034D 00	7.324D-04
1100	5075.11	2.5825	1.7838	7.8060	5.840D-01	1.663D-04	1.481D-03	1.271D 00	1.841D 00	8.046D-04
1110	5078.46	2.5763	1.7752	7.7769	6.451D-01	1.824D-04	1.472D-03	1.150D 00	1.669D 00	8.823D-04
1120	5081.83	2.5699	1.7664	7.7485	7.112D-01	1.997D-04	1.464D-03	1.042D 00	1.515D 00	9.658D-04
1130	5085.22	2.5633	1.7575	7.7206	7.828D-01	2.182D-04	1.455D-03	9.453D-01	1.379D 00	1.055D-03
1140	5088.61	2.5566	1.7485	7.6934	8.600D-01	2.381D-04	1.447D-03	8.594D-01	1.257D 00	1.151D-03
1150	5092.02	2.5498	1.7395	7.6667	9.433D-01	2.593D-04	1.438D-03	7.826D-01	1.147D 00	1.254D-03

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	BHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
1160	5095.44	2.5428	1.7303	7.6406	1.033D 00	2.821D-04	1.430D-03	7.139D-01	1.049D 00	1.363D-03
1170	5098.86	2.5358	1.7211	7.6150	1.129D 00	3.063D-04	1.422D-03	6.522D-01	9.609D-01	1.480D-03
1180	5102.29	2.5287	1.7119	7.5899	1.233D 00	3.321D-04	1.414D-03	5.968D-01	8.815D-01	1.604D-03
1190	5105.72	2.5216	1.7026	7.5654	1.344D 00	3.596D-04	1.407D-03	5.469D-01	8.100D-01	1.737D-03
1200	5109.16	2.5145	1.6933	7.5414	1.462D 00	3.889D-04	1.399D-03	5.019D-01	7.453D-01	1.877D-03
1210	5112.59	2.5075	1.6841	7.5178	1.589D 00	4.199D-04	1.392D-03	4.613D-01	6.869D-01	2.026D-03
1220	5116.03	2.5004	1.6748	7.4948	1.725D 00	4.528D-04	1.385D-03	4.246D-01	6.339D-01	2.184D-03
1230	5119.46	2.4934	1.6656	7.4721	1.869D 00	4.877D-04	1.378D-03	3.913D-01	5.858D-01	2.352D-03
1240	5122.88	2.4865	1.6563	7.4500	2.023D 00	5.246D-04	1.371D-03	3.611D-01	5.421D-01	2.529D-03
1250	5126.29	2.4797	1.6472	7.4282	2.187D 00	5.636D-04	1.364D-03	3.337D-01	5.024D-01	2.716D-03
1260	5129.70	2.4729	1.6380	7.4069	2.360D 00	6.048D-04	1.358D-03	3.088D-01	4.661D-01	2.913D-03
1270	5133.09	2.4662	1.6289	7.3860	2.545D 00	6.482D-04	1.352D-03	2.860D-01	4.331D-01	3.121D-03
1280	5136.46	2.4597	1.6198	7.3655	2.741D 00	6.940D-04	1.345D-03	2.653D-01	4.028D-01	3.340D-03
1290	5139.82	2.4533	1.6108	7.3453	2.948D 00	7.421D-04	1.340D-03	2.464D-01	3.752D-01	3.570D-03
1300	5143.16	2.4470	1.6019	7.3255	3.167D 00	7.928D-04	1.334D-03	2.290D-01	3.499D-01	3.813D-03
1310	5146.47	2.4408	1.5930	7.3061	3.399D 00	8.460D-04	1.328D-03	2.132D-01	3.266D-01	4.067D-03
1320	5149.76	2.4347	1.5841	7.2870	3.643D 00	9.019D-04	1.323D-03	1.986D-01	3.053D-01	4.335D-03
1330	5153.03	2.4288	1.5753	7.2683	3.901D 00	9.605D-04	1.318D-03	1.853D-01	2.856D-01	4.615D-03
1340	5156.26	2.4230	1.5665	7.2499	4.173D 00	1.022D-03	1.313D-03	1.730D-01	2.676D-01	4.908D-03
1350	5159.46	2.4174	1.5578	7.2318	4.459D 00	1.086D-03	1.309D-03	1.617D-01	2.509D-01	5.216D-03
1360	5162.63	2.4119	1.5492	7.2141	4.760D 00	1.153D-03	1.304D-03	1.513D-01	2.355D-01	5.537D-03
1370	5165.76	2.4065	1.5406	7.1966	5.076D 00	1.224D-03	1.300D-03	1.417D-01	2.213D-01	5.873D-03
1380	5168.86	2.4012	1.5320	7.1794	5.409D 00	1.297D-03	1.296D-03	1.328D-01	2.082D-01	6.224D-03
1390	5171.91	2.3960	1.5235	7.1625	5.757D 00	1.374D-03	1.292D-03	1.246D-01	1.960D-01	6.590D-03
1400	5174.92	2.3910	1.5150	7.1459	6.122D 00	1.454D-03	1.288D-03	1.171D-01	1.847D-01	6.971D-03
1410	5177.89	2.3861	1.5066	7.1296	6.505D 00	1.537D-03	1.284D-03	1.100D-01	1.743D-01	7.369D-03

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	BHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAHHAV (ATM/K)
1420	5180.82	2.3812	1.4982	7.1135	6.905D 00	1.624D-03	1.281D-03	1.035D-01	1.645D-01	7.783D-03
1430	5183.69	2.3765	1.4899	7.0977	7.324D 00	1.715D-03	1.277D-03	9.749D-02	1.555D-01	8.214D-03
1440	5186.53	2.3718	1.4815	7.0822	7.762D 00	1.809D-03	1.274D-03	9.189D-02	1.471D-01	8.661D-03
1450	5189.31	2.3673	1.4732	7.0668	8.218D 00	1.906D-03	1.271D-03	8.667D-02	1.393D-01	9.127D-03
1460	5192.04	2.3628	1.4650	7.0517	8.695D 00	2.008D-03	1.268D-03	8.182D-02	1.320D-01	9.609D-03
1470	5194.72	2.3583	1.4567	7.0369	9.192D 00	2.114D-03	1.265D-03	7.731D-02	1.252D-01	1.011D-02
1480	5197.35	2.3539	1.4485	7.0223	9.711D 00	2.223D-03	1.263D-03	7.310D-02	1.188D-01	1.063D-02
1490	5199.93	2.3495	1.4403	7.0079	1.025D 01	2.337D-03	1.260D-03	6.917D-02	1.128D-01	1.117D-02
1500	5202.46	2.3452	1.4321	6.9937	1.081D 01	2.455D-03	1.258D-03	6.551D-02	1.073D-01	1.172D-02
1510	5204.93	2.3408	1.4240	6.9797	1.140D 01	2.577D-03	1.255D-03	6.208D-02	1.021D-01	1.230D-02
1520	5207.35	2.3365	1.4158	6.9659	1.200D 01	2.703D-03	1.253D-03	5.888D-02	9.716D-02	1.290D-02
1530	5209.72	2.3322	1.4077	6.9524	1.263D 01	2.834D-03	1.251D-03	5.588D-02	9.257D-02	1.351D-02
1540	5212.03	2.3278	1.3996	6.9390	1.329D 01	2.969D-03	1.249D-03	5.307D-02	8.827D-02	1.415D-02
1550	5214.29	2.3234	1.3915	6.9258	1.397D 01	3.109D-03	1.246D-03	5.044D-02	8.422D-02	1.480D-02
1560	5216.50	2.3190	1.3834	6.9128	1.467D 01	3.254D-03	1.244D-03	4.797D-02	8.041D-02	1.548D-02
1570	5218.66	2.3146	1.3753	6.9000	1.540D 01	3.403D-03	1.242D-03	4.565D-02	7.683D-02	1.617D-02
1580	5220.77	2.3100	1.3673	6.8874	1.615D 01	3.557D-03	1.240D-03	4.348D-02	7.346D-02	1.689D-02
1590	5222.83	2.3055	1.3592	6.8750	1.694D 01	3.716D-03	1.239D-03	4.143D-02	7.028D-02	1.762D-02
1600	5224.85	2.3008	1.3512	6.8628	1.775D 01	3.881D-03	1.237D-03	3.951D-02	6.728D-02	1.838D-02
1610	5226.81	2.2961	1.3432	6.8507	1.858D 01	4.050D-03	1.235D-03	3.770D-02	6.445D-02	1.916D-02
1620	5228.73	2.2913	1.3353	6.8388	1.945D 01	4.224D-03	1.233D-03	3.600D-02	6.177D-02	1.996D-02
1630	5230.61	2.2864	1.3273	6.8270	2.034D 01	4.404D-03	1.231D-03	3.439D-02	5.924D-02	2.078D-02
1640	5232.44	2.2813	1.3194	6.8155	2.126D 01	4.590D-03	1.229D-03	3.288D-02	5.685D-02	2.162D-02
1650	5234.24	2.2760	1.3112	6.8041	2.221D 01	4.780D-03	1.227D-03	3.145D-02	5.458D-02	2.248D-02
1660	5235.98	2.2709	1.3030	6.7928	2.319D 01	4.977D-03	1.226D-03	3.009D-02	5.244D-02	2.337D-02
1670	5237.68	2.2664	1.2951	6.7817	2.421D 01	5.179D-03	1.224D-03	2.881D-02	5.042D-02	2.428D-02

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	BHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
1680	5239.32	2.2625	1.2875	6.7707	2.525D 01	5.386D-03	1.223D-03	2.760D-02	4.851D-02	2.522D-02
1690	5240.91	2.2592	1.2803	6.7599	2.632D 01	5.600D-03	1.223D-03	2.646D-02	4.669D-02	2.618D-02
1700	5242.44	2.2564	1.2734	6.7492	2.743D 01	5.820D-03	1.222D-03	2.538D-02	4.497D-02	2.717D-02
1710	5243.93	2.2543	1.2668	6.7387	2.857D 01	6.045D-03	1.222D-03	2.436D-02	4.334D-02	2.819D-02
1720	5245.35	2.2527	1.2605	6.7283	2.974D 01	6.277D-03	1.222D-03	2.339D-02	4.180D-02	2.924D-02
1730	5246.72	2.2517	1.2545	6.7180	3.094D 01	6.515D-03	1.223D-03	2.247D-02	4.033D-02	3.032D-02
1740	5248.03	2.2513	1.2487	6.7079	3.218D 01	6.759D-03	1.223D-03	2.160D-02	3.894D-02	3.142D-02
1750	5249.28	2.2515	1.2433	6.6979	3.345D 01	7.010D-03	1.224D-03	2.077D-02	3.761D-02	3.255D-02
1760	5250.47	2.2522	1.2381	6.6880	3.476D 01	7.268D-03	1.226D-03	1.999D-02	3.636D-02	3.372D-02
1770	5251.59	2.2535	1.2332	6.6782	3.610D 01	7.532D-03	1.227D-03	1.924D-02	3.516D-02	3.491D-02
1780	5252.66	2.2554	1.2285	6.6686	3.748D 01	7.803D-03	1.229D-03	1.853D-02	3.402D-02	3.614D-02
1790	5253.65	2.2580	1.2241	6.6590	3.889D 01	8.080D-03	1.232D-03	1.786D-02	3.294D-02	3.739D-02
1800	5254.58	2.2611	1.2200	6.6496	4.034D 01	8.365D-03	1.234D-03	1.722D-02	3.191D-02	3.868D-02
1810	5255.45	2.2648	1.2161	6.6403	4.183D 01	8.657D-03	1.237D-03	1.661D-02	3.093D-02	4.001D-02
1820	5256.24	2.2692	1.2125	6.6311	4.335D 01	8.956D-03	1.241D-03	1.603D-02	3.000D-02	4.136D-02
1830	5256.96	2.2743	1.2091	6.6219	4.491D 01	9.263D-03	1.245D-03	1.548D-02	2.911D-02	4.276D-02
1840	5257.61	2.2800	1.2060	6.6129	4.651D 01	9.577D-03	1.249D-03	1.495D-02	2.826D-02	4.418D-02
1850	5258.18	2.2864	1.2032	6.6040	4.814D 01	9.899D-03	1.253D-03	1.445D-02	2.745D-02	4.565D-02
1860	5258.67	2.2935	1.2005	6.5952	4.981D 01	1.023D-02	1.258D-03	1.397D-02	2.668D-02	4.715D-02
1870	5259.09	2.3013	1.1982	6.5865	5.153D 01	1.057D-02	1.263D-03	1.351D-02	2.595D-02	4.869D-02
1880	5259.42	2.3098	1.1961	6.5778	5.328D 01	1.091D-02	1.269D-03	1.308D-02	2.525D-02	5.026D-02
1890	5259.67	2.3192	1.1942	6.5693	5.507D 01	1.127D-02	1.275D-03	1.266D-02	2.458D-02	5.188D-02
1900	5259.83	2.3293	1.1926	6.5608	5.690D 01	1.163D-02	1.282D-03	1.226D-02	2.395D-02	5.354D-02
1910	5259.91	2.3402	1.1913	6.5524	5.877D 01	1.200D-02	1.289D-03	1.188D-02	2.334D-02	5.524D-02
1920	5259.89	2.3520	1.1902	6.5441	6.069D 01	1.238D-02	1.297D-03	1.152D-02	2.276D-02	5.698D-02
1930	5259.78	2.3647	1.1894	6.5359	6.264D 01	1.277D-02	1.305D-03	1.117D-02	2.221D-02	5.877D-02

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
1940	5259.58	2.3783	1.1889	6.5277	6.463D 01	1.316D-02	1.314D-03	1.084D-02	2.169D-02	6.060D-02
1950	5259.27	2.3928	1.1886	6.5196	6.667D 01	1.357D-02	1.324D-03	1.052D-02	2.118D-02	6.248D-02
1960	5258.87	2.4084	1.1886	6.5116	6.875D 01	1.399D-02	1.334D-03	1.022D-02	2.071D-02	6.441D-02
1970	5258.36	2.4250	1.1888	6.5036	7.087D 01	1.441D-02	1.344D-03	9.929D-03	2.025D-02	6.638D-02
1980	5257.74	2.4426	1.1894	6.4957	7.303D 01	1.485D-02	1.356D-03	9.651D-03	1.982D-02	6.841D-02
1990	5257.01	2.4615	1.1902	6.4879	7.523D 01	1.529D-02	1.368D-03	9.385D-03	1.941D-02	7.049D-02
2000	5256.16	2.4815	1.1913	6.4801	7.748D 01	1.575D-02	1.381D-03	9.130D-03	1.902D-02	7.262D-02
2010	5255.20	2.5029	1.1927	6.4724	7.977D 01	1.622D-02	1.395D-03	8.886D-03	1.865D-02	7.480D-02
2020	5254.11	2.5255	1.1945	6.4647	8.211D 01	1.670D-02	1.409D-03	8.652D-03	1.829D-02	7.704D-02
2030	5252.89	2.5496	1.1965	6.4571	8.449D 01	1.719D-02	1.425D-03	8.428D-03	1.796D-02	7.934D-02
2040	5251.54	2.5752	1.1989	6.4495	8.691D 01	1.769D-02	1.441D-03	8.214D-03	1.764D-02	8.170D-02
2050	5250.06	2.6024	1.2017	6.4420	8.937D 01	1.820D-02	1.459D-03	8.009D-03	1.734D-02	8.412D-02
2060	5248.43	2.6313	1.2048	6.4345	9.188D 01	1.873D-02	1.478D-03	7.812D-03	1.706D-02	8.661D-02
2070	5246.66	2.6620	1.2082	6.4270	9.444D 01	1.926D-02	1.498D-03	7.624D-03	1.680D-02	8.916D-02
2080	5244.73	2.6946	1.2121	6.4196	9.704D 01	1.982D-02	1.519D-03	7.444D-03	1.655D-02	9.178D-02
2090	5242.64	2.7293	1.2163	6.4122	9.968D 01	2.038D-02	1.541D-03	7.271D-03	1.632D-02	9.447D-02
2100	5240.39	2.7663	1.2210	6.4048	1.024D 02	2.096D-02	1.565D-03	7.106D-03	1.610D-02	9.723D-02
2110	5237.97	2.8056	1.2262	6.3975	1.051D 02	2.155D-02	1.591D-03	6.949D-03	1.590D-02	1.001D-01
2120	5235.37	2.8475	1.2318	6.3902	1.079D 02	2.216D-02	1.618D-03	6.798D-03	1.571D-02	1.030D-01
2130	5232.58	2.8921	1.2379	6.3828	1.107D 02	2.278D-02	1.648D-03	6.654D-03	1.555D-02	1.060D-01
2140	5229.59	2.9398	1.2446	6.3755	1.136D 02	2.342D-02	1.679D-03	6.517D-03	1.539D-02	1.091D-01
2150	5226.40	2.9908	1.2518	6.3682	1.165D 02	2.408D-02	1.713D-03	6.386D-03	1.526D-02	1.122D-01
2160	5223.00	3.0453	1.2597	6.3610	1.195D 02	2.476D-02	1.749D-03	6.262D-03	1.514D-02	1.155D-01
2170	5219.37	3.1037	1.2682	6.3537	1.225D 02	2.545D-02	1.787D-03	6.143D-03	1.503D-02	1.189D-01
2180	5215.51	3.1664	1.2775	6.3464	1.255D 02	2.616D-02	1.829D-03	6.031D-03	1.495D-02	1.223D-01
2190	5211.40	3.2338	1.2876	6.3391	1.287D 02	2.690D-02	1.874D-03	5.925D-03	1.488D-02	1.259D-01

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	BHO (G/CC)	ALPHA (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
2200	5207.02	3.3064	1.2985	6.3317	1.318D 02	2.765D-02	1.922D-03	5.825D-03	1.483D-02	1.296D-01
2210	5202.37	3.3847	1.3103	6.3244	1.350D 02	2.843D-02	1.974D-03	5.731D-03	1.480D-02	1.334D-01
2220	5197.44	3.4694	1.3232	6.3170	1.382D 02	2.923D-02	2.031D-03	5.643D-03	1.480D-02	1.373D-01
2230	5192.19	3.5612	1.3371	6.3096	1.415D 02	3.006D-02	2.093D-03	5.561D-03	1.481D-02	1.413D-01
2240	5186.62	3.6610	1.3524	6.3021	1.449D 02	3.091D-02	2.161D-03	5.485D-03	1.485D-02	1.455D-01
2250	5180.69	3.7698	1.3690	6.2946	1.483D 02	3.179D-02	2.234D-03	5.416D-03	1.491D-02	1.498D-01
2260	5174.40	3.8887	1.3872	6.2870	1.517D 02	3.271D-02	2.315D-03	5.353D-03	1.500D-02	1.543D-01
2270	5167.72	4.0191	1.4072	6.2794	1.552D 02	3.365D-02	2.404D-03	5.297D-03	1.513D-02	1.589D-01
2280	5160.61	4.1628	1.4292	6.2716	1.587D 02	3.463D-02	2.503D-03	5.248D-03	1.529D-02	1.637D-01
2290	5153.04	4.3216	1.4534	6.2638	1.623D 02	3.565D-02	2.612D-03	5.207D-03	1.548D-02	1.687D-01
2300	5144.99	4.4981	1.4802	6.2559	1.659D 02	3.671D-02	2.734D-03	5.174D-03	1.572D-02	1.739D-01
2310	5136.40	4.6950	1.5100	6.2478	1.696D 02	3.782D-02	2.871D-03	5.150D-03	1.601D-02	1.793D-01
2320	5127.24	4.9160	1.5433	6.2396	1.733D 02	3.898D-02	3.025D-03	5.136D-03	1.636D-02	1.849D-01
2330	5117.46	5.1656	1.5806	6.2312	1.771D 02	4.019D-02	3.199D-03	5.133D-03	1.677D-02	1.907D-01
2340	5106.98	5.4494	1.6228	6.2227	1.809D 02	4.146D-02	3.399D-03	5.143D-03	1.727D-02	1.968D-01
2350	5095.75	5.7745	1.6707	6.2139	1.848D 02	4.280D-02	3.629D-03	5.167D-03	1.786D-02	2.032D-01
2360	5083.68	6.1501	1.7255	6.2049	1.887D 02	4.422D-02	3.897D-03	5.208D-03	1.856D-02	2.099D-01
2370	5070.67	6.5886	1.7888	6.1957	1.927D 02	4.572D-02	4.211D-03	5.269D-03	1.941D-02	2.170D-01
2380	5056.62	7.1060	1.8625	6.1861	1.967D 02	4.732D-02	4.584D-03	5.354D-03	2.043D-02	2.244D-01
2390	5041.37	7.7248	1.9494	6.1761	2.007D 02	4.904D-02	5.034D-03	5.469D-03	2.167D-02	2.323D-01
2400	5024.77	8.4761	2.0532	6.1657	2.049D 02	5.089D-02	5.585D-03	5.622D-03	2.321D-02	2.406D-01
2410	5006.58	9.4048	2.1791	6.1547	2.090D 02	5.290D-02	6.273D-03	5.824D-03	2.514D-02	2.495D-01
2420	4986.54	10.5783	2.3345	6.1432	2.132D 02	5.511D-02	7.151D-03	6.092D-03	2.760D-02	2.591D-01
2430	4964.28	12.1010	2.5310	6.1308	2.175D 02	5.755D-02	8.305D-03	6.449D-03	3.083D-02	2.694D-01
2440	4939.31	14.1442	2.7864	6.1175	2.218D 02	6.031D-02	9.876D-03	6.935D-03	3.520D-02	2.805D-01
2450	4910.94	17.0075	3.1310	6.1030	2.261D 02	6.346D-02	1.212D-02	7.618D-03	4.138D-02	2.928D-01

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (J/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	P (ATM)	RHO (G/CC)	ALPHAP (1/K)	BETAS (1/ATM)	BETAT (1/ATM)	GAMMAV (ATM/K)
2460	4878.14	21.2608	3.6192	6.0869	2.305D 02	6.717D-02	1.551D-02	8.618D-03	5.062D-02	3.064D-01
2470	4839.29	28.1243	4.3607	6.0685	2.350D 02	7.168D-02	2.114D-02	1.018D-02	6.568D-02	3.219D-01
2480	4791.50	40.7028	5.6126	6.0467	2.395D 02	7.748E-02	3.182D-02	1.291D-02	9.360D-02	3.400D-01
2490	4728.82	69.4925	6.1509	6.0192	2.440D 02	8.566D-02	5.751D-02	1.862D-02	1.588D-01	3.622D-01
2500	4634.26	179.3444	15.9544	5.9794	2.486D 02	9.975D-02	1.640D-01	3.718D-02	4.179D-01	3.924D-01
2508	4463.31	2166.2349	91.7765	5.9123	2.523D 02	1.344D-01	2.512D 00	2.438D-01	5.754D 00	4.366D-01

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	RHO (KG/M**3)	ALPHA (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMA (MPA/K)
380	108.57	22.72	14.43	338.07	2.548D-11	1.895D-10	2.658D-03	2.494D 10	3.928D 10	6.766D-14
390	108.77	23.10	14.77	331.60	6.012D-11	4.358D-10	2.595D-03	1.065D 10	1.665D 10	1.559D-13
400	108.97	23.52	15.16	325.48	1.358D-10	9.601D-10	2.537D-03	4.751D 09	7.372D 09	3.441D-13
410	109.17	23.99	15.58	319.67	2.946D-10	2.033D-09	2.482D-03	2.207D 09	3.398D 09	7.304D-13
420	109.36	24.50	16.05	314.15	6.157D-10	4.149D-09	2.431D-03	1.065D 09	1.626D 09	1.495D-12
430	109.55	25.07	16.55	308.90	1.243D-09	8.184D-09	2.383D-03	5.321D 08	8.059D 08	2.957D-12
440	109.74	25.68	17.10	303.90	2.428D-09	1.563D-08	2.339D-03	2.747D 08	4.125D 08	5.670D-12
450	109.93	26.34	17.69	299.13	4.603D-09	2.900D-08	2.297D-03	1.462D 08	2.177D 08	1.056D-11
460	110.11	27.04	18.31	294.58	8.484D-09	5.230D-08	2.259D-03	7.998D 07	1.181D 08	1.912D-11
470	110.30	27.79	18.97	290.23	1.523D-08	9.193D-08	2.223D-03	4.494D 07	6.584D 07	3.376D-11
480	110.48	28.58	19.66	286.07	2.666D-08	1.577D-07	2.189D-03	2.588D 07	3.761D 07	5.820D-11
490	110.65	29.41	20.39	282.08	4.562D-08	2.644D-07	2.158D-03	1.525D 07	2.199D 07	9.811D-11
500	110.82	30.27	21.14	278.26	7.635D-08	4.340D-07	2.129D-03	9.180D 06	1.315D 07	1.619D-10
510	110.99	31.17	21.91	274.60	1.252D-07	6.981D-07	2.102D-03	5.640D 06	8.021D 06	2.621D-10
520	111.16	32.09	22.71	271.08	2.014D-07	1.102D-06	2.077D-03	3.531D 06	4.990D 06	4.162D-10
530	111.32	33.04	23.53	267.70	3.180D-07	1.709D-06	2.054D-03	2.251D 06	3.161D 06	6.496D-10
540	111.48	34.02	24.36	264.45	4.936D-07	2.605D-06	2.032D-03	1.459D 06	2.038D 06	9.972D-10
550	111.64	35.01	25.20	261.32	7.538D-07	3.909D-06	2.012D-03	9.611D 05	1.335D 06	1.507D-09
560	111.79	36.02	26.05	258.31	1.134D-06	5.777D-06	1.994D-03	6.426D 05	8.885D 05	2.244D-09
570	111.94	37.04	26.90	255.40	1.680D-06	8.419D-06	1.976D-03	4.358D 05	6.000D 05	3.294D-09
580	112.08	38.06	27.76	252.60	2.455D-06	1.210D-05	1.960D-03	2.995D 05	4.108D 05	4.772D-09
590	112.22	39.09	28.61	249.89	3.542D-06	1.718D-05	1.945D-03	2.085D 05	2.850D 05	6.826D-09
600	112.36	40.12	29.45	247.28	5.047D-06	2.409D-05	1.931D-03	1.469D 05	2.002D 05	9.648D-09
610	112.49	41.14	30.28	244.75	7.106D-06	3.340D-05	1.918D-03	1.047D 05	1.423D 05	1.348D-08
620	112.62	42.16	31.11	242.31	9.893D-06	4.579D-05	1.906D-03	7.548D 04	1.023D 05	1.863D-08
630	112.75	43.17	31.91	239.95	1.363D-05	6.214D-05	1.895D-03	5.496D 04	7.435D 04	2.548D-08

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	RHO (KG/M**3)	ALPHA (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMA (MPA/K)
640	112.87	44.16	32.70	237.66	1.858D-05	8.348D-05	1.884D-03	4.042D 04	5.458D 04	3.451D-08
650	112.99	45.13	33.47	235.45	2.508D-05	1.111D-04	1.873D-03	3.001D 04	4.047D 04	4.629D-08
660	113.10	46.09	34.21	233.30	3.355D-05	1.465D-04	1.864D-03	2.248D 04	3.029D 04	6.153D-08
670	113.22	47.02	34.93	231.22	4.449D-05	1.916D-04	1.854D-03	1.699D 04	2.287D 04	8.108D-08
680	113.33	47.93	35.63	229.21	5.849D-05	2.485D-04	1.845D-03	1.294D 04	1.741D 04	1.060D-07
690	113.43	48.81	36.29	227.25	7.627D-05	3.197D-04	1.836D-03	9.940D 03	1.337D 04	1.374D-07
700	113.54	49.66	36.93	225.35	9.869D-05	4.083D-04	1.828D-03	7.692D 03	1.034D 04	1.767D-07
710	113.64	50.49	37.54	223.51	1.268D-04	5.177D-04	1.820D-03	5.995D 03	8.063D 03	2.257D-07
720	113.73	51.28	38.11	221.72	1.617D-04	6.520D-04	1.812D-03	4.705D 03	6.330D 03	2.862D-07
730	113.83	52.04	38.66	219.98	2.048D-04	8.156D-04	1.804D-03	3.717D 03	5.004D 03	3.605D-07
740	113.92	52.76	39.17	218.29	2.577D-04	1.014D-03	1.796D-03	2.956D 03	3.981D 03	4.511D-07
750	114.01	53.46	39.65	216.65	3.222D-04	1.253D-03	1.788D-03	2.364D 03	3.188D 03	5.609D-07
760	114.10	54.11	40.10	215.06	4.005D-04	1.539D-03	1.780D-03	1.903D 03	2.568D 03	6.933D-07
770	114.19	54.73	40.51	213.50	4.949D-04	1.880D-03	1.772D-03	1.540D 03	2.080D 03	8.519D-07
780	114.28	55.32	40.90	211.99	6.083D-04	2.284D-03	1.765D-03	1.253D 03	1.695D 03	1.041D-06
790	114.36	55.87	41.25	210.53	7.436D-04	2.761D-03	1.757D-03	1.025D 03	1.388D 03	1.265D-06
800	114.44	56.38	41.57	209.10	9.043D-04	3.321D-03	1.749D-03	8.427D 02	1.143D 03	1.530D-06
810	114.52	56.86	41.85	207.70	1.094D-03	3.975D-03	1.741D-03	6.962D 02	9.459D 02	1.840D-06
820	114.60	57.31	42.11	206.35	1.318D-03	4.736D-03	1.733D-03	5.779D 02	7.864D 02	2.203D-06
830	114.68	57.72	42.34	205.03	1.580D-03	5.619D-03	1.725D-03	4.818D 02	6.568D 02	2.626D-06
840	114.76	58.10	42.54	203.74	1.886D-03	6.637D-03	1.716D-03	4.035D 02	5.510D 02	3.115D-06
850	114.83	58.44	42.71	202.49	2.241D-03	7.808D-03	1.708D-03	3.393D 02	4.643D 02	3.679D-06
860	114.91	58.75	42.86	201.27	2.653D-03	9.149D-03	1.700D-03	2.865D 02	3.928D 02	4.327D-06
870	114.98	59.03	42.98	200.08	3.128D-03	1.068D-02	1.691D-03	2.429D 02	3.336D 02	5.069D-06
880	115.06	59.28	43.07	198.93	3.673D-03	1.242D-02	1.682D-03	2.067D 02	2.845D 02	5.914D-06
890	115.13	59.51	43.15	197.80	4.298D-03	1.439D-02	1.674D-03	1.765D 02	2.434D 02	6.875D-06

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (KJ/MOL)	CF (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMA V (MPA/K)
900	115.20	59.70	43.19	196.70	5.010D-03	1.662D-02	1.665D-03	1.513D 02	2.091D 02	7.962D-06
910	115.28	59.86	43.22	195.62	5.821D-03	1.913D-02	1.656D-03	1.301D 02	1.802D 02	9.189D-06
920	115.35	60.00	43.23	194.58	6.740D-03	2.195D-02	1.647D-03	1.123D 02	1.558D 02	1.057D-05
930	115.42	60.12	43.22	193.55	7.780D-03	2.510D-02	1.638D-03	9.718D 01	1.352D 02	1.212D-05
940	115.49	60.21	43.19	192.56	8.951D-03	2.862D-02	1.629D-03	8.438D 01	1.176D 02	1.384D-05
950	115.57	60.28	43.14	191.59	1.027D-02	3.254D-02	1.619D-03	7.349D 01	1.027D 02	1.577D-05
960	115.64	60.33	43.07	190.64	1.174D-02	3.690D-02	1.610D-03	6.419D 01	8.990D 01	1.791D-05
970	115.71	60.35	42.99	189.71	1.339D-02	4.172D-02	1.601D-03	5.623D 01	7.893D 01	2.028D-05
980	115.78	60.36	42.90	188.81	1.523D-02	4.705D-02	1.592D-03	4.939D 01	6.949D 01	2.290D-05
990	115.86	60.35	42.79	187.93	1.728D-02	5.292D-02	1.582D-03	4.350D 01	6.134D 01	2.580D-05
1000	115.93	60.32	42.68	187.06	1.955D-02	5.938D-02	1.573D-03	3.841D 01	5.429D 01	2.897D-05
1010	116.00	60.28	42.55	186.22	2.206D-02	6.646D-02	1.564D-03	3.400D 01	4.817D 01	3.246D-05
1020	116.08	60.22	42.41	185.40	2.484D-02	7.422D-02	1.554D-03	3.016D 01	4.284D 01	3.628D-05
1030	116.15	60.15	42.26	184.60	2.789D-02	8.269D-02	1.545D-03	2.683D 01	3.819D 01	4.045D-05
1040	116.23	60.07	42.10	183.82	3.126D-02	9.193D-02	1.536D-03	2.392D 01	3.413D 01	4.500D-05
1050	116.30	59.98	41.93	183.05	3.495D-02	1.020D-01	1.526D-03	2.137D 01	3.056D 01	4.994D-05
1060	116.38	59.87	41.76	182.30	3.899D-02	1.129D-01	1.517D-03	1.913D 01	2.743D 01	5.531D-05
1070	116.45	59.76	41.58	181.57	4.340D-02	1.247D-01	1.508D-03	1.717D 01	2.467D 01	6.113D-05
1080	116.53	59.64	41.40	180.85	4.822D-02	1.376D-01	1.499D-03	1.543D 01	2.223D 01	6.742D-05
1090	116.60	59.51	41.21	180.15	5.347D-02	1.514D-01	1.490D-03	1.390D 01	2.008D 01	7.421D-05
1100	116.68	59.37	41.01	179.47	5.917D-02	1.663D-01	1.481D-03	1.255D 01	1.817D 01	8.153D-05
1110	116.76	59.23	40.81	178.80	6.536D-02	1.824D-01	1.472D-03	1.135D 01	1.647D 01	8.940D-05
1120	116.84	59.08	40.61	178.15	7.206D-02	1.997D-01	1.464D-03	1.028D 01	1.496D 01	9.786D-05
1130	116.91	58.93	40.41	177.50	7.931D-02	2.182D-01	1.455D-03	9.330D 00	1.361D 01	1.069D-04
1140	116.99	58.78	40.20	176.88	8.714D-02	2.381D-01	1.447D-03	8.482D 00	1.240D 01	1.166D-04
1150	117.07	58.62	39.99	176.26	9.558D-02	2.593D-01	1.438D-03	7.724D 00	1.132D 01	1.270D-04

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMA V (MPA/K)
1160	117.15	58.46	39.78	175.66	1.047D-01	2.821D-01	1.430D-03	7.045D 00	1.035D 01	1.381D-04
1170	117.23	58.30	39.57	175.08	1.144D-01	3.063D-01	1.422D-03	6.437D 00	9.484D 00	1.500D-04
1180	117.31	58.14	39.36	174.50	1.249D-01	3.321D-01	1.414D-03	5.890D 00	8.700D 00	1.626D-04
1190	117.39	57.97	39.14	173.94	1.361D-01	3.596D-01	1.407D-03	5.397D 00	7.994D 00	1.760D-04
1200	117.46	57.81	38.93	173.38	1.482D-01	3.889D-01	1.399D-03	4.954D 00	7.356D 00	1.902D-04
1210	117.54	57.65	38.72	172.84	1.610D-01	4.199D-01	1.392D-03	4.553D 00	6.779D 00	2.053D-04
1220	117.62	57.49	38.51	172.31	1.748D-01	4.528D-01	1.385D-03	4.190D 00	6.256D 00	2.213D-04
1230	117.70	57.33	38.29	171.79	1.894D-01	4.877D-01	1.378D-03	3.862D 00	5.781D 00	2.383D-04
1240	117.78	57.17	38.08	171.28	2.050D-01	5.246D-01	1.371D-03	3.564D 00	5.350D 00	2.562D-04
1250	117.86	57.01	37.87	170.78	2.216D-01	5.636D-01	1.364D-03	3.293D 00	4.958D 00	2.752D-04
1260	117.94	56.85	37.66	170.29	2.392D-01	6.048D-01	1.358D-03	3.047D 00	4.600D 00	2.951D-04
1270	118.01	56.70	37.45	169.81	2.579D-01	6.482D-01	1.352D-03	2.823D 00	4.274D 00	3.162D-04
1280	118.09	56.55	37.24	169.34	2.777D-01	6.940D-01	1.345D-03	2.618D 00	3.976D 00	3.384D-04
1290	118.17	56.40	37.03	168.88	2.987D-01	7.421D-01	1.340D-03	2.431D 00	3.703D 00	3.618D-04
1300	118.25	56.26	36.83	168.42	3.209D-01	7.928D-01	1.334D-03	2.260D 00	3.453D 00	3.863D-04
1310	118.32	56.12	36.62	167.97	3.444D-01	8.460D-01	1.328D-03	2.104D 00	3.223D 00	4.121D-04
1320	118.40	55.98	36.42	167.54	3.691D-01	9.019D-01	1.323D-03	1.960D 00	3.013D 00	4.392D-04
1330	118.47	55.84	36.22	167.11	3.953D-01	9.605D-01	1.318D-03	1.828D 00	2.819D 00	4.676D-04
1340	118.55	55.71	36.02	166.68	4.228D-01	1.022D 00	1.313D-03	1.707D 00	2.641D 00	4.973D-04
1350	118.62	55.58	35.82	166.27	4.518D-01	1.086D 00	1.309D-03	1.596D 00	2.476D 00	5.285D-04
1360	118.69	55.45	35.62	165.86	4.823D-01	1.153D 00	1.304D-03	1.493D 00	2.324D 00	5.610D-04
1370	118.77	55.33	35.42	165.46	5.144D-01	1.224D 00	1.300D-03	1.398D 00	2.184D 00	5.951D-04
1380	118.84	55.21	35.22	165.06	5.480D-01	1.297D 00	1.296D-03	1.311D 00	2.054D 00	6.306D-04
1390	118.91	55.09	35.03	164.67	5.833D-01	1.374D 00	1.292D-03	1.230D 00	1.934D 00	6.677D-04
1400	118.98	54.97	34.83	164.29	6.203D-01	1.454D 00	1.288D-03	1.155D 00	1.823D 00	7.064D-04
1410	119.04	54.86	34.64	163.92	6.591D-01	1.537D 00	1.284D-03	1.086D 00	1.720D 00	7.467D-04

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	RHO (KG/M**3)	ALPHA P (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMA V (MPA/K)
1420	119.11	54.75	34.45	163.55	6.997D-01	1.624D 00	1.281D-03	1.022D 00	1.624D 00	7.886D-04
1430	119.18	54.64	34.25	163.18	7.421D-01	1.715D 00	1.277D-03	9.622D-01	1.535D 00	8.323D-04
1440	119.24	54.53	34.06	162.83	7.864D-01	1.809D 00	1.274D-03	9.068D-01	1.452D 00	8.776D-04
1450	119.31	54.43	33.87	162.47	8.327D-01	1.906D 00	1.271D-03	8.554D-01	1.374D 00	9.248D-04
1460	119.37	54.32	33.68	162.13	8.810D-01	2.008D 00	1.268D-03	8.075D-01	1.302D 00	9.737D-04
1470	119.43	54.22	33.49	161.79	9.314D-01	2.114D 00	1.265D-03	7.630D-01	1.235D 00	1.024D-03
1480	119.49	54.12	33.30	161.45	9.839D-01	2.223D 00	1.263D-03	7.214D-01	1.172D 00	1.077D-03
1490	119.55	54.02	33.11	161.12	1.039D 00	2.337D 00	1.260D-03	6.827D-01	1.114D 00	1.132D-03
1500	119.61	53.92	32.93	160.79	1.095D 00	2.455D 00	1.258D-03	6.465D-01	1.059D 00	1.188D-03
1510	119.67	53.82	32.74	160.47	1.155D 00	2.577D 00	1.255D-03	6.127D-01	1.007D 00	1.246D-03
1520	119.72	53.72	32.55	160.15	1.216D 00	2.703D 00	1.253D-03	5.811D-01	9.589D-01	1.307D-03
1530	119.78	53.62	32.36	159.84	1.280D 00	2.834D 00	1.251D-03	5.515D-01	9.136D-01	1.369D-03
1540	119.83	53.52	32.18	159.53	1.346D 00	2.969D 00	1.249D-03	5.238D-01	8.711D-01	1.433D-03
1550	119.88	53.42	31.99	159.23	1.415D 00	3.109D 00	1.246D-03	4.978D-01	8.312D-01	1.500D-03
1560	119.93	53.32	31.81	158.93	1.486D 00	3.254D 00	1.244D-03	4.734D-01	7.936D-01	1.568D-03
1570	119.98	53.21	31.62	158.64	1.560D 00	3.403D 00	1.242D-03	4.506D-01	7.583D-01	1.638D-03
1580	120.03	53.11	31.44	158.35	1.637D 00	3.557D 00	1.240D-03	4.291D-01	7.250D-01	1.711D-03
1590	120.08	53.00	31.25	158.06	1.716D 00	3.716D 00	1.239D-03	4.089D-01	6.936D-01	1.786D-03
1600	120.12	52.90	31.07	157.78	1.798D 00	3.881D 00	1.237D-03	3.899D-01	6.640D-01	1.862D-03
1610	120.17	52.79	30.88	157.50	1.883D 00	4.050D 00	1.235D-03	3.721D-01	6.360D-01	1.941D-03
1620	120.21	52.68	30.70	157.23	1.970D 00	4.224D 00	1.233D-03	3.553D-01	6.096D-01	2.022D-03
1630	120.26	52.57	30.52	156.96	2.061D 00	4.404D 00	1.231D-03	3.394D-01	5.846D-01	2.105D-03
1640	120.30	52.45	30.34	156.69	2.154D 00	4.590D 00	1.229D-03	3.245D-01	5.610D-01	2.190D-03
1650	120.34	52.33	30.15	156.43	2.251D 00	4.780D 00	1.227D-03	3.103D-01	5.387D-01	2.278D-03
1660	120.38	52.21	29.96	156.17	2.350D 00	4.977D 00	1.226D-03	2.970D-01	5.176D-01	2.368D-03
1670	120.42	52.11	29.78	155.92	2.453D 00	5.179D 00	1.224D-03	2.844D-01	4.976D-01	2.460D-03

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (KJ/MOL)	CP (J/ECL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
1680	120.46	52.02	29.60	155.67	2.558D 00	5.386D 00	1.223D-03	2.724D-01	4.787D-01	2.555D-03
1690	120.49	51.94	29.44	155.42	2.667D 00	5.600D 00	1.223D-03	2.612D-01	4.608D-01	2.653D-03
1700	120.53	51.88	29.28	155.17	2.779D 00	5.820D 00	1.222D-03	2.505D-01	4.439D-01	2.753D-03
1710	120.56	51.83	29.13	154.93	2.895D 00	6.045D 00	1.222D-03	2.404D-01	4.278D-01	2.857D-03
1720	120.60	51.79	28.98	154.69	3.013D 00	6.277D 00	1.222D-03	2.308D-01	4.125D-01	2.963D-03
1730	120.63	51.77	28.84	154.45	3.135D 00	6.515D 00	1.223D-03	2.217D-01	3.980D-01	3.072D-03
1740	120.66	51.76	28.71	154.22	3.261D 00	6.759D 00	1.223D-03	2.131D-01	3.843D-01	3.184D-03
1750	120.69	51.76	28.58	153.99	3.390D 00	7.010D 00	1.224D-03	2.050D-01	3.712D-01	3.298D-03
1760	120.71	51.78	28.46	153.76	3.522D 00	7.268D 00	1.226D-03	1.972D-01	3.588D-01	3.416D-03
1770	120.74	51.81	28.35	153.54	3.658D 00	7.532D 00	1.227D-03	1.899D-01	3.470D-01	3.537D-03
1780	120.76	51.85	28.24	153.32	3.797D 00	7.803D 00	1.229D-03	1.829D-01	3.358D-01	3.661D-03
1790	120.79	51.91	28.14	153.10	3.941D 00	8.080D 00	1.232D-03	1.762D-01	3.251D-01	3.789D-03
1800	120.81	51.98	28.05	152.88	4.087D 00	8.365D 00	1.234D-03	1.699D-01	3.149D-01	3.920D-03
1810	120.83	52.07	27.96	152.67	4.238D 00	8.657D 00	1.237D-03	1.639D-01	3.053D-01	4.054D-03
1820	120.85	52.17	27.88	152.45	4.392D 00	8.956D 00	1.241D-03	1.582D-01	2.960D-01	4.191D-03
1830	120.86	52.29	27.80	152.25	4.550D 00	9.263D 00	1.245D-03	1.527D-01	2.873D-01	4.332D-03
1840	120.88	52.42	27.73	152.04	4.712D 00	9.577D 00	1.249D-03	1.475D-01	2.789D-01	4.477D-03
1850	120.89	52.57	27.66	151.83	4.878D 00	9.899D 00	1.253D-03	1.426D-01	2.709D-01	4.625D-03
1860	120.90	52.73	27.60	151.63	5.047D 00	1.023D 01	1.258D-03	1.379D-01	2.633D-01	4.777D-03
1870	120.91	52.91	27.55	151.43	5.221D 00	1.057D 01	1.263D-03	1.333D-01	2.561D-01	4.933D-03
1880	120.92	53.11	27.50	151.23	5.399D 00	1.091D 01	1.269D-03	1.290D-01	2.492D-01	5.093D-03
1890	120.93	53.32	27.46	151.03	5.580D 00	1.127D 01	1.275D-03	1.249D-01	2.426D-01	5.257D-03
1900	120.93	53.55	27.42	150.84	5.766D 00	1.163D 01	1.282D-03	1.210D-01	2.363D-01	5.425D-03
1910	120.93	53.80	27.39	150.65	5.955D 00	1.200D 01	1.289D-03	1.173D-01	2.304D-01	5.597D-03
1920	120.93	54.07	27.36	150.46	6.149D 00	1.238D 01	1.297D-03	1.137D-01	2.246D-01	5.774D-03
1930	120.93	54.37	27.35	150.27	6.347D 00	1.277D 01	1.305D-03	1.103D-01	2.192D-01	5.955D-03

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	RHO (KG/M**3)	ALPHA (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMA (MPA/K)
1940	120.92	54.68	27.33	150.08	6.549D 00	1.316D 01	1.314D-03	1.070D-01	2.140D-01	6.141D-03
1950	120.92	55.01	27.33	149.89	6.755D 00	1.357D 01	1.324D-03	1.039D-01	2.091D-01	6.331D-03
1960	120.91	55.37	27.33	149.71	6.966D 00	1.399D 01	1.334D-03	1.009D-01	2.044D-01	6.526D-03
1970	120.89	55.75	27.33	149.52	7.181D 00	1.441D 01	1.344D-03	9.799D-02	1.999D-01	6.726D-03
1980	120.88	56.16	27.34	149.34	7.400D 00	1.485D 01	1.356D-03	9.525D-02	1.956D-01	6.932D-03
1990	120.86	56.59	27.36	149.16	7.623D 00	1.529D 01	1.368D-03	9.262D-02	1.916D-01	7.142D-03
2000	120.84	57.05	27.39	148.98	7.851D 00	1.575D 01	1.381D-03	9.010D-02	1.877D-01	7.358D-03
2010	120.82	57.54	27.42	148.81	8.083D 00	1.622D 01	1.395D-03	8.770D-02	1.840D-01	7.579D-03
2020	120.80	58.06	27.46	148.63	8.320D 00	1.670D 01	1.409D-03	8.539D-02	1.805D-01	7.806D-03
2030	120.77	58.62	27.51	148.46	8.560D 00	1.719D 01	1.425D-03	8.318D-02	1.772D-01	8.039D-03
2040	120.74	59.21	27.56	148.28	8.806D 00	1.769D 01	1.441D-03	8.106D-02	1.741D-01	8.278D-03
2050	120.70	59.83	27.63	148.11	9.056D 00	1.820D 01	1.459D-03	7.904D-02	1.712D-01	8.524D-03
2060	120.67	60.50	27.70	147.94	9.310D 00	1.873D 01	1.478D-03	7.710D-02	1.684D-01	8.775D-03
2070	120.63	61.20	27.78	147.76	9.569D 00	1.926D 01	1.498D-03	7.524D-02	1.658D-01	9.034D-03
2080	120.58	61.95	27.87	147.59	9.832D 00	1.982D 01	1.519D-03	7.346D-02	1.633D-01	9.299D-03
2090	120.53	62.75	27.96	147.42	1.010D 01	2.038D 01	1.541D-03	7.176D-02	1.610D-01	9.572D-03
2100	120.48	63.60	28.07	147.25	1.037D 01	2.096D 01	1.565D-03	7.013D-02	1.589D-01	9.852D-03
2110	120.43	64.50	28.19	147.08	1.065D 01	2.155D 01	1.591D-03	6.858D-02	1.569D-01	1.014D-02
2120	120.37	65.47	28.32	146.92	1.093D 01	2.216D 01	1.618D-03	6.709D-02	1.551D-01	1.044D-02
2130	120.30	66.49	28.46	146.75	1.122D 01	2.278D 01	1.648D-03	6.567D-02	1.534D-01	1.074D-02
2140	120.23	67.59	28.61	146.58	1.151D 01	2.342D 01	1.679D-03	6.432D-02	1.519D-01	1.105D-02
2150	120.16	68.76	28.78	146.41	1.181D 01	2.408D 01	1.713D-03	6.303D-02	1.506D-01	1.137D-02
2160	120.08	70.01	28.96	146.24	1.211D 01	2.476D 01	1.749D-03	6.180D-02	1.494D-01	1.170D-02
2170	120.00	71.36	29.16	146.08	1.241D 01	2.545D 01	1.787D-03	6.063D-02	1.484D-01	1.204D-02
2180	119.91	72.80	29.37	145.91	1.272D 01	2.616D 01	1.829D-03	5.952D-02	1.475D-01	1.240D-02
2190	119.82	74.35	29.60	145.74	1.304D 01	2.690D 01	1.874D-03	5.848D-02	1.469D-01	1.276D-02

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-B (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	RHO (KG/M**3)	ALPHA (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMA (MPA/K)
2200	119.71	76.02	29.85	145.57	1.335D 01	2.765D 01	1.922D-03	5.749D-02	1.464D-01	1.313D-02
2210	119.61	77.82	30.12	145.40	1.368D 01	2.843D 01	1.974D-03	5.656D-02	1.461D-01	1.351D-02
2220	119.49	79.76	30.42	145.23	1.401D 01	2.923D 01	2.031D-03	5.569D-02	1.460D-01	1.391D-02
2230	119.37	81.88	30.74	145.06	1.434D 01	3.006D 01	2.093D-03	5.488D-02	1.462D-01	1.432D-02
2240	119.25	84.17	31.09	144.89	1.468D 01	3.091D 01	2.161D-03	5.413D-02	1.465D-01	1.474D-02
2250	119.11	86.67	31.48	144.72	1.502D 01	3.179D 01	2.234D-03	5.345D-02	1.472D-01	1.518D-02
2260	118.96	89.40	31.89	144.54	1.537D 01	3.271D 01	2.315D-03	5.283D-02	1.481D-01	1.563D-02
2270	118.81	92.40	32.35	144.37	1.572D 01	3.365D 01	2.404D-03	5.227D-02	1.493D-01	1.610D-02
2280	118.65	95.71	32.86	144.19	1.608D 01	3.463D 01	2.503D-03	5.179D-02	1.509D-01	1.659D-02
2290	118.47	99.36	33.41	144.01	1.645D 01	3.565D 01	2.612D-03	5.139D-02	1.528D-01	1.710D-02
2300	118.29	103.42	34.03	143.83	1.681D 01	3.671D 01	2.734D-03	5.106D-02	1.552D-01	1.762D-02
2310	118.09	107.94	34.72	143.64	1.719D 01	3.782D 01	2.871D-03	5.083D-02	1.580D-01	1.816D-02
2320	117.88	113.02	35.48	143.45	1.756D 01	3.898D 01	3.025D-03	5.069D-02	1.615D-01	1.873D-02
2330	117.66	118.76	36.34	143.26	1.794D 01	4.019D 01	3.199D-03	5.066D-02	1.656D-01	1.933D-02
2340	117.41	125.29	37.31	143.07	1.833D 01	4.146D 01	3.399D-03	5.075D-02	1.704D-01	1.994D-02
2350	117.16	132.76	38.41	142.86	1.872D 01	4.280D 01	3.629D-03	5.099D-02	1.762D-01	2.059D-02
2360	116.88	141.40	39.67	142.66	1.912D 01	4.422D 01	3.897D-03	5.140D-02	1.832D-01	2.127D-02
2370	116.58	151.48	41.13	142.44	1.952D 01	4.572D 01	4.211D-03	5.200D-02	1.915D-01	2.199D-02
2380	116.26	163.38	42.82	142.22	1.993D 01	4.732D 01	4.584D-03	5.284D-02	2.016D-01	2.274D-02
2390	115.91	177.60	44.82	141.99	2.034D 01	4.904D 01	5.034D-03	5.398D-02	2.139D-01	2.354D-02
2400	115.52	194.87	47.21	141.76	2.076D 01	5.089D 01	5.585D-03	5.549D-02	2.291D-01	2.438D-02
2410	115.11	216.23	50.10	141.50	2.118D 01	5.290D 01	6.273D-03	5.748D-02	2.481D-01	2.528D-02
2420	114.65	243.20	53.67	141.24	2.160D 01	5.511D 01	7.151D-03	6.012D-02	2.724D-01	2.625D-02
2430	114.13	278.21	58.19	140.95	2.204D 01	5.755D 01	8.305D-03	6.365D-02	3.043D-01	2.729D-02
2440	113.56	325.19	64.06	140.65	2.247D 01	6.031D 01	9.876D-03	6.845D-02	3.474D-01	2.842D-02
2450	112.91	391.02	71.99	140.31	2.291D 01	6.346D 01	1.212D-02	7.518D-02	4.084D-01	2.967D-02

PROPERTIES OF SATURATED SODIUM VAPOR

T (K)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	P (MPA)	RHO (KG/M**3)	ALPHAP (1/K)	BETAS (1/MPA)	BETAT (1/MPA)	GAMMAV (MPA/K)
2460	112.15	488.81	83.21	139.94	2.336D 01	6.717D 01	1.551D-02	8.505D-02	4.996D-01	3.105D-02
2470	111.26	646.61	100.26	139.52	2.381D 01	7.168D 01	2.114D-02	1.005D-01	6.482D-01	3.262D-02
2480	110.16	935.80	129.04	139.02	2.427D 01	7.748D 01	3.182D-02	1.274D-01	9.237D-01	3.445D-02
2490	108.72	1597.70	187.40	138.39	2.473D 01	8.566D 01	5.751D-02	1.838D-01	1.567D 00	3.670D-02
2500	106.55	4123.31	366.81	137.47	2.519D 01	9.975D 01	1.640D-01	3.669D-01	4.125D 00	3.976D-02
2508	102.62	49803.90	2110.03	135.93	2.557D 01	1.344D 02	2.512D 00	2.406D 00	5.678D 01	4.424D-02

NASUPER

C. NASUPER

The computer code NASUPER, which is analogous to Padilla's computer code NAPROP,¹³ was used to calculate the thermodynamic properties of superheated sodium vapor by using the quasi-chemical method of Golden and Tokar.¹⁴ The modifications to Padilla's code consist of revising the equations for vapor pressure, enthalpy, and entropy for saturated sodium.

In this code, a pressure array ranging from 100 to 1×10^{-9} MPa is read in initially. Then the temperature and the array integers for the initial and final pressures for thermodynamic calculations at that temperature are read for each iteration.

As an aid in understanding the code, units are frequently given in the comment field (columns 73-80), and comments are located throughout the program. Some major variables for superheated sodium are defined below.

Superheated Property Variables

<u>Computer Code Variables</u>	<u>Definition</u>
PMPA	Superheated pressure in MPa
PATM	Superheated pressure in atm
PSAT	Saturated vapor pressure in atm
HLSAT	Saturated liquid enthalpy
SLSAT	Saturated liquid entropy
DH	Heat of vaporization
HVSAT	Saturated vapor enthalpy
SGS	Saturated vapor entropy
HGH	Superheated vapor enthalpy
CP	Superheated vapor heat capacity at constant pressure
CV	Superheated vapor heat capacity at constant volume
VH	Superheated vapor volume
RHOV	Superheated vapor density in g/cm ³
SGH	Superheated vapor entropy
BETAS	Superheated vapor adiabatic compressibility (β_S)
BETAT	Superheated vapor isothermal compressibility (β_T)
ALPHAP	Superheated vapor volumetric thermal expansion coefficient (α_P)
GAMMAV	Superheated vapor thermal pressure coefficient (γ_V)

REQUESTED OPTIONS: NOTERM,

OPTIONS IN EFFECT: NAME(MAIN) NOOPTIMIZE LINECOUNT(60) SIZE(MAX) AUTODBL(NONE)
 SOURCE EBCDIC NOLIST NODECK OBJECT MAP NOFORMAT GOSTMT NOXREF NOALC NOANSF NOTERM FLAG(I)

	C		7.
	C	NASUPER - PROGRAM FOR SUPERHEATED VAPOR PROPERTIES	8.
	C	FOLLOWS METHOD OF SUPERHEATED VAPOR PROGRAM OF PADILLA	9.
	C	ADAPTED FROM GOLDEN AND TOKAR'S ROUTINE MAPROP IN ANL-7323	10.
	C	TO CALCULATE THERMAL PRESSURE COEFFICIENT, THERMAL EXPANSION	11.
	C	COEFFICIENT, CONSTANT PRESSURE SPECIFIC HEAT, AND CONSTANT	12.
	C	VOLUME SPECIFIC HEAT FOR SATURATED SODIUM VAPOR USING THE	13.
	C	QUASI-CHEMICAL APPROACH	14.
	C		15.
ISN 0002		IMPLICIT REAL*8 (A-H,O-Z)	16.
ISN 0003		DIMENSION PMPA(150)	17.
ISN 0004		DIMENSION ATMP(150),HJG(150),SJG(150),CPJG(150),CVJG(150),	18.
	1	APK(150),BHOG(150),BSATH(150),BTATH(150),GVATH(150)	19.
ISN 0005		CTOATH=1/0.101325	20.
ISN 0006		TCROSS=(2500.+459.67)/1.8	21.
	C		22.
	C	READ IN PRESSURES IN MPA AND TEMPERATURE IN K	23.
	C	NP1 = ARRAY INDEX OF STARTING PRESSURE FOR TEMPERATURE TSAT	24.
	C	NP2 = ARRAY INDEX OF FINAL PRESSURE FOR TEMPERATURE TSAT	25.
	C		26.
ISN 0007		READ 1, NP, (PMPA(N),N=1,NP)	27.
ISN 0008		PRINT 1, NP, (PMPA(N),N=1,NP)	28.
ISN 0009	10	READ 2, TSAT, NP1, NP2	29.
ISN 0010		ICOUNT=1	30.
ISN 0011		PRINT 3, TSAT	31.
ISN 0012		IF(TSAT.LE.0.0) GO TO 1000	32.
ISN 0014		TRR=1.8*TSAT	33.
ISN 0015		I=1	34.
ISN 0016		TF=TRR-459.67	35.
ISN 0017		DO 500 N=NP1, NP2	36.
ISN 0018		PATH=CTOATH*PMPA(N)	37.
	C		38.
	C	DETERMINE SATURATION CONDITIONS CORRESPONDING TO TSAT	39.
	C	CALCULATION OF PSAT HLSAT HVSAT SLSAT SGS	40.
	C		41.
ISN 0019		PSAT=DEXP(18.832381-13113.052/TSAT +1.9777006D-4	42.
	1	*TSAT)/TSAT**1.0947825	ATN
ISN 0020		HISAT = ((-7.13927E3+35.2064*TSAT-7.051302E-3*TSAT	44.
	1	*TSAT +2.571074E-6*(TSAT)**3 -1.24284E5/	45.
	2	TSAT)/22.991)	J/G
ISN 0021		HLSAT=HLSAT*1.8/4.184	BTU/LB
ISN 0022		SLSAT=-5.90356+1.51103*DLOG(TSAT)-5.73462D-4*TSAT	48.
	1	+1.57165D-7*TSAT*TSAT-3425.81/(TSAT*TSAT)	J/G-K
ISN 0023		SLSAT=SLSAT/4.184	BTU/LB-R
ISN 0024	20	FORMAT(1H,5(D15.5))	51.
ISN 0025		IF(PATH.LT.PSAT) GO TO 130	52.
ISN 0027		PRINT 5, PMPA(N), PSAT	53.
ISN 0028		GC TO 500	54.
ISN 0029	130	TWO = DEXP(-9.95845 + (16588.3/TRR))	ATN-1
ISN 0030		FOUR = DEXP(-24.59115 + (37589.7/TRR))	ATN-3
ISN 0031		U = TWO*PSAT	57.
ISN 0032		W = FOUR*PSAT*PSAT*PSAT	58.
ISN 0033		X1 = 0.8	59.

```

ISM 0034      170 X1P = X1
ISM 0035      X1 = X1 - (W*X1*X1*X1*X1 + U*X1*X1 + X1 - 1.)/
                (4.*W*X1*X1*X1 + 2.*U*X1 + 1.)
ISM 0036      DIFF = DABS(X1 - X1P)/X1 - 1.D-06
ISM 0037      IF (DIFF) 180,180,170
ISM 0038      180 X2 = U*X1*X1
ISM 0039      X4 = 1. - X1 - X2
ISM 0040      IF(X4.LT.0.) X4=0.0D0
ISM 0042      AB = 22.991*(X1 + 2.*X2 + 4.*X4)
ISM 0043      VSAT = (0.730229*TRR)/(AB*PSAT)
ISM 0044      DHP1 = 25775.33-3.44653*TSAT+1.68530D-3*TSAT*TSAT
                -6.14501D-7*TSAT*TSAT*TSAT+2.97046D4/TSAT
ISM 0045      DHP2 = 2.*DHP1 - 18304.
ISM 0046      DHP4 = 4.*DHP1 - 41478.
ISM 0047      DH = 1.8*(X1*DHP1 + X2*DHP2 + X4*DHP4)/AB
ISM 0048      HVSAT = HLSAT + DH
ISM 0049      SGS = SLSAT+DH/TRR
C
C      CALCULATIONS OF SUPERHEATED VAPOR PROPERTIES AT TSAT AND PHPA
C      CALCULATE SUPERHEATED ENTHALPY AND ENTROPY (HGH & SGH)
C
ISM 0050      217 UH=PATH*TWO
ISM 0051      WH= ((PATH)**3)*FOUR
ISM 0052      X1H = 0.8
ISM 0053      218 X1HP = X1H
ISM 0054      X1H = X1H - (WH*X1H*X1H*X1H*X1H + UH*X1H*X1H + X1H - 1.)/
                (4.*WH*X1H*X1H*X1H + 2.*UH*X1H + 1.)
ISM 0055      DIFF = DABS(X1H - X1HP)/X1H - 1.D-06
ISM 0056      IF(DIFF) 219,219,218
ISM 0057      219 X2H = UH*X1H*X1H
ISM 0058      X4H = 1. - X1H - X2H
ISM 0059      IF(X4H.LT.0.) X4H=0.
ISM 0061      ABH = 22.991*(X1H + 2.*X2H + 4.*X4H)
ISM 0062      VB= (.730229*TRR)/(ABH*PATH)
ISM 0063      ZH=22.991/ABH
ISM 0064      BD=X1+2.*X2+4.*X4
ISM 0065      B2=2.*X2/BD
ISM 0066      B4=4.*X4/BD
ISM 0067      BDH=X1H+2.*X2H+4.*X4H
ISM 0068      B2H=2.*X2H/BDH
ISM 0069      B4H=4.*X4H/BDH
ISM 0070      HGI=HVSAT +B2*716.54 + B4*811.85
ISM 0071      HGH=HGI-B2H*716.54-B4H*811.85
ISM 0072      IF(X4.EQ.0.) GO TC 221
ISM 0074      SGI=SGS+B2*716.54/TRR+B4*811.85/TRR+(1.987180/AB)*DLOG(PSAT)
                - (B2/145.982)*(-19.78923+(32963.9/TRR))-(B4/91.964)*(-48.86704+
                74697.5/TRR)+(1.987180/AB)*(X1*DLOG(X1)+X2*DLOG(X2)+X4*DLOG
                (X4))
ISM 0075      GO TO 222
ISM 0076      221 CONTINUE
ISM 0077      SGI=SGS+(B2*716.54/TRR+B4*811.85/TRR+(1.987180/AB)*DLOG
                (PSAT)-(B2/45.982)*(-19.78923+(32963.9/TRR))-(B4/91.964)*
                (-48.86704+(74697.5/TRR)))+(1.987180/AB)*(X1*DLOG(X1)+X2*DLOG(X2)))
ISM 0078      222 CONTINUE
ISM 0079      IF(X4H.EQ.0.) GO TO 223
ISM 0081      SGH=SGI-B2H*716.54/TRR-B4H*811.85/TRR-(1.987180/ABH)*
                DLOG(PATH)+(B2H/45.982)*(-19.78923+(32963.9/TRR))+(B4H/91.964)
                *(-48.86704+(74697.5/TRR))-(1.987189/ABH)*(X1H*DLOG(X1H)+

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3 X2H*DLOG(X2H)+X4H*DLOG(X4H) 118.
GO TO 224 119.
ISM 0082 223 CCNTINUE 120.
ISM 0083 SGH=SGI-B2H*716.54/TRR-B4H*811.85/TRR-(1.987180/ABH)* 121.
ISM 0084 1 DLOG(PATH)+(B2H/45.982)*(-19.78923+(32963.9/TRR))+(B4H/91.964) 122.
2 *(-48.86704+(74697.5/TRR))-(1.987189/ABH)*(X1H*DLOG(X1H)+ 123.
3 X2H*DLOG(X2H)) 124.
ISM 0085 224 CONTINUE 125.
C 126.
C CALCULATE SATURATION CONDITIONS FOR SUPERHEATED VAPOR TEMPERATURE 127.
C CORRESPONDING TO TSAT+1 128.
C 129.
ISM 0086 TSAT1=TSAT+1.0D0 130.
ISM 0087 TR1=1.8*TSAT1 131.
ISM 0088 TF1=TR1-459.67 132.
ISM 0089 PSAT1=DEXP(18.832381-13113.052/TSAT1 +1.9777006E-4 133.
1 *TSAT1)/TSAT1**1.0947825 ATM
ISM 0090 HLSAT1 =((-7.13927E3+35.2064*TSAT1-7.051302E-3*TSAT1 135.
1 *TSAT1 +2.571074E-6*(TSAT1)**3 -1.24284E5/ 136.
2 TSAT1)/22.991) J/G
ISM 0091 SISAT1=-5.90046+1.51103*DLOG(TSAT1)-5.73462D-4*TSAT1 138.
1 +1.57165D-7*TSAT1*TSAT1-3425.81/(TSAT1*TSAT1) J/G-K
ISM 0092 HLSAT1=HLSAT1*1.8/4.184 140.
ISM 0093 SISAT1=SISAT1/4.184 141.
ISM 0094 TWO1= DEXP(-9.95845 + (16588.3/TR1)) ATM-1
ISM 0095 FOUR1= DEXP(-24.59115 + (37589.7/TR1)) ATM-3
ISM 0096 U = TWO1*PSAT1 144.
ISM 0097 W = FOUR1*PSAT1*PSAT1*PSAT1 145.
ISM 0098 X1 = 0.8 146.
ISM 0099 240 X1P = X1 147.
ISM 0100 X1 = X1 - (W*X1*X1*X1*X1 + U*X1*X1 + X1 - 1.)/ 148.
1 (4.*W*X1*X1*X1 + 2.*U*X1 + 1.) 149.
ISM 0101 DIFF = DABS(X1 - X1P)/X1 - 1.D-06 150.
ISM 0102 IF (DIFF) 250,250,240 151.
ISM 0103 250 X2 = U*X1*X1 152.
ISM 0104 X4 = 1. - X1 - X2 153.
ISM 0105 IF(X4.LT.0.)X4=0. 154.
ISM 0107 AB = 22.991*(X1 + 2.*X2 + 4.*X4) 155.
ISM 0108 DBF1 = 25775.33-3.44653*TSAT1+1.68530D-3*TSAT1*TSAT1 156.
1 -6.14501D-7*TSAT1*TSAT1*TSAT1+2.97046D4/TSAT1 CAL/HNA1
ISM 0109 DHF2 = 2.*DHF1 - 18304. CAL/HNA2
ISM 0110 DHF4 = 4.*DHF1 - 41478. CAL/HNA4
ISM 0111 DH1= 1.8*(X1*DHF1 + X2*DHF2 + X4*DHF4)/AB 160.
ISM 0112 HVSAT1 = HLSAT1 + DH1 BTU/LB
C 162.
C 163.
C DETERMINE INCREASE IN PRESSURE AND ENTHALPY FOR 1.0 KELVIN 164.
C INCREASE IN TEMPERATURE AT CONSTANT VOLUME VH 165.
C CALCULATE INTERNAL ENERGY (EGH) AND CV 166.
C 167.
C 168.
ISM 0113 PATH3=1.0001D0*PATH 169.
ISM 0114 260 PTRY=PATH3 170.
ISM 0115 UH=PATH3*TWO1 171.
ISM 0116 WH=((PATH3)**3)*FOUR1 172.
ISM 0117 X1H = 0.8 173.
ISM 0118 278 X1HP = X1H 174.
ISM 0119 X1H = X1H - (WH*X1H*X1H*X1H*X1H + UH*X1H*X1H + X1H - 1.)/ 175.

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      1      (4.*WH*X1H*X1H*X1H + 2.*UH*X1H + 1.)
ISN 0120      DIFF = DABS(X1H - X1HP)/X1H - 1.D-06
ISN 0121      IF (DIFF) 284,284,278
ISN 0122      284 X2H = UH*X1H*X1H
ISN 0123      X4H = 1. - X1H - X2H
ISN 0124      IF(X4H.LT.0.) X4H=0.
ISN 0126      ABH = 22.991*(X1H + 2.*X2H + 4.*X4H)
ISN 0127      VH3=(.730229*TR1)/(ABH*PATM3)
ISN 0128      PATM3=(.730229*TR1)/(ABH*VH)
ISN 0129      IF(DABS(PATM3-PTRY)/PATM3-1.D-8) 300,300,260
ISN 0130      300 GAMMAV=(PATM3-PATM)/CTOATM
ISN 0131      BD=X1+2.*X2+4.*X4
ISN 0132      B2=2.*X2/BD
ISN 0133      B4=4.*X4/BD
ISN 0134      BDH=X1H+2.*X2H+4.*X4H
ISN 0135      B2H=2.*X2H/BDH
ISN 0136      B4H=4.*X4H/BDH
ISN 0137      HGI=HVSAT1+B2*716.54 + B4*811.85
ISN 0138      HGH3=HGI-B2H*716.54 - B4H*811.85
      C
      C      CONVERT TO CGS UNITS
      C
ISN 0139      VH=VH/0.01601846
ISN 0140      VH3=VH3/0.01601846
ISN 0141      HVSAT=HVSAT*4.184/1.8
ISN 0142      SGH=SGH*4.184
ISN 0143      HGH=HGH*4.184/1.8
ISN 0144      EGS=HVSAT-0.101325*PSAT*VSAT
ISN 0145      EGH=HGH-0.101325*PATM*VH
ISN 0146      HGH3=HGH3*4.184/1.8
ISN 0147      EGH3=HGH3-0.101325*PATM3*VH3
ISN 0148      CV=EGH3-EGH
      C
      C      DETERMINE THE INCREASE IN VOLUME AND ENTHALPY FOR 1 KELVIN
      C      INCREASE IN TEMPERATURE AT CONSTANT PRESSURE PATM
      C      CALCULATE ALPHAP CP RHOV BETAT BETAS
      C
ISN 0149      UH=PATM*TWO1
ISN 0150      WH=((PATM)**3)*FOUR1
ISN 0151      X1H = 0.8
ISN 0152      378 X1HP = X1H
ISN 0153      X1H = X1H - (WH*X1H*X1H*X1H*X1H + UH*X1H*X1H + X1H - 1.)/
      1      (4.*WH*X1H*X1H*X1H + 2.*UH*X1H + 1.)
ISN 0154      DIFF = DABS(X1H - X1HP)/X1H - 1.D-06
ISN 0155      IF (DIFF) 384,384,378
ISN 0156      384 X2H = UH*X1H*X1H
ISN 0157      X4H = 1. - X1H - X2H
ISN 0158      IF(X4H.LT.0.) X4H=0.
ISN 0160      ABH = 22.991*(X1H + 2.*X2H + 4.*X4H)
ISN 0161      VB2=(.730229*TR1)/(ABH*PATM)
ISN 0162      BD=X1+2.*X2+4.*X4
ISN 0163      B2=2.*X2/BD
ISN 0164      B4=4.*X4/BD
ISN 0165      BDH=X1H+2.*X2H+4.*X4H
ISN 0166      B2H=2.*X2H/BDH
ISN 0167      B4H=4.*X4H/BDH
ISN 0168      HGI=HVSAT1+B2*716.54 + B4*811.85
ISN 0169      HGH2=HGI-B2H*716.54 - B4H*811.85

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BTU/LB
BTU/LB
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197.
198.
CC/G
J/G
J/G-K
202.
J/G
204.
J/G-K
206.
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231.
232.
BTU/LB

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ISN 0170	HGH2=HGH2*4.184/1.8	234.
ISN 0171	VH2=VH2/0.01601846	CC/G
ISN 0172	ALPHA P=(VH2-VH)/VH	K-1
ISN 0173	CP=HGH2-HGH	J/G-K
ISN 0174	RHOV=1.0D0/VH	238.
ISN 0175	BETAT=ALPHA P/GAMMAV	239.
ISN 0176	BETAS=BETAT*CV/CP	240.
	C	241.
	C	242.
	C	243.
ISN 0177	CP=CP*22.991	244.
ISN 0178	CV=CV*22.991	245.
ISN 0179	HGH=HGH*22.991*1.0D-3	246.
ISN 0180	SGH=SGH*22.991	247.
	C	248.
	C	249.
	C	250.
	C	251.
ISN 0181	RHOVK=RHOV*1D03	252.
ISN 0182	PRINT 4, PMPA(N), HGH, CP, CV, SGH, RHOVK, ALPHA P, BETAS, BETAT,	253.
	1 GAMMAV	254.
	C	255.
	C	256.
	C	257.
ISN 0183	ATMP(I)=PATM	258.
ISN 0184	HJG(I)=HGH/22.991	259.
ISN 0185	SJG(I)=SGH/22.991	260.
ISN 0186	CPJG(I)=CP/22.991	261.
ISN 0187	CVJG(I)=CV/22.991	262.
ISN 0188	APK(I)=ALPHA P	263.
ISN 0189	RHOG(I)=RHOV	264.
ISN 0190	BSATH(I)=BETAS/CTOATH	265.
ISN 0191	BTATH(I)=BETAT/CTOATH	266.
ISN 0192	GVATH(I)=GAMMAV*CTOATH	267.
ISN 0193	I=I+1	268.
ISN 0194	ICOUNT=ICOUNT+1	269.
ISN 0195	IF(ICOUNT.LT.27) GO TO 500	270.
ISN 0197	ICOUNT=1	271.
ISN 0198	PRINT 3, TSAT	272.
ISN 0199	500 CONTINUE	273.
ISN 0200	ICOUNT=1	274.
ISN 0201	I=I-1	275.
ISN 0202	PRINT 7, TSAT	276.
ISN 0203	DO 600 J=1, I	277.
	C	278.
	C	279.
	C	280.
	C	281.
ISN 0204	PRINT 4, ATMP(J), HJG(J), CPJG(J), CVJG(J), SJG(J), RHOG(J), APK(J),	282.
	1 BSATH(J), BTATH(J), GVATH(J)	283.
ISN 0205	ICOUNT=ICOUNT+1	284.
ISN 0206	IF(ICOUNT.LT.27) GO TO 600	285.
ISN 0208	ICOUNT=1	286.
ISN 0209	PRINT 7, TSAT	287.
ISN 0210	600 CONTINUE	288.
ISN 0211	GO TO 10	289.
ISN 0212	1000 STOP	290.
	C	291.

	C	FORMAT STATEMENTS	
	C		292.
			293.
ISM 0213		1 FORMAT(I10/150(E10.2/))	294.
ISM 0214		2 PCRMAT(E10.2,2I10)	295.
ISM 0215		3 FORMAT(1H1,38X,'SUPERHEATED SODIUM VAPOR PROPERTIES AT T=',	296.
		1 F7.1, 'K' ///	297.
		2 11X,'P',8X,'H-H(298)',7X,'CP',11X,'CV',12X,'S',11X,'RHO',	298.
		3 8X,'ALPHA P',8X,'BETAS',8X,'BETAT',7X,'GAMMA V' /	299.
		4 9X,'(MPA)',6X,'(KJ/MOL)',4X,'(J/MOL-K)',4X,'(J/MOL-K)',4X,	300.
		5 '(J/MOL-K)',4X,'(KG/M**3)',6X,'(K-1)',7X,'(MPA-1)',6X,	301.
		6 '(MPA-1)',6X,'(MPA/K)' ///	302.
ISM 0216		4 FORMAT(3X,10(1PD13.4) /)	303.
ISM 0217		5 PCRMAT('0 PRESSURE TOO HIGH FOR SUPERHEATED VAPOR, PMPA=',E12.6/	304.
		1 ' PSAT=',E12.6)	305.
ISM 0218		7 FORMAT(1H1,38X,'SUPERHEATED VAPOR PROPERTIES AT T =',	306.
		1 F7.1, 'K' ///	307.
		2 11X,'P',8X,'H-H(298)',7X,'CP',11X,'CV',12X,'S',11X,'RHO',	308.
		3 9X,'ALPHA P',8X,'BETAS',8X,'BETAT',7X,'GAMMA V' /	309.
		4 9X,'(ATM)',7X,'(KJ/G)',6X,'(J/G-K)',6X,'(J/G-K)',6X,	310.
		5 '(J/G-K)',7X,'(G/CC)',7X,'(K-1)',8X,'(ATM-1)',6X,	311.
		6 '(ATM-1)',5X,'(ATM/K)' ///	312.
ISM 0219		END	313.

100
0.10D+01
0.90D+00
0.80D+00
0.70D+00
0.60D+00
0.50D+00
0.40D+00
0.30D+00
0.20D+00
0.10D+00
0.90D-01
0.80D-01
0.70D-01
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0.50D-01
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0.30D-01
0.20D-01
0.10D-01
0.90D-02
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0.70D-06
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0.300-06
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0.900-10
0.800-10
0.700-10
0.600-10
0.500-10
0.400-10
0.300-10
0.200-10
0.100-10

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 400.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
1.0000D-10	1.0896D+02	2.2805D+01	1.4324D+01	3.2810D+02	6.9163D-10	2.5264D-03	6.2840D+09	1.0004D+10	2.5253D-13
9.0000D-11	1.0899D+02	2.2604D+01	1.4139D+01	3.2899D+02	6.2244D-10	2.5238D-03	6.9533D+09	1.1116D+10	2.2705D-13
8.0000D-11	1.0899D+02	2.2402D+01	1.3955D+01	3.2998D+02	5.5325D-10	2.5212D-03	7.7893D+09	1.2504D+10	2.0162D-13
7.0000D-11	1.0899D+02	2.2200D+01	1.3770D+01	3.3109D+02	4.8407D-10	2.5185D-03	8.8634D+09	1.4290D+10	1.7624D-13
6.0000D-11	1.0900D+02	2.1999D+01	1.3585D+01	3.3238D+02	4.1490D-10	2.5159D-03	1.0295D+10	1.6671D+10	1.5091D-13
5.0000D-11	1.0900D+02	2.1797D+01	1.3399D+01	3.3391D+02	3.4573D-10	2.5132D-03	1.2298D+10	2.0004D+10	1.2563D-13
4.0000D-11	1.0900D+02	2.1595D+01	1.3214D+01	3.3577D+02	2.7657D-10	2.5106D-03	1.5300D+10	2.5004D+10	1.0041D-13
3.0000D-11	1.0901D+02	2.1393D+01	1.3029D+01	3.3817D+02	2.0742D-10	2.5079D-03	2.0303D+10	3.3338D+10	7.5228D-14
2.0000D-11	1.0901D+02	2.1191D+01	1.2843D+01	3.4155D+02	1.3827D-10	2.5053D-03	3.0307D+10	5.0004D+10	5.0101D-14
1.0000D-11	1.0902D+02	2.0989D+01	1.2658D+01	3.4732D+02	6.9134D-11	2.5026D-03	6.0310D+10	1.0000D+11	2.5025D-14

SUPERHEATED VAPOR PROPERTIES AT T = 400.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
9.8692D-10	4.7402D+00	9.9191D-01	6.2303D-01	1.4271D+01	6.9163D-13	2.5264D-03	6.3672D+08	1.0137D+09	2.4923D-12
8.8823D-10	4.7404D+00	9.8315D-01	6.1500D-01	1.4309D+01	6.2244D-13	2.5238D-03	7.0454D+08	1.1263D+09	2.2408D-12
7.8954D-10	4.7406D+00	9.7438D-01	6.0696D-01	1.4352D+01	5.5325D-13	2.5212D-03	7.8925D+08	1.2670D+09	1.9898D-12
6.9085D-10	4.7407D+00	9.6561D-01	5.9892D-01	1.4401D+01	4.8407D-13	2.5185D-03	8.9808D+08	1.4480D+09	1.7394D-12
5.9215D-10	4.7409D+00	9.5684D-01	5.9087D-01	1.4457D+01	4.1490D-13	2.5159D-03	1.0431D+09	1.6892D+09	1.4894D-12
4.9346D-10	4.7410D+00	9.4806D-01	5.8281D-01	1.4523D+01	3.4573D-13	2.5132D-03	1.2461D+09	2.0270D+09	1.2399D-12
3.9477D-10	4.7412D+00	9.3928D-01	5.7475D-01	1.4605D+01	2.7657D-13	2.5106D-03	1.5503D+09	2.5336D+09	9.9093D-13
2.9608D-10	4.7413D+00	9.3049D-01	5.6669D-01	1.4709D+01	2.0742D-13	2.5079D-03	2.0572D+09	3.3780D+09	7.4244D-13
1.9738D-10	4.7415D+00	9.2170D-01	5.5862D-01	1.4856D+01	1.3827D-13	2.5053D-03	3.0708D+09	5.0667D+09	4.9446D-13
9.8692D-11	4.7417D+00	9.1290D-01	5.5055D-01	1.5107D+01	6.9134D-14	2.5026D-03	6.1109D+09	1.0133D+10	2.4698D-13

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 500.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
5.0000D-08	1.1092D+02	2.7227D+01	1.8243D+01	2.8213D+02	2.7717D-07	2.0845D-03	1.3431D+07	2.0045D+07	1.0399D-10
4.0000D-08	1.1095D+02	2.5953D+01	1.7104D+01	2.8406D+02	2.2163D-07	2.0677D-03	1.6506D+07	2.5045D+07	8.2560D-11
3.0000D-08	1.1099D+02	2.4672D+01	1.5957D+01	2.8652D+02	1.6615D-07	2.0509D-03	2.1588D+07	3.3379D+07	6.1444D-11
2.0000D-08	1.1103D+02	2.3384D+01	1.4803D+01	2.8996D+02	1.1071D-07	2.0340D-03	3.1681D+07	5.0045D+07	4.0643D-11
1.0000D-08	1.1106D+02	2.2089D+01	1.3641D+01	2.9579D+02	5.5331D-08	2.0170D-03	6.1784D+07	1.0005D+08	2.0161D-11
9.0000D-09	1.1107D+02	2.1959D+01	1.3525D+01	2.9667D+02	4.9795D-08	2.0153D-03	6.8462D+07	1.1116D+08	1.8131D-11
8.0000D-09	1.1107D+02	2.1829D+01	1.3408D+01	2.9766D+02	4.4260D-08	2.0136D-03	7.6807D+07	1.2505D+08	1.6103D-11
7.0000D-09	1.1107D+02	2.1699D+01	1.3291D+01	2.9877D+02	3.8726D-08	2.0119D-03	8.7533D+07	1.4290D+08	1.4079D-11
6.0000D-09	1.1108D+02	2.1569D+01	1.3174D+01	3.0006D+02	3.3192D-08	2.0102D-03	1.0183D+08	1.6671D+08	1.2058D-11
5.0000D-09	1.1108D+02	2.1438D+01	1.3057D+01	3.0158D+02	2.7659D-08	2.0085D-03	1.2184D+08	2.0005D+08	1.0040D-11
4.0000D-09	1.1108D+02	2.1308D+01	1.2940D+01	3.0345D+02	2.2126D-08	2.0068D-03	1.5185D+08	2.5005D+08	8.0259D-12
3.0000D-09	1.1109D+02	2.1178D+01	1.2823D+01	3.0584D+02	1.6594D-08	2.0051D-03	2.0187D+08	3.3338D+08	6.0145D-12
2.0000D-09	1.1109D+02	2.1047D+01	1.2706D+01	3.0922D+02	1.1062D-08	2.0034D-03	3.0188D+08	5.0005D+08	4.0065D-12
1.0000D-09	1.1109D+02	2.0917D+01	1.2589D+01	3.1499D+02	5.5307D-09	2.0017D-03	6.0190D+08	1.0000D+09	2.0016D-12
9.0000D-10	1.1109D+02	2.0904D+01	1.2577D+01	3.1587D+02	4.9776D-09	2.0015D-03	6.6856D+08	1.1112D+09	1.8013D-12
8.0000D-10	1.1109D+02	2.0891D+01	1.2566D+01	3.1685D+02	4.4245D-09	2.0014D-03	7.5190D+08	1.2500D+09	1.6010D-12
7.0000D-10	1.1110D+02	2.0878D+01	1.2554D+01	3.1796D+02	3.8714D-09	2.0012D-03	8.5905D+08	1.4286D+09	1.4008D-12
6.0000D-10	1.1110D+02	2.0865D+01	1.2542D+01	3.1924D+02	3.3184D-09	2.0010D-03	1.0019D+09	1.6667D+09	1.2006D-12
5.0000D-10	1.1110D+02	2.0851D+01	1.2531D+01	3.2076D+02	2.7653D-09	2.0009D-03	1.2019D+09	2.0000D+09	1.0004D-12
4.0000D-10	1.1110D+02	2.0838D+01	1.2519D+01	3.2261D+02	2.2122D-09	2.0007D-03	1.5019D+09	2.5000D+09	8.0026D-13
3.0000D-10	1.1110D+02	2.0825D+01	1.2507D+01	3.2501D+02	1.6592D-09	2.0005D-03	2.0019D+09	3.3334D+09	6.0015D-13
2.0000D-10	1.1110D+02	2.0812D+01	1.2495D+01	3.2838D+02	1.1061D-09	2.0003D-03	3.0019D+09	5.0000D+09	4.0006D-13
1.0000D-10	1.1110D+02	2.0799D+01	1.2484D+01	3.3414D+02	5.5305D-10	2.0002D-03	6.0020D+09	1.0000D+10	2.0002D-13
9.0000D-11	1.1110D+02	2.0798D+01	1.2482D+01	3.3502D+02	4.9774D-10	2.0002D-03	6.6687D+09	1.1111D+10	1.8001D-13
8.0000D-11	1.1110D+02	2.0797D+01	1.2481D+01	3.3600D+02	4.4244D-10	2.0001D-03	7.5020D+09	1.2500D+10	1.6001D-13
7.0000D-11	1.1110D+02	2.0795D+01	1.2480D+01	3.3711D+02	3.8713D-10	2.0001D-03	8.5734D+09	1.4286D+10	1.4001D-13

SUPERHEATED SODIUM VAPOE PROPERTIES AT T= 500.0K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
6.0000D-11	1.1110D+02	2.0794D+01	1.2479D+01	3.3839D+02	3.3183D-10	2.0001D-03	1.0002D+10	1.6667D+10	1.2001D-13
5.0000D-11	1.1110D+02	2.0793D+01	1.2478D+01	3.3991D+02	2.7652D-10	2.0001D-03	1.2002D+10	2.0000D+10	1.0000D-13
4.0000D-11	1.1110D+02	2.0791D+01	1.2477D+01	3.4176D+02	2.2122D-10	2.0001D-03	1.5002D+10	2.5000D+10	8.0003D-14
3.0000D-11	1.1110D+02	2.0790D+01	1.2475D+01	3.4415D+02	1.6591D-10	2.0001D-03	2.0002D+10	3.3333D+10	6.0001D-14
2.0000D-11	1.1110D+02	2.0789D+01	1.2474D+01	3.4752D+02	1.1061D-10	2.0000D-03	3.0002D+10	5.0000D+10	4.0001D-14
1.0000D-11	1.1110D+02	2.0788D+01	1.2473D+01	3.5329D+02	5.5305D-11	2.0000D-03	6.0003D+10	1.0000D+11	2.0000D-14

SUPERHEATED VAPOR PROPERTIES AT T = 500.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
4.9346D-07	4.8244D+00	1.1842D+00	7.9351D-01	1.2271D+01	2.7717D-10	2.0845D-03	1.3609D+06	2.0311D+06	1.0263D-09
3.9477D-07	4.8260D+00	1.1288D+00	7.4394D-01	1.2355D+01	2.2163D-10	2.0677D-03	1.6724D+06	2.5377D+06	8.1480D-10
2.9608D-07	4.8275D+00	1.0731D+00	6.9406D-01	1.2462D+01	1.6615D-10	2.0509D-03	2.1874D+06	3.3821D+06	6.0640D-10
1.9738D-07	4.8291D+00	1.0171D+00	6.4385D-01	1.2612D+01	1.1071D-10	2.0340D-03	3.2100D+06	5.0708D+06	4.0112D-10
9.8692D-08	4.8307D+00	9.6075D-01	5.9332D-01	1.2865D+01	5.5331D-11	2.0170D-03	6.2603D+06	1.0137D+07	1.9898D-10
8.8823D-08	4.8308D+00	9.5510D-01	5.8825D-01	1.2904D+01	4.9795D-11	2.0153D-03	6.9369D+06	1.1263D+07	1.7894D-10
7.8954D-08	4.8310D+00	9.4945D-01	5.8318D-01	1.2947D+01	4.4260D-11	2.0136D-03	7.7824D+06	1.2670D+07	1.5893D-10
6.9085D-08	4.8311D+00	9.4379D-01	5.7810D-01	1.2995D+01	3.8726D-11	2.0119D-03	8.8692D+06	1.4480D+07	1.3895D-10
5.9215D-08	4.8313D+00	9.3813D-01	5.7302D-01	1.3051D+01	3.3192D-11	2.0102D-03	1.0318D+07	1.6892D+07	1.1900D-10
4.9346D-08	4.8314D+00	9.3247D-01	5.6794D-01	1.3117D+01	2.7659D-11	2.0085D-03	1.2346D+07	2.0270D+07	9.9091D-11
3.9477D-08	4.8316D+00	9.2680D-01	5.6285D-01	1.3198D+01	2.2126D-11	2.0068D-03	1.5387D+07	2.5336D+07	7.9209D-11
2.9608D-08	4.8318D+00	9.2113D-01	5.5776D-01	1.3303D+01	1.6594D-11	2.0051D-03	2.0454D+07	3.3780D+07	5.9359D-11
1.9738D-08	4.8319D+00	9.1546D-01	5.5267D-01	1.3450D+01	1.1062D-11	2.0034D-03	3.0588D+07	5.0667D+07	3.9541D-11
9.8692D-09	4.8321D+00	9.0978D-01	5.4757D-01	1.3701D+01	5.5307D-12	2.0017D-03	6.0987D+07	1.0133D+08	1.9754D-11
8.8823D-09	4.8321D+00	9.0921D-01	5.4706D-01	1.3739D+01	4.9776D-12	2.0015D-03	6.7742D+07	1.1259D+08	1.7778D-11
7.8954D-09	4.8321D+00	9.0865D-01	5.4655D-01	1.3781D+01	4.4245D-12	2.0014D-03	7.6186D+07	1.2666D+08	1.5801D-11
6.9085D-09	4.8321D+00	9.0808D-01	5.4604D-01	1.3830D+01	3.8714D-12	2.0012D-03	8.7043D+07	1.4475D+08	1.3825D-11
5.9215D-09	4.8321D+00	9.0751D-01	5.4553D-01	1.3886D+01	3.3184D-12	2.0010D-03	1.0152D+08	1.6888D+08	1.1849D-11
4.9346D-09	4.8322D+00	9.0694D-01	5.4502D-01	1.3951D+01	2.7653D-12	2.0009D-03	1.2178D+08	2.0265D+08	9.8732D-12
3.9477D-09	4.8322D+00	9.0637D-01	5.4451D-01	1.4032D+01	2.2122D-12	2.0007D-03	1.5218D+08	2.5332D+08	7.8979D-12
2.9608D-09	4.8322D+00	9.0581D-01	5.4400D-01	1.4136D+01	1.6592D-12	2.0005D-03	2.0284D+08	3.3775D+08	5.9230D-12
1.9738D-09	4.8322D+00	9.0524D-01	5.4349D-01	1.4283D+01	1.1061D-12	2.0003D-03	3.0417D+08	5.0663D+08	3.9483D-12
9.8692D-10	4.8322D+00	9.0467D-01	5.4298D-01	1.4534D+01	5.5305D-13	2.0002D-03	6.0815D+08	1.0133D+09	1.9740D-12
8.8823D-10	4.8322D+00	9.0461D-01	5.4293D-01	1.4572D+01	4.9774D-13	2.0002D-03	6.7570D+08	1.1258D+09	1.7766D-12
7.8954D-10	4.8322D+00	9.0456D-01	5.4288D-01	1.4614D+01	4.4244D-13	2.0001D-03	7.6014D+08	1.2666D+09	1.5792D-12
6.9085D-10	4.8322D+00	9.0450D-01	5.4283D-01	1.4663D+01	3.8713D-13	2.0001D-03	8.6870D+08	1.4475D+09	1.3818D-12

SUPERHEATED VAPOR PROPERTIES AT T = 500.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
5.9215D-10	4.8322D+00	9.0444D-01	5.4277D-01	1.4718D+01	3.3183D-13	2.0001D-03	1.0135D+09	1.6888D+09	1.1844D-12
4.9346D-10	4.8322D+00	9.0439D-01	5.4272D-01	1.4784D+01	2.7652D-13	2.0001D-03	1.2161D+09	2.0265D+09	9.8696D-13
3.9477D-10	4.8322D+00	9.0433D-01	5.4267D-01	1.4865D+01	2.2122D-13	2.0001D-03	1.5201D+09	2.5331D+09	7.8956D-13
2.9608D-10	4.8322D+00	9.0427D-01	5.4262D-01	1.4969D+01	1.6591D-13	2.0001D-03	2.0267D+09	3.3775D+09	5.9217D-13
1.9738D-10	4.8322D+00	9.0422D-01	5.4257D-01	1.5116D+01	1.1061D-13	2.0000D-03	3.0400D+09	5.0663D+09	3.9478D-13
9.8692D-11	4.8322D+00	9.0416D-01	5.4252D-01	1.5366D+01	5.5305D-14	2.0000D-03	6.0798D+09	1.0133D+10	1.9739D-13

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 600.0K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
2.0000D-06	1.1285D+02	2.9026D+01	1.9684D+01	2.5606D+02	9.2574D-06	1.7749D-03	3.4049D+05	5.0209D+05	3.5350D-09
1.0000D-06	1.1301D+02	2.4959D+01	1.6132D+01	2.6208D+02	4.6187D-06	1.7214D-03	6.4769D+05	1.0021D+06	1.7177D-09
9.0000D-07	1.1303D+02	2.4547D+01	1.5771D+01	2.6298D+02	4.1560D-06	1.7159D-03	7.1522D+05	1.1132D+06	1.5414D-09
8.0000D-07	1.1304D+02	2.4133D+01	1.5409D+01	2.6399D+02	3.6934D-06	1.7105D-03	7.9945D+05	1.2521D+06	1.3661D-09
7.0000D-07	1.1306D+02	2.3719D+01	1.5045D+01	2.6512D+02	3.2310D-06	1.7051D-03	9.0753D+05	1.4307D+06	1.1918D-09
6.0000D-07	1.1308D+02	2.3303D+01	1.4681D+01	2.6643D+02	2.7688D-06	1.6996D-03	1.0513D+06	1.6688D+06	1.0185D-09
5.0000D-07	1.1309D+02	2.2886D+01	1.4316D+01	2.6797D+02	2.3069D-06	1.6942D-03	1.2524D+06	2.0021D+06	8.4618D-10
4.0000D-07	1.1311D+02	2.2468D+01	1.3949D+01	2.6985D+02	1.8451D-06	1.6887D-03	1.5534D+06	2.5021D+06	6.7490D-10
3.0000D-07	1.1313D+02	2.2050D+01	1.3581D+01	2.7227D+02	1.3835D-06	1.6832D-03	2.0545D+06	3.3355D+06	5.0464D-10
2.0000D-07	1.1314D+02	2.1630D+01	1.3213D+01	2.7567D+02	9.2214D-07	1.6777D-03	3.0556D+06	5.0021D+06	3.3540D-10
1.0000D-07	1.1316D+02	2.1208D+01	1.2843D+01	2.8146D+02	4.6097D-07	1.6722D-03	6.0569D+06	1.0002D+07	1.6718D-10
9.0000D-08	1.1316D+02	2.1166D+01	1.2806D+01	2.8234D+02	4.1487D-07	1.6716D-03	6.7236D+06	1.1113D+07	1.5042D-10
8.0000D-08	1.1316D+02	2.1124D+01	1.2769D+01	2.8332D+02	3.6876D-07	1.6711D-03	7.5571D+06	1.2502D+07	1.3366D-10
7.0000D-08	1.1316D+02	2.1082D+01	1.2732D+01	2.8443D+02	3.2266D-07	1.6705D-03	8.6287D+06	1.4288D+07	1.1692D-10
6.0000D-08	1.1317D+02	2.1040D+01	1.2695D+01	2.8572D+02	2.7656D-07	1.6700D-03	1.0057D+07	1.6669D+07	1.0019D-10
5.0000D-08	1.1317D+02	2.0998D+01	1.2658D+01	2.8723D+02	2.3046D-07	1.6694D-03	1.2058D+07	2.0002D+07	8.3463D-11
4.0000D-08	1.1317D+02	2.0955D+01	1.2620D+01	2.8909D+02	1.8436D-07	1.6689D-03	1.5058D+07	2.5002D+07	6.6749D-11
3.0000D-08	1.1317D+02	2.0913D+01	1.2583D+01	2.9149D+02	1.3827D-07	1.6683D-03	2.0058D+07	3.3335D+07	5.0047D-11
2.0000D-08	1.1317D+02	2.0871D+01	1.2546D+01	2.9486D+02	9.2178D-08	1.6678D-03	3.0058D+07	5.0002D+07	3.3354D-11
1.0000D-08	1.1317D+02	2.0829D+01	1.2509D+01	3.0063D+02	4.6088D-08	1.6672D-03	6.0059D+07	1.0000D+08	1.6672D-11
9.0000D-09	1.1317D+02	2.0824D+01	1.2505D+01	3.0150D+02	4.1479D-08	1.6672D-03	6.6726D+07	1.1111D+08	1.5004D-11
8.0000D-09	1.1318D+02	2.0820D+01	1.2502D+01	3.0248D+02	3.6870D-08	1.6671D-03	7.5059D+07	1.2500D+08	1.3337D-11
7.0000D-09	1.1318D+02	2.0816D+01	1.2498D+01	3.0359D+02	3.2261D-08	1.6671D-03	8.5773D+07	1.4286D+08	1.1669D-11
6.0000D-09	1.1318D+02	2.0812D+01	1.2494D+01	3.0488D+02	2.7653D-08	1.6670D-03	1.0006D+08	1.6667D+08	1.0002D-11
5.0000D-09	1.1318D+02	2.0807D+01	1.2491D+01	3.0639D+02	2.3044D-08	1.6669D-03	1.2006D+08	2.0000D+08	8.3346D-12
4.0000D-09	1.1318D+02	2.0803D+01	1.2487D+01	3.0825D+02	1.8435D-08	1.6669D-03	1.5006D+08	2.5000D+08	6.6675D-12

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 600.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
3.0000D-09	1.1318D+02	2.0799D+01	1.2483D+01	3.1064D+02	1.3826D-08	1.6668D-03	2.0006D+08	3.3334D+08	5.0005D-12
2.0000D-09	1.1318D+02	2.0795D+01	1.2479D+01	3.1401D+02	9.2175D-09	1.6668D-03	3.0006D+08	5.0000D+08	3.3335D-12
1.0000D-09	1.1318D+02	2.0791D+01	1.2476D+01	3.1977D+02	4.6087D-09	1.6667D-03	6.0007D+08	1.0000D+09	1.6667D-12
9.0000D-10	1.1318D+02	2.0790D+01	1.2475D+01	3.2065D+02	4.1478D-09	1.6667D-03	6.6674D+08	1.1111D+09	1.5000D-12
8.0000D-10	1.1318D+02	2.0790D+01	1.2475D+01	3.2163D+02	3.6870D-09	1.6667D-03	7.5007D+08	1.2500D+09	1.3334D-12
7.0000D-10	1.1318D+02	2.0789D+01	1.2475D+01	3.2274D+02	3.2261D-09	1.6667D-03	8.5721D+08	1.4286D+09	1.1667D-12
6.0000D-10	1.1318D+02	2.0789D+01	1.2474D+01	3.2402D+02	2.7652D-09	1.6667D-03	1.0001D+09	1.6667D+09	1.0000D-12
5.0000D-10	1.1318D+02	2.0788D+01	1.2474D+01	3.2554D+02	2.3044D-09	1.6667D-03	1.2001D+09	2.0000D+09	8.3335D-13
4.0000D-10	1.1318D+02	2.0788D+01	1.2473D+01	3.2739D+02	1.8435D-09	1.6667D-03	1.5001D+09	2.5000D+09	6.6667D-13
3.0000D-10	1.1318D+02	2.0788D+01	1.2473D+01	3.2978D+02	1.3826D-09	1.6667D-03	2.0001D+09	3.3333D+09	5.0000D-13
2.0000D-10	1.1318D+02	2.0787D+01	1.2473D+01	3.3316D+02	9.2174D-10	1.6667D-03	3.0001D+09	5.0000D+09	3.3334D-13
1.0000D-10	1.1318D+02	2.0787D+01	1.2472D+01	3.3892D+02	4.6087D-10	1.6667D-03	6.0001D+09	1.0000D+10	1.6667D-13
9.0000D-11	1.1318D+02	2.0787D+01	1.2472D+01	3.3979D+02	4.1478D-10	1.6667D-03	6.6668D+09	1.1111D+10	1.5000D-13
8.0000D-11	1.1318D+02	2.0787D+01	1.2472D+01	3.4077D+02	3.6870D-10	1.6667D-03	7.5002D+09	1.2500D+10	1.3333D-13
7.0000D-11	1.1318D+02	2.0787D+01	1.2472D+01	3.4188D+02	3.2261D-10	1.6667D-03	8.5716D+09	1.4286D+10	1.1667D-13
6.0000D-11	1.1318D+02	2.0787D+01	1.2472D+01	3.4317D+02	2.7652D-10	1.6667D-03	1.0000D+10	1.6667D+10	1.0000D-13
5.0000D-11	1.1318D+02	2.0786D+01	1.2472D+01	3.4468D+02	2.3044D-10	1.6667D-03	1.2000D+10	2.0000D+10	8.3333D-14
4.0000D-11	1.1318D+02	2.0786D+01	1.2472D+01	3.4654D+02	1.8435D-10	1.6667D-03	1.5000D+10	2.5000D+10	6.6667D-14
3.0000D-11	1.1318D+02	2.0786D+01	1.2472D+01	3.4893D+02	1.3826D-10	1.6667D-03	2.0000D+10	3.3333D+10	5.0000D-14
2.0000D-11	1.1318D+02	2.0786D+01	1.2472D+01	3.5230D+02	9.2174D-11	1.6667D-03	3.0000D+10	5.0000D+10	3.3333D-14
1.0000D-11	1.1318D+02	2.0786D+01	1.2472D+01	3.5806D+02	4.6087D-11	1.6667D-03	6.0001D+10	1.0000D+11	1.6667D-14

SUPERHEATED VAPOR PROPERTIES AT T = 600.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
1.9738D-05	4.9083D+00	1.2625D+00	8.5617D-01	1.1138D+01	9.2574D-09	1.7749D-03	3.4500D+04	5.0874D+04	3.4888D-08
9.8692D-06	4.9154D+00	1.0856D+00	7.0166D-01	1.1399D+01	4.6187D-09	1.7214D-03	6.5627D+04	1.0154D+05	1.6953D-08
8.8823D-06	4.9161D+00	1.0677D+00	6.8596D-01	1.1439D+01	4.1560D-09	1.7159D-03	7.2470D+04	1.1280D+05	1.5213D-08
7.8954D-06	4.9168D+00	1.0497D+00	6.7020D-01	1.1482D+01	3.6934D-09	1.7105D-03	8.1004D+04	1.2687D+05	1.3482D-08
6.9085D-06	4.9176D+00	1.0317D+00	6.5440D-01	1.1532D+01	3.2310D-09	1.7051D-03	9.1955D+04	1.4496D+05	1.1762D-08
5.9215D-06	4.9183D+00	1.0136D+00	6.3856D-01	1.1589D+01	2.7688D-09	1.6996D-03	1.0653D+05	1.6909D+05	1.0052D-08
4.9346D-06	4.9190D+00	9.9545D-01	6.2266D-01	1.1656D+01	2.3069D-09	1.6942D-03	1.2689D+05	2.0287D+05	8.3512D-09
3.9477D-06	4.9157D+00	9.7727D-01	6.0672D-01	1.1737D+01	1.8451D-09	1.6887D-03	1.5740D+05	2.5353D+05	6.6608D-09
2.9608D-06	4.9205D+00	9.5905D-01	5.9073D-01	1.1843D+01	1.3835D-09	1.6832D-03	2.0817D+05	3.3797D+05	4.9804D-09
1.9738D-06	4.9212D+00	9.4078D-01	5.7469D-01	1.1990D+01	9.2214D-10	1.6777D-03	3.0961D+05	5.0684D+05	3.3101D-09
9.8692D-07	4.9219D+00	9.2247D-01	5.5861D-01	1.2242D+01	4.6097D-10	1.6722D-03	6.1371D+05	1.0135D+06	1.6500D-09
8.8823D-07	4.9220D+00	9.2063D-01	5.5699D-01	1.2280D+01	4.1487D-10	1.6716D-03	6.8127D+05	1.1260D+06	1.4845D-09
7.8954D-07	4.9221D+00	9.1880D-01	5.5538D-01	1.2323D+01	3.6876D-10	1.6711D-03	7.6572D+05	1.2668D+06	1.3192D-09
6.9085D-07	4.9221D+00	9.1696D-01	5.5377D-01	1.2371D+01	3.2266D-10	1.6705D-03	8.7430D+05	1.4477D+06	1.1539D-09
5.9215D-07	4.9222D+00	9.1513D-01	5.5216D-01	1.2427D+01	2.7656D-10	1.6700D-03	1.0191D+06	1.6890D+06	9.8876D-10
4.9346D-07	4.9223D+00	9.1329D-01	5.5054D-01	1.2493D+01	2.3046D-10	1.6694D-03	1.2217D+06	2.0267D+06	8.2371D-10
3.9477D-07	4.9223D+00	9.1146D-01	5.4893D-01	1.2574D+01	1.8436D-10	1.6689D-03	1.5257D+06	2.5333D+06	6.5877D-10
2.9608D-07	4.9224D+00	9.0962D-01	5.4732D-01	1.2678D+01	1.3827D-10	1.6683D-03	2.0324D+06	3.3777D+06	4.9392D-10
1.9738D-07	4.9225D+00	9.0778D-01	5.4570D-01	1.2825D+01	9.2178D-11	1.6678D-03	3.0456D+06	5.0665D+06	3.2918D-10
9.8692D-08	4.9226D+00	9.0594D-01	5.4409D-01	1.3076D+01	4.6088D-11	1.6672D-03	6.0855D+06	1.0133D+07	1.6454D-10
8.8823D-08	4.9226D+00	9.0576D-01	5.4393D-01	1.3114D+01	4.1479D-11	1.6672D-03	6.7610D+06	1.1259D+07	1.4808D-10
7.8954D-08	4.9226D+00	9.0558D-01	5.4376D-01	1.3157D+01	3.6870D-11	1.6671D-03	7.6053D+06	1.2666D+07	1.3162D-10
6.9085D-08	4.9226D+00	9.0539D-01	5.4360D-01	1.3205D+01	3.2261D-11	1.6671D-03	8.6910D+06	1.4475D+07	1.1517D-10
5.9215D-08	4.9226D+00	9.0521D-01	5.4344D-01	1.3261D+01	2.7653D-11	1.6670D-03	1.0139D+07	1.6888D+07	9.8711D-11
4.9346D-08	4.9226D+00	9.0502D-01	5.4328D-01	1.3327D+01	2.3044D-11	1.6669D-03	1.2165D+07	2.0265D+07	8.2256D-11
3.9477D-08	4.9226D+00	9.0484D-01	5.4312D-01	1.3407D+01	1.8435D-11	1.6669D-03	1.5205D+07	2.5331D+07	6.5803D-11

SUPERHEATED VAPOR PROPERTIES AT T = 600.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
2.9608D-08	4.9226D+00	9.0466D-01	5.4296D-01	1.3511D+01	1.3826D-11	1.6668D-03	2.0271D+07	3.3775D+07	4.9351D-11
1.9738D-08	4.9226D+00	9.0447D-01	5.4280D-01	1.3658D+01	9.2175D-12	1.6668D-03	3.0404D+07	5.0663D+07	3.2899D-11
9.8692D-09	4.9226D+00	9.0429D-01	5.4263D-01	1.3909D+01	4.6087D-12	1.6667D-03	6.0802D+07	1.0133D+08	1.6449D-11
8.8823E-09	4.9226D+00	9.0427D-01	5.4262D-01	1.3947D+01	4.1478D-12	1.6667D-03	6.7557D+07	1.1258D+08	1.4804D-11
7.8954D-09	4.9226D+00	9.0425D-01	5.4260D-01	1.3989D+01	3.6870D-12	1.6667D-03	7.6001D+07	1.2666D+08	1.3159D-11
6.9085D-09	4.9226D+00	9.0423D-01	5.4258D-01	1.4038D+01	3.2261D-12	1.6667D-03	8.6857D+07	1.4475D+08	1.1514D-11
5.9215D-09	4.9226D+00	9.0422D-01	5.4257D-01	1.4093D+01	2.7652D-12	1.6667D-03	1.0133D+08	1.6888D+08	9.8694D-12
4.9346D-09	4.9226D+00	9.0420D-01	5.4255D-01	1.4159D+01	2.3044D-12	1.6667D-03	1.2160D+08	2.0265D+08	8.2245D-12
3.9477D-09	4.9226D+00	9.0418D-01	5.4254D-01	1.4240D+01	1.8435D-12	1.6667D-03	1.5200D+08	2.5331D+08	6.5796D-12
2.9608D-09	4.9226D+00	9.0416D-01	5.4252D-01	1.4344D+01	1.3826D-12	1.6667D-03	2.0266D+08	3.3775D+08	4.9347D-12
1.9738D-09	4.9226D+00	9.0414D-01	5.4250D-01	1.4491D+01	9.2174D-13	1.6667D-03	3.0399D+08	5.0663D+08	3.2898D-12
9.8692D-10	4.9226D+00	9.0412D-01	5.4249D-01	1.4741D+01	4.6087D-13	1.6667D-03	6.0796D+08	1.0132D+09	1.6449D-12
8.8823E-10	4.9226D+00	9.0412D-01	5.4249D-01	1.4779D+01	4.1478D-13	1.6667D-03	6.7552D+08	1.1258D+09	1.4804D-12
7.8954D-10	4.9226D+00	9.0412D-01	5.4248D-01	1.4822D+01	3.6870D-13	1.6667D-03	7.5995D+08	1.2666D+09	1.3159D-12
6.9085D-10	4.9226D+00	9.0412D-01	5.4248D-01	1.4870D+01	3.2261D-13	1.6667D-03	8.6852D+08	1.4475D+09	1.1514D-12
5.9215D-10	4.9226D+00	9.0412D-01	5.4248D-01	1.4926D+01	2.7652D-13	1.6667D-03	1.0133D+09	1.6887D+09	9.8693D-13
4.9346D-10	4.9226D+00	9.0411D-01	5.4248D-01	1.4992D+01	2.3044D-13	1.6667D-03	1.2159D+09	2.0265D+09	8.2244D-13
3.9477D-10	4.9226D+00	9.0411D-01	5.4248D-01	1.5073D+01	1.8435D-13	1.6667D-03	1.5199D+09	2.5331D+09	6.5795D-13
2.9608D-10	4.9226D+00	9.0411D-01	5.4248D-01	1.5177D+01	1.3826D-13	1.6667D-03	2.0265D+09	3.3775D+09	4.9346D-13
1.9738D-10	4.9226D+00	9.0411D-01	5.4247D-01	1.5323D+01	9.2174D-14	1.6667D-03	3.0398D+09	5.0662D+09	3.2897D-13
9.8692D-11	4.9226D+00	9.0411D-01	5.4247D-01	1.5574D+01	4.6087D-14	1.6667D-03	6.0796D+09	1.0132D+10	1.6449D-13

SUPERHEATED SODIUM VAPOE PROPERTIES AT T= 700.0K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
5.0000D-05	1.1435D+02	3.6969D+01	2.6239D+01	2.3249D+02	1.9987D-04	1.6427D-03	1.4356D+04	2.0226D+04	8.1217D-08
4.0000D-05	1.1453D+02	3.3913D+01	2.3663D+01	2.3458D+02	1.5952D-04	1.6019D-03	1.7603D+04	2.5229D+04	6.3494D-08
3.0000D-05	1.1471D+02	3.0770D+01	2.1002D+01	2.3720D+02	1.1936D-04	1.5601D-03	2.2909D+04	3.3565D+04	4.6479D-08
2.0000D-05	1.1489D+02	2.7537D+01	1.8252D+01	2.4081D+02	7.9388D-05	1.5173D-03	3.3296D+04	5.0234D+04	3.0204D-08
1.0000D-05	1.1507D+02	2.4210D+01	1.5410D+01	2.4682D+02	3.9599D-05	1.4735D-03	6.3802D+04	1.0024D+05	1.4700D-08
9.0000E-06	1.1509D+02	2.3872D+01	1.5121D+01	2.4772D+02	3.5631D-05	1.4690D-03	7.0528D+04	1.1135D+05	1.3193D-08
8.0000D-06	1.1511D+02	2.3533D+01	1.4830D+01	2.4872D+02	3.1664D-05	1.4646D-03	7.8923D+04	1.2524D+05	1.1694D-08
7.0000D-06	1.1512D+02	2.3194D+01	1.4539D+01	2.4985D+02	2.7699D-05	1.4601D-03	8.9700D+04	1.4309D+05	1.0204D-08
6.0000D-06	1.1514D+02	2.2853D+01	1.4247D+01	2.5116D+02	2.3736D-05	1.4556D-03	1.0405D+05	1.6690D+05	8.7213D-09
5.0000D-06	1.1516D+02	2.2511D+01	1.3953D+01	2.5270D+02	1.9776D-05	1.4511D-03	1.2412D+05	2.0024D+05	7.2471D-09
4.0000D-06	1.1518D+02	2.2168D+01	1.3659D+01	2.5458D+02	1.5817D-05	1.4467D-03	1.5419D+05	2.5024D+05	5.7811D-09
3.0000D-06	1.1520D+02	2.1824D+01	1.3364D+01	2.5700D+02	1.1860D-05	1.4421D-03	2.0426D+05	3.3357D+05	4.3234D-09
2.0000D-06	1.1522D+02	2.1479D+01	1.3068D+01	2.6039D+02	7.9045D-06	1.4376D-03	3.0434D+05	5.0024D+05	2.8739D-09
1.0000D-06	1.1524D+02	2.1133D+01	1.2770D+01	2.6618D+02	3.9513D-06	1.4331D-03	6.0442D+05	1.0002D+06	1.4328D-09
9.0000D-07	1.1524D+02	2.1099D+01	1.2741D+01	2.6706D+02	3.5561D-06	1.4327D-03	6.7110D+05	1.1114D+06	1.2891D-09
8.0000D-07	1.1524D+02	2.1064D+01	1.2711D+01	2.6804D+02	3.1609D-06	1.4322D-03	7.5444D+05	1.2502D+06	1.1455D-09
7.0000D-07	1.1524D+02	2.1029D+01	1.2681D+01	2.6915D+02	2.7657D-06	1.4317D-03	8.6159D+05	1.4288D+06	1.0021D-09
6.0000D-07	1.1524D+02	2.0995D+01	1.2651D+01	2.7044D+02	2.3705D-06	1.4313D-03	1.0045D+06	1.6669D+06	8.5865D-10
5.0000D-07	1.1525D+02	2.0960D+01	1.2621D+01	2.7196D+02	1.9754D-06	1.4308D-03	1.2045D+06	2.0002D+06	7.1533D-10
4.0000D-07	1.1525D+02	2.0925D+01	1.2591D+01	2.7381D+02	1.5803D-06	1.4304D-03	1.5045D+06	2.5002D+06	5.7210D-10
3.0000D-07	1.1525D+02	2.0891D+01	1.2562D+01	2.7621D+02	1.1852D-06	1.4299D-03	2.0045D+06	3.3336D+06	4.2895D-10
2.0000D-07	1.1525D+02	2.0856D+01	1.2532D+01	2.7958D+02	7.9010D-07	1.4295D-03	3.0045D+06	5.0002D+06	2.8588D-10
1.0000D-07	1.1525D+02	2.0821D+01	1.2502D+01	2.8535D+02	3.9504D-07	1.4290D-03	6.0046D+06	1.0000D+07	1.4290D-10
9.0000D-08	1.1525D+02	2.0818D+01	1.2499D+01	2.8622D+02	3.5554D-07	1.4290D-03	6.6713D+06	1.1111D+07	1.2861D-10
8.0000D-08	1.1525D+02	2.0814D+01	1.2496D+01	2.8720D+02	3.1603D-07	1.4289D-03	7.5046D+06	1.2500D+07	1.1431D-10
7.0000D-08	1.1525D+02	2.0811D+01	1.2493D+01	2.8831D+02	2.7653D-07	1.4289D-03	8.5761D+06	1.4286D+07	1.0002D-10

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 700.0K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
6.0000D-08	1.1525D+02	2.0807D+01	1.2490D+01	2.8960D+02	2.3702D-07	1.4288D-03	1.0005D+07	1.6667D+07	8.5729D-11
5.0000D-08	1.1525D+02	2.0804D+01	1.2487D+01	2.9111D+02	1.9752D-07	1.4288D-03	1.2005D+07	2.0000D+07	7.1439D-11
4.0000D-08	1.1525D+02	2.0800D+01	1.2484D+01	2.9297D+02	1.5801D-07	1.4288D-03	1.5005D+07	2.5000D+07	5.7150D-11
3.0000D-08	1.1525D+02	2.0797D+01	1.2481D+01	2.9536D+02	1.1851D-07	1.4287D-03	2.0005D+07	3.3334D+07	4.2861D-11
2.0000D-08	1.1525D+02	2.0793D+01	1.2478D+01	2.9873D+02	7.9007D-08	1.4287D-03	3.0005D+07	5.0000D+07	2.8573D-11
1.0000D-08	1.1525D+02	2.0790D+01	1.2475D+01	3.0449D+02	3.9503D-08	1.4286D-03	6.0006D+07	1.0000D+08	1.4286D-11
9.0000D-09	1.1525D+02	2.0789D+01	1.2475D+01	3.0537D+02	3.5553D-08	1.4286D-03	6.6672D+07	1.1111D+08	1.2857D-11
8.0000D-09	1.1525D+02	2.0789D+01	1.2474D+01	3.0635D+02	3.1603D-08	1.4286D-03	7.5006D+07	1.2500D+08	1.1429D-11
7.0000D-09	1.1525D+02	2.0789D+01	1.2474D+01	3.0746D+02	2.7652D-08	1.4286D-03	8.5720D+07	1.4286D+08	1.0000D-11
6.0000D-09	1.1525D+02	2.0788D+01	1.2474D+01	3.0874D+02	2.3702D-08	1.4286D-03	1.0001D+08	1.6667D+08	8.5716D-12
5.0000D-09	1.1525D+02	2.0788D+01	1.2474D+01	3.1026D+02	1.9752D-08	1.4286D-03	1.2001D+08	2.0000D+08	7.1430D-12
4.0000D-09	1.1525D+02	2.0788D+01	1.2473D+01	3.1211D+02	1.5801D-08	1.4286D-03	1.5001D+08	2.5000D+08	5.7144D-12
3.0000D-09	1.1525D+02	2.0787D+01	1.2473D+01	3.1450D+02	1.1851D-08	1.4286D-03	2.0001D+08	3.3333D+08	4.2858D-12
2.0000D-09	1.1525D+02	2.0787D+01	1.2473D+01	3.1788D+02	7.9006D-09	1.4286D-03	3.0001D+08	5.0000D+08	2.8572D-12
1.0000D-09	1.1526D+02	2.0787D+01	1.2472D+01	3.2364D+02	3.9503D-09	1.4286D-03	6.0001D+08	1.0000D+09	1.4286D-12
9.0000D-10	1.1526D+02	2.0787D+01	1.2472D+01	3.2452D+02	3.5553D-09	1.4286D-03	6.6668D+08	1.1111D+09	1.2857D-12
8.0000D-10	1.1526D+02	2.0787D+01	1.2472D+01	3.2549D+02	3.1603D-09	1.4286D-03	7.5002D+08	1.2500D+09	1.1429D-12
7.0000D-10	1.1526D+02	2.0787D+01	1.2472D+01	3.2660D+02	2.7652D-09	1.4286D-03	8.5716D+08	1.4286D+09	1.0000D-12
6.0000D-10	1.1526D+02	2.0787D+01	1.2472D+01	3.2789D+02	2.3702D-09	1.4286D-03	1.0000D+09	1.6667D+09	8.5714D-13
5.0000D-10	1.1526D+02	2.0787D+01	1.2472D+01	3.2940D+02	1.9752D-09	1.4286D-03	1.2000D+09	2.0000D+09	7.1429D-13
4.0000D-10	1.1526D+02	2.0786D+01	1.2472D+01	3.3126D+02	1.5801D-09	1.4286D-03	1.5000D+09	2.5000D+09	5.7143D-13
3.0000D-10	1.1526D+02	2.0786D+01	1.2472D+01	3.3365D+02	1.1851D-09	1.4286D-03	2.0000D+09	3.3333D+09	4.2857D-13
2.0000D-10	1.1526D+02	2.0786D+01	1.2472D+01	3.3702D+02	7.9006D-10	1.4286D-03	3.0001D+09	5.0000D+09	2.8571D-13
1.0000D-10	1.1526D+02	2.0786D+01	1.2472D+01	3.4278D+02	3.9503D-10	1.4286D-03	6.0001D+09	1.0000D+10	1.4286D-13
9.0000D-11	1.1526D+02	2.0786D+01	1.2472D+01	3.4366D+02	3.5553D-10	1.4286D-03	6.6668D+09	1.1111D+10	1.2857D-13
8.0000D-11	1.1526D+02	2.0786D+01	1.2472D+01	3.4464D+02	3.1603D-10	1.4286D-03	7.5001D+09	1.2500D+10	1.1429D-13

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 700.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
7.0000D-11	1.1526D+02	2.0786D+01	1.2472D+01	3.4575D+02	2.7652D-10	1.4286D-03	8.5716D+09	1.4286D+10	1.0000D-13
6.0000D-11	1.1526D+02	2.0786D+01	1.2472D+01	3.4703D+02	2.3702D-10	1.4286D-03	1.0000D+10	1.6667D+10	8.5714D-14
5.0000D-11	1.1526D+02	2.0786D+01	1.2472D+01	3.4855D+02	1.9752D-10	1.4286D-03	1.2000D+10	2.0000D+10	7.1429D-14
4.0000D-11	1.1526D+02	2.0786D+01	1.2472D+01	3.5040D+02	1.5801D-10	1.4286D-03	1.5000D+10	2.5000D+10	5.7143D-14
3.0000D-11	1.1526D+02	2.0786D+01	1.2472D+01	3.5279D+02	1.1851D-10	1.4286D-03	2.0000D+10	3.3333D+10	4.2857D-14
2.0000D-11	1.1526D+02	2.0786D+01	1.2472D+01	3.5617D+02	7.9006D-11	1.4286D-03	3.0001D+10	5.0000D+10	2.8571D-14
1.0000D-11	1.1526D+02	2.0786D+01	1.2472D+01	3.6193D+02	3.9503D-11	1.4286D-03	6.0001D+10	1.0000D+11	1.4286D-14

SUPERHEATED VAPOR PROPERTIES AT T = 700.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHA P (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMA V (ATM/K)
4.9346D-04	4.9739D+00	1.6080D+00	1.1413D+00	1.0112D+01	1.9987D-07	1.6427D-03	1.4546D+03	2.0494D+03	8.0155D-07
3.9477D-04	4.9815D+00	1.4751D+00	1.0292D+00	1.0203D+01	1.5952D-07	1.6019D-03	1.7836D+03	2.5563D+03	6.2663D-07
2.9608D-04	4.9892D+00	1.3384D+00	9.1347D-01	1.0317D+01	1.1936D-07	1.5601D-03	2.3212D+03	3.4009D+03	4.5872D-07
1.9738D-04	4.9970D+00	1.1977D+00	7.9388D-01	1.0474D+01	7.9388D-08	1.5173D-03	3.3737D+03	5.0900D+03	2.9809D-07
9.8692D-05	5.0050D+00	1.0530D+00	6.7027D-01	1.0735D+01	3.9599D-08	1.4735D-03	6.4647D+03	1.0156D+04	1.4507D-07
8.8823D-05	5.0058D+00	1.0383D+00	6.5768D-01	1.0775D+01	3.5631D-08	1.4690D-03	7.1463D+03	1.1282D+04	1.3020D-07
7.8954D-05	5.0066D+00	1.0236D+00	6.4505D-01	1.0818D+01	3.1664D-08	1.4646D-03	7.9968D+03	1.2690D+04	1.1541D-07
6.9085D-05	5.0074D+00	1.0088D+00	6.3238D-01	1.0868D+01	2.7699D-08	1.4601D-03	9.0889D+03	1.4499D+04	1.0070D-07
5.9215D-05	5.0082D+00	9.9398D-01	6.1967D-01	1.0924D+01	2.3736D-08	1.4556D-03	1.0543D+04	1.6912D+04	8.6073D-08
4.9346D-05	5.0090D+00	9.7911D-01	6.0691D-01	1.0991D+01	1.9776D-08	1.4511D-03	1.2576D+04	2.0289D+04	7.1523D-08
3.9477D-05	5.0098D+00	9.6420D-01	5.9411D-01	1.1073D+01	1.5817D-08	1.4467D-03	1.5623D+04	2.5355D+04	5.7055D-08
2.9608D-05	5.0106D+00	9.4924D-01	5.8126D-01	1.1178D+01	1.1860D-08	1.4421D-03	2.0697D+04	3.3799D+04	4.2668D-08
1.9738D-05	5.0114D+00	9.3424D-01	5.6838D-01	1.1326D+01	7.9045D-09	1.4376D-03	3.0837D+04	5.0687D+04	2.8363D-08
9.8692D-06	5.0122D+00	9.1920D-01	5.5545D-01	1.1578D+01	3.9513D-09	1.4331D-03	6.1243D+04	1.0135D+05	1.4140D-08
8.8823D-06	5.0123D+00	9.1769D-01	5.5415D-01	1.1616D+01	3.5561D-09	1.4327D-03	6.7999D+04	1.1261D+05	1.2723D-08
7.8954D-06	5.0124D+00	9.1618D-01	5.5286D-01	1.1659D+01	3.1609D-09	1.4322D-03	7.6444D+04	1.2668D+05	1.1306D-08
6.9085D-06	5.0125D+00	9.1467D-01	5.5156D-01	1.1707D+01	2.7657D-09	1.4317D-03	8.7301D+04	1.4477D+05	9.8895D-09
5.9215D-06	5.0126D+00	9.1317D-01	5.5026D-01	1.1763D+01	2.3705D-09	1.4313D-03	1.0178D+05	1.6890D+05	8.4743D-09
4.9346D-06	5.0126D+00	9.1166D-01	5.4897D-01	1.1829D+01	1.9754D-09	1.4308D-03	1.2204D+05	2.0267D+05	7.0598D-09
3.9477D-06	5.0127D+00	9.1015D-01	5.4767D-01	1.1910D+01	1.5803D-09	1.4304D-03	1.5244D+05	2.5334D+05	5.6462D-09
2.9608D-06	5.0128D+00	9.0864D-01	5.4637D-01	1.2014D+01	1.1852D-09	1.4299D-03	2.0311D+05	3.3777D+05	4.2334D-09
1.9738D-06	5.0129D+00	9.0713D-01	5.4507D-01	1.2161D+01	7.9010D-10	1.4295D-03	3.0443D+05	5.0665D+05	2.8214D-09
9.8692D-07	5.0130D+00	9.0562D-01	5.4377D-01	1.2411D+01	3.9504D-10	1.4290D-03	6.0841D+05	1.0133D+06	1.4103D-09
8.8823D-07	5.0130D+00	9.0547D-01	5.4364D-01	1.2449D+01	3.5554D-10	1.4290D-03	6.7597D+05	1.1259D+06	1.2692D-09
7.8954D-07	5.0130D+00	9.0532D-01	5.4351D-01	1.2492D+01	3.1603D-10	1.4289D-03	7.6040D+05	1.2666D+06	1.1282D-09
6.9085D-07	5.0130D+00	9.0517D-01	5.4338D-01	1.2540D+01	2.7653D-10	1.4289D-03	8.6897D+05	1.4475D+06	9.8713D-10

SUPERHEATED VAPOR PROPERTIES AT T = 700.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
5.9215E-07	5.0130D+00	9.0501D-01	5.4325D-01	1.2596D+01	2.3702D-10	1.4288D-03	1.0137D+06	1.6888D+06	8.4608D-10
4.9346D-07	5.0130D+00	9.0486D-01	5.4312D-01	1.2662D+01	1.9752D-10	1.4288D-03	1.2164D+06	2.0265D+06	7.0505D-10
3.9477D-07	5.0130D+00	9.0471D-01	5.4299D-01	1.2743D+01	1.5801D-10	1.4288D-03	1.5204D+06	2.5331D+06	5.6402D-10
2.9608D-07	5.0130D+00	9.0456D-01	5.4287D-01	1.2847D+01	1.1851D-10	1.4287D-03	2.0270D+06	3.3775D+06	4.2300D-10
1.9738D-07	5.0130D+00	9.0441D-01	5.4274D-01	1.2993D+01	7.9007D-11	1.4287D-03	3.0403D+06	5.0663D+06	2.8199D-10
9.8692D-08	5.0130D+00	9.0426D-01	5.4260D-01	1.3244D+01	3.9503D-11	1.4286D-03	6.0801D+06	1.0133D+07	1.4099D-10
8.8823D-08	5.0130D+00	9.0424D-01	5.4259D-01	1.3282D+01	3.5553D-11	1.4286D-03	6.7556D+06	1.1258D+07	1.2689D-10
7.8954D-08	5.0130D+00	9.0423D-01	5.4258D-01	1.3325D+01	3.1603D-11	1.4286D-03	7.6000D+06	1.2666D+07	1.1279D-10
6.9085D-08	5.0130D+00	9.0421D-01	5.4257D-01	1.3373D+01	2.7652D-11	1.4286D-03	8.6856D+06	1.4475D+07	9.8694D-11
5.9215E-08	5.0130D+00	9.0420D-01	5.4255D-01	1.3429D+01	2.3702D-11	1.4286D-03	1.0133D+07	1.6888D+07	8.4595D-11
4.9346D-08	5.0130D+00	9.0418D-01	5.4254D-01	1.3495D+01	1.9752D-11	1.4286D-03	1.2160D+07	2.0265D+07	7.0496D-11
3.9477D-08	5.0130D+00	9.0417D-01	5.4253D-01	1.3575D+01	1.5801D-11	1.4286D-03	1.5199D+07	2.5331D+07	5.6396D-11
2.9608D-08	5.0130D+00	9.0415D-01	5.4251D-01	1.3679D+01	1.1851D-11	1.4286D-03	2.0266D+07	3.3775D+07	4.2297D-11
1.9738D-08	5.0130D+00	9.0414D-01	5.4250D-01	1.3826D+01	7.9006D-12	1.4286D-03	3.0398D+07	5.0663D+07	2.8198D-11
9.8692D-09	5.0130D+00	9.0412D-01	5.4249D-01	1.4077D+01	3.9503D-12	1.4286D-03	6.0796D+07	1.0132D+08	1.4099D-11
8.8823D-09	5.0130D+00	9.0412D-01	5.4249D-01	1.4115D+01	3.5553D-12	1.4286D-03	6.7552D+07	1.1258D+08	1.2689D-11
7.8954D-09	5.0130D+00	9.0412D-01	5.4248D-01	1.4157D+01	3.1603D-12	1.4286D-03	7.5995D+07	1.2666D+08	1.1279D-11
6.9085D-09	5.0130D+00	9.0412D-01	5.4248D-01	1.4206D+01	2.7652D-12	1.4286D-03	8.6852D+07	1.4475D+08	9.8693D-12
5.9215D-09	5.0130D+00	9.0412D-01	5.4248D-01	1.4262D+01	2.3702D-12	1.4286D-03	1.0133D+08	1.6887D+08	8.4594D-12
4.9346D-09	5.0130D+00	9.0412D-01	5.4248D-01	1.4327D+01	1.9752D-12	1.4286D-03	1.2159D+08	2.0265D+08	7.0495D-12
3.9477D-09	5.0130D+00	9.0411D-01	5.4248D-01	1.4408D+01	1.5801D-12	1.4286D-03	1.5199D+08	2.5331D+08	5.6396D-12
2.9608D-09	5.0131D+00	9.0411D-01	5.4248D-01	1.4512D+01	1.1851D-12	1.4286D-03	2.0265D+08	3.3775D+08	4.2297D-12
1.9738D-09	5.0131D+00	9.0411D-01	5.4248D-01	1.4659D+01	7.9006D-13	1.4286D-03	3.0398D+08	5.0662D+08	2.8198D-12
9.8692D-10	5.0131D+00	9.0411D-01	5.4248D-01	1.4909D+01	3.9503D-13	1.4286D-03	6.0796D+08	1.0132D+09	1.4099D-12
8.8823D-10	5.0131D+00	9.0411D-01	5.4248D-01	1.4948D+01	3.5553D-13	1.4286D-03	6.7551D+08	1.1258D+09	1.2689D-12
7.8954D-10	5.0131D+00	9.0411D-01	5.4248D-01	1.4990D+01	3.1603D-13	1.4286D-03	7.5995D+08	1.2666D+09	1.1279D-12

SUPERHEATED VAPOR PROPERTIES AT T = 700.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHA (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMA (ATM/K)
6.9085D-10	5.0131D+00	9.0411D-01	5.4248D-01	1.5038D+01	2.7652D-13	1.4286D-03	8.6851D+08	1.4475D+09	9.8692D-13
5.9215D-10	5.0131D+00	9.0411D-01	5.4248D-01	1.5094D+01	2.3702D-13	1.4286D-03	1.0133D+09	1.6887D+09	8.4593D-13
4.9346D-10	5.0131D+00	9.0411D-01	5.4247D-01	1.5160D+01	1.9752D-13	1.4286D-03	1.2159D+09	2.0265D+09	7.0495D-13
3.9477D-10	5.0131D+00	9.0411D-01	5.4247D-01	1.5241D+01	1.5801D-13	1.4286D-03	1.5199D+09	2.5331D+09	5.6396D-13
2.9608D-10	5.0131D+00	9.0411D-01	5.4247D-01	1.5345D+01	1.1851D-13	1.4286D-03	2.0265D+09	3.3775D+09	4.2297D-13
1.9738D-10	5.0131D+00	9.0411D-01	5.4247D-01	1.5492D+01	7.9006D-14	1.4286D-03	3.0398D+09	5.0662D+09	2.8198D-13
9.8692D-11	5.0131D+00	9.0411D-01	5.4247D-01	1.5742D+01	3.9503D-14	1.4286D-03	6.0796D+09	1.0132D+10	1.4099D-13

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 800.0K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
5.0000D-04	1.1565D+02	4.3277D+01	3.1034D+01	2.1573D+02	1.7671D-03	1.5507D-03	1.4640D+03	2.0415D+03	7.5955D-07
4.0000D-04	1.1597D+02	3.9249D+01	2.7765D+01	2.1794D+02	1.4077D-03	1.4958D-03	1.7985D+03	2.5424D+03	5.8832D-07
3.0000D-04	1.1630D+02	3.5002D+01	2.4291D+01	2.2071D+02	1.0512D-03	1.4384D-03	2.3434D+03	3.3767D+03	4.2598D-07
2.0000D-04	1.1663D+02	3.0520D+01	2.0597D+01	2.2446D+02	6.9769D-04	1.3784D-03	3.4042D+03	5.0443D+03	2.7326D-07
1.0000D-04	1.1698D+02	2.5788D+01	1.6664D+01	2.3062D+02	3.4726D-04	1.3157D-03	6.4913D+03	1.0045D+04	1.3097D-07
9.0000D-05	1.1701D+02	2.5300D+01	1.6257D+01	2.3153D+02	3.1239D-04	1.3093D-03	7.1688D+03	1.1157D+04	1.1735D-07
8.0000D-05	1.1705D+02	2.4810D+01	1.5847D+01	2.3255D+02	2.7755D-04	1.3028D-03	8.0135D+03	1.2546D+04	1.0384D-07
7.0000D-05	1.1708D+02	2.4316D+01	1.5435D+01	2.3370D+02	2.4275D-04	1.2963D-03	9.0967D+03	1.4331D+04	9.0452D-08
6.0000D-05	1.1712D+02	2.3821D+01	1.5020D+01	2.3503D+02	2.0797D-04	1.2898D-03	1.0538D+04	1.6712D+04	7.7175D-08
5.0000D-05	1.1715D+02	2.3322D+01	1.4602D+01	2.3658D+02	1.7323D-04	1.2832D-03	1.2551D+04	2.0046D+04	6.4014D-08
4.0000D-05	1.1719D+02	2.2820D+01	1.4181D+01	2.3848D+02	1.3852D-04	1.2766D-03	1.5564D+04	2.5046D+04	5.0972D-08
3.0000D-05	1.1723D+02	2.2316D+01	1.3758D+01	2.4091D+02	1.0384D-04	1.2700D-03	2.0579D+04	3.3379D+04	3.8048D-08
2.0000D-05	1.1726D+02	2.1809D+01	1.3332D+01	2.4432D+02	6.9196D-05	1.2634D-03	3.0594D+04	5.0046D+04	2.5244D-08
1.0000D-05	1.1730D+02	2.1299D+01	1.2904D+01	2.5013D+02	3.4582D-05	1.2567D-03	6.0610D+04	1.0005D+05	1.2561D-08
9.0000D-06	1.1730D+02	2.1248D+01	1.2861D+01	2.5101D+02	3.1122D-05	1.2560D-03	6.7279D+04	1.1116D+05	1.1300D-08
8.0000D-06	1.1730D+02	2.1197D+01	1.2817D+01	2.5199D+02	2.7663D-05	1.2554D-03	7.5614D+04	1.2505D+05	1.0039D-08
7.0000D-06	1.1731D+02	2.1146D+01	1.2774D+01	2.5310D+02	2.4204D-05	1.2547D-03	8.6330D+04	1.4290D+05	8.7800D-09
6.0000D-06	1.1731D+02	2.1094D+01	1.2731D+01	2.5439D+02	2.0745D-05	1.2540D-03	1.0062D+05	1.6671D+05	7.5221D-09
5.0000D-06	1.1732D+02	2.1043D+01	1.2688D+01	2.5591D+02	1.7287D-05	1.2534D-03	1.2062D+05	2.0005D+05	6.2653D-09
4.0000D-06	1.1732D+02	2.0992D+01	1.2645D+01	2.5777D+02	1.3829D-05	1.2527D-03	1.5062D+05	2.5005D+05	5.0098D-09
3.0000D-06	1.1732D+02	2.0941D+01	1.2602D+01	2.6017D+02	1.0371D-05	1.2520D-03	2.0062D+05	3.3338D+05	3.7555D-09
2.0000D-06	1.1733D+02	2.0889D+01	1.2559D+01	2.6354D+02	6.9137D-06	1.2513D-03	3.0063D+05	5.0005D+05	2.5025D-09
1.0000D-06	1.1733D+02	2.0838D+01	1.2515D+01	2.6931D+02	3.4567D-06	1.2507D-03	6.0064D+05	1.0000D+06	1.2506D-09
9.0000D-07	1.1733D+02	2.0833D+01	1.2511D+01	2.7018D+02	3.1110D-06	1.2506D-03	6.6730D+05	1.1112D+06	1.1255D-09
8.0000D-07	1.1733D+02	2.0828D+01	1.2507D+01	2.7116D+02	2.7653D-06	1.2505D-03	7.5064D+05	1.2500D+06	1.0004D-09
7.0000D-07	1.1733D+02	2.0822D+01	1.2502D+01	2.7227D+02	2.4197D-06	1.2505D-03	8.5778D+05	1.4286D+06	8.7530D-10

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 800.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
6.0000D-07	1.1733D+02	2.0817D+01	1.2498D+01	2.7356D+02	2.0740D-06	1.2504D-03	1.0006D+06	1.6667D+06	7.5022D-10
5.0000D-07	1.1733D+02	2.0812D+01	1.2494D+01	2.7507D+02	1.7283D-06	1.2503D-03	1.2006D+06	2.0000D+06	6.2515D-10
4.0000D-07	1.1733D+02	2.0807D+01	1.2489D+01	2.7693D+02	1.3826D-06	1.2503D-03	1.5007D+06	2.5000D+06	5.0010D-10
3.0000D-07	1.1733D+02	2.0802D+01	1.2485D+01	2.7932D+02	1.0370D-06	1.2502D-03	2.0007D+06	3.3334D+06	3.7506D-10
2.0000D-07	1.1733D+02	2.0797D+01	1.2481D+01	2.8269D+02	6.9131D-07	1.2501D-03	3.0007D+06	5.0000D+06	2.5002D-10
1.0000D-07	1.1733D+02	2.0792D+01	1.2476D+01	2.8846D+02	3.4565D-07	1.2501D-03	6.0008D+06	1.0000D+07	1.2501D-10
9.0000D-08	1.1733D+02	2.0791D+01	1.2476D+01	2.8933D+02	3.1109D-07	1.2501D-03	6.6674D+06	1.1111D+07	1.1250D-10
8.0000D-08	1.1733D+02	2.0791D+01	1.2476D+01	2.9031D+02	2.7652D-07	1.2501D-03	7.5008D+06	1.2500D+07	1.0000D-10
7.0000D-08	1.1733D+02	2.0790D+01	1.2475D+01	2.9142D+02	2.4196D-07	1.2500D-03	8.5722D+06	1.4286D+07	8.7503D-11
6.0000D-08	1.1733D+02	2.0789D+01	1.2475D+01	2.9270D+02	2.0739D-07	1.2500D-03	1.0001D+07	1.6667D+07	7.5002D-11
5.0000D-08	1.1733D+02	2.0789D+01	1.2474D+01	2.9422D+02	1.7283D-07	1.2500D-03	1.2001D+07	2.0000D+07	6.2502D-11
4.0000D-08	1.1733D+02	2.0788D+01	1.2474D+01	2.9607D+02	1.3826D-07	1.2500D-03	1.5001D+07	2.5000D+07	5.0001D-11
3.0000D-08	1.1733D+02	2.0788D+01	1.2473D+01	2.9847D+02	1.0370D-07	1.2500D-03	2.0001D+07	3.3333D+07	3.7501D-11
2.0000D-08	1.1733D+02	2.0787D+01	1.2473D+01	3.0184D+02	6.9131D-08	1.2500D-03	3.0001D+07	5.0000D+07	2.5000D-11
1.0000D-08	1.1733D+02	2.0787D+01	1.2473D+01	3.0760D+02	3.4565D-08	1.2500D-03	6.0002D+07	1.0000D+08	1.2500D-11
9.0000D-09	1.1733D+02	2.0787D+01	1.2472D+01	3.0848D+02	3.1109D-08	1.2500D-03	6.6669D+07	1.1111D+08	1.1250D-11
8.0000D-09	1.1733D+02	2.0787D+01	1.2472D+01	3.0946D+02	2.7652D-08	1.2500D-03	7.5002D+07	1.2500D+08	1.0000D-11
7.0000D-09	1.1733D+02	2.0787D+01	1.2472D+01	3.1057D+02	2.4196D-08	1.2500D-03	8.5717D+07	1.4286D+08	8.7500D-12
6.0000D-09	1.1733D+02	2.0787D+01	1.2472D+01	3.1185D+02	2.0739D-08	1.2500D-03	1.0000D+08	1.6667D+08	7.5000D-12
5.0000D-09	1.1733D+02	2.0787D+01	1.2472D+01	3.1336D+02	1.7283D-08	1.2500D-03	1.2000D+08	2.0000D+08	6.2500D-12
4.0000D-09	1.1733D+02	2.0787D+01	1.2472D+01	3.1522D+02	1.3826D-08	1.2500D-03	1.5000D+08	2.5000D+08	5.0000D-12
3.0000D-09	1.1733D+02	2.0787D+01	1.2472D+01	3.1761D+02	1.0370D-08	1.2500D-03	2.0000D+08	3.3333D+08	3.7500D-12
2.0000D-09	1.1733D+02	2.0787D+01	1.2472D+01	3.2098D+02	6.9131D-09	1.2500D-03	3.0001D+08	5.0000D+08	2.5000D-12
1.0000D-09	1.1733D+02	2.0786D+01	1.2472D+01	3.2675D+02	3.4565D-09	1.2500D-03	6.0001D+08	1.0000D+09	1.2500D-12
9.0000D-10	1.1733D+02	2.0786D+01	1.2472D+01	3.2762D+02	3.1109D-09	1.2500D-03	6.6668D+08	1.1111D+09	1.1250D-12
8.0000D-10	1.1733D+02	2.0786D+01	1.2472D+01	3.2860D+02	2.7652D-09	1.2500D-03	7.5001D+08	1.2500D+09	1.0000D-12

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 800.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (K-1)	BETA S (MPa-1)	BETA T (MPa-1)	GAMMA V (MPa/K)
7.0000D-10	1.1733D+02	2.0786D+01	1.2472D+01	3.2971D+02	2.4196D-09	1.2500D-03	8.5716D+08	1.4286D+09	8.7500D-13
6.0000D-10	1.1733D+02	2.0786D+01	1.2472D+01	3.3099D+02	2.0739D-09	1.2500D-03	1.0000D+09	1.6667D+09	7.5000D-13
5.0000D-10	1.1733D+02	2.0786D+01	1.2472D+01	3.3251D+02	1.7283D-09	1.2500D-03	1.2000D+09	2.0000D+09	6.2500D-13
4.0000D-10	1.1733D+02	2.0786D+01	1.2472D+01	3.3436D+02	1.3826D-09	1.2500D-03	1.5000D+09	2.5000D+09	5.0000D-13
3.0000D-10	1.1733D+02	2.0786D+01	1.2472D+01	3.3676D+02	1.0370D-09	1.2500D-03	2.0000D+09	3.3333D+09	3.7500D-13
2.0000D-10	1.1733D+02	2.0786D+01	1.2472D+01	3.4013D+02	6.9131D-10	1.2500D-03	3.0001D+09	5.0000D+09	2.5000D-13
1.0000D-10	1.1733D+02	2.0786D+01	1.2472D+01	3.4589D+02	3.4565D-10	1.2500D-03	6.0001D+09	1.0000D+10	1.2500D-13
9.0000D-11	1.1733D+02	2.0786D+01	1.2472D+01	3.4677D+02	3.1109D-10	1.2500D-03	6.6668D+09	1.1111D+10	1.1250D-13
8.0000D-11	1.1733D+02	2.0786D+01	1.2472D+01	3.4775D+02	2.7652D-10	1.2500D-03	7.5001D+09	1.2500D+10	1.0000D-13
7.0000D-11	1.1733D+02	2.0786D+01	1.2472D+01	3.4886D+02	2.4196D-10	1.2500D-03	8.5716D+09	1.4286D+10	8.7500D-14
6.0000D-11	1.1733D+02	2.0786D+01	1.2472D+01	3.5014D+02	2.0739D-10	1.2500D-03	1.0000D+10	1.6667D+10	7.5000D-14
5.0000D-11	1.1733D+02	2.0786D+01	1.2472D+01	3.5165D+02	1.7283D-10	1.2500D-03	1.2000D+10	2.0000D+10	6.2500D-14
4.0000D-11	1.1733D+02	2.0786D+01	1.2472D+01	3.5351D+02	1.3826D-10	1.2500D-03	1.5000D+10	2.5000D+10	5.0000D-14
3.0000D-11	1.1733D+02	2.0786D+01	1.2472D+01	3.5590D+02	1.0370D-10	1.2500D-03	2.0000D+10	3.3333D+10	3.7500D-14
2.0000D-11	1.1733D+02	2.0786D+01	1.2472D+01	3.5927D+02	6.9131D-11	1.2500D-03	3.0001D+10	5.0000D+10	2.5000D-14
1.0000D-11	1.1733D+02	2.0786D+01	1.2472D+01	3.6503D+02	3.4565D-11	1.2500D-03	6.0001D+10	1.0000D+11	1.2500D-14

SUPERHEATED VAPOR PROPERTIES AT T = 800.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
4.9346D-03	5.0303D+00	1.8824D+00	1.3498D+00	9.3831D+00	1.7671D-06	1.5507D-03	1.4834D+02	2.0686D+02	7.4962D-06
3.9477D-03	5.0441D+00	1.7072D+00	1.2076D+00	9.4795D+00	1.4077D-06	1.4958D-03	1.8223D+02	2.5761D+02	5.8062D-06
2.9608D-03	5.0584D+00	1.5224D+00	1.0566D+00	9.5997D+00	1.0512D-06	1.4384D-03	2.3745D+02	3.4215D+02	4.2041D-06
1.9738D-03	5.0730D+00	1.3275D+00	8.9587D-01	9.7630D+00	6.9769D-07	1.3784D-03	3.4493D+02	5.1112D+02	2.6969D-06
9.8692D-04	5.0880D+00	1.1216D+00	7.2481D-01	1.0031D+01	3.4726D-07	1.3157D-03	6.5773D+02	1.0178D+03	1.2926D-06
8.8823D-04	5.0895D+00	1.1004D+00	7.0710D-01	1.0071D+01	3.1239D-07	1.3093D-03	7.2638D+02	1.1304D+03	1.1582D-06
7.8954D-04	5.0911D+00	1.0791D+00	6.8927D-01	1.0115D+01	2.7755D-07	1.3028D-03	8.1197D+02	1.2712D+03	1.0249D-06
6.9085D-04	5.0926D+00	1.0577D+00	6.7134D-01	1.0165D+01	2.4275D-07	1.2963D-03	9.2173D+02	1.4521D+03	8.9269D-07
5.9215D-04	5.0941D+00	1.0361D+00	6.5328D-01	1.0223D+01	2.0797D-07	1.2898D-03	1.0677D+03	1.6934D+03	7.6166D-07
4.9346D-04	5.0957D+00	1.0144D+00	6.3511D-01	1.0290D+01	1.7323D-07	1.2832D-03	1.2717D+03	2.0311D+03	6.3177D-07
3.9477D-04	5.0972D+00	9.9258D-01	6.1682D-01	1.0373D+01	1.3852D-07	1.2766D-03	1.5771D+03	2.5378D+03	5.0305D-07
2.9608D-04	5.0988D+00	9.7065D-01	5.9842D-01	1.0478D+01	1.0384D-07	1.2700D-03	2.0851D+03	3.3822D+03	3.7551D-07
1.9738D-04	5.1003D+00	9.4859D-01	5.7989D-01	1.0627D+01	6.9196D-08	1.2634D-03	3.0999D+03	5.0709D+03	2.4914D-07
9.8692D-05	5.1019D+00	9.2641D-01	5.6124D-01	1.0879D+01	3.4582D-08	1.2567D-03	6.1414D+03	1.0137D+04	1.2397D-07
8.8823D-05	5.1021D+00	9.2419D-01	5.5937D-01	1.0918D+01	3.1122D-08	1.2560D-03	6.8170D+03	1.1263D+04	1.1152D-07
7.8954D-05	5.1022D+00	9.2196D-01	5.5750D-01	1.0960D+01	2.7663D-08	1.2554D-03	7.6616D+03	1.2670D+04	9.9079D-08
6.9085D-05	5.1024D+00	9.1974D-01	5.5563D-01	1.1009D+01	2.4204D-08	1.2547D-03	8.7474D+03	1.4480D+04	8.6652D-08
5.9215D-05	5.1025D+00	9.1751D-01	5.5375D-01	1.1065D+01	2.0745D-08	1.2540D-03	1.0195D+04	1.6892D+04	7.4237D-08
4.9346D-05	5.1027D+00	9.1528D-01	5.5188D-01	1.1131D+01	1.7287D-08	1.2534D-03	1.2222D+04	2.0270D+04	6.1834D-08
3.9477D-05	5.1028D+00	9.1305D-01	5.5000D-01	1.1212D+01	1.3829D-08	1.2527D-03	1.5262D+04	2.5336D+04	4.9443D-08
2.9608D-05	5.1030D+00	9.1081D-01	5.4812D-01	1.1316D+01	1.0371D-08	1.2520D-03	2.0328D+04	3.3780D+04	3.7064D-08
1.9738D-05	5.1031D+00	9.0858D-01	5.4624D-01	1.1463D+01	6.9137D-09	1.2513D-03	3.0461D+04	5.0667D+04	2.4697D-08
9.8692D-06	5.1033D+00	9.0635D-01	5.4436D-01	1.1714D+01	3.4567D-09	1.2507D-03	6.0859D+04	1.0133D+05	1.2343D-08
8.8823D-06	5.1033D+00	9.0612D-01	5.4417D-01	1.1752D+01	3.1110D-09	1.2506D-03	6.7615D+04	1.1259D+05	1.1108D-08
7.8954D-06	5.1033D+00	9.0590D-01	5.4398D-01	1.1794D+01	2.7653D-09	1.2505D-03	7.6058D+04	1.2666D+05	9.8731D-09
6.9085D-06	5.1034D+00	9.0568D-01	5.4379D-01	1.1843D+01	2.4197D-09	1.2505D-03	8.6915D+04	1.4475D+05	8.6386D-09

SUPERHEATED VAPOR PROPERTIES AT T = 800.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
5.9215D-06	5.1034D+00	9.0545D-01	5.4361D-01	1.1898D+01	2.0740D-09	1.2504D-03	1.0139D+05	1.6888D+05	7.4041D-09
4.9346D-06	5.1034D+00	9.0523D-01	5.4342D-01	1.1964D+01	1.7283D-09	1.2503D-03	1.2166D+05	2.0265D+05	6.1698D-09
3.9477D-06	5.1034D+00	9.0501D-01	5.4323D-01	1.2045D+01	1.3826D-09	1.2503D-03	1.5205D+05	2.5332D+05	4.9356D-09
2.9608D-06	5.1034D+00	9.0478D-01	5.4304D-01	1.2149D+01	1.0370D-09	1.2502D-03	2.0272D+05	3.3775D+05	3.7015D-09
1.9738D-06	5.1034D+00	9.0456D-01	5.4285D-01	1.2296D+01	6.9131D-10	1.2501D-03	3.0404D+05	5.0663D+05	2.4676D-09
9.8692D-07	5.1034D+00	9.0433D-01	5.4267D-01	1.2546D+01	3.4565D-10	1.2501D-03	6.0803D+05	1.0133D+06	1.2337D-09
8.8823D-07	5.1034D+00	9.0431D-01	5.4265D-01	1.2585D+01	3.1109D-10	1.2501D-03	6.7558D+05	1.1258D+06	1.1103D-09
7.8954D-07	5.1034D+00	9.0429D-01	5.4263D-01	1.2627D+01	2.7652D-10	1.2501D-03	7.6002D+05	1.2666D+06	9.8696D-10
6.9085D-07	5.1035D+00	9.0427D-01	5.4261D-01	1.2675D+01	2.4196D-10	1.2500D-03	8.6858D+05	1.4475D+06	8.6359D-10
5.9215D-07	5.1035D+00	9.0424D-01	5.4259D-01	1.2731D+01	2.0739D-10	1.2500D-03	1.0133D+06	1.6888D+06	7.4021D-10
4.9346D-07	5.1035D+00	9.0422D-01	5.4257D-01	1.2797D+01	1.7283D-10	1.2500D-03	1.2160D+06	2.0265D+06	6.1684D-10
3.9477D-07	5.1035D+00	9.0420D-01	5.4255D-01	1.2878D+01	1.3826D-10	1.2500D-03	1.5200D+06	2.5331D+06	4.9347D-10
2.9608D-07	5.1035D+00	9.0418D-01	5.4253D-01	1.2982D+01	1.0370D-10	1.2500D-03	2.0266D+06	3.3775D+06	3.7010D-10
1.9738D-07	5.1035D+00	9.0416D-01	5.4251D-01	1.3129D+01	6.9131D-11	1.2500D-03	3.0399D+06	5.0663D+06	2.4673D-10
9.8692D-08	5.1035D+00	9.0413D-01	5.4250D-01	1.3379D+01	3.4565D-11	1.2500D-03	6.0797D+06	1.0133D+07	1.2337D-10
8.8823D-08	5.1035D+00	9.0413D-01	5.4249D-01	1.3417D+01	3.1109D-11	1.2500D-03	6.7552D+06	1.1258D+07	1.1103D-10
7.8954D-08	5.1035D+00	9.0413D-01	5.4249D-01	1.3460D+01	2.7652D-11	1.2500D-03	7.5996D+06	1.2666D+07	9.8693D-11
6.9085D-08	5.1035D+00	9.0413D-01	5.4249D-01	1.3508D+01	2.4196D-11	1.2500D-03	8.6852D+06	1.4475D+07	8.6356D-11
5.9215D-08	5.1035D+00	9.0412D-01	5.4249D-01	1.3564D+01	2.0739D-11	1.2500D-03	1.0133D+07	1.6888D+07	7.4019D-11
4.9346D-08	5.1035D+00	9.0412D-01	5.4249D-01	1.3630D+01	1.7283D-11	1.2500D-03	1.2159D+07	2.0265D+07	6.1683D-11
3.9477D-08	5.1035D+00	9.0412D-01	5.4248D-01	1.3711D+01	1.3826D-11	1.2500D-03	1.5199D+07	2.5331D+07	4.9346D-11
2.9608D-08	5.1035D+00	9.0412D-01	5.4248D-01	1.3815D+01	1.0370D-11	1.2500D-03	2.0265D+07	3.3775D+07	3.7010D-11
1.9738D-08	5.1035D+00	9.0411D-01	5.4248D-01	1.3961D+01	6.9131D-12	1.2500D-03	3.0398D+07	5.0662D+07	2.4673D-11
9.8692D-09	5.1035D+00	9.0411D-01	5.4248D-01	1.4212D+01	3.4565D-12	1.2500D-03	6.0796D+07	1.0132D+08	1.2337D-11
8.8823D-09	5.1035D+00	9.0411D-01	5.4248D-01	1.4250D+01	3.1109D-12	1.2500D-03	6.7551D+07	1.1258D+08	1.1103D-11
7.8954D-09	5.1035D+00	9.0411D-01	5.4248D-01	1.4293D+01	2.7652D-12	1.2500D-03	7.5995D+07	1.2666D+08	9.8692D-12

SUPERHEATED VAPOR PROPERTIES AT T = 800.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHA P (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMA V (ATM/K)
6.9085D-09	5.1035D+00	9.0411D-01	5.4248D-01	1.4341D+01	2.4196D-12	1.2500D-03	8.6852D+07	1.4475D+08	8.6356D-12
5.9215D-09	5.1035D+00	9.0411D-01	5.4248D-01	1.4397D+01	2.0739D-12	1.2500D-03	1.0133D+08	1.6887D+08	7.4019D-12
4.9346D-09	5.1035D+00	9.0411D-01	5.4248D-01	1.4463D+01	1.7283D-12	1.2500D-03	1.2159D+08	2.0265D+08	6.1683D-12
3.9477D-09	5.1035D+00	9.0411D-01	5.4248D-01	1.4543D+01	1.3826D-12	1.2500D-03	1.5199D+08	2.5331D+08	4.9346D-12
2.9608D-09	5.1035D+00	9.0411D-01	5.4248D-01	1.4647D+01	1.0370D-12	1.2500D-03	2.0265D+08	3.3775D+08	3.7010D-12
1.9738D-09	5.1035D+00	9.0411D-01	5.4248D-01	1.4794D+01	6.9131D-13	1.2500D-03	3.0398D+08	5.0662D+08	2.4673D-12
9.8692D-10	5.1035D+00	9.0411D-01	5.4248D-01	1.5045D+01	3.4565D-13	1.2500D-03	6.0796D+08	1.0132D+09	1.2337D-12
8.8823D-10	5.1035D+00	9.0411D-01	5.4248D-01	1.5083D+01	3.1109D-13	1.2500D-03	6.7551D+08	1.1258D+09	1.1103D-12
7.8954D-10	5.1035D+00	9.0411D-01	5.4248D-01	1.5125D+01	2.7652D-13	1.2500D-03	7.5995D+08	1.2666D+09	9.8692D-13
6.9085D-10	5.1035D+00	9.0411D-01	5.4248D-01	1.5174D+01	2.4196D-13	1.2500D-03	8.6852D+08	1.4475D+09	8.6356D-13
5.9215D-10	5.1035D+00	9.0411D-01	5.4248D-01	1.5229D+01	2.0739D-13	1.2500D-03	1.0133D+09	1.6887D+09	7.4019D-13
4.9346D-10	5.1035D+00	9.0411D-01	5.4248D-01	1.5295D+01	1.7283D-13	1.2500D-03	1.2159D+09	2.0265D+09	6.1683D-13
3.9477D-10	5.1035D+00	9.0411D-01	5.4248D-01	1.5376D+01	1.3826D-13	1.2500D-03	1.5199D+09	2.5331D+09	4.9346D-13
2.9608D-10	5.1035D+00	9.0411D-01	5.4248D-01	1.5480D+01	1.0370D-13	1.2500D-03	2.0265D+09	3.3775D+09	3.7010D-13
1.9738D-10	5.1035D+00	9.0411D-01	5.4248D-01	1.5627D+01	6.9131D-14	1.2500D-03	3.0398D+09	5.0662D+09	2.4673D-13
9.8692D-11	5.1035D+00	9.0411D-01	5.4248D-01	1.5877D+01	3.4565D-14	1.2500D-03	6.0796D+09	1.0132D+10	1.2337D-13

SUPERHEATED SODIUM VAPOE PROPERTIES AT T= 900.0K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMA V (MPA/K)
2.0000D-03	1.1755D+02	4.0302D+01	2.8212D+01	2.0674D+02	6.2978D-03	1.3726D-03	3.5802D+02	5.1145D+02	2.6837D-06
1.0000D-03	1.1845D+02	3.1274D+01	2.1016D+01	2.1340D+02	3.1116D-03	1.2500D-03	6.8015D+02	1.0122D+03	1.2349D-06
9.0000D-04	1.1854D+02	3.0296D+01	2.0227D+01	2.1437D+02	2.7970D-03	1.2368D-03	7.5000D+02	1.1233D+03	1.1010D-06
8.0000D-04	1.1864D+02	2.9302D+01	1.9425D+01	2.1544D+02	2.4832D-03	1.2236D-03	8.3679D+02	1.2623D+03	9.6932D-07
7.0000D-04	1.1873D+02	2.8294D+01	1.8608D+01	2.1665D+02	2.1701D-03	1.2101D-03	9.4767D+02	1.4410D+03	8.3981D-07
6.0000D-04	1.1883D+02	2.7270D+01	1.7777D+01	2.1802D+02	1.8577D-03	1.1965D-03	1.0946D+03	1.6791D+03	7.1259D-07
5.0000D-04	1.1892D+02	2.6231D+01	1.6932D+01	2.1963D+02	1.5461D-03	1.1827D-03	1.2991D+03	2.0125D+03	5.8768D-07
4.0000D-04	1.1902D+02	2.5175D+01	1.6071D+01	2.2159D+02	1.2353D-03	1.1688D-03	1.6040D+03	2.5126D+03	4.6516D-07
3.0000D-04	1.1912D+02	2.4103D+01	1.5195D+01	2.2408D+02	9.2533D-04	1.1546D-03	2.1095D+03	3.3460D+03	3.4508D-07
2.0000D-04	1.1921D+02	2.3015D+01	1.4304D+01	2.2755D+02	6.1609D-04	1.1403D-03	3.1155D+03	5.0128D+03	2.2748D-07
1.0000D-04	1.1931D+02	2.1909D+01	1.3396D+01	2.3341D+02	3.0765D-04	1.1258D-03	6.1223D+03	1.0013D+04	1.1244D-07
9.0000D-05	1.1932D+02	2.1798D+01	1.3305D+01	2.3429D+02	2.7685D-04	1.1243D-03	6.7897D+03	1.1124D+04	1.0107D-07
8.0000D-05	1.1933D+02	2.1686D+01	1.3213D+01	2.3528D+02	2.4605D-04	1.1229D-03	7.6238D+03	1.2513D+04	8.9738D-08
7.0000D-05	1.1934D+02	2.1574D+01	1.3121D+01	2.3640D+02	2.1527D-04	1.1214D-03	8.6959D+03	1.4299D+04	7.8429D-08
6.0000D-05	1.1935D+02	2.1462D+01	1.3029D+01	2.3769D+02	1.8449D-04	1.1200D-03	1.0125D+04	1.6680D+04	6.7145D-08
5.0000D-05	1.1936D+02	2.1350D+01	1.2936D+01	2.3922D+02	1.5372D-04	1.1185D-03	1.2126D+04	2.0013D+04	5.5888D-08
4.0000D-05	1.1937D+02	2.1238D+01	1.2844D+01	2.4109D+02	1.2296D-04	1.1170D-03	1.5127D+04	2.5013D+04	4.4657D-08
3.0000D-05	1.1938D+02	2.1125D+01	1.2751D+01	2.4349D+02	9.2210D-05	1.1155D-03	2.0128D+04	3.3346D+04	3.3453D-08
2.0000D-05	1.1939D+02	2.1012D+01	1.2658D+01	2.4687D+02	6.1466D-05	1.1141D-03	3.0129D+04	5.0013D+04	2.2276D-08
1.0000D-05	1.1940D+02	2.0899D+01	1.2565D+01	2.5264D+02	3.0729D-05	1.1126D-03	6.0130D+04	1.0001D+05	1.1124D-08
9.0000D-06	1.1940D+02	2.0888D+01	1.2556D+01	2.5352D+02	2.7656D-05	1.1124D-03	6.6797D+04	1.1112D+05	1.0011D-08
8.0000D-06	1.1940D+02	2.0877D+01	1.2547D+01	2.5450D+02	2.4582D-05	1.1123D-03	7.5131D+04	1.2501D+05	8.8974D-09
7.0000D-06	1.1941D+02	2.0866D+01	1.2537D+01	2.5561D+02	2.1509D-05	1.1121D-03	8.5845D+04	1.4287D+05	7.7843D-09
6.0000D-06	1.1941D+02	2.0854D+01	1.2528D+01	2.5689D+02	1.8436D-05	1.1120D-03	1.0013D+05	1.6668D+05	6.6715D-09
5.0000D-06	1.1941D+02	2.0843D+01	1.2519D+01	2.5841D+02	1.5363D-05	1.1119D-03	1.2013D+05	2.0001D+05	5.5589D-09
4.0000D-06	1.1941D+02	2.0832D+01	1.2509D+01	2.6027D+02	1.2291D-05	1.1117D-03	1.5013D+05	2.5001D+05	4.4466D-09

SUPERHEATED SODIUM VAPOUR PROPERTIES AT T= 900.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
3.0000D-06	1.1941D+02	2.0820D+01	1.2500D+01	2.6266D+02	9.2178D-06	1.1116D-03	2.0013D+05	3.3335D+05	3.3345D-09
2.0000D-06	1.1941D+02	2.0809D+01	1.2491D+01	2.6603D+02	6.1451D-06	1.1114D-03	3.0014D+05	5.0001D+05	2.2228D-09
1.0000D-06	1.1941D+02	2.0798D+01	1.2481D+01	2.7180D+02	3.0725D-06	1.1113D-03	6.0014D+05	1.0000D+06	1.1112D-09
9.0000D-07	1.1941D+02	2.0797D+01	1.2480D+01	2.7267D+02	2.7653D-06	1.1112D-03	6.6681D+05	1.1111D+06	1.0001D-09
8.0000D-07	1.1941D+02	2.0795D+01	1.2480D+01	2.7365D+02	2.4580D-06	1.1112D-03	7.5014D+05	1.2500D+06	8.8897D-10
7.0000D-07	1.1941D+02	2.0794D+01	1.2479D+01	2.7476D+02	2.1508D-06	1.1112D-03	8.5729D+05	1.4286D+06	7.7784D-10
6.0000D-07	1.1941D+02	2.0793D+01	1.2478D+01	2.7604D+02	1.8435D-06	1.1112D-03	1.0002D+06	1.6667D+06	6.6671D-10
5.0000D-07	1.1941D+02	2.0792D+01	1.2477D+01	2.7756D+02	1.5362D-06	1.1112D-03	1.2002D+06	2.0000D+06	5.5559D-10
4.0000D-07	1.1941D+02	2.0791D+01	1.2476D+01	2.7941D+02	1.2290D-06	1.1112D-03	1.5002D+06	2.5000D+06	4.4447D-10
3.0000D-07	1.1941D+02	2.0790D+01	1.2475D+01	2.8181D+02	9.2175D-07	1.1112D-03	2.0002D+06	3.3333D+06	3.3335D-10
2.0000D-07	1.1941D+02	2.0789D+01	1.2474D+01	2.8518D+02	6.1450D-07	1.1111D-03	3.0002D+06	5.0000D+06	2.2223D-10
1.0000D-07	1.1941D+02	2.0788D+01	1.2473D+01	2.9094D+02	3.0725D-07	1.1111D-03	6.0002D+06	1.0000D+07	1.1111D-10
9.0000D-08	1.1941D+02	2.0787D+01	1.2473D+01	2.9182D+02	2.7652D-07	1.1111D-03	6.6669D+06	1.1111D+07	1.0000D-10
8.0000D-08	1.1941D+02	2.0787D+01	1.2473D+01	2.9280D+02	2.4580D-07	1.1111D-03	7.5003D+06	1.2500D+07	8.8890D-11
7.0000D-08	1.1941D+02	2.0787D+01	1.2473D+01	2.9391D+02	2.1507D-07	1.1111D-03	8.5717D+06	1.4286D+07	7.778D-11
6.0000D-08	1.1941D+02	2.0787D+01	1.2473D+01	2.9519D+02	1.8435D-07	1.1111D-03	1.0000D+07	1.6667D+07	6.6667D-11
5.0000D-08	1.1941D+02	2.0787D+01	1.2473D+01	2.9670D+02	1.5362D-07	1.1111D-03	1.2000D+07	2.0000D+07	5.5556D-11
4.0000D-08	1.1941D+02	2.0787D+01	1.2472D+01	2.9856D+02	1.2290D-07	1.1111D-03	1.5000D+07	2.5000D+07	4.4445D-11
3.0000D-08	1.1941D+02	2.0787D+01	1.2472D+01	3.0095D+02	9.2174D-08	1.1111D-03	2.0001D+07	3.3333D+07	3.3333D-11
2.0000D-08	1.1941D+02	2.0787D+01	1.2472D+01	3.0432D+02	6.1449D-08	1.1111D-03	3.0001D+07	5.0000D+07	2.2222D-11
1.0000D-08	1.1941D+02	2.0787D+01	1.2472D+01	3.1009D+02	3.0725D-08	1.1111D-03	6.0001D+07	1.0000D+08	1.1111D-11
9.0000D-09	1.1941D+02	2.0787D+01	1.2472D+01	3.1096D+02	2.7652D-08	1.1111D-03	6.6668D+07	1.1111D+08	1.0000D-11
8.0000D-09	1.1941D+02	2.0787D+01	1.2472D+01	3.1194D+02	2.4580D-08	1.1111D-03	7.5002D+07	1.2500D+08	8.8889D-12
7.0000D-09	1.1941D+02	2.0786D+01	1.2472D+01	3.1305D+02	2.1507D-08	1.1111D-03	8.5716D+07	1.4286D+08	7.778D-12
6.0000D-09	1.1941D+02	2.0786D+01	1.2472D+01	3.1433D+02	1.8435D-08	1.1111D-03	1.0000D+08	1.6667D+08	6.6667D-12
5.0000D-09	1.1941D+02	2.0786D+01	1.2472D+01	3.1585D+02	1.5362D-08	1.1111D-03	1.2000D+08	2.0000D+08	5.5556D-12

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 900.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
4.0000D-09	1.1941D+02	2.0786D+01	1.2472D+01	3.1770D+02	1.2290D-08	1.1111D-03	1.5000D+08	2.5000D+08	4.4444D-12
3.0000D-09	1.1941D+02	2.0786D+01	1.2472D+01	3.2010D+02	9.2174D-09	1.1111D-03	2.0000D+08	3.3333D+08	3.3333D-12
2.0000D-09	1.1941D+02	2.0786D+01	1.2472D+01	3.2347D+02	6.1449D-09	1.1111D-03	3.0001D+08	5.0000D+08	2.2222D-12
1.0000D-09	1.1941D+02	2.0786D+01	1.2472D+01	3.2923D+02	3.0725D-09	1.1111D-03	6.0001D+08	1.0000D+09	1.1111D-12
9.0000D-10	1.1941D+02	2.0786D+01	1.2472D+01	3.3011D+02	2.7652D-09	1.1111D-03	6.6668D+08	1.1111D+09	1.0000D-12
8.0000D-10	1.1941D+02	2.0786D+01	1.2472D+01	3.3109D+02	2.4580D-09	1.1111D-03	7.5001D+08	1.2500D+09	8.8889D-13
7.0000D-10	1.1941D+02	2.0786D+01	1.2472D+01	3.3220D+02	2.1507D-09	1.1111D-03	8.5716D+08	1.4286D+09	7.7778D-13
6.0000D-10	1.1941D+02	2.0786D+01	1.2472D+01	3.3348D+02	1.8435D-09	1.1111D-03	1.0000D+09	1.6667D+09	6.6667D-13
5.0000D-10	1.1941D+02	2.0786D+01	1.2472D+01	3.3499D+02	1.5362D-09	1.1111D-03	1.2000D+09	2.0000D+09	5.5556D-13
4.0000D-10	1.1941D+02	2.0786D+01	1.2472D+01	3.3685D+02	1.2290D-09	1.1111D-03	1.5000D+09	2.5000D+09	4.4444D-13
3.0000D-10	1.1941D+02	2.0786D+01	1.2472D+01	3.3924D+02	9.2174D-10	1.1111D-03	2.0000D+09	3.3333D+09	3.3333D-13
2.0000D-10	1.1941D+02	2.0786D+01	1.2472D+01	3.4261D+02	6.1449D-10	1.1111D-03	3.0001D+09	5.0000D+09	2.2222D-13
1.0000D-10	1.1941D+02	2.0786D+01	1.2472D+01	3.4837D+02	3.0725D-10	1.1111D-03	6.0001D+09	1.0000D+10	1.1111D-13
9.0000D-11	1.1941D+02	2.0786D+01	1.2472D+01	3.4925D+02	2.7652D-10	1.1111D-03	6.6668D+09	1.1111D+10	1.0000D-13
8.0000D-11	1.1941D+02	2.0786D+01	1.2472D+01	3.5023D+02	2.4580D-10	1.1111D-03	7.5001D+09	1.2500D+10	8.8889D-14
7.0000D-11	1.1941D+02	2.0786D+01	1.2472D+01	3.5134D+02	2.1507D-10	1.1111D-03	8.5716D+09	1.4286D+10	7.7778D-14
6.0000D-11	1.1941D+02	2.0786D+01	1.2472D+01	3.5262D+02	1.8435D-10	1.1111D-03	1.0000D+10	1.6667D+10	6.6667D-14
5.0000D-11	1.1941D+02	2.0786D+01	1.2472D+01	3.5414D+02	1.5362D-10	1.1111D-03	1.2000D+10	2.0000D+10	5.5556D-14
4.0000D-11	1.1941D+02	2.0786D+01	1.2472D+01	3.5599D+02	1.2290D-10	1.1111D-03	1.5000D+10	2.5000D+10	4.4444D-14
3.0000D-11	1.1941D+02	2.0786D+01	1.2472D+01	3.5838D+02	9.2174D-11	1.1111D-03	2.0000D+10	3.3333D+10	3.3333D-14
2.0000D-11	1.1941D+02	2.0786D+01	1.2472D+01	3.6176D+02	6.1449D-11	1.1111D-03	3.0001D+10	5.0000D+10	2.2222D-14
1.0000D-11	1.1941D+02	2.0786D+01	1.2472D+01	3.6752D+02	3.0725D-11	1.1111D-03	6.0001D+10	1.0000D+11	1.1111D-14

SUPERHEATED VAPOR PROPERTIES AT T = 900.0K

F (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
1.9738D-02	5.1130D+00	1.7530D+00	1.2271D+00	8.9924D+00	6.2978D-06	1.3726D-03	3.6276D+01	5.1823D+01	2.6486D-05
5.8692D-03	5.1520D+00	1.3603D+00	9.1409D-01	9.2818D+00	3.1116D-06	1.2500D-03	6.8917D+01	1.0256D+02	1.2188D-05
8.8823D-03	5.1560D+00	1.3177D+00	8.7978D-01	9.3240D+00	2.7970D-06	1.2368D-03	7.5994D+01	1.1382D+02	1.0866D-05
7.8954D-03	5.1601D+00	1.2745D+00	8.4488D-01	9.3707D+00	2.4832D-06	1.2236D-03	8.4787D+01	1.2790D+02	9.5664D-06
6.9085D-03	5.1642D+00	1.2307D+00	8.0937D-01	9.4231D+00	2.1701D-06	1.2101D-03	9.6023D+01	1.4600D+02	8.2883D-06
5.9215D-03	5.1683D+00	1.1861D+00	7.7323D-01	9.4829D+00	1.8577D-06	1.1965D-03	1.1091D+02	1.7014D+02	7.0327D-06
4.9346D-03	5.1725D+00	1.1409D+00	7.3645D-01	9.5530D+00	1.5461D-06	1.1827D-03	1.3163D+02	2.0392D+02	5.8000D-06
3.9477D-03	5.1767D+00	1.0950D+00	6.9903D-01	9.6380D+00	1.2353D-06	1.1688D-03	1.6253D+02	2.5459D+02	4.5908D-06
2.9608D-03	5.1810D+00	1.0484D+00	6.6093D-01	9.7462D+00	9.2533D-07	1.1546D-03	2.1374D+02	3.3904D+02	3.4056D-06
1.9738D-03	5.1852D+00	1.0010D+00	6.2215D-01	9.8971D+00	6.1609D-07	1.1403D-03	3.1568D+02	5.0792D+02	2.2451D-06
9.8692D-04	5.1895D+00	9.5295D-01	5.8267D-01	1.0152D+01	3.0765D-07	1.1258D-03	6.2034D+02	1.0146D+03	1.1097D-06
8.8823D-04	5.1900D+00	9.4810D-01	5.7868D-01	1.0191D+01	2.7685D-07	1.1243D-03	6.8796D+02	1.1271D+03	9.9752D-07
7.8954D-04	5.1904D+00	9.4324D-01	5.7469D-01	1.0234D+01	2.4605D-07	1.1229D-03	7.7248D+02	1.2679D+03	8.8565D-07
6.9085D-04	5.1908D+00	9.3838D-01	5.7069D-01	1.0282D+01	2.1527D-07	1.1214D-03	8.8112D+02	1.4488D+03	7.7403D-07
5.9215D-04	5.1913D+00	9.3350D-01	5.6668D-01	1.0339D+01	1.8449D-07	1.1200D-03	1.0259D+03	1.6901D+03	6.6267D-07
4.9346D-04	5.1917D+00	9.2862D-01	5.6266D-01	1.0405D+01	1.5372D-07	1.1185D-03	1.2287D+03	2.0278D+03	5.5157D-07
3.9477D-04	5.1921D+00	9.2374D-01	5.5864D-01	1.0486D+01	1.2296D-07	1.1170D-03	1.5327D+03	2.5344D+03	4.4073D-07
2.9608D-04	5.1926D+00	9.1884D-01	5.5461D-01	1.0591D+01	9.2210D-08	1.1155D-03	2.0394D+03	3.3788D+03	3.3016D-07
1.9738D-04	5.1930D+00	9.1394D-01	5.5057D-01	1.0738D+01	6.1466D-08	1.1141D-03	3.0528D+03	5.0676D+03	2.1984D-07
5.8692D-05	5.1934D+00	9.0903D-01	5.4653D-01	1.0989D+01	3.0729D-08	1.1126D-03	6.0927D+03	1.0134D+04	1.0979D-07
8.8823D-05	5.1935D+00	9.0854D-01	5.4612D-01	1.1027D+01	2.7656D-08	1.1124D-03	6.7682D+03	1.1260D+04	9.8799D-08
7.8954D-05	5.1935D+00	9.0805D-01	5.4572D-01	1.1070D+01	2.4582D-08	1.1123D-03	7.6126D+03	1.2667D+04	8.7811D-08
6.9085D-05	5.1936D+00	9.0755D-01	5.4531D-01	1.1118D+01	2.1509D-08	1.1121D-03	8.6983D+03	1.4476D+04	7.6825D-08
5.9215D-05	5.1936D+00	9.0706D-01	5.4491D-01	1.1174D+01	1.8436D-08	1.1120D-03	1.0146D+04	1.6889D+04	6.5842D-08
4.9346D-05	5.1937D+00	9.0657D-01	5.4450D-01	1.1240D+01	1.5363D-08	1.1119D-03	1.2172D+04	2.0266D+04	5.4862D-08
3.9477D-05	5.1937D+00	9.0608D-01	5.4410D-01	1.1320D+01	1.2291D-08	1.1117D-03	1.5212D+04	2.5333D+04	4.3884D-08

SUPERHEATED VAPOR PROPERTIES AT T = 900.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
2.9608D-05	5.1937D+00	9.0559D-01	5.4369D-01	1.1424D+01	9.2178D-09	1.1116D-03	2.0279D+04	3.3776D+04	3.2909D-08
1.9738D-05	5.1938D+00	9.0510D-01	5.4329D-01	1.1571D+01	6.1451D-09	1.1114D-03	3.0411D+04	5.0664D+04	2.1937D-08
9.8692D-06	5.1938D+00	9.0460D-01	5.4288D-01	1.1822D+01	3.0725D-09	1.1113D-03	6.0809D+04	1.0133D+05	1.0967D-08
8.8823D-06	5.1938D+00	9.0455D-01	5.4284D-01	1.1860D+01	2.7653D-09	1.1112D-03	6.7564D+04	1.1258D+05	9.8703D-09
7.8954D-06	5.1938D+00	9.0450D-01	5.4280D-01	1.1903D+01	2.4580D-09	1.1112D-03	7.6008D+04	1.2666D+05	8.7735D-09
6.9085D-06	5.1938D+00	9.0446D-01	5.4276D-01	1.1951D+01	2.1508D-09	1.1112D-03	8.6865D+04	1.4475D+05	7.6767D-09
5.9215D-06	5.1938D+00	9.0441D-01	5.4272D-01	1.2007D+01	1.8435D-09	1.1112D-03	1.0134D+05	1.6888D+05	6.5800D-09
4.9346D-06	5.1939D+00	9.0436D-01	5.4268D-01	1.2073D+01	1.5362D-09	1.1112D-03	1.2161D+05	2.0265D+05	5.4832D-09
3.9477D-06	5.1939D+00	9.0431D-01	5.4264D-01	1.2153D+01	1.2290D-09	1.1112D-03	1.5200D+05	2.5331D+05	4.3865D-09
2.9608D-06	5.1939D+00	9.0426D-01	5.4260D-01	1.2257D+01	9.2175D-10	1.1112D-03	2.0267D+05	3.3775D+05	3.2899D-09
1.9738D-06	5.1939D+00	9.0421D-01	5.4256D-01	1.2404D+01	6.1450D-10	1.1111D-03	3.0399D+05	5.0663D+05	2.1932D-09
9.8692D-07	5.1939D+00	9.0416D-01	5.4252D-01	1.2655D+01	3.0725D-10	1.1111D-03	6.0797D+05	1.0133D+06	1.0966D-09
8.8823D-07	5.1939D+00	9.0416D-01	5.4251D-01	1.2693D+01	2.7652D-10	1.1111D-03	6.7553D+05	1.1258D+06	9.8693D-10
7.8954D-07	5.1939D+00	9.0415D-01	5.4251D-01	1.2735D+01	2.4580D-10	1.1111D-03	7.5997D+05	1.2666D+06	8.7727D-10
6.9085D-07	5.1939D+00	9.0415D-01	5.4251D-01	1.2784D+01	2.1507D-10	1.1111D-03	8.6853D+05	1.4475D+06	7.6761D-10
5.9215D-07	5.1939D+00	9.0414D-01	5.4250D-01	1.2839D+01	1.8435D-10	1.1111D-03	1.0133D+06	1.6888D+06	6.5795D-10
4.9346D-07	5.1939D+00	9.0414D-01	5.4250D-01	1.2905D+01	1.5362D-10	1.1111D-03	1.2159D+06	2.0265D+06	5.4829D-10
3.9477D-07	5.1939D+00	9.0413D-01	5.4249D-01	1.2986D+01	1.2290D-10	1.1111D-03	1.5199D+06	2.5331D+06	4.3863D-10
2.9608D-07	5.1939D+00	9.0413D-01	5.4249D-01	1.3090D+01	9.2174D-11	1.1111D-03	2.0266D+06	3.3775D+06	3.2898D-10
1.9738D-07	5.1939D+00	9.0412D-01	5.4249D-01	1.3237D+01	6.1449D-11	1.1111D-03	3.0398D+06	5.0663D+06	2.1932D-10
9.8692D-08	5.1939D+00	9.0412D-01	5.4248D-01	1.3487D+01	3.0725D-11	1.1111D-03	6.0796D+06	1.0132D+07	1.0966D-10
8.8823D-08	5.1939D+00	9.0412D-01	5.4248D-01	1.3525D+01	2.7652D-11	1.1111D-03	6.7551D+06	1.1258D+07	9.8692D-11
7.8954D-08	5.1939D+00	9.0412D-01	5.4248D-01	1.3568D+01	2.4580D-11	1.1111D-03	7.5995D+06	1.2666D+07	8.7727D-11
6.9085D-08	5.1939D+00	9.0411D-01	5.4248D-01	1.3616D+01	2.1507D-11	1.1111D-03	8.6852D+06	1.4475D+07	7.6761D-11
5.9215D-08	5.1939D+00	9.0411D-01	5.4248D-01	1.3672D+01	1.8435D-11	1.1111D-03	1.0133D+07	1.6887D+07	6.5795D-11
4.9346D-08	5.1939D+00	9.0411D-01	5.4248D-01	1.3738D+01	1.5362D-11	1.1111D-03	1.2159D+07	2.0265D+07	5.4829D-11

SUPERHEATED VAPOR PROPERTIES AT T = 900.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHA P (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMA V (ATM/K)
3.9477D-08	5.1939D+00	9.0411D-01	5.4248D-01	1.3819D+01	1.2290D-11	1.1111D-03	1.5199D+07	2.5331D+07	4.3863D-11
2.9608D-08	5.1939D+00	9.0411D-01	5.4248D-01	1.3923D+01	9.2174D-12	1.1111D-03	2.0265D+07	3.3775D+07	3.2897D-11
1.9738D-08	5.1939D+00	9.0411D-01	5.4248D-01	1.4069D+01	6.1449D-12	1.1111D-03	3.0398D+07	5.0662D+07	2.1932D-11
9.8692D-09	5.1939D+00	9.0411D-01	5.4248D-01	1.4320D+01	3.0725D-12	1.1111D-03	6.0796D+07	1.0132D+08	1.0966D-11
8.8823D-09	5.1939D+00	9.0411D-01	5.4248D-01	1.4358D+01	2.7652D-12	1.1111D-03	6.7551D+07	1.1258D+08	9.8692D-12
7.8954D-09	5.1939D+00	9.0411D-01	5.4248D-01	1.4401D+01	2.4580D-12	1.1111D-03	7.5995D+07	1.2666D+08	8.7727D-12
6.9085D-09	5.1939D+00	9.0411D-01	5.4248D-01	1.4449D+01	2.1507D-12	1.1111D-03	8.6852D+07	1.4475D+08	7.6761D-12
5.9215D-09	5.1939D+00	9.0411D-01	5.4248D-01	1.4505D+01	1.8435D-12	1.1111D-03	1.0133D+08	1.6887D+08	6.5795D-12
4.9346D-09	5.1939D+00	9.0411D-01	5.4248D-01	1.4571D+01	1.5362D-12	1.1111D-03	1.2159D+08	2.0265D+08	5.4829D-12
3.9477D-09	5.1939D+00	9.0411D-01	5.4248D-01	1.4651D+01	1.2290D-12	1.1111D-03	1.5199D+08	2.5331D+08	4.3863D-12
2.9608D-09	5.1939D+00	9.0411D-01	5.4248D-01	1.4755D+01	9.2174D-13	1.1111D-03	2.0265D+08	3.3775D+08	3.2897D-12
1.9738D-09	5.1939D+00	9.0411D-01	5.4248D-01	1.4902D+01	6.1449D-13	1.1111D-03	3.0398D+08	5.0662D+08	2.1932D-12
9.8692E-10	5.1939D+00	9.0411D-01	5.4248D-01	1.5153D+01	3.0725D-13	1.1111D-03	6.0796D+08	1.0132D+09	1.0966D-12
8.8823D-10	5.1939D+00	9.0411D-01	5.4248D-01	1.5191D+01	2.7652D-13	1.1111D-03	6.7551D+08	1.1258D+09	9.8692D-13
7.8954D-10	5.1939D+00	9.0411D-01	5.4248D-01	1.5233D+01	2.4580D-13	1.1111D-03	7.5995D+08	1.2666D+09	8.7727D-13
6.9085D-10	5.1939D+00	9.0411D-01	5.4248D-01	1.5282D+01	2.1507D-13	1.1111D-03	8.6852D+08	1.4475D+09	7.6761D-13
5.9215D-10	5.1939D+00	9.0411D-01	5.4248D-01	1.5337D+01	1.8435D-13	1.1111D-03	1.0133D+09	1.6887D+09	6.5795D-13
4.9346D-10	5.1939D+00	9.0411D-01	5.4248D-01	1.5403D+01	1.5362D-13	1.1111D-03	1.2159D+09	2.0265D+09	5.4829D-13
3.9477D-10	5.1939D+00	9.0411D-01	5.4248D-01	1.5484D+01	1.2290D-13	1.1111D-03	1.5199D+09	2.5331D+09	4.3863D-13
2.9608D-10	5.1939D+00	9.0411D-01	5.4248D-01	1.5588D+01	9.2174D-14	1.1111D-03	2.0265D+09	3.3775D+09	3.2897D-13
1.9738D-10	5.1939D+00	9.0411D-01	5.4248D-01	1.5735D+01	6.1449D-14	1.1111D-03	3.0398D+09	5.0662D+09	2.1932D-13
9.8692D-11	5.1939D+00	9.0411D-01	5.4248D-01	1.5985D+01	3.0725D-14	1.1111D-03	6.0796D+09	1.0132D+10	1.0966D-13

SUPERHEATED SODIUM VAPOE PROPERTIES AT T= 1000.0K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
1.0000D-02	1.1833D+02	4.6327D+01	3.2375D+01	1.9442D+02	2.8843D-02	1.3485D-03	7.2521D+01	1.0378D+02	1.2994D-05
9.0000D-03	1.1861D+02	4.4318D+01	3.0861D+01	1.9554D+02	2.5859D-02	1.3198D-03	8.0052D+01	1.1496D+02	1.1480D-05
8.0000D-03	1.1890D+02	4.2208D+01	2.9261D+01	1.9678D+02	2.2896D-02	1.2899D-03	8.9377D+01	1.2892D+02	1.0005D-05
7.0000D-03	1.1920D+02	3.9991D+01	2.7570D+01	1.9815D+02	1.9955D-02	1.2589D-03	1.0124D+02	1.4686D+02	8.5719D-06
6.0000D-03	1.1950D+02	3.7660D+01	2.5779D+01	1.9970D+02	1.7034D-02	1.2265D-03	1.1688D+02	1.7075D+02	7.1829D-06
5.0000D-03	1.1981D+02	3.5206D+01	2.3883D+01	2.0149D+02	1.4136D-02	1.1927D-03	1.3850D+02	2.0417D+02	5.8419D-06
4.0000D-03	1.2013D+02	3.2622D+01	2.1871D+01	2.0362D+02	1.1261D-02	1.1575D-03	1.7046D+02	2.5426D+02	4.5525D-06
3.0000D-03	1.2046D+02	2.9899D+01	1.9735D+01	2.0631D+02	8.4094D-03	1.1207D-03	2.2289D+02	3.3769D+02	3.3189D-06
2.0000D-03	1.2079D+02	2.7026D+01	1.7464D+01	2.0998D+02	5.5814D-03	1.0823D-03	3.2598D+02	5.0445D+02	2.1455D-06
1.0000D-03	1.2114D+02	2.3992D+01	1.5047D+01	2.1605D+02	2.7781D-03	1.0421D-03	6.3004D+02	1.0046D+03	1.0374D-06
9.0000D-04	1.2117D+02	2.3679D+01	1.4797D+01	2.1695D+02	2.4991D-03	1.0380D-03	6.9718D+02	1.1157D+03	9.3035D-07
8.0000D-04	1.2121D+02	2.3365D+01	1.4545D+01	2.1796D+02	2.2204D-03	1.0338D-03	7.8101D+02	1.2546D+03	8.2405D-07
7.0000D-04	1.2124D+02	2.3049D+01	1.4292D+01	2.1910D+02	1.9420D-03	1.0297D-03	8.8865D+02	1.4332D+03	7.1846D-07
6.0000D-04	1.2128D+02	2.2731D+01	1.4037D+01	2.2042D+02	1.6638D-03	1.0255D-03	1.0320D+03	1.6713D+03	6.1360D-07
5.0000D-04	1.2131D+02	2.2412D+01	1.3780D+01	2.2197D+02	1.3858D-03	1.0213D-03	1.2326D+03	2.0046D+03	5.0947D-07
4.0000D-04	1.2135D+02	2.2090D+01	1.3522D+01	2.2385D+02	1.1082D-03	1.0171D-03	1.5332D+03	2.5046D+03	4.0608D-07
3.0000D-04	1.2138D+02	2.1767D+01	1.3262D+01	2.2628D+02	8.3073D-04	1.0128D-03	2.0337D+03	3.3380D+03	3.0343D-07
2.0000D-04	1.2142D+02	2.1442D+01	1.3000D+01	2.2968D+02	5.5356D-04	1.0086D-03	3.0344D+03	5.0046D+03	2.0153D-07
1.0000D-04	1.2146D+02	2.1115D+01	1.2737D+01	2.3547D+02	2.7665D-04	1.0043D-03	6.0350D+03	1.0005D+04	1.0038D-07
9.0000D-05	1.2146D+02	2.1082D+01	1.2711D+01	2.3635D+02	2.4898D-04	1.0039D-03	6.7018D+03	1.1116D+04	9.0310D-08
8.0000D-05	1.2146D+02	2.1049D+01	1.2684D+01	2.3734D+02	2.2130D-04	1.0034D-03	7.5352D+03	1.2505D+04	8.0245D-08
7.0000D-05	1.2147D+02	2.1017D+01	1.2658D+01	2.3845D+02	1.9363D-04	1.0030D-03	8.6067D+03	1.4290D+04	7.0188D-08
6.0000D-05	1.2147D+02	2.0984D+01	1.2631D+01	2.3973D+02	1.6596D-04	1.0026D-03	1.0035D+04	1.6671D+04	6.0138D-08
5.0000D-05	1.2147D+02	2.0951D+01	1.2605D+01	2.4125D+02	1.3829D-04	1.0022D-03	1.2035D+04	2.0005D+04	5.0096D-08
4.0000D-05	1.2148D+02	2.0918D+01	1.2578D+01	2.4311D+02	1.1063D-04	1.0017D-03	1.5036D+04	2.5005D+04	4.0061D-08
3.0000D-05	1.2148D+02	2.0885D+01	1.2552D+01	2.4551D+02	8.2968D-05	1.0013D-03	2.0036D+04	3.3338D+04	3.0035D-08

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1000.0K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
2.0000D-05	1.2148D+02	2.0852D+01	1.2525D+01	2.4888D+02	5.5310D-05	1.0009D-03	3.0036D+04	5.0005D+04	2.0015D-08
1.0000D-05	1.2149D+02	2.0819D+01	1.2499D+01	2.5465D+02	2.7654D-05	1.0004D-03	6.0037D+04	1.0000D+05	1.0004D-08
9.0000D-06	1.2149D+02	2.0816D+01	1.2496D+01	2.5552D+02	2.4888D-05	1.0004D-03	6.6703D+04	1.1112D+05	9.0031D-09
8.0000D-06	1.2149D+02	2.0813D+01	1.2493D+01	2.5650D+02	2.2123D-05	1.0003D-03	7.5037D+04	1.2500D+05	8.0025D-09
7.0000D-06	1.2149D+02	2.0809D+01	1.2491D+01	2.5761D+02	1.9357D-05	1.0003D-03	8.5751D+04	1.4286D+05	7.0019D-09
6.0000D-06	1.2149D+02	2.0806D+01	1.2488D+01	2.5890D+02	1.6592D-05	1.0003D-03	1.0004D+05	1.6667D+05	6.0014D-09
5.0000D-06	1.2149D+02	2.0803D+01	1.2485D+01	2.6041D+02	1.3826D-05	1.0002D-03	1.2004D+05	2.0000D+05	5.0010D-09
4.0000D-06	1.2149D+02	2.0800D+01	1.2483D+01	2.6227D+02	1.1061D-05	1.0002D-03	1.5004D+05	2.5000D+05	4.0006D-09
3.0000D-06	1.2149D+02	2.0796D+01	1.2480D+01	2.6466D+02	8.2958D-06	1.0001D-03	2.0004D+05	3.3334D+05	3.0003D-09
2.0000D-06	1.2149D+02	2.0793D+01	1.2477D+01	2.6803D+02	5.5305D-06	1.0001D-03	3.0004D+05	5.0000D+05	2.0002D-09
1.0000D-06	1.2149D+02	2.0790D+01	1.2475D+01	2.7379D+02	2.7652D-06	1.0000D-03	6.0005D+05	1.0000D+06	1.0000D-09
9.0000D-07	1.2149D+02	2.0789D+01	1.2475D+01	2.7467D+02	2.4887D-06	1.0000D-03	6.6672D+05	1.1111D+06	9.0003D-10
8.0000D-07	1.2149D+02	2.0789D+01	1.2474D+01	2.7565D+02	2.2122D-06	1.0000D-03	7.5005D+05	1.2500D+06	8.0002D-10
7.0000D-07	1.2149D+02	2.0789D+01	1.2474D+01	2.7676D+02	1.9357D-06	1.0000D-03	8.5720D+05	1.4286D+06	7.0002D-10
6.0000D-07	1.2149D+02	2.0788D+01	1.2474D+01	2.7804D+02	1.6591D-06	1.0000D-03	1.0001D+06	1.6667D+06	6.0001D-10
5.0000D-07	1.2149D+02	2.0788D+01	1.2473D+01	2.7956D+02	1.3826D-06	1.0000D-03	1.2001D+06	2.0000D+06	5.0001D-10
4.0000D-07	1.2149D+02	2.0788D+01	1.2473D+01	2.8141D+02	1.1061D-06	1.0000D-03	1.5001D+06	2.5000D+06	4.0001D-10
3.0000D-07	1.2149D+02	2.0787D+01	1.2473D+01	2.8381D+02	8.2957D-07	1.0000D-03	2.0001D+06	3.3333D+06	3.0000D-10
2.0000D-07	1.2149D+02	2.0787D+01	1.2473D+01	2.8718D+02	5.5305D-07	1.0000D-03	3.0001D+06	5.0000D+06	2.0000D-10
1.0000D-07	1.2149D+02	2.0787D+01	1.2472D+01	2.9294D+02	2.7652D-07	1.0000D-03	6.0001D+06	1.0000D+07	1.0000D-10
9.0000D-08	1.2149D+02	2.0787D+01	1.2472D+01	2.9382D+02	2.4887D-07	1.0000D-03	6.6668D+06	1.1111D+07	9.0000D-11
8.0000D-08	1.2149D+02	2.0787D+01	1.2472D+01	2.9479D+02	2.2122D-07	1.0000D-03	7.5002D+06	1.2500D+07	8.0000D-11
7.0000D-08	1.2149D+02	2.0787D+01	1.2472D+01	2.9590D+02	1.9357D-07	1.0000D-03	8.5716D+06	1.4286D+07	7.0000D-11
6.0000D-08	1.2149D+02	2.0787D+01	1.2472D+01	2.9719D+02	1.6591D-07	1.0000D-03	1.0000D+07	1.6667D+07	6.0000D-11
5.0000D-08	1.2149D+02	2.0787D+01	1.2472D+01	2.9870D+02	1.3826D-07	1.0000D-03	1.2000D+07	2.0000D+07	5.0000D-11
4.0000D-08	1.2149D+02	2.0787D+01	1.2472D+01	3.0056D+02	1.1061D-07	1.0000D-03	1.5000D+07	2.5000D+07	4.0000D-11

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1000.0K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
3.0000D-08	1.2149D+02	2.0787D+01	1.2472D+01	3.0295D+02	8.2957D-08	1.0000D-03	2.0000D+07	3.3333D+07	3.0000D-11
2.0000D-08	1.2149D+02	2.0786D+01	1.2472D+01	3.0632D+02	5.5305D-08	1.0000D-03	3.0001D+07	5.0000D+07	2.0000D-11
1.0000D-08	1.2149D+02	2.0786D+01	1.2472D+01	3.1208D+02	2.7652D-08	1.0000D-03	6.0001D+07	1.0000D+08	1.0000D-11
9.0000D-09	1.2149D+02	2.0786D+01	1.2472D+01	3.1296D+02	2.4887D-08	1.0000D-03	6.6668D+07	1.1111D+08	9.0000D-12
8.0000D-09	1.2149D+02	2.0786D+01	1.2472D+01	3.1394D+02	2.2122D-08	1.0000D-03	7.5001D+07	1.2500D+08	8.0000D-12
7.0000D-09	1.2149D+02	2.0786D+01	1.2472D+01	3.1505D+02	1.9357D-08	1.0000D-03	8.5716D+07	1.4286D+08	7.0000D-12
6.0000D-09	1.2149D+02	2.0786D+01	1.2472D+01	3.1633D+02	1.6591D-08	1.0000D-03	1.0000D+08	1.6667D+08	6.0000D-12
5.0000D-09	1.2149D+02	2.0786D+01	1.2472D+01	3.1785D+02	1.3826D-08	1.0000D-03	1.2000D+08	2.0000D+08	5.0000D-12
4.0000D-09	1.2149D+02	2.0786D+01	1.2472D+01	3.1970D+02	1.1061D-08	1.0000D-03	1.5000D+08	2.5000D+08	4.0000D-12
3.0000D-09	1.2149D+02	2.0786D+01	1.2472D+01	3.2209D+02	8.2957D-09	1.0000D-03	2.0000D+08	3.3333D+08	3.0000D-12
2.0000D-09	1.2149D+02	2.0786D+01	1.2472D+01	3.2547D+02	5.5304D-09	1.0000D-03	3.0001D+08	5.0000D+08	2.0000D-12
1.0000D-09	1.2149D+02	2.0786D+01	1.2472D+01	3.3123D+02	2.7652D-09	1.0000D-03	6.0001D+08	1.0000D+09	1.0000D-12
9.0000D-10	1.2149D+02	2.0786D+01	1.2472D+01	3.3210D+02	2.4887D-09	1.0000D-03	6.6668D+08	1.1111D+09	9.0000D-13
8.0000D-10	1.2149D+02	2.0786D+01	1.2472D+01	3.3308D+02	2.2122D-09	1.0000D-03	7.5001D+08	1.2500D+09	8.0000D-13
7.0000D-10	1.2149D+02	2.0786D+01	1.2472D+01	3.3419D+02	1.9357D-09	1.0000D-03	8.5716D+08	1.4286D+09	7.0000D-13
6.0000D-10	1.2149D+02	2.0786D+01	1.2472D+01	3.3548D+02	1.6591D-09	1.0000D-03	1.0000D+09	1.6667D+09	6.0000D-13
5.0000D-10	1.2149D+02	2.0786D+01	1.2472D+01	3.3699D+02	1.3826D-09	1.0000D-03	1.2000D+09	2.0000D+09	5.0000D-13
4.0000D-10	1.2149D+02	2.0786D+01	1.2472D+01	3.3885D+02	1.1061D-09	1.0000D-03	1.5000D+09	2.5000D+09	4.0000D-13
3.0000D-10	1.2149D+02	2.0786D+01	1.2472D+01	3.4124D+02	8.2957D-10	1.0000D-03	2.0000D+09	3.3333D+09	3.0000D-13
2.0000D-10	1.2149D+02	2.0786D+01	1.2472D+01	3.4461D+02	5.5304D-10	1.0000D-03	3.0001D+09	5.0000D+09	2.0000D-13
1.0000D-10	1.2149D+02	2.0786D+01	1.2472D+01	3.5037D+02	2.7652D-10	1.0000D-03	6.0001D+09	1.0000D+10	1.0000D-13
9.0000D-11	1.2149D+02	2.0786D+01	1.2472D+01	3.5125D+02	2.4887D-10	1.0000D-03	6.6668D+09	1.1111D+10	9.0000D-14
8.0000D-11	1.2149D+02	2.0786D+01	1.2472D+01	3.5223D+02	2.2122D-10	1.0000D-03	7.5001D+09	1.2500D+10	8.0000D-14
7.0000D-11	1.2149D+02	2.0786D+01	1.2472D+01	3.5334D+02	1.9357D-10	1.0000D-03	8.5716D+09	1.4286D+10	7.0000D-14
6.0000D-11	1.2149D+02	2.0786D+01	1.2472D+01	3.5462D+02	1.6591D-10	1.0000D-03	1.0000D+10	1.6667D+10	6.0000D-14
5.0000D-11	1.2149D+02	2.0786D+01	1.2472D+01	3.5614D+02	1.3826D-10	1.0000D-03	1.2000D+10	2.0000D+10	5.0000D-14

SUPERHEATED SODIUM VAPOUR PROPERTIES AT T= 1000.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMA (MPa/K)
4.0000D-11	1.2149D+02	2.0786D+01	1.2472D+01	3.5799D+02	1.1061D-10	1.0000D-03	1.5000D+10	2.5000D+10	4.0000D-14
3.0000D-11	1.2149D+02	2.0786D+01	1.2472D+01	3.6038D+02	8.2957D-11	1.0000D-03	2.0000D+10	3.3333D+10	3.0000D-14
2.0000D-11	1.2149D+02	2.0786D+01	1.2472D+01	3.6375D+02	5.5304D-11	1.0000D-03	3.0001D+10	5.0000D+10	2.0000D-14
1.0000D-11	1.2149D+02	2.0786D+01	1.2472D+01	3.6952D+02	2.7652D-11	1.0000D-03	6.0001D+10	1.0000D+11	1.0000D-14

SUPERHEATED VAPOR PROPERTIES AT T = 1000.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHA P (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMA V (ATM/K)
9.8692D-02	5.1468D+00	2.0150D+00	1.4081D+00	8.4564D+00	2.8843D-05	1.3485D-03	7.3482D+00	1.0515D+01	1.2824D-04
8.8823D-02	5.1591D+00	1.9276D+00	1.3423D+00	8.5053D+00	2.5859D-05	1.3198D-03	8.1112D+00	1.1648D+01	1.1330D-04
7.8954D-02	5.1716D+00	1.8359D+00	1.2727D+00	8.5589D+00	2.2896D-05	1.2899D-03	9.0562D+00	1.3063D+01	9.8746D-05
6.9085D-02	5.1845D+00	1.7394D+00	1.1992D+00	8.6185D+00	1.9955D-05	1.2589D-03	1.0259D+01	1.4881D+01	8.4598D-05
5.9215D-02	5.1977D+00	1.6380D+00	1.1213D+00	8.6859D+00	1.7034D-05	1.2265D-03	1.1843D+01	1.7301D+01	7.0890D-05
4.9346D-02	5.2112D+00	1.5313D+00	1.0388D+00	8.7638D+00	1.4136D-05	1.1927D-03	1.4034D+01	2.0688D+01	5.7655D-05
3.9477D-02	5.2250D+00	1.4189D+00	9.5127D-01	8.8567D+00	1.1261D-05	1.1575D-03	1.7272D+01	2.5763D+01	4.4930D-05
2.9608D-02	5.2392D+00	1.3005D+00	8.5836D-01	8.9734D+00	8.4094D-06	1.1207D-03	2.2584D+01	3.4216D+01	3.2755D-05
1.9738D-02	5.2539D+00	1.1755D+00	7.5960D-01	9.1330D+00	5.5814D-06	1.0823D-03	3.3030D+01	5.1113D+01	2.1175D-05
9.8692D-03	5.2689D+00	1.0435D+00	6.5449D-01	9.3970D+00	2.7781D-06	1.0421D-03	6.3838D+01	1.0179D+02	1.0238D-05
8.8823D-03	5.2704D+00	1.0299D+00	6.4361D-01	9.4364D+00	2.4991D-06	1.0380D-03	7.0642D+01	1.1305D+02	9.1819D-06
7.8954D-03	5.2719D+00	1.0163D+00	6.3266D-01	9.4804D+00	2.2204D-06	1.0338D-03	7.9135D+01	1.2712D+02	8.1327D-06
6.9085D-03	5.2734D+00	1.0025D+00	6.2163D-01	9.5300D+00	1.9420D-06	1.0297D-03	9.0043D+01	1.4521D+02	7.0907D-06
5.9215D-03	5.2750D+00	9.8870D-01	6.1054D-01	9.5871D+00	1.6638D-06	1.0255D-03	1.0457D+02	1.6934D+02	6.0558D-06
4.9346D-03	5.2765D+00	9.7479D-01	5.9938D-01	9.6544D+00	1.3858D-06	1.0213D-03	1.2489D+02	2.0312D+02	5.0281D-06
3.9477D-03	5.2781D+00	9.6082D-01	5.8815D-01	9.7365D+00	1.1082D-06	1.0171D-03	1.5535D+02	2.5378D+02	4.0077D-06
2.9608D-03	5.2796D+00	9.4676D-01	5.7684D-01	9.8419D+00	8.3073D-07	1.0128D-03	2.0607D+02	3.3822D+02	2.9946D-06
1.9738D-03	5.2812D+00	9.3262D-01	5.6546D-01	9.9899D+00	5.5356D-07	1.0086D-03	3.0746D+02	5.0709D+02	1.9889D-06
9.8692D-04	5.2827D+00	9.1841D-01	5.5401D-01	1.0242D+01	2.7665D-07	1.0043D-03	6.1150D+02	1.0137D+03	9.9070D-07
8.8823D-04	5.2829D+00	9.1698D-01	5.5286D-01	1.0280D+01	2.4898D-07	1.0039D-03	6.7906D+02	1.1263D+03	8.9129D-07
7.8954D-04	5.2830D+00	9.1555D-01	5.5171D-01	1.0323D+01	2.2130D-07	1.0034D-03	7.6350D+02	1.2670D+03	7.9196D-07
6.9085D-04	5.2832D+00	9.1413D-01	5.5055D-01	1.0371D+01	1.9363D-07	1.0030D-03	8.7208D+02	1.4480D+03	6.9270D-07
5.9215D-04	5.2833D+00	9.1270D-01	5.4940D-01	1.0427D+01	1.6596D-07	1.0026D-03	1.0168D+03	1.6892D+03	5.9352D-07
4.9346D-04	5.2835D+00	9.1127D-01	5.4825D-01	1.0493D+01	1.3829D-07	1.0022D-03	1.2195D+03	2.0270D+03	4.9441D-07
3.9477D-04	5.2837D+00	9.0984D-01	5.4710D-01	1.0574D+01	1.1063D-07	1.0017D-03	1.5235D+03	2.5336D+03	3.9538D-07
2.9608D-04	5.2838D+00	9.0841D-01	5.4594D-01	1.0678D+01	8.2968D-08	1.0013D-03	2.0301D+03	3.3780D+03	2.9642D-07

SUPERHEATED VAPOR PROPERTIES AT T = 1000.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
1.9738D-04	5.2840D+00	9.0698D-01	5.4479D-01	1.0825D+01	5.5310D-08	1.0009D-03	3.0434D+03	5.0667D+03	1.9754D-07
9.8692D-05	5.2841D+00	9.0554D-01	5.4363D-01	1.1076D+01	2.7654D-08	1.0004D-03	6.0832D+03	1.0133D+04	9.8730D-08
8.8823D-05	5.2841D+00	9.0540D-01	5.4352D-01	1.1114D+01	2.4888D-08	1.0004D-03	6.7587D+03	1.1259D+04	8.8854D-08
7.8954D-05	5.2842D+00	9.0526D-01	5.4340D-01	1.1157D+01	2.2123D-08	1.0003D-03	7.6031D+03	1.2666D+04	7.8978D-08
6.9085D-05	5.2842D+00	9.0511D-01	5.4329D-01	1.1205D+01	1.9357D-08	1.0003D-03	8.6888D+03	1.4475D+04	6.9103D-08
5.9215D-05	5.2842D+00	9.0497D-01	5.4317D-01	1.1261D+01	1.6592D-08	1.0003D-03	1.0136D+04	1.6888D+04	5.9229D-08
4.9346D-05	5.2842D+00	9.0483D-01	5.4306D-01	1.1327D+01	1.3826D-08	1.0002D-03	1.2163D+04	2.0265D+04	4.9356D-08
3.9477D-05	5.2842D+00	9.0468D-01	5.4294D-01	1.1407D+01	1.1061D-08	1.0002D-03	1.5203D+04	2.5332D+04	3.9483D-08
2.9608D-05	5.2842D+00	9.0454D-01	5.4282D-01	1.1511D+01	8.2958D-09	1.0001D-03	2.0269D+04	3.3775D+04	2.9611D-08
1.9738D-05	5.2843D+00	9.0440D-01	5.4271D-01	1.1658D+01	5.5305D-09	1.0001D-03	3.0402D+04	5.0663D+04	1.9740D-08
9.8692D-06	5.2843D+00	9.0425D-01	5.4259D-01	1.1909D+01	2.7652D-09	1.0000D-03	6.0800D+04	1.0133D+05	9.8696D-09
8.8823D-06	5.2843D+00	9.0424D-01	5.4258D-01	1.1947D+01	2.4887D-09	1.0000D-03	6.7555D+04	1.1258D+05	8.8826D-09
7.8954D-06	5.2843D+00	9.0423D-01	5.4257D-01	1.1989D+01	2.2122D-09	1.0000D-03	7.5999D+04	1.2666D+05	7.8956D-09
6.9085D-06	5.2843D+00	9.0421D-01	5.4256D-01	1.2038D+01	1.9357D-09	1.0000D-03	8.6855D+04	1.4475D+05	6.9087D-09
5.9215D-06	5.2843D+00	9.0420D-01	5.4255D-01	1.2094D+01	1.6591D-09	1.0000D-03	1.0133D+05	1.6888D+05	5.9217D-09
4.9346D-06	5.2843D+00	9.0418D-01	5.4254D-01	1.2159D+01	1.3826D-09	1.0000D-03	1.2160D+05	2.0265D+05	4.9347D-09
3.9477D-06	5.2843D+00	9.0417D-01	5.4252D-01	1.2240D+01	1.1061D-09	1.0000D-03	1.5199D+05	2.5331D+05	3.9478D-09
2.9608D-06	5.2843D+00	9.0415D-01	5.4251D-01	1.2344D+01	8.2957D-10	1.0000D-03	2.0266D+05	3.3775D+05	2.9608D-09
1.9738D-06	5.2843D+00	9.0414D-01	5.4250D-01	1.2491D+01	5.5305D-10	1.0000D-03	3.0398D+05	5.0663D+05	1.9739D-09
9.8692D-07	5.2843D+00	9.0413D-01	5.4249D-01	1.2741D+01	2.7652D-10	1.0000D-03	6.0797D+05	1.0133D+06	9.8693D-10
8.8823D-07	5.2843D+00	9.0412D-01	5.4249D-01	1.2780D+01	2.4887D-10	1.0000D-03	6.7552D+05	1.1258D+06	8.8823D-10
7.8954D-07	5.2843D+00	9.0412D-01	5.4249D-01	1.2822D+01	2.2122D-10	1.0000D-03	7.5996D+05	1.2666D+06	7.8954D-10
6.9085D-07	5.2843D+00	9.0412D-01	5.4249D-01	1.2870D+01	1.9357D-10	1.0000D-03	8.6852D+05	1.4475D+06	6.9085D-10
5.9215D-07	5.2843D+00	9.0412D-01	5.4248D-01	1.2926D+01	1.6591D-10	1.0000D-03	1.0133D+06	1.6888D+06	5.9216D-10
4.9346D-07	5.2843D+00	9.0412D-01	5.4248D-01	1.2992D+01	1.3826D-10	1.0000D-03	1.2159D+06	2.0265D+06	4.9346D-10
3.9477D-07	5.2843D+00	9.0412D-01	5.4248D-01	1.3073D+01	1.1061D-10	1.0000D-03	1.5199D+06	2.5331D+06	3.9477D-10

SUPERHEATED VAPOR PROPERTIES AT T = 1000.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
2.9608D-07	5.2843D+00	9.0412D-01	5.4248D-01	1.3177D+01	8.2957D-11	1.0000D-03	2.0265D+06	3.3775D+06	2.9608D-10
1.9738D-07	5.2843D+00	9.0411D-01	5.4248D-01	1.3324D+01	5.5305D-11	1.0000D-03	3.0398D+06	5.0662D+06	1.9738D-10
9.8692D-08	5.2843D+00	9.0411D-01	5.4248D-01	1.3574D+01	2.7652D-11	1.0000D-03	6.0796D+06	1.0132D+07	9.8692D-11
8.8823D-08	5.2843D+00	9.0411D-01	5.4248D-01	1.3612D+01	2.4887D-11	1.0000D-03	6.7551D+06	1.1258D+07	8.8823D-11
7.8954D-08	5.2843D+00	9.0411D-01	5.4248D-01	1.3655D+01	2.2122D-11	1.0000D-03	7.5995D+06	1.2666D+07	7.8954D-11
6.9085D-08	5.2843D+00	9.0411D-01	5.4248D-01	1.3703D+01	1.9357D-11	1.0000D-03	8.6852D+06	1.4475D+07	6.9085D-11
5.9215D-08	5.2843D+00	9.0411D-01	5.4248D-01	1.3759D+01	1.6591D-11	1.0000D-03	1.0133D+07	1.6887D+07	5.9215D-11
4.9346D-08	5.2843D+00	9.0411D-01	5.4248D-01	1.3825D+01	1.3826D-11	1.0000D-03	1.2159D+07	2.0265D+07	4.9346D-11
3.9477D-08	5.2843D+00	9.0411D-01	5.4248D-01	1.3906D+01	1.1061D-11	1.0000D-03	1.5199D+07	2.5331D+07	3.9477D-11
2.9608D-08	5.2843D+00	9.0411D-01	5.4248D-01	1.4010D+01	8.2957D-12	1.0000D-03	2.0265D+07	3.3775D+07	2.9608D-11
1.9738D-08	5.2843D+00	9.0411D-01	5.4248D-01	1.4156D+01	5.5304D-12	1.0000D-03	3.0398D+07	5.0662D+07	1.9738D-11
9.8692D-09	5.2843D+00	9.0411D-01	5.4248D-01	1.4407D+01	2.7652D-12	1.0000D-03	6.0796D+07	1.0132D+08	9.8692D-12
8.8823D-09	5.2843D+00	9.0411D-01	5.4248D-01	1.4445D+01	2.4887D-12	1.0000D-03	6.7551D+07	1.1258D+08	8.8823D-12
7.8954D-09	5.2843D+00	9.0411D-01	5.4248D-01	1.4488D+01	2.2122D-12	1.0000D-03	7.5995D+07	1.2666D+08	7.8954D-12
6.9085D-09	5.2843D+00	9.0411D-01	5.4248D-01	1.4536D+01	1.9357D-12	1.0000D-03	8.6852D+07	1.4475D+08	6.9085D-12
5.9215D-09	5.2843D+00	9.0411D-01	5.4248D-01	1.4592D+01	1.6591D-12	1.0000D-03	1.0133D+08	1.6887D+08	5.9215D-12
4.9346D-09	5.2843D+00	9.0411D-01	5.4248D-01	1.4658D+01	1.3826D-12	1.0000D-03	1.2159D+08	2.0265D+08	4.9346D-12
3.9477D-09	5.2843D+00	9.0411D-01	5.4248D-01	1.4738D+01	1.1061D-12	1.0000D-03	1.5199D+08	2.5331D+08	3.9477D-12
2.9608D-09	5.2843D+00	9.0411D-01	5.4248D-01	1.4842D+01	8.2957D-13	1.0000D-03	2.0265D+08	3.3775D+08	2.9608D-12
1.9738D-09	5.2843D+00	9.0411D-01	5.4248D-01	1.4989D+01	5.5304D-13	1.0000D-03	3.0398D+08	5.0662D+08	1.9738D-12
9.8692D-10	5.2843D+00	9.0411D-01	5.4248D-01	1.5240D+01	2.7652D-13	1.0000D-03	6.0796D+08	1.0132D+09	9.8692D-13
8.8823D-10	5.2843D+00	9.0411D-01	5.4248D-01	1.5278D+01	2.4887D-13	1.0000D-03	6.7551D+08	1.1258D+09	8.8823D-13
7.8954D-10	5.2843D+00	9.0411D-01	5.4248D-01	1.5320D+01	2.2122D-13	1.0000D-03	7.5995D+08	1.2666D+09	7.8954D-13
6.9085D-10	5.2843D+00	9.0411D-01	5.4248D-01	1.5369D+01	1.9357D-13	1.0000D-03	8.6852D+08	1.4475D+09	6.9085D-13
5.9215D-10	5.2843D+00	9.0411D-01	5.4248D-01	1.5424D+01	1.6591D-13	1.0000D-03	1.0133D+09	1.6887D+09	5.9215D-13
4.9346D-10	5.2843D+00	9.0411D-01	5.4248D-01	1.5490D+01	1.3826D-13	1.0000D-03	1.2159D+09	2.0265D+09	4.9346D-13

SUPERHEATED VAPOR PROPERTIES AT T = 1000.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
3.9477D-10	5.2843D+00	9.0411D-01	5.4248D-01	1.5571D+01	1.1061D-13	1.0000D-03	1.5199D+09	2.5331D+09	3.9477D-13
2.9608D-10	5.2843D+00	9.0411D-01	5.4248D-01	1.5675D+01	8.2957D-14	1.0000D-03	2.0265D+09	3.3775D+09	2.9608D-13
1.9738D-10	5.2843D+00	9.0411D-01	5.4248D-01	1.5822D+01	5.5304D-14	1.0000D-03	3.0398D+09	5.0662D+09	1.9738D-13
9.8692D-11	5.2843D+00	9.0411D-01	5.4248D-01	1.6072D+01	2.7652D-14	1.0000D-03	6.0796D+09	1.0132D+10	9.8692D-14

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1100.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMHAP (MPa/K)
5.0000D-02	1.1753D+02	5.6746D+01	3.9207D+01	1.8072D+02	1.3649D-01	1.4227D-03	1.4757D+01	2.1358D+01	6.6610D-05
4.0000D-02	1.1852D+02	5.2085D+01	3.5942D+01	1.8334D+02	1.0767D-01	1.3489D-03	1.8252D+01	2.6449D+01	5.0999D-05
3.0000D-02	1.1960D+02	4.6485D+01	3.1935D+01	1.8658D+02	7.9541D-02	1.2642D-03	2.3969D+01	3.4889D+01	3.6234D-05
2.0000D-02	1.2079D+02	3.9679D+01	2.6946D+01	1.9088D+02	5.2173D-02	1.1656D-03	3.5098D+01	5.1683D+01	2.2553D-05
1.0000D-02	1.2210D+02	3.1290D+01	2.0632D+01	1.9768D+02	2.5630D-02	1.0491D-03	6.7145D+01	1.0183D+02	1.0302D-05
9.0000D-03	1.2224D+02	3.0346D+01	1.9909D+01	1.9867D+02	2.3024D-02	1.0363D-03	7.4112D+01	1.1296D+02	9.1735D-06
8.0000D-03	1.2238D+02	2.9380D+01	1.9168D+01	1.9976D+02	2.0427D-02	1.0232D-03	8.2772D+01	1.2687D+02	8.0650D-06
7.0000D-03	1.2252D+02	2.8391D+01	1.8407D+01	2.0098D+02	1.7840D-02	1.0099D-03	9.3843D+01	1.4474D+02	6.9770D-06
6.0000D-03	1.2267D+02	2.7380D+01	1.7626D+01	2.0238D+02	1.5263D-02	9.9629D-04	1.0852D+02	1.6857D+02	5.9103D-06
5.0000D-03	1.2281D+02	2.6345D+01	1.6824D+01	2.0401D+02	1.2694D-02	9.8246D-04	1.2895D+02	2.0192D+02	4.8655D-06
4.0000D-03	1.2296D+02	2.5285D+01	1.6001D+01	2.0598D+02	1.0136D-02	9.6836D-04	1.5943D+02	2.5194D+02	3.8436D-06
3.0000D-03	1.2311D+02	2.4200D+01	1.5154D+01	2.0850D+02	7.5869D-03	9.5398D-04	2.0996D+02	3.3529D+02	2.8452D-06
2.0000D-03	1.2326D+02	2.3089D+01	1.4285D+01	2.1199D+02	5.0479D-03	9.3931D-04	3.1056D+02	5.0198D+02	1.8712D-06
1.0000D-03	1.2341D+02	2.1952D+01	1.3391D+01	2.1787D+02	2.5189D-03	9.2435D-04	6.1124D+02	1.0020D+03	9.2251D-07
9.0000D-04	1.2343D+02	2.1837D+01	1.3300D+01	2.1876D+02	2.2666D-03	9.2284D-04	6.7798D+02	1.1131D+03	8.2906D-07
8.0000D-04	1.2345D+02	2.1721D+01	1.3209D+01	2.1975D+02	2.0143D-03	9.2132D-04	7.6139D+02	1.2520D+03	7.3588D-07
7.0000D-04	1.2346D+02	2.1605D+01	1.3118D+01	2.2088D+02	1.7622D-03	9.1981D-04	8.6860D+02	1.4306D+03	6.4296D-07
6.0000D-04	1.2348D+02	2.1489D+01	1.3026D+01	2.2217D+02	1.5101D-03	9.1828D-04	1.0115D+03	1.6687D+03	5.5031D-07
5.0000D-04	1.2349D+02	2.1373D+01	1.2935D+01	2.2370D+02	1.2582D-03	9.1676D-04	1.2116D+03	2.0020D+03	4.5792D-07
4.0000D-04	1.2351D+02	2.1256D+01	1.2843D+01	2.2557D+02	1.0064D-03	9.1523D-04	1.5117D+03	2.5020D+03	3.6580D-07
3.0000D-04	1.2352D+02	2.1139D+01	1.2750D+01	2.2797D+02	7.5461D-04	9.1370D-04	2.0118D+03	3.3353D+03	2.7395D-07
2.0000D-04	1.2354D+02	2.1022D+01	1.2658D+01	2.3135D+02	5.0297D-04	9.1217D-04	3.0119D+03	5.0020D+03	1.8236D-07
1.0000D-04	1.2355D+02	2.0904D+01	1.2565D+01	2.3713D+02	2.5144D-04	9.1063D-04	6.0120D+03	1.0002D+04	9.1045D-08
9.0000D-05	1.2356D+02	2.0892D+01	1.2556D+01	2.3801D+02	2.2629D-04	9.1048D-04	6.6787D+03	1.1113D+04	8.1928D-08
8.0000D-05	1.2356D+02	2.0881D+01	1.2547D+01	2.3899D+02	2.0114D-04	9.1032D-04	7.5121D+03	1.2502D+04	7.2814D-08
7.0000D-05	1.2356D+02	2.0869D+01	1.2537D+01	2.4010D+02	1.7599D-04	9.1017D-04	8.5835D+03	1.4288D+04	6.3703D-08

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1100.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
6.0000D-05	1.2356D+02	2.0857D+01	1.2528D+01	2.4138D+02	1.5085D-04	9.1002D-04	1.0012D+04	1.6669D+04	5.4594D-08
5.0000D-05	1.2356D+02	2.0845D+01	1.2519D+01	2.4290D+02	1.2570D-04	9.0986D-04	1.2012D+04	2.0002D+04	4.5488D-08
4.0000D-05	1.2356D+02	2.0834D+01	1.2509D+01	2.4475D+02	1.0056D-04	9.0971D-04	1.5012D+04	2.5002D+04	3.6385D-08
3.0000D-05	1.2356D+02	2.0822D+01	1.2500D+01	2.4715D+02	7.5420D-05	9.0955D-04	2.0012D+04	3.3335D+04	2.7285D-08
2.0000D-05	1.2357D+02	2.0810D+01	1.2491D+01	2.5052D+02	5.0279D-05	9.0940D-04	3.0013D+04	5.0002D+04	1.8187D-08
1.0000D-05	1.2357D+02	2.0798D+01	1.2481D+01	2.5628D+02	2.5139D-05	9.0925D-04	6.0013D+04	1.0000D+05	9.0923D-09
9.0000D-06	1.2357D+02	2.0797D+01	1.2480D+01	2.5716D+02	2.2625D-05	9.0923D-04	6.6680D+04	1.1111D+05	8.1829D-09
8.0000D-06	1.2357D+02	2.0796D+01	1.2480D+01	2.5814D+02	2.0111D-05	9.0921D-04	7.5013D+04	1.2500D+05	7.2736D-09
7.0000D-06	1.2357D+02	2.0795D+01	1.2479D+01	2.5925D+02	1.7597D-05	9.0920D-04	8.5728D+04	1.4286D+05	6.3643D-09
6.0000D-06	1.2357D+02	2.0793D+01	1.2478D+01	2.6053D+02	1.5083D-05	9.0918D-04	1.0001D+05	1.6667D+05	5.4550D-09
5.0000D-06	1.2357D+02	2.0792D+01	1.2477D+01	2.6205D+02	1.2569D-05	9.0917D-04	1.2001D+05	2.0000D+05	4.5458D-09
4.0000D-06	1.2357D+02	2.0791D+01	1.2476D+01	2.6390D+02	1.0055D-05	9.0915D-04	1.5002D+05	2.5000D+05	3.6366D-09
3.0000D-06	1.2357D+02	2.0790D+01	1.2475D+01	2.6630D+02	7.5416D-06	9.0914D-04	2.0002D+05	3.3334D+05	2.7274D-09
2.0000D-06	1.2357D+02	2.0789D+01	1.2474D+01	2.6967D+02	5.0277D-06	9.0912D-04	3.0002D+05	5.0000D+05	1.8182D-09
1.0000D-06	1.2357D+02	2.0788D+01	1.2473D+01	2.7543D+02	2.5138D-06	9.0911D-04	6.0002D+05	1.0000D+06	9.0910D-10
9.0000D-07	1.2357D+02	2.0787D+01	1.2473D+01	2.7631D+02	2.2625D-06	9.0910D-04	6.6669D+05	1.1111D+06	8.1819D-10
8.0000D-07	1.2357D+02	2.0787D+01	1.2473D+01	2.7729D+02	2.0111D-06	9.0910D-04	7.5003D+05	1.2500D+06	7.2728D-10
7.0000D-07	1.2357D+02	2.0787D+01	1.2473D+01	2.7840D+02	1.7597D-06	9.0910D-04	8.5717D+05	1.4286D+06	6.3637D-10
6.0000D-07	1.2357D+02	2.0787D+01	1.2473D+01	2.7968D+02	1.5083D-06	9.0910D-04	1.0000D+06	1.6667D+06	5.4546D-10
5.0000D-07	1.2357D+02	2.0787D+01	1.2473D+01	2.8119D+02	1.2569D-06	9.0910D-04	1.2000D+06	2.0000D+06	4.5455D-10
4.0000D-07	1.2357D+02	2.0787D+01	1.2472D+01	2.8305D+02	1.0055D-06	9.0910D-04	1.5000D+06	2.5000D+06	3.6364D-10
3.0000D-07	1.2357D+02	2.0787D+01	1.2472D+01	2.8544D+02	7.5415D-07	9.0910D-04	2.0000D+06	3.3333D+06	2.7273D-10
2.0000D-07	1.2357D+02	2.0787D+01	1.2472D+01	2.8881D+02	5.0277D-07	9.0909D-04	3.0001D+06	5.0000D+06	1.8182D-10
1.0000D-07	1.2357D+02	2.0787D+01	1.2472D+01	2.9457D+02	2.5138D-07	9.0909D-04	6.0001D+06	1.0000D+07	9.0909D-11
9.0000D-08	1.2357D+02	2.0787D+01	1.2472D+01	2.9545D+02	2.2625D-07	9.0909D-04	6.6668D+06	1.1111D+07	8.1818D-11
8.0000D-08	1.2357D+02	2.0786D+01	1.2472D+01	2.9643D+02	2.0111D-07	9.0909D-04	7.5001D+06	1.2500D+07	7.2727D-11

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1100.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAP (MPa/K)
7.0000D-08	1.2357D+02	2.0786D+01	1.2472D+01	2.9754D+02	1.7597D-07	9.0909D-04	8.5716D+06	1.4286D+07	6.3636D-11
6.0000D-08	1.2357D+02	2.0786D+01	1.2472D+01	2.9882D+02	1.5083D-07	9.0909D-04	1.0000D+07	1.6667D+07	5.4546D-11
5.0000D-08	1.2357D+02	2.0786D+01	1.2472D+01	3.0034D+02	1.2569D-07	9.0909D-04	1.2000D+07	2.0000D+07	4.5455D-11
4.0000D-08	1.2357D+02	2.0786D+01	1.2472D+01	3.0219D+02	1.0055D-07	9.0909D-04	1.5000D+07	2.5000D+07	3.6364D-11
3.0000D-08	1.2357D+02	2.0786D+01	1.2472D+01	3.0458D+02	7.5415D-08	9.0909D-04	2.0000D+07	3.3333D+07	2.7273D-11
2.0000D-08	1.2357D+02	2.0786D+01	1.2472D+01	3.0796D+02	5.0277D-08	9.0909D-04	3.0001D+07	5.0000D+07	1.8182D-11
1.0000D-08	1.2357D+02	2.0786D+01	1.2472D+01	3.1372D+02	2.5138D-08	9.0909D-04	6.0001D+07	1.0000D+08	9.0909D-12
9.0000D-09	1.2357D+02	2.0786D+01	1.2472D+01	3.1460D+02	2.2625D-08	9.0909D-04	6.6668D+07	1.1111D+08	8.1818D-12
8.0000D-09	1.2357D+02	2.0786D+01	1.2472D+01	3.1557D+02	2.0111D-08	9.0909D-04	7.5001D+07	1.2500D+08	7.2727D-12
7.0000D-09	1.2357D+02	2.0786D+01	1.2472D+01	3.1668D+02	1.7597D-08	9.0909D-04	8.5716D+07	1.4286D+08	6.3636D-12
6.0000D-09	1.2357D+02	2.0786D+01	1.2472D+01	3.1797D+02	1.5083D-08	9.0909D-04	1.0000D+08	1.6667D+08	5.4545D-12
5.0000D-09	1.2357D+02	2.0786D+01	1.2472D+01	3.1948D+02	1.2569D-08	9.0909D-04	1.2000D+08	2.0000D+08	4.5455D-12
4.0000D-09	1.2357D+02	2.0786D+01	1.2472D+01	3.2134D+02	1.0055D-08	9.0909D-04	1.5000D+08	2.5000D+08	3.6364D-12
3.0000D-09	1.2357D+02	2.0786D+01	1.2472D+01	3.2373D+02	7.5415D-09	9.0909D-04	2.0000D+08	3.3333D+08	2.7273D-12
2.0000D-09	1.2357D+02	2.0786D+01	1.2472D+01	3.2710D+02	5.0277D-09	9.0909D-04	3.0001D+08	5.0000D+08	1.8182D-12
1.0000D-09	1.2357D+02	2.0786D+01	1.2472D+01	3.3286D+02	2.5138D-09	9.0909D-04	6.0001D+08	1.0000D+09	9.0909D-13
9.0000D-10	1.2357D+02	2.0786D+01	1.2472D+01	3.3374D+02	2.2625D-09	9.0909D-04	6.6668D+08	1.1111D+09	8.1818D-13
8.0000D-10	1.2357D+02	2.0786D+01	1.2472D+01	3.3472D+02	2.0111D-09	9.0909D-04	7.5001D+08	1.2500D+09	7.2727D-13
7.0000D-10	1.2357D+02	2.0786D+01	1.2472D+01	3.3583D+02	1.7597D-09	9.0909D-04	8.5716D+08	1.4286D+09	6.3636D-13
6.0000D-10	1.2357D+02	2.0786D+01	1.2472D+01	3.3711D+02	1.5083D-09	9.0909D-04	1.0000D+09	1.6667D+09	5.4545D-13
5.0000D-10	1.2357D+02	2.0786D+01	1.2472D+01	3.3863D+02	1.2569D-09	9.0909D-04	1.2000D+09	2.0000D+09	4.5455D-13
4.0000D-10	1.2357D+02	2.0786D+01	1.2472D+01	3.4048D+02	1.0055D-09	9.0909D-04	1.5000D+09	2.5000D+09	3.6364D-13
3.0000D-10	1.2357D+02	2.0786D+01	1.2472D+01	3.4287D+02	7.5415D-10	9.0909D-04	2.0000D+09	3.3333D+09	2.7273D-13
2.0000D-10	1.2357D+02	2.0786D+01	1.2472D+01	3.4625D+02	5.0277D-10	9.0909D-04	3.0001D+09	5.0000D+09	1.8182D-13
1.0000D-10	1.2357D+02	2.0786D+01	1.2472D+01	3.5201D+02	2.5138D-10	9.0909D-04	6.0001D+09	1.0000D+10	9.0909D-14
9.0000D-11	1.2357D+02	2.0786D+01	1.2472D+01	3.5288D+02	2.2625D-10	9.0909D-04	6.6668D+09	1.1111D+10	8.1818D-14

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1100.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
8.0000D-11	1.2357D+02	2.0786D+01	1.2472D+01	3.5386D+02	2.0111D-10	9.0909D-04	7.5001D+09	1.2500D+10	7.2727D-14
7.0000D-11	1.2357D+02	2.0786D+01	1.2472D+01	3.5497D+02	1.7597D-10	9.0909D-04	8.5716D+09	1.4286D+10	6.3636D-14
6.0000D-11	1.2357D+02	2.0786D+01	1.2472D+01	3.5626D+02	1.5083D-10	9.0909D-04	1.0000D+10	1.6667D+10	5.4545D-14
5.0000D-11	1.2357D+02	2.0786D+01	1.2472D+01	3.5777D+02	1.2569D-10	9.0909D-04	1.2000D+10	2.0000D+10	4.5455D-14
4.0000D-11	1.2357D+02	2.0786D+01	1.2472D+01	3.5963D+02	1.0055D-10	9.0909D-04	1.5000D+10	2.5000D+10	3.6364D-14
3.0000D-11	1.2357D+02	2.0786D+01	1.2472D+01	3.6202D+02	7.5415D-11	9.0909D-04	2.0000D+10	3.3333D+10	2.7273D-14
2.0000D-11	1.2357D+02	2.0786D+01	1.2472D+01	3.6539D+02	5.0277D-11	9.0909D-04	3.0001D+10	5.0000D+10	1.8182D-14
1.0000D-11	1.2357D+02	2.0786D+01	1.2472D+01	3.7115D+02	2.5138D-11	9.0909D-04	6.0001D+10	1.0000D+11	9.0909D-15

SUPERHEATED VAPOR PROPERTIES AT T = 1100.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
4.9346D-01	5.1118D+00	2.4682D+00	1.7053D+00	7.8604D+00	1.3649D-04	1.4227D-03	1.4952D+00	2.1641D+00	6.5739D-04
3.9477D-01	5.1550D+00	2.2654D+00	1.5633D+00	7.9745D+00	1.0767D-04	1.3489D-03	1.8494D+00	2.6800D+00	5.0332D-04
2.9608D-01	5.2021D+00	2.0219D+00	1.3890D+00	8.1152D+00	7.9541D-05	1.2642D-03	2.4286D+00	3.5352D+00	3.5760D-04
1.9738D-01	5.2537D+00	1.7258D+00	1.1720D+00	8.3024D+00	5.2173D-05	1.1656D-03	3.5563D+00	5.2367D+00	2.2258D-04
9.8692D-02	5.3109D+00	1.3610D+00	8.9737D-01	8.5982D+00	2.5630D-05	1.0491D-03	6.8035D+00	1.0318D+01	1.0167D-04
8.8823D-02	5.3169D+00	1.3199D+00	8.6595D-01	8.6411D+00	2.3024D-05	1.0363D-03	7.5094D+00	1.1446D+01	9.0535D-05
7.8954D-02	5.3230D+00	1.2779D+00	8.3371D-01	8.6886D+00	2.0427D-05	1.0232D-03	8.3868D+00	1.2855D+01	7.9595D-05
6.9085D-02	5.3292D+00	1.2349D+00	8.0062D-01	8.7418D+00	1.7840D-05	1.0099D-03	9.5086D+00	1.4666D+01	6.8857D-05
5.9215D-02	5.3355D+00	1.1909D+00	7.6665D-01	8.8026D+00	1.5263D-05	9.9629D-04	1.0996D+01	1.7080D+01	5.8330D-05
4.9346D-02	5.3418D+00	1.1459D+00	7.3177D-01	8.8736D+00	1.2694D-05	9.8246D-04	1.3066D+01	2.0460D+01	4.8019D-05
3.9477D-02	5.3483D+00	1.0998D+00	6.9595D-01	8.9594D+00	1.0136D-05	9.6836D-04	1.6154D+01	2.5528D+01	3.7933D-05
2.9608D-02	5.3548D+00	1.0526D+00	6.5914D-01	9.0686D+00	7.5869D-06	9.5398D-04	2.1274D+01	3.3973D+01	2.8080D-05
1.9738D-02	5.3613D+00	1.0043D+00	6.2132D-01	9.2205D+00	5.0479D-06	9.3931D-04	3.1468D+01	5.0863D+01	1.8467D-05
9.8692D-03	5.3680D+00	9.5480D-01	5.8244D-01	9.4764D+00	2.5189D-06	9.2435D-04	6.1934D+01	1.0153D+02	9.1045D-06
8.8823D-03	5.3686D+00	9.4978D-01	5.7850D-01	9.5151D+00	2.2666D-06	9.2284D-04	6.8696D+01	1.1279D+02	8.1822D-06
7.8954D-03	5.3693D+00	9.4476D-01	5.7454D-01	9.5582D+00	2.0143D-06	9.2132D-04	7.7147D+01	1.2686D+02	7.2626D-06
6.9085D-03	5.3700D+00	9.3972D-01	5.7057D-01	9.6070D+00	1.7622D-06	9.1981D-04	8.8011D+01	1.4495D+02	6.3455D-06
5.9215D-03	5.3706D+00	9.3467D-01	5.6659D-01	9.6633D+00	1.5101D-06	9.1828D-04	1.0249D+02	1.6908D+02	5.4311D-06
4.9346D-03	5.3713D+00	9.2961D-01	5.6260D-01	9.7298D+00	1.2582D-06	9.1676D-04	1.2277D+02	2.0285D+02	4.5193D-06
3.9477D-03	5.3720D+00	9.2453D-01	5.5860D-01	9.8110D+00	1.0064D-06	9.1523D-04	1.5317D+02	2.5352D+02	3.6102D-06
2.9608D-03	5.3727D+00	9.1945D-01	5.5458D-01	9.9156D+00	7.5461D-07	9.1370D-04	2.0384D+02	3.3795D+02	2.7036D-06
1.9738D-03	5.3733D+00	9.1435D-01	5.5056D-01	1.0063D+01	5.0297D-07	9.1217D-04	3.0518D+02	5.0683D+02	1.7998D-06
9.8692D-04	5.3740D+00	9.0923D-01	5.4652D-01	1.0314D+01	2.5144D-07	9.1063D-04	6.0917D+02	1.0135D+03	8.9854D-07
8.8823D-04	5.3741D+00	9.0872D-01	5.4612D-01	1.0352D+01	2.2629D-07	9.1048D-04	6.7672D+02	1.1260D+03	8.0857D-07
7.8954D-04	5.3742D+00	9.0821D-01	5.4571D-01	1.0395D+01	2.0114D-07	9.1032D-04	7.6116D+02	1.2668D+03	7.1862D-07
6.9085D-04	5.3742D+00	9.0770D-01	5.4531D-01	1.0443D+01	1.7599D-07	9.1017D-04	8.6972D+02	1.4477D+03	6.2870D-07

SUPERHEATED VAPOR PROPERTIES AT T = 1100.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
5.9215D-04	5.3743D+00	9.0719D-01	5.4491D-01	1.0499D+01	1.5085D-07	9.1002D-04	1.0145D+03	1.6090D+03	5.3880D-07
4.9346D-04	5.3744D+00	9.0667D-01	5.4450D-01	1.0565D+01	1.2570D-07	9.0986D-04	1.2171D+03	2.0267D+03	4.4894D-07
3.9477D-04	5.3744D+00	9.0616D-01	5.4410D-01	1.0646D+01	1.0056D-07	9.0971D-04	1.5211D+03	2.5333D+03	3.5910D-07
2.9608D-04	5.3745D+00	9.0565D-01	5.4369D-01	1.0750D+01	7.5420D-08	9.0955D-04	2.0277D+03	3.3777D+03	2.6928D-07
1.9738D-04	5.3746D+00	9.0514D-01	5.4329D-01	1.0896D+01	5.0279D-08	9.0940D-04	3.0410D+03	5.0665D+03	1.7949D-07
9.8692E-05	5.3746D+00	9.0462D-01	5.4288D-01	1.1147D+01	2.5139D-08	9.0925D-04	6.0808D+03	1.0133D+04	8.9734D-08
8.8823D-05	5.3746D+00	9.0457D-01	5.4284D-01	1.1185D+01	2.2625D-08	9.0923D-04	6.7563D+03	1.1259D+04	8.0759D-08
7.8954D-05	5.3746D+00	9.0452D-01	5.4280D-01	1.1228D+01	2.0111D-08	9.0921D-04	7.6007D+03	1.2666D+04	7.1785D-08
6.9085D-05	5.3746D+00	9.0447D-01	5.4276D-01	1.1276D+01	1.7597D-08	9.0920D-04	8.6864D+03	1.4475D+04	6.2811D-08
5.9215E-05	5.3747D+00	9.0442D-01	5.4272D-01	1.1332D+01	1.5083D-08	9.0918D-04	1.0134D+04	1.6888D+04	5.3837D-08
4.9346D-05	5.3747D+00	9.0437D-01	5.4268D-01	1.1398D+01	1.2569D-08	9.0917D-04	1.2161D+04	2.0265D+04	4.4864D-08
3.9477D-05	5.3747D+00	9.0432D-01	5.4264D-01	1.1479D+01	1.0055D-08	9.0915D-04	1.5200D+04	2.5331D+04	3.5890D-08
2.9608D-05	5.3747D+00	9.0426D-01	5.4260D-01	1.1583D+01	7.5416D-09	9.0914D-04	2.0267D+04	3.3775D+04	2.6917D-08
1.9738D-05	5.3747D+00	9.0421D-01	5.4256D-01	1.1729D+01	5.0277D-09	9.0912D-04	3.0399D+04	5.0663D+04	1.7945D-08
9.8692D-06	5.3747D+00	9.0416D-01	5.4252D-01	1.1980D+01	2.5138D-09	9.0911D-04	6.0797D+04	1.0133D+05	8.9722D-09
8.8823D-06	5.3747D+00	9.0416D-01	5.4251D-01	1.2018D+01	2.2625D-09	9.0910D-04	6.7553D+04	1.1258D+05	8.0749D-09
7.8954E-06	5.3747D+00	9.0415D-01	5.4251D-01	1.2061D+01	2.0111D-09	9.0910D-04	7.5996D+04	1.2666D+05	7.1777D-09
6.9085D-06	5.3747D+00	9.0415D-01	5.4250D-01	1.2109D+01	1.7597D-09	9.0910D-04	8.6853D+04	1.4475D+05	6.2805D-09
5.9215D-06	5.3747D+00	9.0414D-01	5.4250D-01	1.2165D+01	1.5083D-09	9.0910D-04	1.0133D+05	1.6888D+05	5.3833D-09
4.9346D-06	5.3747D+00	9.0414D-01	5.4250D-01	1.2231D+01	1.2569D-09	9.0910D-04	1.2159D+05	2.0265D+05	4.4860D-09
3.9477D-06	5.3747D+00	9.0413D-01	5.4249D-01	1.2311D+01	1.0055D-09	9.0910D-04	1.5199D+05	2.5331D+05	3.5888D-09
2.9608D-06	5.3747D+00	9.0413D-01	5.4249D-01	1.2415D+01	7.5415D-10	9.0910D-04	2.0265D+05	3.3775D+05	2.6916D-09
1.9738D-06	5.3747D+00	9.0412D-01	5.4248D-01	1.2562D+01	5.0277D-10	9.0909D-04	3.0398D+05	5.0663D+05	1.7944D-09
9.8692D-07	5.3747D+00	9.0412D-01	5.4248D-01	1.2813D+01	2.5138D-10	9.0909D-04	6.0796D+05	1.0132D+06	8.9720D-10
8.8823E-07	5.3747D+00	9.0411D-01	5.4248D-01	1.2851D+01	2.2625D-10	9.0909D-04	6.7551D+05	1.1258D+06	8.0748D-10
7.8954D-07	5.3747D+00	9.0411D-01	5.4248D-01	1.2893D+01	2.0111D-10	9.0909D-04	7.5995D+05	1.2666D+06	7.1776D-10

SUPERHEATED VAPOR PROPERTIES AT T = 1100.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
6.9085D-07	5.3747D+00	9.0411D-01	5.4248D-01	1.2942D+01	1.7597D-10	9.0909D-04	8.6852D+05	1.4475D+06	6.2804D-10
5.9215D-07	5.3747D+00	9.0411D-01	5.4248D-01	1.2997D+01	1.5083D-10	9.0909D-04	1.0133D+06	1.6887D+06	5.3832D-10
4.9346D-07	5.3747D+00	9.0411D-01	5.4248D-01	1.3063D+01	1.2569D-10	9.0909D-04	1.2159D+06	2.0265D+06	4.4860D-10
3.9477D-07	5.3747D+00	9.0411D-01	5.4248D-01	1.3144D+01	1.0055D-10	9.0909D-04	1.5199D+06	2.5331D+06	3.5888D-10
2.9608D-07	5.3747D+00	9.0411D-01	5.4248D-01	1.3248D+01	7.5415D-11	9.0909D-04	2.0265D+06	3.3775D+06	2.6916D-10
1.9738D-07	5.3747D+00	9.0411D-01	5.4248D-01	1.3395D+01	5.0277D-11	9.0909D-04	3.0398D+06	5.0662D+06	1.7944D-10
9.8692D-08	5.3747D+00	9.0411D-01	5.4248D-01	1.3645D+01	2.5138D-11	9.0909D-04	6.0796D+06	1.0132D+07	8.9720D-11
8.8823D-08	5.3747D+00	9.0411D-01	5.4248D-01	1.3683D+01	2.2625D-11	9.0909D-04	6.7551D+06	1.1258D+07	8.0748D-11
7.8954D-08	5.3747D+00	9.0411D-01	5.4248D-01	1.3726D+01	2.0111D-11	9.0909D-04	7.5995D+06	1.2666D+07	7.1776D-11
6.9085D-08	5.3747D+00	9.0411D-01	5.4248D-01	1.3774D+01	1.7597D-11	9.0909D-04	8.6852D+06	1.4475D+07	6.2804D-11
5.9215D-08	5.3747D+00	9.0411D-01	5.4248D-01	1.3830D+01	1.5083D-11	9.0909D-04	1.0133D+07	1.6887D+07	5.3832D-11
4.9346D-08	5.3747D+00	9.0411D-01	5.4248D-01	1.3896D+01	1.2569D-11	9.0909D-04	1.2159D+07	2.0265D+07	4.4860D-11
3.9477D-08	5.3747D+00	9.0411D-01	5.4248D-01	1.3977D+01	1.0055D-11	9.0909D-04	1.5199D+07	2.5331D+07	3.5888D-11
2.9608D-08	5.3747D+00	9.0411D-01	5.4248D-01	1.4081D+01	7.5415D-12	9.0909D-04	2.0265D+07	3.3775D+07	2.6916D-11
1.9738D-08	5.3747D+00	9.0411D-01	5.4248D-01	1.4227D+01	5.0277D-12	9.0909D-04	3.0398D+07	5.0662D+07	1.7944D-11
9.8692D-09	5.3747D+00	9.0411D-01	5.4248D-01	1.4478D+01	2.5138D-12	9.0909D-04	6.0796D+07	1.0132D+08	8.9720D-12
8.8823D-09	5.3747D+00	9.0411D-01	5.4248D-01	1.4516D+01	2.2625D-12	9.0909D-04	6.7551D+07	1.1258D+08	8.0748D-12
7.8954D-09	5.3747D+00	9.0411D-01	5.4248D-01	1.4559D+01	2.0111D-12	9.0909D-04	7.5995D+07	1.2666D+08	7.1776D-12
6.9085D-09	5.3747D+00	9.0411D-01	5.4248D-01	1.4607D+01	1.7597D-12	9.0909D-04	8.6852D+07	1.4475D+08	6.2804D-12
5.9215D-09	5.3747D+00	9.0411D-01	5.4248D-01	1.4663D+01	1.5083D-12	9.0909D-04	1.0133D+08	1.6887D+08	5.3832D-12
4.9346D-09	5.3747D+00	9.0411D-01	5.4248D-01	1.4729D+01	1.2569D-12	9.0909D-04	1.2159D+08	2.0265D+08	4.4860D-12
3.9477D-09	5.3747D+00	9.0411D-01	5.4248D-01	1.4809D+01	1.0055D-12	9.0909D-04	1.5199D+08	2.5331D+08	3.5888D-12
2.9608D-09	5.3747D+00	9.0411D-01	5.4248D-01	1.4913D+01	7.5415D-13	9.0909D-04	2.0265D+08	3.3775D+08	2.6916D-12
1.9738D-09	5.3747D+00	9.0411D-01	5.4248D-01	1.5060D+01	5.0277D-13	9.0909D-04	3.0398D+08	5.0662D+08	1.7944D-12
9.8692D-10	5.3747D+00	9.0411D-01	5.4248D-01	1.5311D+01	2.5138D-13	9.0909D-04	6.0796D+08	1.0132D+09	8.9720D-13
8.8823D-10	5.3747D+00	9.0411D-01	5.4248D-01	1.5349D+01	2.2625D-13	9.0909D-04	6.7551D+08	1.1258D+09	8.0748D-13

SUPERHEATED VAPOR PROPERTIES AT T = 1100.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
7.8954D-10	5.3747D+00	9.0411D-01	5.4248D-01	1.5391D+01	2.0111D-13	9.0909D-04	7.5995D+08	1.2666D+09	7.1776D-13
6.9085D-10	5.3747D+00	9.0411D-01	5.4248D-01	1.5440D+01	1.7597D-13	9.0909D-04	8.6852D+08	1.4475D+09	6.2804D-13
5.9215D-10	5.3747D+00	9.0411D-01	5.4248D-01	1.5495D+01	1.5083D-13	9.0909D-04	1.0133D+09	1.6887D+09	5.3832D-13
4.9346D-10	5.3747D+00	9.0411D-01	5.4248D-01	1.5561D+01	1.2569D-13	9.0909D-04	1.2159D+09	2.0265D+09	4.4860D-13
3.9477D-10	5.3747D+00	9.0411D-01	5.4248D-01	1.5642D+01	1.0055D-13	9.0909D-04	1.5199D+09	2.5331D+09	3.5888D-13
2.9608D-10	5.3747D+00	9.0411D-01	5.4248D-01	1.5746D+01	7.5415D-14	9.0909D-04	2.0265D+09	3.3775D+09	2.6916D-13
1.9738D-10	5.3747D+00	9.0411D-01	5.4248D-01	1.5893D+01	5.0277D-14	9.0909D-04	3.0398D+09	5.0662D+09	1.7944D-13
9.8692D-11	5.3747D+00	9.0411D-01	5.4248D-01	1.6143D+01	2.5138D-14	9.0909D-04	6.0796D+09	1.0132D+10	8.9720D-14

SUPERHEATED SODIUM VAPOE PROPERTIES AT T= 1200.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
1.0000D-01	1.1960D+02	5.1224D+01	3.4613D+01	1.7678D+02	2.5028D-01	1.2698D-03	7.2240D+00	1.0691D+01	1.1878D-04
9.0000D-02	1.2009D+02	4.9290D+01	3.3301D+01	1.7800D+02	2.2368D-01	1.2385D-03	7.9868D+00	1.1822D+01	1.0476D-04
8.0000D-02	1.2060D+02	4.7191D+01	3.1858D+01	1.7934D+02	1.9739D-01	1.2053D-03	8.9330D+00	1.3232D+01	9.1090D-05
7.0000D-02	1.2113D+02	4.4903D+01	3.0268D+01	1.8082D+02	1.7143D-01	1.1701D-03	1.0139D+01	1.5042D+01	7.7788D-05
6.0000D-02	1.2169D+02	4.2403D+01	2.8507D+01	1.8249D+02	1.4581D-01	1.1324D-03	1.1731D+01	1.7448D+01	6.4901D-05
5.0000D-02	1.2227D+02	3.9660D+01	2.6552D+01	1.8442D+02	1.2054D-01	1.0921D-03	1.3932D+01	2.0810D+01	5.2478D-05
4.0000D-02	1.2288D+02	3.6638D+01	2.4370D+01	1.8671D+02	9.5638D-02	1.0487D-03	1.7189D+01	2.5842D+01	4.0580D-05
3.0000D-02	1.2352D+02	3.3296D+01	2.1924D+01	1.8955D+02	7.1112D-02	1.0017D-03	2.2525D+01	3.4210D+01	2.9281D-05
2.0000D-02	1.2419D+02	2.9584D+01	1.9166D+01	1.9341D+02	4.6984D-02	9.5059D-04	3.2986D+01	5.0915D+01	1.8670D-05
1.0000D-02	1.2490D+02	2.5438D+01	1.6040D+01	1.9968D+02	2.3272D-02	8.9474D-04	6.3658D+01	1.0096D+02	8.8625D-06
9.0000D-03	1.2497D+02	2.4997D+01	1.5704D+01	2.0061D+02	2.0925D-02	8.8886D-04	7.0409D+01	1.1207D+02	7.9311D-06
8.0000D-03	1.2504D+02	2.4551D+01	1.5364D+01	2.0164D+02	1.8582D-02	8.8293D-04	7.8831D+01	1.2597D+02	7.0092D-06
7.0000D-03	1.2512D+02	2.4100D+01	1.5020D+01	2.0281D+02	1.6243D-02	8.7694D-04	8.9638D+01	1.4383D+02	6.0971D-06
6.0000D-03	1.2519D+02	2.3643D+01	1.4670D+01	2.0414D+02	1.3909D-02	8.7089D-04	1.0402D+02	1.6764D+02	5.1949D-06
5.0000D-03	1.2527D+02	2.3181D+01	1.4316D+01	2.0571D+02	1.1579D-02	8.6478D-04	1.2412D+02	2.0098D+02	4.3028D-06
4.0000D-03	1.2534D+02	2.2713D+01	1.3958D+01	2.0762D+02	9.2544D-03	8.5862D-04	1.5423D+02	2.5099D+02	3.4210D-06
3.0000D-03	1.2542D+02	2.2240D+01	1.3594D+01	2.1007D+02	6.9339D-03	8.5239D-04	2.0435D+02	3.3432D+02	2.5496D-06
2.0000D-03	1.2549D+02	2.1761D+01	1.3225D+01	2.1349D+02	4.6180D-03	8.4610D-04	3.0447D+02	5.0100D+02	1.6888D-06
1.0000D-03	1.2557D+02	2.1277D+01	1.2851D+01	2.1931D+02	2.3067D-03	8.3975D-04	6.0460D+02	1.0010D+03	8.3891D-07
9.0000D-04	1.2558D+02	2.1228D+01	1.2813D+01	2.2020D+02	2.0758D-03	8.3911D-04	6.7128D+02	1.1121D+03	7.5452D-07
8.0000D-04	1.2559D+02	2.1179D+01	1.2776D+01	2.2118D+02	1.8450D-03	8.3847D-04	7.5463D+02	1.2510D+03	6.7024D-07
7.0000D-04	1.2559D+02	2.1130D+01	1.2738D+01	2.2230D+02	1.6142D-03	8.3783D-04	8.6179D+02	1.4296D+03	5.8607D-07
6.0000D-04	1.2560D+02	2.1081D+01	1.2700D+01	2.2358D+02	1.3834D-03	8.3719D-04	1.0047D+03	1.6677D+03	5.0201D-07
5.0000D-04	1.2561D+02	2.1032D+01	1.2662D+01	2.2510D+02	1.1528D-03	8.3655D-04	1.2047D+03	2.0010D+03	4.1807D-07
4.0000D-04	1.2562D+02	2.0983D+01	1.2624D+01	2.2697D+02	9.2211D-04	8.3591D-04	1.5047D+03	2.5010D+03	3.3423D-07
3.0000D-04	1.2563D+02	2.0934D+01	1.2586D+01	2.2936D+02	6.9152D-04	8.3526D-04	2.0047D+03	3.3343D+03	2.5050D-07

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1200.0K

P (MPA)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
2.0000D-04	1.2563D+02	2.0885D+01	1.2548D+01	2.3274D+02	4.6096D-04	8.3462D-04	3.0048D+03	5.0010D+03	1.6689D-07
1.0000D-04	1.2564D+02	2.0836D+01	1.2510D+01	2.3851D+02	2.3046D-04	8.3398D-04	6.0048D+03	1.0001D+04	8.3389D-08
9.0000D-05	1.2564D+02	2.0831D+01	1.2506D+01	2.3938D+02	2.0741D-04	8.3391D-04	6.6715D+03	1.1112D+04	7.5045D-08
8.0000D-05	1.2564D+02	2.0826D+01	1.2503D+01	2.4036D+02	1.8436D-04	8.3385D-04	7.5048D+03	1.2501D+04	6.6703D-08
7.0000D-05	1.2564D+02	2.0821D+01	1.2499D+01	2.4148D+02	1.6132D-04	8.3378D-04	8.5763D+03	1.4287D+04	5.8361D-08
6.0000D-05	1.2564D+02	2.0816D+01	1.2495D+01	2.4276D+02	1.3827D-04	8.3372D-04	1.0005D+04	1.6668D+04	5.0020D-08
5.0000D-05	1.2564D+02	2.0811D+01	1.2491D+01	2.4427D+02	1.1522D-04	8.3366D-04	1.2005D+04	2.0001D+04	4.1681D-08
4.0000D-05	1.2565D+02	2.0806D+01	1.2487D+01	2.4613D+02	9.2178D-05	8.3359D-04	1.5005D+04	2.5001D+04	3.3342D-08
3.0000D-05	1.2565D+02	2.0801D+01	1.2483D+01	2.4852D+02	6.9133D-05	8.3353D-04	2.0005D+04	3.3334D+04	2.5005D-08
2.0000D-05	1.2565D+02	2.0796D+01	1.2480D+01	2.5189D+02	4.6088D-05	8.3346D-04	3.0005D+04	5.0001D+04	1.6669D-08
1.0000D-05	1.2565D+02	2.0791D+01	1.2476D+01	2.5766D+02	2.3044D-05	8.3340D-04	6.0006D+04	1.0000D+05	8.3339D-09
9.0000D-06	1.2565D+02	2.0791D+01	1.2476D+01	2.5853D+02	2.0739D-05	8.3339D-04	6.6673D+04	1.1111D+05	7.5005D-09
8.0000D-06	1.2565D+02	2.0790D+01	1.2475D+01	2.5951D+02	1.8435D-05	8.3338D-04	7.5006D+04	1.2500D+05	6.6670D-09
7.0000D-06	1.2565D+02	2.0790D+01	1.2475D+01	2.6062D+02	1.6131D-05	8.3338D-04	8.5721D+04	1.4286D+05	5.8336D-09
6.0000D-06	1.2565D+02	2.0789D+01	1.2474D+01	2.6191D+02	1.3826D-05	8.3337D-04	1.0001D+05	1.6667D+05	5.0002D-09
5.0000D-06	1.2565D+02	2.0789D+01	1.2474D+01	2.6342D+02	1.1522D-05	8.3337D-04	1.2001D+05	2.0000D+05	4.1668D-09
4.0000D-06	1.2565D+02	2.0788D+01	1.2474D+01	2.6528D+02	9.2175D-06	8.3336D-04	1.5001D+05	2.5000D+05	3.3334D-09
3.0000D-06	1.2565D+02	2.0788D+01	1.2473D+01	2.6767D+02	6.9131D-06	8.3335D-04	2.0001D+05	3.3333D+05	2.5001D-09
2.0000D-06	1.2565D+02	2.0787D+01	1.2473D+01	2.7104D+02	4.6087D-06	8.3335D-04	3.0001D+05	5.0000D+05	1.6667D-09
1.0000D-06	1.2565D+02	2.0787D+01	1.2472D+01	2.7680D+02	2.3044D-06	8.3334D-04	6.0002D+05	1.0000D+06	8.3334D-10
9.0000D-07	1.2565D+02	2.0787D+01	1.2472D+01	2.7768D+02	2.0739D-06	8.3334D-04	6.6668D+05	1.1111D+06	7.5000D-10
8.0000D-07	1.2565D+02	2.0787D+01	1.2472D+01	2.7866D+02	1.8435D-06	8.3334D-04	7.5002D+05	1.2500D+06	6.6667D-10
7.0000D-07	1.2565D+02	2.0787D+01	1.2472D+01	2.7977D+02	1.6130D-06	8.3334D-04	8.5716D+05	1.4286D+06	5.8334D-10
6.0000D-07	1.2565D+02	2.0787D+01	1.2472D+01	2.8105D+02	1.3826D-06	8.3334D-04	1.0000D+06	1.6667D+06	5.0000D-10
5.0000D-07	1.2565D+02	2.0787D+01	1.2472D+01	2.8257D+02	1.1522D-06	8.3334D-04	1.2000D+06	2.0000D+06	4.1667D-10
4.0000D-07	1.2565D+02	2.0787D+01	1.2472D+01	2.8442D+02	9.2174D-07	8.3334D-04	1.5000D+06	2.5000D+06	3.3333D-10

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1200.OK

P (MPA)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMNAV (MPA/K)
3.0000D-07	1.2565D+02	2.0787D+01	1.2472D+01	2.8681D+02	6.9131D-07	8.3334D-04	2.0000D+06	3.3333D+06	2.5000D-10
2.0000D-07	1.2565D+02	2.0786D+01	1.2472D+01	2.9018D+02	4.6087D-07	8.3333D-04	3.0001D+06	5.0000D+06	1.6667D-10
1.0000D-07	1.2565D+02	2.0786D+01	1.2472D+01	2.9595D+02	2.3044D-07	8.3333D-04	6.0001D+06	1.0000D+07	8.3333D-11
9.0000D-08	1.2565D+02	2.0786D+01	1.2472D+01	2.9682D+02	2.0739D-07	8.3333D-04	6.6668D+06	1.1111D+07	7.5000D-11
8.0000D-08	1.2565D+02	2.0786D+01	1.2472D+01	2.9780D+02	1.8435D-07	8.3333D-04	7.5001D+06	1.2500D+07	6.6667D-11
7.0000D-08	1.2565D+02	2.0786D+01	1.2472D+01	2.9891D+02	1.6130D-07	8.3333D-04	8.5716D+06	1.4286D+07	5.8333D-11
6.0000D-08	1.2565D+02	2.0786D+01	1.2472D+01	3.0019D+02	1.3826D-07	8.3333D-04	1.0000D+07	1.6667D+07	5.0000D-11
5.0000D-08	1.2565D+02	2.0786D+01	1.2472D+01	3.0171D+02	1.1522D-07	8.3333D-04	1.2000D+07	2.0000D+07	4.1667D-11
4.0000D-08	1.2565D+02	2.0786D+01	1.2472D+01	3.0357D+02	9.2174D-08	8.3333D-04	1.5000D+07	2.5000D+07	3.3333D-11
3.0000D-08	1.2565D+02	2.0786D+01	1.2472D+01	3.0596D+02	6.9131D-08	8.3333D-04	2.0000D+07	3.3333D+07	2.5000D-11
2.0000D-08	1.2565D+02	2.0786D+01	1.2472D+01	3.0933D+02	4.6087D-08	8.3333D-04	3.0001D+07	5.0000D+07	1.6667D-11
1.0000D-08	1.2565D+02	2.0786D+01	1.2472D+01	3.1509D+02	2.3044D-08	8.3333D-04	6.0001D+07	1.0000D+08	8.3333D-12
9.0000D-09	1.2565D+02	2.0786D+01	1.2472D+01	3.1597D+02	2.0739D-08	8.3333D-04	6.6668D+07	1.1111D+08	7.5000D-12
8.0000D-09	1.2565D+02	2.0786D+01	1.2472D+01	3.1695D+02	1.8435D-08	8.3333D-04	7.5001D+07	1.2500D+08	6.6667D-12
7.0000D-09	1.2565D+02	2.0786D+01	1.2472D+01	3.1806D+02	1.6130D-08	8.3333D-04	8.5716D+07	1.4286D+08	5.8333D-12
6.0000D-09	1.2565D+02	2.0786D+01	1.2472D+01	3.1934D+02	1.3826D-08	8.3333D-04	1.0000D+08	1.6667D+08	5.0000D-12
5.0000D-09	1.2565D+02	2.0786D+01	1.2472D+01	3.2086D+02	1.1522D-08	8.3333D-04	1.2000D+08	2.0000D+08	4.1667D-12
4.0000D-09	1.2565D+02	2.0786D+01	1.2472D+01	3.2271D+02	9.2174D-09	8.3333D-04	1.5000D+08	2.5000D+08	3.3333D-12
3.0000D-09	1.2565D+02	2.0786D+01	1.2472D+01	3.2510D+02	6.9131D-09	8.3333D-04	2.0000D+08	3.3333D+08	2.5000D-12
2.0000D-09	1.2565D+02	2.0786D+01	1.2472D+01	3.2847D+02	4.6087D-09	8.3333D-04	3.0001D+08	5.0000D+08	1.6667D-12
1.0000D-09	1.2565D+02	2.0786D+01	1.2472D+01	3.3424D+02	2.3044D-09	8.3333D-04	6.0001D+08	1.0000D+09	8.3333D-13
9.0000D-10	1.2565D+02	2.0786D+01	1.2472D+01	3.3511D+02	2.0739D-09	8.3333D-04	6.6668D+08	1.1111D+09	7.5000D-13
8.0000D-10	1.2565D+02	2.0786D+01	1.2472D+01	3.3609D+02	1.8435D-09	8.3333D-04	7.5001D+08	1.2500D+09	6.6667D-13
7.0000D-10	1.2565D+02	2.0786D+01	1.2472D+01	3.3720D+02	1.6130D-09	8.3333D-04	8.5716D+08	1.4286D+09	5.8333D-13
6.0000D-10	1.2565D+02	2.0786D+01	1.2472D+01	3.3848D+02	1.3826D-09	8.3333D-04	1.0000D+09	1.6667D+09	5.0000D-13
5.0000D-10	1.2565D+02	2.0786D+01	1.2472D+01	3.4000D+02	1.1522D-09	8.3333D-04	1.2000D+09	2.0000D+09	4.1667D-13

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1200.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
4.0000D-10	1.2565D+02	2.0786D+01	1.2472D+01	3.4185D+02	9.2174D-10	8.3333D-04	1.5000D+09	2.5000D+09	3.3333D-13
3.0000D-10	1.2565D+02	2.0786D+01	1.2472D+01	3.4425D+02	6.9131D-10	8.3333D-04	2.0000D+09	3.3333D+09	2.5000D-13
2.0000D-10	1.2565D+02	2.0786D+01	1.2472D+01	3.4762D+02	4.6087D-10	8.3333D-04	3.0001D+09	5.0000D+09	1.6667D-13
1.0000D-10	1.2565D+02	2.0786D+01	1.2472D+01	3.5338D+02	2.3044D-10	8.3333D-04	6.0001D+09	1.0000D+10	8.3333D-14

SUPERHEATED VAPOR PROPERTIES AT T = 1200.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
9.8692D-01	5.2021D+00	2.2280D+00	1.5055D+00	7.6891D+00	2.5028D-04	1.2698D-03	7.3197D-01	1.0832D+00	1.1722D-03
8.8823D-01	5.2234D+00	2.1439D+00	1.4484D+00	7.7421D+00	2.2368D-04	1.2385D-03	8.0926D-01	1.1978D+00	1.0339D-03
7.8954D-01	5.2457D+00	2.0526D+00	1.3857D+00	7.8003D+00	1.9739D-04	1.2053D-03	9.0514D-01	1.3408D+00	8.9899D-04
6.9085D-01	5.2688D+00	1.9531D+00	1.3165D+00	7.8648D+00	1.7143D-04	1.1701D-03	1.0273D+00	1.5241D+00	7.6771D-04
5.9215D-01	5.2929D+00	1.8443D+00	1.2399D+00	7.9376D+00	1.4581D-04	1.1324D-03	1.1886D+00	1.7680D+00	6.4053D-04
4.9346D-01	5.3181D+00	1.7250D+00	1.1549D+00	8.0214D+00	1.2054D-04	1.0921D-03	1.4117D+00	2.1086D+00	5.1792D-04
3.9477D-01	5.3446D+00	1.5936D+00	1.0600D+00	8.1209D+00	9.5638D-05	1.0487D-03	1.7416D+00	2.6184D+00	4.0050D-04
2.9608D-01	5.3723D+00	1.4482D+00	9.5358D-01	8.2447D+00	7.1112D-05	1.0017D-03	2.2823D+00	3.4663D+00	2.8898D-04
1.9738D-01	5.4016D+00	1.2867D+00	8.3365D-01	8.4123D+00	4.6984D-05	9.5059D-04	3.3423D+00	5.1589D+00	1.8426D-04
9.8692D-02	5.4324D+00	1.1065D+00	6.9766D-01	8.6852D+00	2.3272D-05	8.9474D-04	6.4502D+00	1.0230D+01	8.7466D-05
8.8823D-02	5.4356D+00	1.0873D+00	6.8307D-01	8.7256D+00	2.0925D-05	8.8886D-04	7.1342D+00	1.1356D+01	7.8274D-05
7.8954D-02	5.4388D+00	1.0679D+00	6.6828D-01	8.7705D+00	1.8582D-05	8.8293D-04	7.9876D+00	1.2764D+01	6.9176D-05
6.9085D-02	5.4420D+00	1.0482D+00	6.5329D-01	8.8211D+00	1.6243D-05	8.7694D-04	9.0826D+00	1.4573D+01	6.0174D-05
5.9215D-02	5.4453D+00	1.0284D+00	6.3810D-01	8.8792D+00	1.3909D-05	8.7089D-04	1.0540D+01	1.6986D+01	5.1270D-05
4.9346D-02	5.4485D+00	1.0083D+00	6.2270D-01	8.9475D+00	1.1579D-05	8.6478D-04	1.2577D+01	2.0364D+01	4.2466D-05
3.9477D-02	5.4518D+00	9.8793D-01	6.0709D-01	9.0306D+00	9.2544D-06	8.5862D-04	1.5628D+01	2.5431D+01	3.3763D-05
2.9608D-02	5.4551D+00	9.6735D-01	5.9127D-01	9.1370D+00	6.9339D-06	8.5239D-04	2.0705D+01	3.3875D+01	2.5163D-05
1.9738D-02	5.4584D+00	9.4652D-01	5.7523D-01	9.2860D+00	4.6180D-06	8.4610D-04	3.0850D+01	5.0763D+01	1.6668D-05
9.8692D-03	5.4617D+00	9.2544D-01	5.5896D-01	9.5391D+00	2.3067D-06	8.3975D-04	6.1261D+01	1.0143D+02	8.2794D-06
8.8823D-03	5.4621D+00	9.2332D-01	5.5733D-01	9.5774D+00	2.0758D-06	8.3911D-04	6.8018D+01	1.1268D+02	7.4465D-06
7.8954D-03	5.4624D+00	9.2120D-01	5.5569D-01	9.6203D+00	1.8450D-06	8.3847D-04	7.6463D+01	1.2676D+02	6.6148D-06
6.9085D-03	5.4628D+00	9.1907D-01	5.5404D-01	9.6688D+00	1.6142D-06	8.3783D-04	8.7321D+01	1.4485D+02	5.7841D-06
5.9215D-03	5.4631D+00	9.1694D-01	5.5240D-01	9.7248D+00	1.3834D-06	8.3719D-04	1.0180D+02	1.6898D+02	4.9545D-06
4.9346D-03	5.4634D+00	9.1481D-01	5.5075D-01	9.7910D+00	1.1528D-06	8.3655D-04	1.2206D+02	2.0275D+02	4.1260D-06
3.9477D-03	5.4638D+00	9.1267D-01	5.4910D-01	9.8719D+00	9.2211D-07	8.3591D-04	1.5246D+02	2.5341D+02	3.2986D-06
2.9608D-03	5.4641D+00	9.1054D-01	5.4745D-01	9.9762D+00	6.9152D-07	8.3526D-04	2.0313D+02	3.3785D+02	2.4723D-06

SUPERHEATED VAPOR PROPERTIES AT T = 1200.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAHHAV (ATM/K)
1.9738D-03	5.4644D+00	9.0840D-01	5.4579D-01	1.0123D+01	4.6096D-07	8.3462D-04	3.0446D+02	5.0673D+02	1.6471D-06
5.8692D-04	5.4648D+00	9.0625D-01	5.4413D-01	1.0374D+01	2.3046D-07	8.3398D-04	6.0844D+02	1.0134D+03	8.2299D-07
8.8823D-04	5.4648D+00	9.0604D-01	5.4397D-01	1.0412D+01	2.0741D-07	8.3391D-04	6.7599D+02	1.1259D+03	7.4064D-07
7.8954D-04	5.4648D+00	9.0583D-01	5.4380D-01	1.0455D+01	1.8436D-07	8.3385D-04	7.6043D+02	1.2667D+03	6.5830D-07
6.9085D-04	5.4649D+00	9.0561D-01	5.4364D-01	1.0503D+01	1.6132D-07	8.3378D-04	8.6899D+02	1.4476D+03	5.7598D-07
5.9215D-04	5.4649D+00	9.0540D-01	5.4347D-01	1.0559D+01	1.3827D-07	8.3372D-04	1.0137D+03	1.6889D+03	4.9366D-07
4.9346D-04	5.4649D+00	9.0518D-01	5.4331D-01	1.0625D+01	1.1522D-07	8.3366D-04	1.2164D+03	2.0266D+03	4.1136D-07
3.9477D-04	5.4650D+00	9.0497D-01	5.4314D-01	1.0705D+01	9.2178D-08	8.3359D-04	1.5204D+03	2.5332D+03	3.2906D-07
2.9608D-04	5.4650D+00	9.0475D-01	5.4297D-01	1.0810D+01	6.9133D-08	8.3353D-04	2.0270D+03	3.3776D+03	2.4678D-07
1.9738D-04	5.4650D+00	9.0454D-01	5.4281D-01	1.0956D+01	4.6088D-08	8.3346D-04	3.0403D+03	5.0664D+03	1.6451D-07
9.8692D-05	5.4651D+00	9.0432D-01	5.4264D-01	1.1207D+01	2.3044D-08	8.3340D-04	6.0801D+03	1.0133D+04	8.2249D-08
8.8823D-05	5.4651D+00	9.0430D-01	5.4263D-01	1.1245D+01	2.0739D-08	8.3339D-04	6.7556D+03	1.1258D+04	7.4024D-08
7.8954D-05	5.4651D+00	9.0428D-01	5.4261D-01	1.1288D+01	1.8435D-08	8.3338D-04	7.6000D+03	1.2666D+04	6.5798D-08
6.9085D-05	5.4651D+00	9.0426D-01	5.4259D-01	1.1336D+01	1.6131D-08	8.3338D-04	8.6857D+03	1.4475D+04	5.7573D-08
5.9215D-05	5.4651D+00	9.0424D-01	5.4258D-01	1.1392D+01	1.3826D-08	8.3337D-04	1.0133D+04	1.6888D+04	4.9348D-08
4.9346D-05	5.4651D+00	9.0422D-01	5.4256D-01	1.1458D+01	1.1522D-08	8.3337D-04	1.2160D+04	2.0265D+04	4.1123D-08
3.9477D-05	5.4651D+00	9.0420D-01	5.4254D-01	1.1538D+01	9.2175D-09	8.3336D-04	1.5200D+04	2.5331D+04	3.2898D-08
2.9608D-05	5.4651D+00	9.0417D-01	5.4253D-01	1.1642D+01	6.9131D-09	8.3335D-04	2.0266D+04	3.3775D+04	2.4674D-08
1.9738D-05	5.4651D+00	9.0415D-01	5.4251D-01	1.1789D+01	4.6087D-09	8.3335D-04	3.0399D+04	5.0663D+04	1.6449D-08
9.8692D-06	5.4651D+00	9.0413D-01	5.4249D-01	1.2040D+01	2.3044D-09	8.3334D-04	6.0797D+04	1.0133D+05	8.2244D-09
8.8823D-06	5.4651D+00	9.0413D-01	5.4249D-01	1.2078D+01	2.0739D-09	8.3334D-04	6.7552D+04	1.1258D+05	7.4020D-09
7.8954D-06	5.4651D+00	9.0413D-01	5.4249D-01	1.2120D+01	1.8435D-09	8.3334D-04	7.5996D+04	1.2666D+05	6.5795D-09
6.9085D-06	5.4651D+00	9.0412D-01	5.4249D-01	1.2169D+01	1.6130D-09	8.3334D-04	8.6852D+04	1.4475D+05	5.7571D-09
5.9215D-06	5.4651D+00	9.0412D-01	5.4249D-01	1.2224D+01	1.3826D-09	8.3334D-04	1.0133D+05	1.6888D+05	4.9346D-09
4.9346D-06	5.4651D+00	9.0412D-01	5.4248D-01	1.2290D+01	1.1522D-09	8.3334D-04	1.2159D+05	2.0265D+05	4.1122D-09
3.9477D-06	5.4651D+00	9.0412D-01	5.4248D-01	1.2371D+01	9.2174D-10	8.3334D-04	1.5199D+05	2.5331D+05	3.2898D-09

SUPERHEATED VAPOR PROPERTIES AT T = 1200.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
2.9608D-06	5.4651D+00	9.0412D-01	5.4248D-01	1.2475D+01	6.9131D-10	8.3334D-04	2.0265D+05	3.3775D+05	2.4673D-09
1.9738D-06	5.4651D+00	9.0411D-01	5.4248D-01	1.2622D+01	4.6087D-10	8.3333D-04	3.0398D+05	5.0662D+05	1.6449D-09
9.8692D-07	5.4651D+00	9.0411D-01	5.4248D-01	1.2872D+01	2.3044D-10	8.3333D-04	6.0796D+05	1.0132D+06	8.2244D-10
8.8823D-07	5.4651D+00	9.0411D-01	5.4248D-01	1.2910D+01	2.0739D-10	8.3333D-04	6.7551D+05	1.1258D+06	7.4019D-10
7.8954D-07	5.4651D+00	9.0411D-01	5.4248D-01	1.2953D+01	1.8435D-10	8.3333D-04	7.5995D+05	1.2666D+06	6.5795D-10
6.9085D-07	5.4651D+00	9.0411D-01	5.4248D-01	1.3001D+01	1.6130D-10	8.3333D-04	8.6852D+05	1.4475D+06	5.7571D-10
5.9215D-07	5.4651D+00	9.0411D-01	5.4248D-01	1.3057D+01	1.3826D-10	8.3333D-04	1.0133D+06	1.6887D+06	4.9346D-10
4.9346D-07	5.4651D+00	9.0411D-01	5.4248D-01	1.3123D+01	1.1522D-10	8.3333D-04	1.2159D+06	2.0265D+06	4.1122D-10
3.9477D-07	5.4651D+00	9.0411D-01	5.4248D-01	1.3204D+01	9.2174D-11	8.3333D-04	1.5199D+06	2.5331D+06	3.2897D-10
2.9608D-07	5.4651D+00	9.0411D-01	5.4248D-01	1.3308D+01	6.9131D-11	8.3333D-04	2.0265D+06	3.3775D+06	2.4673D-10
1.9738D-07	5.4651D+00	9.0411D-01	5.4248D-01	1.3454D+01	4.6087D-11	8.3333D-04	3.0398D+06	5.0662D+06	1.6449D-10
9.8692D-08	5.4651D+00	9.0411D-01	5.4248D-01	1.3705D+01	2.3044D-11	8.3333D-04	6.0796D+06	1.0132D+07	8.2244D-11
8.8823D-08	5.4651D+00	9.0411D-01	5.4248D-01	1.3743D+01	2.0739D-11	8.3333D-04	6.7551D+06	1.1258D+07	7.4019D-11
7.8954D-08	5.4651D+00	9.0411D-01	5.4248D-01	1.3786D+01	1.8435D-11	8.3333D-04	7.5995D+06	1.2666D+07	6.5795D-11
6.9085D-08	5.4651D+00	9.0411D-01	5.4248D-01	1.3834D+01	1.6130D-11	8.3333D-04	8.6852D+06	1.4475D+07	5.7571D-11
5.9215D-08	5.4651D+00	9.0411D-01	5.4248D-01	1.3890D+01	1.3826D-11	8.3333D-04	1.0133D+07	1.6887D+07	4.9346D-11
4.9346D-08	5.4651D+00	9.0411D-01	5.4248D-01	1.3956D+01	1.1522D-11	8.3333D-04	1.2159D+07	2.0265D+07	4.1122D-11
3.9477D-08	5.4651D+00	9.0411D-01	5.4248D-01	1.4036D+01	9.2174D-12	8.3333D-04	1.5199D+07	2.5331D+07	3.2897D-11
2.9608D-08	5.4651D+00	9.0411D-01	5.4248D-01	1.4140D+01	6.9131D-12	8.3333D-04	2.0265D+07	3.3775D+07	2.4673D-11
1.9738D-08	5.4651D+00	9.0411D-01	5.4248D-01	1.4287D+01	4.6087D-12	8.3333D-04	3.0398D+07	5.0662D+07	1.6449D-11
9.8692D-09	5.4651D+00	9.0411D-01	5.4248D-01	1.4538D+01	2.3044D-12	8.3333D-04	6.0796D+07	1.0132D+08	8.2244D-12
8.8823D-09	5.4651D+00	9.0411D-01	5.4248D-01	1.4576D+01	2.0739D-12	8.3333D-04	6.7551D+07	1.1258D+08	7.4019D-12
7.8954D-09	5.4651D+00	9.0411D-01	5.4248D-01	1.4618D+01	1.8435D-12	8.3333D-04	7.5995D+07	1.2666D+08	6.5795D-12
6.9085D-09	5.4651D+00	9.0411D-01	5.4248D-01	1.4667D+01	1.6130D-12	8.3333D-04	8.6852D+07	1.4475D+08	5.7571D-12
5.9215D-09	5.4651D+00	9.0411D-01	5.4248D-01	1.4722D+01	1.3826D-12	8.3333D-04	1.0133D+08	1.6887D+08	4.9346D-12
4.9346D-09	5.4651D+00	9.0411D-01	5.4248D-01	1.4788D+01	1.1522D-12	8.3333D-04	1.2159D+08	2.0265D+08	4.1122D-12

SUPERHEATED VAPOR PROPERTIES AT T = 1200.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
3.9477D-09	5.4651D+00	9.0411D-01	5.4248D-01	1.4869D+01	9.2174D-13	8.3333D-04	1.5199D+08	2.5331D+08	3.2897D-12
2.9608D-09	5.4651D+00	9.0411D-01	5.4248D-01	1.4973D+01	6.9131D-13	8.3333D-04	2.0265D+08	3.3775D+08	2.4673D-12
1.9738D-09	5.4651D+00	9.0411D-01	5.4248D-01	1.5120D+01	4.6087D-13	8.3333D-04	3.0398D+08	5.0662D+08	1.6449D-12
9.8692D-10	5.4651D+00	9.0411D-01	5.4248D-01	1.5370D+01	2.3044D-13	8.3333D-04	6.0796D+08	1.0132D+09	8.2244D-13

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1300.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
3.0000D-01	1.1871D+02	5.5949D+01	3.6714D+01	1.6736D+02	7.2488D-01	1.3111D-03	2.4159D+00	3.6816D+00	3.5612D-04
2.0000D-01	1.2112D+02	4.8792D+01	3.2281D+01	1.7224D+02	4.6591D-01	1.1776D-03	3.5619D+00	5.3837D+00	2.1873D-04
1.0000D-01	1.2402D+02	3.8247D+01	2.5190D+01	1.7985D+02	2.2354D-01	1.0103D-03	6.8788D+00	1.0444D+01	9.6726D-05
9.0000D-02	1.2435D+02	3.6903D+01	2.4250D+01	1.8094D+02	2.0028D-01	9.9050D-04	7.5989D+00	1.1564D+01	8.5654D-05
8.0000D-02	1.2469D+02	3.5489D+01	2.3253D+01	1.8214D+02	1.7722D-01	9.6999D-04	8.4928D+00	1.2962D+01	7.4835D-05
7.0000D-02	1.2503D+02	3.3999D+01	2.2195D+01	1.8347D+02	1.5434D-01	9.4866D-04	9.6334D+00	1.4757D+01	6.4287D-05
6.0000D-02	1.2538D+02	3.2427D+01	2.1069D+01	1.8498D+02	1.3166D-01	9.2645D-04	1.1142D+01	1.7148D+01	5.4028D-05
5.0000D-02	1.2574D+02	3.0765D+01	1.9870D+01	1.8673D+02	1.0918D-01	9.0327D-04	1.3235D+01	2.0492D+01	4.4080D-05
4.0000D-02	1.2612D+02	2.9005D+01	1.8589D+01	1.8883D+02	8.6911D-02	8.7903D-04	1.6345D+01	2.5503D+01	3.4467D-05
3.0000D-02	1.2650D+02	2.7138D+01	1.7219D+01	1.9147D+02	6.4851D-02	8.5362D-04	2.1478D+01	3.3849D+01	2.5219D-05
2.0000D-02	1.2690D+02	2.5154D+01	1.5751D+01	1.9511D+02	4.3008D-02	8.2694D-04	3.1640D+01	5.0528D+01	1.6366D-05
1.0000D-02	1.2731D+02	2.3041D+01	1.4172D+01	2.0114D+02	2.1389D-02	7.9886D-04	6.1843D+01	1.0054D+02	7.9455D-06
9.0000D-03	1.2735D+02	2.2822D+01	1.4008D+01	2.0204D+02	1.9239D-02	7.9597D-04	6.8533D+01	1.1165D+02	7.1288D-06
8.0000D-03	1.2739D+02	2.2602D+01	1.3842D+01	2.0305D+02	1.7092D-02	7.9306D-04	7.6890D+01	1.2555D+02	6.3169D-06
7.0000D-03	1.2743D+02	2.2380D+01	1.3676D+01	2.0418D+02	1.4948D-02	7.9014D-04	8.7629D+01	1.4340D+02	5.5099D-06
6.0000D-03	1.2747D+02	2.2157D+01	1.3508D+01	2.0549D+02	1.2805D-02	7.8720D-04	1.0194D+02	1.6721D+02	4.7077D-06
5.0000D-03	1.2751D+02	2.1932D+01	1.3338D+01	2.0704D+02	1.0665D-02	7.8425D-04	1.2197D+02	2.0055D+02	3.9105D-06
4.0000D-03	1.2756D+02	2.1706D+01	1.3168D+01	2.0892D+02	8.5274D-03	7.8128D-04	1.5199D+02	2.5055D+02	3.1182D-06
3.0000D-03	1.2760D+02	2.1478D+01	1.2996D+01	2.1134D+02	6.3920D-03	7.7829D-04	2.0202D+02	3.3389D+02	2.3310D-06
2.0000D-03	1.2764D+02	2.1249D+01	1.2822D+01	2.1474D+02	4.2589D-03	7.7529D-04	3.0205D+02	5.0055D+02	1.5489D-06
1.0000D-03	1.2768D+02	2.1019D+01	1.2648D+01	2.2053D+02	2.1283D-03	7.7227D-04	6.0208D+02	1.0006D+03	7.7184D-07
9.0000D-04	1.2769D+02	2.0995D+01	1.2630D+01	2.2141D+02	1.9154D-03	7.7196D-04	6.6875D+02	1.1117D+03	6.9442D-07
8.0000D-04	1.2769D+02	2.0972D+01	1.2613D+01	2.2239D+02	1.7024D-03	7.7166D-04	7.5209D+02	1.2506D+03	6.1705D-07
7.0000D-04	1.2770D+02	2.0949D+01	1.2595D+01	2.2351D+02	1.4896D-03	7.7136D-04	8.5924D+02	1.4291D+03	5.3974D-07
6.0000D-04	1.2770D+02	2.0926D+01	1.2578D+01	2.2479D+02	1.2767D-03	7.7105D-04	1.0021D+03	1.6672D+03	4.6248D-07
5.0000D-04	1.2771D+02	2.0903D+01	1.2560D+01	2.2631D+02	1.0638D-03	7.7075D-04	1.2021D+03	2.0006D+03	3.8527D-07

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1300.0K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
4.0000D-04	1.2771D+02	2.0879D+01	1.2543D+01	2.2817D+02	8.5103D-04	7.7045D-04	1.5021D+03	2.5006D+03	3.0811D-07
3.0000D-04	1.2771D+02	2.0856D+01	1.2525D+01	2.3056D+02	6.3824D-04	7.7014D-04	2.0021D+03	3.3339D+03	2.3100D-07
2.0000D-04	1.2772D+02	2.0833D+01	1.2507D+01	2.3394D+02	4.2547D-04	7.6984D-04	3.0021D+03	5.0006D+03	1.5395D-07
1.0000D-04	1.2772D+02	2.0810D+01	1.2490D+01	2.3970D+02	2.1272D-04	7.6954D-04	6.0022D+03	1.0001D+04	7.6949D-08
9.0000D-05	1.2772D+02	2.0807D+01	1.2488D+01	2.4058D+02	1.9145D-04	7.6950D-04	6.6689D+03	1.1112D+04	6.9252D-08
8.0000D-05	1.2772D+02	2.0805D+01	1.2486D+01	2.4156D+02	1.7018D-04	7.6947D-04	7.5022D+03	1.2501D+04	6.1555D-08
7.0000D-05	1.2772D+02	2.0803D+01	1.2484D+01	2.4267D+02	1.4890D-04	7.6944D-04	8.5737D+03	1.4286D+04	5.3859D-08
6.0000D-05	1.2772D+02	2.0800D+01	1.2483D+01	2.4395D+02	1.2763D-04	7.6941D-04	1.0002D+04	1.6667D+04	4.6163D-08
5.0000D-05	1.2772D+02	2.0798D+01	1.2481D+01	2.4547D+02	1.0636D-04	7.6938D-04	1.2002D+04	2.0001D+04	3.8468D-08
4.0000D-05	1.2773D+02	2.0796D+01	1.2479D+01	2.4732D+02	8.5086D-05	7.6935D-04	1.5002D+04	2.5001D+04	3.0773D-08
3.0000D-05	1.2773D+02	2.0793D+01	1.2477D+01	2.4971D+02	6.3814D-05	7.6932D-04	2.0002D+04	3.3334D+04	2.3079D-08
2.0000D-05	1.2773D+02	2.0791D+01	1.2476D+01	2.5309D+02	4.2542D-05	7.6929D-04	3.0003D+04	5.0001D+04	1.5386D-08
1.0000D-05	1.2773D+02	2.0789D+01	1.2474D+01	2.5885D+02	2.1271D-05	7.6926D-04	6.0003D+04	1.0000D+05	7.6926D-09
9.0000D-06	1.2773D+02	2.0788D+01	1.2474D+01	2.5972D+02	1.9144D-05	7.6926D-04	6.6670D+04	1.1111D+05	6.9233D-09
8.0000D-06	1.2773D+02	2.0788D+01	1.2473D+01	2.6070D+02	1.7017D-05	7.6926D-04	7.5004D+04	1.2500D+05	6.1540D-09
7.0000D-06	1.2773D+02	2.0788D+01	1.2473D+01	2.6181D+02	1.4890D-05	7.6925D-04	8.5718D+04	1.4286D+05	5.3847D-09
6.0000D-06	1.2773D+02	2.0788D+01	1.2473D+01	2.6310D+02	1.2763D-05	7.6925D-04	1.0000D+05	1.6667D+05	4.6155D-09
5.0000D-06	1.2773D+02	2.0788D+01	1.2473D+01	2.6461D+02	1.0636D-05	7.6925D-04	1.2000D+05	2.0000D+05	3.8462D-09
4.0000D-06	1.2773D+02	2.0787D+01	1.2473D+01	2.6647D+02	8.5084D-06	7.6924D-04	1.5000D+05	2.5000D+05	3.0770D-09
3.0000D-06	1.2773D+02	2.0787D+01	1.2473D+01	2.6886D+02	6.3813D-06	7.6924D-04	2.0001D+05	3.3333D+05	2.3077D-09
2.0000D-06	1.2773D+02	2.0787D+01	1.2472D+01	2.7223D+02	4.2542D-06	7.6924D-04	3.0001D+05	5.0000D+05	1.5385D-09
1.0000D-06	1.2773D+02	2.0787D+01	1.2472D+01	2.7799D+02	2.1271D-06	7.6923D-04	6.0001D+05	1.0000D+06	7.6923D-10
9.0000D-07	1.2773D+02	2.0787D+01	1.2472D+01	2.7887D+02	1.9144D-06	7.6923D-04	6.6668D+05	1.1111D+06	6.9231D-10
8.0000D-07	1.2773D+02	2.0787D+01	1.2472D+01	2.7985D+02	1.7017D-06	7.6923D-04	7.5001D+05	1.2500D+06	6.1539D-10
7.0000D-07	1.2773D+02	2.0787D+01	1.2472D+01	2.8096D+02	1.4890D-06	7.6923D-04	8.5716D+05	1.4286D+06	5.3846D-10
6.0000D-07	1.2773D+02	2.0786D+01	1.2472D+01	2.8224D+02	1.2763D-06	7.6923D-04	1.0000D+06	1.6667D+06	4.6154D-10

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1300.0K

P (MPa)	H-H(298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
5.0000D-07	1.2773D+02	2.0786D+01	1.2472D+01	2.8376D+02	1.0635D-06	7.6923D-04	1.2000D+06	2.0000D+06	3.8462D-10
4.0000D-07	1.2773D+02	2.0786D+01	1.2472D+01	2.8561D+02	8.5084D-07	7.6923D-04	1.5000D+06	2.5000D+06	3.0769D-10
3.0000D-07	1.2773D+02	2.0786D+01	1.2472D+01	2.8800D+02	6.3813D-07	7.6923D-04	2.0000D+06	3.3333D+06	2.3077D-10
2.0000D-07	1.2773D+02	2.0786D+01	1.2472D+01	2.9137D+02	4.2542D-07	7.6923D-04	3.0001D+06	5.0000D+06	1.5385D-10
1.0000D-07	1.2773D+02	2.0786D+01	1.2472D+01	2.9714D+02	2.1271D-07	7.6923D-04	6.0001D+06	1.0000D+07	7.6923D-11
9.0000D-08	1.2773D+02	2.0786D+01	1.2472D+01	2.9801D+02	1.9144D-07	7.6923D-04	6.6668D+06	1.1111D+07	6.9231D-11
8.0000D-08	1.2773D+02	2.0786D+01	1.2472D+01	2.9899D+02	1.7017D-07	7.6923D-04	7.5001D+06	1.2500D+07	6.1538D-11
7.0000D-08	1.2773D+02	2.0786D+01	1.2472D+01	3.0010D+02	1.4890D-07	7.6923D-04	8.5716D+06	1.4286D+07	5.3846D-11
6.0000D-08	1.2773D+02	2.0786D+01	1.2472D+01	3.0139D+02	1.2763D-07	7.6923D-04	1.0000D+07	1.6667D+07	4.6154D-11
5.0000D-08	1.2773D+02	2.0786D+01	1.2472D+01	3.0290D+02	1.0635D-07	7.6923D-04	1.2000D+07	2.0000D+07	3.8462D-11
4.0000D-08	1.2773D+02	2.0786D+01	1.2472D+01	3.0476D+02	8.5084D-08	7.6923D-04	1.5000D+07	2.5000D+07	3.0769D-11
3.0000D-08	1.2773D+02	2.0786D+01	1.2472D+01	3.0715D+02	6.3813D-08	7.6923D-04	2.0000D+07	3.3333D+07	2.3077D-11
2.0000D-08	1.2773D+02	2.0786D+01	1.2472D+01	3.1052D+02	4.2542D-08	7.6923D-04	3.0001D+07	5.0000D+07	1.5385D-11
1.0000D-08	1.2773D+02	2.0786D+01	1.2472D+01	3.1628D+02	2.1271D-08	7.6923D-04	6.0001D+07	1.0000D+08	7.6923D-12
9.0000D-09	1.2773D+02	2.0786D+01	1.2472D+01	3.1716D+02	1.9144D-08	7.6923D-04	6.6668D+07	1.1111D+08	6.9231D-12
8.0000D-09	1.2773D+02	2.0786D+01	1.2472D+01	3.1814D+02	1.7017D-08	7.6923D-04	7.5001D+07	1.2500D+08	6.1538D-12
7.0000D-09	1.2773D+02	2.0786D+01	1.2472D+01	3.1925D+02	1.4890D-08	7.6923D-04	8.5716D+07	1.4286D+08	5.3846D-12
6.0000D-09	1.2773D+02	2.0786D+01	1.2472D+01	3.2053D+02	1.2763D-08	7.6923D-04	1.0000D+08	1.6667D+08	4.6154D-12
5.0000D-09	1.2773D+02	2.0786D+01	1.2472D+01	3.2205D+02	1.0635D-08	7.6923D-04	1.2000D+08	2.0000D+08	3.8462D-12
4.0000D-09	1.2773D+02	2.0786D+01	1.2472D+01	3.2390D+02	8.5084D-09	7.6923D-04	1.5000D+08	2.5000D+08	3.0769D-12
3.0000D-09	1.2773D+02	2.0786D+01	1.2472D+01	3.2629D+02	6.3813D-09	7.6923D-04	2.0000D+08	3.3333D+08	2.3077D-12
2.0000D-09	1.2773D+02	2.0786D+01	1.2472D+01	3.2966D+02	4.2542D-09	7.6923D-04	3.0001D+08	5.0000D+08	1.5385D-12
1.0000D-09	1.2773D+02	2.0786D+01	1.2472D+01	3.3543D+02	2.1271D-09	7.6923D-04	6.0001D+08	1.0000D+09	7.6923D-13
9.0000D-10	1.2773D+02	2.0786D+01	1.2472D+01	3.3630D+02	1.9144D-09	7.6923D-04	6.6668D+08	1.1111D+09	6.9231D-13
8.0000D-10	1.2773D+02	2.0786D+01	1.2472D+01	3.3728D+02	1.7017D-09	7.6923D-04	7.5001D+08	1.2500D+09	6.1538D-13
7.0000D-10	1.2773D+02	2.0786D+01	1.2472D+01	3.3839D+02	1.4890D-09	7.6923D-04	8.5716D+08	1.4286D+09	5.3846D-13

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1300.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
6.0000D-10	1.2773D+02	2.0786D+01	1.2472D+01	3.3967D+02	1.2763D-09	7.6923D-04	1.0000D+09	1.6667D+09	4.6154D-13
5.0000D-10	1.2773D+02	2.0786D+01	1.2472D+01	3.4119D+02	1.0635D-09	7.6923D-04	1.2000D+09	2.0000D+09	3.8462D-13
4.0000D-10	1.2773D+02	2.0786D+01	1.2472D+01	3.4305D+02	8.5084D-10	7.6923D-04	1.5000D+09	2.5000D+09	3.0769D-13
3.0000E-10	1.2773D+02	2.0786D+01	1.2472D+01	3.4544D+02	6.3813D-10	7.6923D-04	2.0000D+09	3.3333D+09	2.3077D-13
2.0000D-10	1.2773D+02	2.0786D+01	1.2472D+01	3.4881D+02	4.2542D-10	7.6923D-04	3.0001D+09	5.0000D+09	1.5385D-13

SUPERHEATED VAPOR PROPERTIES AT T = 1300.0K

P (ATM)	H-B (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMHAY (ATM/K)
2.9608D+00	5.1632D+00	2.4335D+00	1.5969D+00	7.2792D+00	7.2488D-04	1.3111D-03	2.4479D-01	3.7303D-01	3.5146D-03
1.9738D+00	5.2683D+00	2.1222D+00	1.4041D+00	7.4917D+00	4.6591D-04	1.1776D-03	3.6091D-01	5.4550D-01	2.1587D-03
9.8692D-01	5.3944D+00	1.6635D+00	1.0956D+00	7.8228D+00	2.2354D-04	1.0103D-03	6.9700D-01	1.0583D+00	9.5462D-04
8.8823D-01	5.4087D+00	1.6051D+00	1.0547D+00	7.8701D+00	2.0028D-04	9.9050D-04	7.6996D-01	1.1717D+00	8.4534D-04
7.8954D-01	5.4232D+00	1.5436D+00	1.0114D+00	7.9221D+00	1.7722D-04	9.6999D-04	8.6053D-01	1.3133D+00	7.3857D-04
6.9085D-01	5.4382D+00	1.4788D+00	9.6537D-01	7.9801D+00	1.5434D-04	9.4866D-04	9.7610D-01	1.4952D+00	6.3446D-04
5.9215D-01	5.4535D+00	1.4104D+00	9.1642D-01	8.0458D+00	1.3166D-04	9.2645D-04	1.1289D+00	1.7375D+00	5.3321D-04
4.9346D-01	5.4693D+00	1.3381D+00	8.6425D-01	8.1220D+00	1.0918D-04	9.0327D-04	1.3410D+00	2.0763D+00	4.3503D-04
3.9477D-01	5.4855D+00	1.2616D+00	8.0855D-01	8.2133D+00	8.6911D-05	8.7903D-04	1.6562D+00	2.5841D+00	3.4017D-04
2.9608D-01	5.5022D+00	1.1804D+00	7.4897D-01	8.3282D+00	6.4851D-05	8.5362D-04	2.1762D+00	3.4297D+00	2.4889D-04
1.9738D-01	5.5194D+00	1.0941D+00	6.8508D-01	8.4862D+00	4.3008D-05	8.2694D-04	3.2059D+00	5.1198D+00	1.6152D-04
9.8692D-02	5.5372D+00	1.0022D+00	6.1643D-01	8.7485D+00	2.1389D-05	7.9886D-04	6.2662D+00	1.0187D+01	7.8416D-05
8.8823D-02	5.5390D+00	9.9265D-01	6.0928D-01	8.7878D+00	1.9239D-05	7.9597D-04	6.9441D+00	1.1313D+01	7.0356D-05
7.8954D-02	5.5408D+00	9.8307D-01	6.0208D-01	8.8316D+00	1.7092D-05	7.9306D-04	7.7909D+00	1.2721D+01	6.2343D-05
6.9085D-02	5.5426D+00	9.7343D-01	5.9483D-01	8.8811D+00	1.4948D-05	7.9014D-04	8.8790D+00	1.4530D+01	5.4378D-05
5.9215D-02	5.5444D+00	9.6372D-01	5.8751D-01	8.9380D+00	1.2805D-05	7.8720D-04	1.0329D+01	1.6943D+01	4.6462D-05
4.9346D-02	5.5463D+00	9.5395D-01	5.8015D-01	9.0052D+00	1.0665D-05	7.8425D-04	1.2358D+01	2.0321D+01	3.8593D-05
3.9477D-02	5.5481D+00	9.4411D-01	5.7273D-01	9.0871D+00	8.5274D-06	7.8128D-04	1.5401D+01	2.5387D+01	3.0775D-05
2.9608D-02	5.5499D+00	9.3421D-01	5.6525D-01	9.1923D+00	6.3920D-06	7.7829D-04	2.0470D+01	3.3831D+01	2.3005D-05
1.9738D-02	5.5518D+00	9.2424D-01	5.5772D-01	9.3402D+00	4.2589D-06	7.7529D-04	3.0605D+01	5.0719D+01	1.5286D-05
9.8692D-03	5.5537D+00	9.1421D-01	5.5013D-01	9.5921D+00	2.1283D-06	7.7227D-04	6.1006D+01	1.0138D+02	7.6175D-06
8.8823D-03	5.5538D+00	9.1320D-01	5.4936D-01	9.6303D+00	1.9154D-06	7.7196D-04	6.7762D+01	1.1264D+02	6.8534D-06
7.8954D-03	5.5540D+00	9.1219D-01	5.4860D-01	9.6730D+00	1.7024D-06	7.7166D-04	7.6206D+01	1.2671D+02	6.0899D-06
6.9085D-03	5.5542D+00	9.1119D-01	5.4784D-01	9.7214D+00	1.4896D-06	7.7136D-04	8.7062D+01	1.4481D+02	5.3268D-06
5.9215D-03	5.5544D+00	9.1018D-01	5.4707D-01	9.7773D+00	1.2767D-06	7.7105D-04	1.0154D+02	1.6893D+02	4.5643D-06
4.9346D-03	5.5546D+00	9.0917D-01	5.4631D-01	9.8434D+00	1.0638D-06	7.7075D-04	1.2180D+02	2.0271D+02	3.8023D-06

SUPERHEATED VAPOR PROPERTIES AT T = 1300.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAHHAV (ATM/K)
3.9477D-03	5.5548D+00	9.0816D-01	5.4554D-01	9.9242D+00	8.5103D-07	7.7045D-04	1.5220D+02	2.5337D+02	3.0408D-06
2.9608D-03	5.5550D+00	9.0715D-01	5.4478D-01	1.0028D+01	6.3824D-07	7.7014D-04	2.0287D+02	3.3781D+02	2.2798D-06
1.9738D-03	5.5551D+00	9.0613D-01	5.4401D-01	1.0175D+01	4.2547D-07	7.6984D-04	3.0419D+02	5.0668D+02	1.5194D-06
9.8692D-04	5.5553D+00	9.0512D-01	5.4324D-01	1.0426D+01	2.1272D-07	7.6954D-04	6.0817D+02	1.0133D+03	7.5943D-07
8.8823D-04	5.5553D+00	9.0502D-01	5.4317D-01	1.0464D+01	1.9145D-07	7.6950D-04	6.7572D+02	1.1259D+03	6.8346D-07
7.8954D-04	5.5554D+00	9.0492D-01	5.4309D-01	1.0507D+01	1.7018D-07	7.6947D-04	7.6016D+02	1.2666D+03	6.0750D-07
6.9085D-04	5.5554D+00	9.0482D-01	5.4301D-01	1.0555D+01	1.4890D-07	7.6944D-04	8.6873D+02	1.4476D+03	5.3155D-07
5.9215D-04	5.5554D+00	9.0472D-01	5.4293D-01	1.0611D+01	1.2763D-07	7.6941D-04	1.0135D+03	1.6888D+03	4.5560D-07
4.9346D-04	5.5554D+00	9.0461D-01	5.4286D-01	1.0677D+01	1.0636D-07	7.6938D-04	1.2161D+03	2.0266D+03	3.7965D-07
3.9477D-04	5.5554D+00	9.0451D-01	5.4278D-01	1.0757D+01	8.5086D-08	7.6935D-04	1.5201D+03	2.5332D+03	3.0371D-07
2.9608D-04	5.5555D+00	9.0441D-01	5.4270D-01	1.0861D+01	6.3814D-08	7.6932D-04	2.0267D+03	3.3776D+03	2.2777D-07
1.9738D-04	5.5555D+00	9.0431D-01	5.4263D-01	1.1008D+01	4.2542D-08	7.6929D-04	3.0400D+03	5.0663D+03	1.5184D-07
9.8692D-05	5.5555D+00	9.0421D-01	5.4255D-01	1.1259D+01	2.1271D-08	7.6926D-04	6.0798D+03	1.0133D+04	7.5920D-08
8.8823D-05	5.5555D+00	9.0420D-01	5.4254D-01	1.1297D+01	1.9144D-08	7.6926D-04	6.7553D+03	1.1258D+04	6.8328D-08
7.8954D-05	5.5555D+00	9.0419D-01	5.4254D-01	1.1339D+01	1.7017D-08	7.6926D-04	7.5997D+03	1.2666D+04	6.0735D-08
6.9085D-05	5.5555D+00	9.0418D-01	5.4253D-01	1.1388D+01	1.4890D-08	7.6925D-04	8.6854D+03	1.4475D+04	5.3143D-08
5.9215D-05	5.5555D+00	9.0417D-01	5.4252D-01	1.1443D+01	1.2763D-08	7.6925D-04	1.0133D+04	1.6888D+04	4.5551D-08
4.9346D-05	5.5555D+00	9.0416D-01	5.4251D-01	1.1509D+01	1.0636D-08	7.6925D-04	1.2159D+04	2.0265D+04	3.7959D-08
3.9477D-05	5.5555D+00	9.0415D-01	5.4251D-01	1.1590D+01	8.5084D-09	7.6924D-04	1.5199D+04	2.5331D+04	3.0367D-08
2.9608D-05	5.5555D+00	9.0414D-01	5.4250D-01	1.1694D+01	6.3813D-09	7.6924D-04	2.0266D+04	3.3775D+04	2.2775D-08
1.9738D-05	5.5555D+00	9.0413D-01	5.4249D-01	1.1841D+01	4.2542D-09	7.6924D-04	3.0398D+04	5.0663D+04	1.5184D-08
9.8692D-06	5.5555D+00	9.0412D-01	5.4248D-01	1.2091D+01	2.1271D-09	7.6923D-04	6.0796D+04	1.0133D+05	7.5917D-09
8.8823D-06	5.5555D+00	9.0412D-01	5.4248D-01	1.2129D+01	1.9144D-09	7.6923D-04	6.7551D+04	1.1258D+05	6.8326D-09
7.8954D-06	5.5555D+00	9.0412D-01	5.4248D-01	1.2172D+01	1.7017D-09	7.6923D-04	7.5995D+04	1.2666D+05	6.0734D-09
6.9085D-06	5.5555D+00	9.0412D-01	5.4248D-01	1.2220D+01	1.4890D-09	7.6923D-04	8.6852D+04	1.4475D+05	5.3142D-09
5.9215D-06	5.5555D+00	9.0411D-01	5.4248D-01	1.2276D+01	1.2763D-09	7.6923D-04	1.0133D+05	1.6888D+05	4.5550D-09

SUPERHEATED VAPOR PROPERTIES AT T = 1300.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
4.9346D-06	5.5555D+00	9.0411D-01	5.4248D-01	1.2342D+01	1.0635D-09	7.6923D-04	1.2159D+05	2.0265D+05	3.7959D-09
3.9477D-06	5.5555D+00	9.0411D-01	5.4248D-01	1.2423D+01	8.5084D-10	7.6923D-04	1.5199D+05	2.5331D+05	3.0367D-09
2.9608D-06	5.5555D+00	9.0411D-01	5.4248D-01	1.2527D+01	6.3813D-10	7.6923D-04	2.0265D+05	3.3775D+05	2.2775D-09
1.9738D-06	5.5555D+00	9.0411D-01	5.4248D-01	1.2673D+01	4.2542D-10	7.6923D-04	3.0398D+05	5.0662D+05	1.5183D-09
9.8692D-07	5.5555D+00	9.0411D-01	5.4247D-01	1.2924D+01	2.1271D-10	7.6923D-04	6.0796D+05	1.0132D+06	7.5917D-10
8.8823D-07	5.5555D+00	9.0411D-01	5.4247D-01	1.2962D+01	1.9144D-10	7.6923D-04	6.7551D+05	1.1258D+06	6.8325D-10
7.8954D-07	5.5555D+00	9.0411D-01	5.4247D-01	1.3005D+01	1.7017D-10	7.6923D-04	7.5995D+05	1.2666D+06	6.0734D-10
6.9085D-07	5.5555D+00	9.0411D-01	5.4247D-01	1.3053D+01	1.4890D-10	7.6923D-04	8.6851D+05	1.4475D+06	5.3142D-10
5.9215D-07	5.5555D+00	9.0411D-01	5.4247D-01	1.3109D+01	1.2763D-10	7.6923D-04	1.0133D+06	1.6887D+06	4.5550D-10
4.9346D-07	5.5555D+00	9.0411D-01	5.4247D-01	1.3175D+01	1.0635D-10	7.6923D-04	1.2159D+06	2.0265D+06	3.7959D-10
3.9477D-07	5.5555D+00	9.0411D-01	5.4247D-01	1.3255D+01	8.5084D-11	7.6923D-04	1.5199D+06	2.5331D+06	3.0367D-10
2.9608D-07	5.5555D+00	9.0411D-01	5.4247D-01	1.3359D+01	6.3813D-11	7.6923D-04	2.0265D+06	3.3775D+06	2.2775D-10
1.9738D-07	5.5555D+00	9.0411D-01	5.4247D-01	1.3506D+01	4.2542D-11	7.6923D-04	3.0398D+06	5.0662D+06	1.5183D-10
9.8692D-08	5.5555D+00	9.0411D-01	5.4247D-01	1.3757D+01	2.1271D-11	7.6923D-04	6.0796D+06	1.0132D+07	7.5917D-11
8.8823D-08	5.5555D+00	9.0411D-01	5.4247D-01	1.3795D+01	1.9144D-11	7.6923D-04	6.7551D+06	1.1258D+07	6.8325D-11
7.8954D-08	5.5555D+00	9.0411D-01	5.4247D-01	1.3837D+01	1.7017D-11	7.6923D-04	7.5995D+06	1.2666D+07	6.0734D-11
6.9085D-08	5.5555D+00	9.0411D-01	5.4247D-01	1.3886D+01	1.4890D-11	7.6923D-04	8.6851D+06	1.4475D+07	5.3142D-11
5.9215D-08	5.5555D+00	9.0411D-01	5.4247D-01	1.3942D+01	1.2763D-11	7.6923D-04	1.0133D+07	1.6887D+07	4.5550D-11
4.9346D-08	5.5555D+00	9.0411D-01	5.4247D-01	1.4007D+01	1.0635D-11	7.6923D-04	1.2159D+07	2.0265D+07	3.7959D-11
3.9477D-08	5.5555D+00	9.0411D-01	5.4247D-01	1.4088D+01	8.5084D-12	7.6923D-04	1.5199D+07	2.5331D+07	3.0367D-11
2.9608D-08	5.5555D+00	9.0411D-01	5.4247D-01	1.4192D+01	6.3813D-12	7.6923D-04	2.0265D+07	3.3775D+07	2.2775D-11
1.9738D-08	5.5555D+00	9.0411D-01	5.4247D-01	1.4339D+01	4.2542D-12	7.6923D-04	3.0398D+07	5.0662D+07	1.5183D-11
9.8692D-09	5.5555D+00	9.0411D-01	5.4247D-01	1.4589D+01	2.1271D-12	7.6923D-04	6.0796D+07	1.0132D+08	7.5917D-12
8.8823D-09	5.5555D+00	9.0411D-01	5.4247D-01	1.4628D+01	1.9144D-12	7.6923D-04	6.7551D+07	1.1258D+08	6.8325D-12
7.8954D-09	5.5555D+00	9.0411D-01	5.4247D-01	1.4670D+01	1.7017D-12	7.6923D-04	7.5995D+07	1.2666D+08	6.0734D-12
6.9085D-09	5.5555D+00	9.0411D-01	5.4247D-01	1.4718D+01	1.4890D-12	7.6923D-04	8.6851D+07	1.4475D+08	5.3142D-12

SUPERHEATED VAPOR PROPERTIES AT T = 1300.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
5.9215D-09	5.5555D+00	9.0411D-01	5.4247D-01	1.4774D+01	1.2763D-12	7.6923D-04	1.0133D+08	1.6887D+08	4.5550D-12
4.9346D-09	5.5555D+00	9.0411D-01	5.4247D-01	1.4840D+01	1.0635D-12	7.6923D-04	1.2159D+08	2.0265D+08	3.7959D-12
3.9477D-09	5.5555D+00	9.0411D-01	5.4247D-01	1.4921D+01	8.5084D-13	7.6923D-04	1.5199D+08	2.5331D+08	3.0367D-12
2.9608D-09	5.5555D+00	9.0411D-01	5.4247D-01	1.5025D+01	6.3813D-13	7.6923D-04	2.0265D+08	3.3775D+08	2.2775D-12
1.9738D-09	5.5555D+00	9.0411D-01	5.4247D-01	1.5172D+01	4.2542D-13	7.6923D-04	3.0398D+08	5.0662D+08	1.5183D-12

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1400.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/H**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
5.0000D-01	1.2060D+02	5.2210D+01	3.3496D+01	1.6456D+02	1.1260D+00	1.2073D-03	1.4272D+00	2.2246D+00	5.4269D-04
4.0000D-01	1.2207D+02	4.8419D+01	3.1304D+01	1.6725D+02	8.8040D-01	1.1315D-03	1.7668D+00	2.7327D+00	4.1404D-04
3.0000D-01	1.2367D+02	4.3854D+01	2.8493D+01	1.7057D+02	6.4471D-01	1.0496D-03	2.3248D+00	3.5780D+00	2.9334D-04
2.0000D-01	1.2544D+02	3.8204D+01	2.4809D+01	1.7497D+02	4.1904D-01	9.5827D-04	3.4176D+00	5.2629D+00	1.8208D-04
1.0000D-01	1.2745D+02	3.0889D+01	1.9782D+01	1.8193D+02	2.0380D-01	8.5088D-04	6.5909D+00	1.0291D+01	8.2680D-05
9.0000D-02	1.2767D+02	3.0030D+01	1.9176D+01	1.8293D+02	1.8288D-01	8.3883D-04	7.2835D+00	1.1406D+01	7.3543D-05
8.0000D-02	1.2789D+02	2.9142D+01	1.8547D+01	1.8404D+02	1.6208D-01	8.2648D-04	8.1453D+00	1.2799D+01	6.4576D-05
7.0000D-02	1.2811D+02	2.8224D+01	1.7893D+01	1.8529D+02	1.4139D-01	8.1382D-04	9.2481D+00	1.4588D+01	5.5786D-05
6.0000D-02	1.2834D+02	2.7275D+01	1.7212D+01	1.8671D+02	1.2082D-01	8.0081D-04	1.0711D+01	1.6973D+01	4.7180D-05
5.0000D-02	1.2857D+02	2.6291D+01	1.6504D+01	1.8836D+02	1.0037D-01	7.8744D-04	1.2750D+01	2.0311D+01	3.8769D-05
4.0000D-02	1.2881D+02	2.5271D+01	1.5765D+01	1.9036D+02	8.0046D-02	7.7369D-04	1.5793D+01	2.5316D+01	3.0562D-05
3.0000E-02	1.2905D+02	2.4214D+01	1.4995D+01	1.9290D+02	5.9843D-02	7.5953D-04	2.0841D+01	3.3654D+01	2.2569D-05
2.0000D-02	1.2930D+02	2.3115D+01	1.4191D+01	1.9642D+02	3.9766D-02	7.4492D-04	3.0897D+01	5.0325D+01	1.4802D-05
1.0000D-02	1.2955D+02	2.1974D+01	1.3351D+01	2.0233D+02	1.9818D-02	7.2985D-04	6.0960D+01	1.0033D+02	7.2745D-06
9.0000D-03	1.2958D+02	2.1857D+01	1.3265D+01	2.0322D+02	1.7830D-02	7.2832D-04	6.7633D+01	1.1144D+02	6.5354D-06
8.0000D-03	1.2960D+02	2.1740D+01	1.3178D+01	2.0422D+02	1.5844D-02	7.2678D-04	7.5974D+01	1.2533D+02	5.7989D-06
7.0000D-03	1.2963D+02	2.1622D+01	1.3092D+01	2.0534D+02	1.3859D-02	7.2524D-04	8.6695D+01	1.4319D+02	5.0649D-06
6.0000D-03	1.2965D+02	2.1504D+01	1.3004D+01	2.0664D+02	1.1875D-02	7.2369D-04	1.0099D+02	1.6700D+02	4.3335D-06
5.0000D-03	1.2968D+02	2.1386D+01	1.2917D+01	2.0817D+02	9.8924D-03	7.2213D-04	1.2100D+02	2.0033D+02	3.6047D-06
4.0000D-03	1.2970D+02	2.1267D+01	1.2828D+01	2.1004D+02	7.9113D-03	7.2058D-04	1.5100D+02	2.5033D+02	2.8785D-06
3.0000D-03	1.2973D+02	2.1148D+01	1.2740D+01	2.1245D+02	5.9315D-03	7.1901D-04	2.0101D+02	3.3367D+02	2.1549D-06
2.0000D-03	1.2975D+02	2.1028D+01	1.2651D+01	2.1584D+02	3.9530D-03	7.1744D-04	3.0102D+02	5.0033D+02	1.4339D-06
1.0000D-03	1.2978D+02	2.0907D+01	1.2562D+01	2.2162D+02	1.9758D-03	7.1587D-04	6.0103D+02	1.0003D+03	7.1563D-07
9.0000D-04	1.2978D+02	2.0895D+01	1.2553D+01	2.2249D+02	1.7782D-03	7.1571D-04	6.6770D+02	1.1114D+03	6.4394D-07
8.0000D-04	1.2978D+02	2.0883D+01	1.2544D+01	2.2347D+02	1.5806D-03	7.1555D-04	7.5104D+02	1.2503D+03	5.7229D-07
7.0000D-04	1.2979D+02	2.0871D+01	1.2535D+01	2.2459D+02	1.3829D-03	7.1539D-04	8.5818D+02	1.4289D+03	5.0066D-07

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1400.0K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
6.0000D-04	1.2979D+02	2.0859D+01	1.2526D+01	2.2587D+02	1.1853D-03	7.1523D-04	1.0010D+03	1.6670D+03	4.2905D-07
5.0000D-04	1.2979D+02	2.0847D+01	1.2517D+01	2.2739D+02	9.8775D-04	7.1508D-04	1.2010D+03	2.0003D+03	3.5748D-07
4.0000D-04	1.2980D+02	2.0835D+01	1.2508D+01	2.2924D+02	7.9017D-04	7.1492D-04	1.5011D+03	2.5003D+03	2.8593D-07
3.0000D-04	1.2980D+02	2.0823D+01	1.2499D+01	2.3164D+02	5.9261D-04	7.1476D-04	2.0011D+03	3.3337D+03	2.1441D-07
2.0000D-04	1.2980D+02	2.0811D+01	1.2490D+01	2.3501D+02	3.9506D-04	7.1460D-04	3.0011D+03	5.0003D+03	1.4291D-07
1.0000D-04	1.2980D+02	2.0798D+01	1.2481D+01	2.4077D+02	1.9752D-04	7.1444D-04	6.0011D+03	1.0000D+04	7.1442D-08
9.0000D-05	1.2980D+02	2.0797D+01	1.2480D+01	2.4165D+02	1.7777D-04	7.1443D-04	6.6678D+03	1.1111D+04	6.4297D-08
8.0000D-05	1.2980D+02	2.0796D+01	1.2479D+01	2.4263D+02	1.5802D-04	7.1441D-04	7.5012D+03	1.2500D+04	5.7151D-08
7.0000D-05	1.2980D+02	2.0795D+01	1.2478D+01	2.4374D+02	1.3826D-04	7.1440D-04	8.5726D+03	1.4286D+04	5.0007D-08
6.0000D-05	1.2980D+02	2.0794D+01	1.2477D+01	2.4502D+02	1.1851D-04	7.1438D-04	1.0001D+04	1.6667D+04	4.2862D-08
5.0000D-05	1.2980D+02	2.0792D+01	1.2476D+01	2.4654D+02	9.8760D-05	7.1436D-04	1.2001D+04	2.0000D+04	3.5718D-08
4.0000D-05	1.2980D+02	2.0791D+01	1.2476D+01	2.4839D+02	7.9007D-05	7.1435D-04	1.5001D+04	2.5000D+04	2.8574D-08
3.0000D-05	1.2980D+02	2.0790D+01	1.2475D+01	2.5079D+02	5.9255D-05	7.1433D-04	2.0001D+04	3.3334D+04	2.1430D-08
2.0000D-05	1.2980D+02	2.0789D+01	1.2474D+01	2.5416D+02	3.9503D-05	7.1432D-04	3.0002D+04	5.0000D+04	1.4286D-08
1.0000D-05	1.2981D+02	2.0788D+01	1.2473D+01	2.5992D+02	1.9752D-05	7.1430D-04	6.0002D+04	1.0000D+05	7.1430D-09
9.0000D-06	1.2981D+02	2.0787D+01	1.2473D+01	2.6080D+02	1.7776D-05	7.1430D-04	6.6669D+04	1.1111D+05	6.4287D-09
8.0000D-06	1.2981D+02	2.0787D+01	1.2473D+01	2.6178D+02	1.5801D-05	7.1430D-04	7.5002D+04	1.2500D+05	5.7144D-09
7.0000D-06	1.2981D+02	2.0787D+01	1.2473D+01	2.6289D+02	1.3826D-05	7.1430D-04	8.5717D+04	1.4286D+05	5.0001D-09
6.0000D-06	1.2981D+02	2.0787D+01	1.2473D+01	2.6417D+02	1.1851D-05	7.1430D-04	1.0000D+05	1.6667D+05	4.2858D-09
5.0000D-06	1.2981D+02	2.0787D+01	1.2472D+01	2.6568D+02	9.8758D-06	7.1429D-04	1.2000D+05	2.0000D+05	3.5715D-09
4.0000D-06	1.2981D+02	2.0787D+01	1.2472D+01	2.6754D+02	7.9007D-06	7.1429D-04	1.5000D+05	2.5000D+05	2.8572D-09
3.0000D-06	1.2981D+02	2.0787D+01	1.2472D+01	2.6993D+02	5.9255D-06	7.1429D-04	2.0000D+05	3.3333D+05	2.1429D-09
2.0000D-06	1.2981D+02	2.0787D+01	1.2472D+01	2.7330D+02	3.9503D-06	7.1429D-04	3.0001D+05	5.0000D+05	1.4286D-09
1.0000D-06	1.2981D+02	2.0786D+01	1.2472D+01	2.7906D+02	1.9752D-06	7.1429D-04	6.0001D+05	1.0000D+06	7.1429D-10
9.0000D-07	1.2981D+02	2.0786D+01	1.2472D+01	2.7994D+02	1.7776D-06	7.1429D-04	6.6668D+05	1.1111D+06	6.4286D-10
8.0000D-07	1.2981D+02	2.0786D+01	1.2472D+01	2.8092D+02	1.5801D-06	7.1429D-04	7.5001D+05	1.2500D+06	5.7143D-10

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1400.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMA P (MPa/K)
7.0000D-07	1.2981D+02	2.0786D+01	1.2472D+01	2.8203D+02	1.3826D-06	7.1429D-04	8.5716D+05	1.4286D+06	5.0000D-10
6.0000D-07	1.2981D+02	2.0786D+01	1.2472D+01	2.8331D+02	1.1851D-06	7.1429D-04	1.0000D+06	1.6667D+06	4.2857D-10
5.0000D-07	1.2981D+02	2.0786D+01	1.2472D+01	2.8483D+02	9.8758D-07	7.1429D-04	1.2000D+06	2.0000D+06	3.5714D-10
4.0000D-07	1.2981D+02	2.0786D+01	1.2472D+01	2.8668D+02	7.9006D-07	7.1429D-04	1.5000D+06	2.5000D+06	2.8571D-10
3.0000D-07	1.2981D+02	2.0786D+01	1.2472D+01	2.8908D+02	5.9255D-07	7.1429D-04	2.0000D+06	3.3333D+06	2.1429D-10
2.0000D-07	1.2981D+02	2.0786D+01	1.2472D+01	2.9245D+02	3.9503D-07	7.1429D-04	3.0000D+06	5.0000D+06	1.4286D-10
1.0000D-07	1.2981D+02	2.0786D+01	1.2472D+01	2.9821D+02	1.9752D-07	7.1429D-04	6.0001D+06	1.0000D+07	7.1429D-11
9.0000D-08	1.2981D+02	2.0786D+01	1.2472D+01	2.9909D+02	1.7776D-07	7.1429D-04	6.6668D+06	1.1111D+07	6.4286D-11
8.0000D-08	1.2981D+02	2.0786D+01	1.2472D+01	3.0006D+02	1.5801D-07	7.1429D-04	7.5001D+06	1.2500D+07	5.7143D-11
7.0000D-08	1.2981D+02	2.0786D+01	1.2472D+01	3.0117D+02	1.3826D-07	7.1429D-04	8.5716D+06	1.4286D+07	5.0000D-11
6.0000D-08	1.2981D+02	2.0786D+01	1.2472D+01	3.0246D+02	1.1851D-07	7.1429D-04	1.0000D+07	1.6667D+07	4.2857D-11
5.0000D-08	1.2981D+02	2.0786D+01	1.2472D+01	3.0397D+02	9.8758D-08	7.1429D-04	1.2000D+07	2.0000D+07	3.5714D-11
4.0000D-08	1.2981D+02	2.0786D+01	1.2472D+01	3.0583D+02	7.9006D-08	7.1429D-04	1.5000D+07	2.5000D+07	2.8571D-11
3.0000D-08	1.2981D+02	2.0786D+01	1.2472D+01	3.0822D+02	5.9255D-08	7.1429D-04	2.0000D+07	3.3333D+07	2.1429D-11
2.0000D-08	1.2981D+02	2.0786D+01	1.2472D+01	3.1159D+02	3.9503D-08	7.1429D-04	3.0000D+07	5.0000D+07	1.4286D-11
1.0000D-08	1.2981D+02	2.0786D+01	1.2472D+01	3.1735D+02	1.9752D-08	7.1429D-04	6.0001D+07	1.0000D+08	7.1429D-12
9.0000D-09	1.2981D+02	2.0786D+01	1.2472D+01	3.1823D+02	1.7776D-08	7.1429D-04	6.6668D+07	1.1111D+08	6.4286D-12
8.0000D-09	1.2981D+02	2.0786D+01	1.2472D+01	3.1921D+02	1.5801D-08	7.1429D-04	7.5001D+07	1.2500D+08	5.7143D-12
7.0000D-09	1.2981D+02	2.0786D+01	1.2472D+01	3.2032D+02	1.3826D-08	7.1429D-04	8.5716D+07	1.4286D+08	5.0000D-12
6.0000D-09	1.2981D+02	2.0786D+01	1.2472D+01	3.2160D+02	1.1851D-08	7.1429D-04	1.0000D+08	1.6667D+08	4.2857D-12
5.0000D-09	1.2981D+02	2.0786D+01	1.2472D+01	3.2312D+02	9.8758D-09	7.1429D-04	1.2000D+08	2.0000D+08	3.5714D-12
4.0000D-09	1.2981D+02	2.0786D+01	1.2472D+01	3.2497D+02	7.9006D-09	7.1429D-04	1.5000D+08	2.5000D+08	2.8571D-12
3.0000D-09	1.2981D+02	2.0786D+01	1.2472D+01	3.2736D+02	5.9255D-09	7.1429D-04	2.0000D+08	3.3333D+08	2.1429D-12
2.0000D-09	1.2981D+02	2.0786D+01	1.2472D+01	3.3074D+02	3.9503D-09	7.1429D-04	3.0000D+08	5.0000D+08	1.4286D-12
1.0000D-09	1.2981D+02	2.0786D+01	1.2472D+01	3.3650D+02	1.9752D-09	7.1429D-04	6.0001D+08	1.0000D+09	7.1429D-13
9.0000D-10	1.2981D+02	2.0786D+01	1.2472D+01	3.3737D+02	1.7776D-09	7.1429D-04	6.6668D+08	1.1111D+09	6.4286D-13

SUPERHEATED SODIUM VAPOE PROPERTIES AT T= 1400.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA P (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMA V (MPa/K)
8.0000D-10	1.2981D+02	2.0786D+01	1.2472D+01	3.3835D+02	1.5801D-09	7.1429D-04	7.5001D+08	1.2500D+09	5.7143D-13
7.0000D-10	1.2981D+02	2.0786D+01	1.2472D+01	3.3946D+02	1.3826D-09	7.1429D-04	8.5716D+08	1.4286D+09	5.0000D-13
6.0000D-10	1.2981D+02	2.0786D+01	1.2472D+01	3.4075D+02	1.1851D-09	7.1429D-04	1.0000D+09	1.6667D+09	4.2857D-13
5.0000D-10	1.2981D+02	2.0786D+01	1.2472D+01	3.4226D+02	9.8758D-10	7.1429D-04	1.2000D+09	2.0000D+09	3.5714D-13

SUPERHEATED VAPOR PROPERTIES AT T = 1400.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GANHAY (ATM/K)
4.9346D+00	5.2457D+00	2.2709D+00	1.4569D+00	7.1576D+00	1.1260D-03	1.2073D-03	1.4461D-01	2.2540D-01	5.3560D-03
3.9477D+00	5.3095D+00	2.1060D+00	1.3616D+00	7.2748D+00	8.8040D-04	1.1315D-03	1.7902D-01	2.7689D-01	4.0863D-03
2.9608D+00	5.3790D+00	1.9074D+00	1.2393D+00	7.4190D+00	6.4471D-04	1.0496D-03	2.3556D-01	3.6254D-01	2.8950D-03
1.9738D+00	5.4560D+00	1.6617D+00	1.0791D+00	7.6106D+00	4.1904D-04	9.5827D-04	3.4629D-01	5.3326D-01	1.7970D-03
9.8692D-01	5.5434D+00	1.3435D+00	8.6044D-01	7.9129D+00	2.0380D-04	8.5088D-04	6.6782D-01	1.0428D+00	8.1599D-04
8.8823D-01	5.5529D+00	1.3062D+00	8.3408D-01	7.9567D+00	1.8288D-04	8.3883D-04	7.3800D-01	1.1557D+00	7.2582D-04
7.8954D-01	5.5625D+00	1.2676D+00	8.0670D-01	8.0050D+00	1.6208D-04	8.2648D-04	8.2533D-01	1.2968D+00	6.3732D-04
6.9085D-01	5.5723D+00	1.2276D+00	7.7825D-01	8.0592D+00	1.4139D-04	8.1382D-04	9.3706D-01	1.4782D+00	5.5056D-04
5.9215D-01	5.5822D+00	1.1863D+00	7.4864D-01	8.1209D+00	1.2082D-04	8.0081D-04	1.0853D+00	1.7198D+00	4.6563D-04
4.9346D-01	5.5924D+00	1.1435D+00	7.1783D-01	8.1929D+00	1.0037D-04	7.8744D-04	1.2919D+00	2.0580D+00	3.8262D-04
3.9477D-01	5.6027D+00	1.0992D+00	6.8572D-01	8.2798D+00	8.0046D-05	7.7369D-04	1.6002D+00	2.5651D+00	3.0162D-04
2.9608D-01	5.6132D+00	1.0532D+00	6.5222D-01	8.3901D+00	5.9843D-05	7.5953D-04	2.1118D+00	3.4100D+00	2.2274D-04
1.9738D-01	5.6239D+00	1.0054D+00	6.1726D-01	8.5432D+00	3.9766D-05	7.4492D-04	3.1306D+00	5.0992D+00	1.4609D-04
9.8692D-02	5.6348D+00	9.5576D-01	5.8071D-01	8.8005D+00	1.9818D-05	7.2985D-04	6.1767D+00	1.0166D+01	7.1794D-05
8.8823D-02	5.6359D+00	9.5068D-01	5.7696D-01	8.8392D+00	1.7830D-05	7.2832D-04	6.8529D+00	1.1292D+01	6.4499D-05
7.8954D-02	5.6370D+00	9.4559D-01	5.7320D-01	8.8825D+00	1.5844D-05	7.2678D-04	7.6980D+00	1.2699D+01	5.7230D-05
6.9085D-02	5.6381D+00	9.4048D-01	5.6942D-01	8.9315D+00	1.3859D-05	7.2524D-04	8.7844D+00	1.4509D+01	4.9987D-05
5.9215D-02	5.6392D+00	9.3534D-01	5.6562D-01	8.9879D+00	1.1875D-05	7.2369D-04	1.0233D+01	1.6921D+01	4.2768D-05
4.9346D-02	5.6403D+00	9.3019D-01	5.6181D-01	9.0545D+00	9.8924D-06	7.2213D-04	1.2260D+01	2.0299D+01	3.5575D-05
3.9477D-02	5.6414D+00	9.2501D-01	5.5798D-01	9.1359D+00	7.9113D-06	7.2058D-04	1.5300D+01	2.5365D+01	2.8408D-05
2.9608D-02	5.6426D+00	9.1982D-01	5.5413D-01	9.2406D+00	5.9315D-06	7.1901D-04	2.0368D+01	3.3809D+01	2.1267D-05
1.9738D-02	5.6437D+00	9.1460D-01	5.5026D-01	9.3879D+00	3.9530D-06	7.1744D-04	3.0501D+01	5.0696D+01	1.4152D-05
9.8692D-03	5.6448D+00	9.0937D-01	5.4638D-01	9.6392D+00	1.9758D-06	7.1587D-04	6.0900D+01	1.0136D+02	7.0627D-06
8.8823D-03	5.6449D+00	9.0884D-01	5.4599D-01	9.6774D+00	1.7782D-06	7.1571D-04	6.7655D+01	1.1262D+02	6.3552D-06
7.8954D-03	5.6450D+00	9.0832D-01	5.4560D-01	9.7201D+00	1.5806D-06	7.1555D-04	7.6099D+01	1.2669D+02	5.6480D-06
6.9085D-03	5.6451D+00	9.0779D-01	5.4521D-01	9.7684D+00	1.3829D-06	7.1539D-04	8.6955D+01	1.4478D+02	4.9411D-06

SUPERHEATED VAPOR PROPERTIES AT T = 1400.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
5.9215D-03	5.6453D+00	9.0726D-01	5.4482D-01	9.8242D+00	1.1853D-06	7.1523D-04	1.0143D+02	1.6891D+02	4.2344D-06
4.9346D-03	5.6454D+00	9.0674D-01	5.4443D-01	9.8902D+00	9.8775D-07	7.1508D-04	1.2170D+02	2.0268D+02	3.5280D-06
3.9477D-03	5.6455D+00	9.0621D-01	5.4404D-01	9.9710D+00	7.9017D-07	7.1492D-04	1.5209D+02	2.5335D+02	2.8219D-06
2.9608D-03	5.6456D+00	9.0569D-01	5.4365D-01	1.0075D+01	5.9261D-07	7.1476D-04	2.0276D+02	3.3778D+02	2.1160D-06
1.9738D-03	5.6457D+00	9.0516D-01	5.4326D-01	1.0222D+01	3.9506D-07	7.1460D-04	3.0408D+02	5.0666D+02	1.4104D-06
9.8692D-04	5.6458D+00	9.0463D-01	5.4286D-01	1.0473D+01	1.9752D-07	7.1444D-04	6.0806D+02	1.0133D+03	7.0508D-07
8.8823D-04	5.6458D+00	9.0458D-01	5.4283D-01	1.0511D+01	1.7777D-07	7.1443D-04	6.7562D+02	1.1259D+03	6.3456D-07
7.8954D-04	5.6458D+00	9.0453D-01	5.4279D-01	1.0553D+01	1.5802D-07	7.1441D-04	7.6005D+02	1.2666D+03	5.6404D-07
6.9085D-04	5.6458D+00	9.0448D-01	5.4275D-01	1.0602D+01	1.3826D-07	7.1440D-04	8.6862D+02	1.4475D+03	4.9353D-07
5.9215D-04	5.6459D+00	9.0442D-01	5.4271D-01	1.0657D+01	1.1851D-07	7.1438D-04	1.0134D+03	1.6888D+03	4.2301D-07
4.9346D-04	5.6459D+00	9.0437D-01	5.4267D-01	1.0723D+01	9.8760D-08	7.1436D-04	1.2160D+03	2.0265D+03	3.5251D-07
3.9477D-04	5.6459D+00	9.0432D-01	5.4263D-01	1.0804D+01	7.9007D-08	7.1435D-04	1.5200D+03	2.5332D+03	2.8200D-07
2.9608D-04	5.6459D+00	9.0427D-01	5.4259D-01	1.0908D+01	5.9255D-08	7.1433D-04	2.0266D+03	3.3775D+03	2.1150D-07
1.9738D-04	5.6459D+00	9.0421D-01	5.4255D-01	1.1055D+01	3.9503D-08	7.1432D-04	3.0399D+03	5.0663D+03	1.4099D-07
9.8692D-05	5.6459D+00	9.0416D-01	5.4251D-01	1.1305D+01	1.9752D-08	7.1430D-04	6.0797D+03	1.0133D+04	7.0496D-08
8.8823D-05	5.6459D+00	9.0415D-01	5.4251D-01	1.1343D+01	1.7776D-08	7.1430D-04	6.7552D+03	1.1258D+04	6.3446D-08
7.8954D-05	5.6459D+00	9.0415D-01	5.4251D-01	1.1386D+01	1.5801D-08	7.1430D-04	7.5996D+03	1.2666D+04	5.6396D-08
6.9085D-05	5.6459D+00	9.0414D-01	5.4250D-01	1.1434D+01	1.3826D-08	7.1430D-04	8.6853D+03	1.4475D+04	4.9347D-08
5.9215D-05	5.6459D+00	9.0414D-01	5.4250D-01	1.1490D+01	1.1851D-08	7.1430D-04	1.0133D+04	1.6888D+04	4.2297D-08
4.9346D-05	5.6459D+00	9.0413D-01	5.4249D-01	1.1556D+01	9.8758D-09	7.1429D-04	1.2159D+04	2.0265D+04	3.5248D-08
3.9477D-05	5.6459D+00	9.0413D-01	5.4249D-01	1.1637D+01	7.9007D-09	7.1429D-04	1.5199D+04	2.5331D+04	2.8198D-08
2.9608D-05	5.6459D+00	9.0412D-01	5.4249D-01	1.1741D+01	5.9255D-09	7.1429D-04	2.0265D+04	3.3775D+04	2.1148D-08
1.9738D-05	5.6459D+00	9.0412D-01	5.4248D-01	1.1887D+01	3.9503D-09	7.1429D-04	3.0398D+04	5.0663D+04	1.4099D-08
9.8692D-06	5.6459D+00	9.0411D-01	5.4248D-01	1.2138D+01	1.9752D-09	7.1429D-04	6.0796D+04	1.0133D+05	7.0495D-09
8.8823D-06	5.6459D+00	9.0411D-01	5.4248D-01	1.2176D+01	1.7776D-09	7.1429D-04	6.7551D+04	1.1258D+05	6.3445D-09
7.8954D-06	5.6459D+00	9.0411D-01	5.4248D-01	1.2219D+01	1.5801D-09	7.1429D-04	7.5995D+04	1.2666D+05	5.6396D-09

SUPERHEATED VAPOR PROPERTIES AT T = 1400.0K

P (ATM)	H-R (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
6.9085D-06	5.6459D+00	9.0411D-01	5.4248D-01	1.2267D+01	1.3826D-09	7.1429D-04	8.6851D+04	1.4475D+05	4.9346D-09
5.9215D-06	5.6459D+00	9.0411D-01	5.4248D-01	1.2323D+01	1.1851D-09	7.1429D-04	1.0133D+05	1.6887D+05	4.2297D-09
4.9346D-06	5.6459D+00	9.0411D-01	5.4248D-01	1.2389D+01	9.8758D-10	7.1429D-04	1.2159D+05	2.0265D+05	3.5247D-09
3.9477D-06	5.6459D+00	9.0411D-01	5.4247D-01	1.2469D+01	7.9006D-10	7.1429D-04	1.5199D+05	2.5331D+05	2.8198D-09
2.9608D-06	5.6459D+00	9.0411D-01	5.4247D-01	1.2573D+01	5.9255D-10	7.1429D-04	2.0265D+05	3.3775D+05	2.1148D-09
1.9738D-06	5.6459D+00	9.0411D-01	5.4247D-01	1.2720D+01	3.9503D-10	7.1429D-04	3.0398D+05	5.0662D+05	1.4099D-09
9.8692D-07	5.6459D+00	9.0411D-01	5.4247D-01	1.2971D+01	1.9752D-10	7.1429D-04	6.0796D+05	1.0132D+06	7.0495D-10
8.8823D-07	5.6459D+00	9.0411D-01	5.4247D-01	1.3009D+01	1.7776D-10	7.1429D-04	6.7551D+05	1.1258D+06	6.3445D-10
7.8954D-07	5.6459D+00	9.0411D-01	5.4247D-01	1.3051D+01	1.5801D-10	7.1429D-04	7.5995D+05	1.2666D+06	5.6396D-10
6.9085D-07	5.6459D+00	9.0411D-01	5.4247D-01	1.3100D+01	1.3826D-10	7.1429D-04	8.6851D+05	1.4475D+06	4.9346D-10
5.9215D-07	5.6459D+00	9.0411D-01	5.4247D-01	1.3155D+01	1.1851D-10	7.1429D-04	1.0133D+06	1.6887D+06	4.2297D-10
4.9346D-07	5.6459D+00	9.0411D-01	5.4247D-01	1.3221D+01	9.8758D-11	7.1429D-04	1.2159D+06	2.0265D+06	3.5247D-10
3.9477D-07	5.6459D+00	9.0411D-01	5.4247D-01	1.3302D+01	7.9006D-11	7.1429D-04	1.5199D+06	2.5331D+06	2.8198D-10
2.9608D-07	5.6459D+00	9.0411D-01	5.4247D-01	1.3406D+01	5.9255D-11	7.1429D-04	2.0265D+06	3.3775D+06	2.1148D-10
1.9738D-07	5.6459D+00	9.0411D-01	5.4247D-01	1.3553D+01	3.9503D-11	7.1429D-04	3.0398D+06	5.0662D+06	1.4099D-10
9.8692D-08	5.6459D+00	9.0411D-01	5.4247D-01	1.3803D+01	1.9752D-11	7.1429D-04	6.0796D+06	1.0132D+07	7.0495D-11
8.8823D-08	5.6459D+00	9.0411D-01	5.4247D-01	1.3841D+01	1.7776D-11	7.1429D-04	6.7551D+06	1.1258D+07	6.3445D-11
7.8954D-08	5.6459D+00	9.0411D-01	5.4247D-01	1.3884D+01	1.5801D-11	7.1429D-04	7.5995D+06	1.2666D+07	5.6396D-11
6.9085D-08	5.6459D+00	9.0411D-01	5.4247D-01	1.3932D+01	1.3826D-11	7.1429D-04	8.6851D+06	1.4475D+07	4.9346D-11
5.9215D-08	5.6459D+00	9.0411D-01	5.4247D-01	1.3988D+01	1.1851D-11	7.1429D-04	1.0133D+07	1.6887D+07	4.2297D-11
4.9346D-08	5.6459D+00	9.0411D-01	5.4247D-01	1.4054D+01	9.8758D-12	7.1429D-04	1.2159D+07	2.0265D+07	3.5247D-11
3.9477D-08	5.6459D+00	9.0411D-01	5.4247D-01	1.4135D+01	7.9006D-12	7.1429D-04	1.5199D+07	2.5331D+07	2.8198D-11
2.9608D-08	5.6459D+00	9.0411D-01	5.4247D-01	1.4239D+01	5.9255D-12	7.1429D-04	2.0265D+07	3.3775D+07	2.1148D-11
1.9738D-08	5.6459D+00	9.0411D-01	5.4247D-01	1.4385D+01	3.9503D-12	7.1429D-04	3.0398D+07	5.0662D+07	1.4099D-11
9.8692D-09	5.6459D+00	9.0411D-01	5.4247D-01	1.4636D+01	1.9752D-12	7.1429D-04	6.0796D+07	1.0132D+08	7.0495D-12
8.8823D-09	5.6459D+00	9.0411D-01	5.4247D-01	1.4674D+01	1.7776D-12	7.1429D-04	6.7551D+07	1.1258D+08	6.3445D-12

SUPERHEATED VAPOR PROPERTIES AT T = 1400.0K

P (ATM)	H-H(298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
7.8954D-09	5.6459D+00	9.0411D-01	5.4247D-01	1.4717D+01	1.5801D-12	7.1429D-04	7.5995D+07	1.2666D+08	5.6396D-12
6.9085D-09	5.6459D+00	9.0411D-01	5.4247D-01	1.4765D+01	1.3826D-12	7.1429D-04	8.6851D+07	1.4475D+08	4.9346D-12
5.9215D-09	5.6459D+00	9.0411D-01	5.4247D-01	1.4821D+01	1.1851D-12	7.1429D-04	1.0133D+08	1.6887D+08	4.2297D-12
4.9346D-09	5.6459D+00	9.0411D-01	5.4247D-01	1.4887D+01	9.8758D-13	7.1429D-04	1.2159D+08	2.0265D+08	3.5247D-12

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1500.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
1.0000D+00	1.2044D+02	5.3569D+01	3.3070D+01	1.5905D+02	2.1849D+00	1.2247D-03	7.1237D-01	1.1540D+00	1.0613D-03
9.0000D-01	1.2133D+02	5.1760D+01	3.2201D+01	1.6040D+02	1.9362D+00	1.1795D-03	7.8757D-01	1.2660D+00	9.3171D-04
8.0000D-01	1.2227D+02	4.9748D+01	3.1180D+01	1.6186D+02	1.6945D+00	1.1330D-03	8.8118D-01	1.4059D+00	8.0585D-04
7.0000D-01	1.2323D+02	4.7519D+01	2.9989D+01	1.6348D+02	1.4596D+00	1.0851D-03	1.0009D+00	1.5860D+00	6.8421D-04
6.0000D-01	1.2425D+02	4.5051D+01	2.8603D+01	1.6530D+02	1.2314D+00	1.0360D-03	1.1594D+00	1.8262D+00	5.6729D-04
5.0000D-01	1.2531D+02	4.2308D+01	2.6988D+01	1.6738D+02	1.0097D+00	9.8523D-04	1.3795D+00	2.1626D+00	4.5558D-04
4.0000D-01	1.2643D+02	3.9235D+01	2.5095D+01	1.6983D+02	7.9456D-01	9.3240D-04	1.7059D+00	2.6671D+00	3.4959D-04
3.0000D-01	1.2762D+02	3.5740D+01	2.2852D+01	1.7287D+02	5.8584D-01	8.7647D-04	2.2424D+00	3.5071D+00	2.4992D-04
2.0000D-01	1.2891D+02	3.1681D+01	2.0145D+01	1.7694D+02	3.8364D-01	8.1572D-04	3.2960D+00	5.1833D+00	1.5737D-04
1.0000D-01	1.3032D+02	2.6822D+01	1.6789D+01	1.8348D+02	1.8820D-01	7.4732D-04	6.3828D+00	1.0197D+01	7.3287D-05
9.0000D-02	1.3046D+02	2.6280D+01	1.6407D+01	1.8443D+02	1.6905D-01	7.3990D-04	7.0612D+00	1.1310D+01	6.5420D-05
8.0000D-02	1.3062D+02	2.5725D+01	1.6016D+01	1.8550D+02	1.4996D-01	7.3235D-04	7.9070D+00	1.2701D+01	5.7663D-05
7.0000D-02	1.3077D+02	2.5158D+01	1.5614D+01	1.8669D+02	1.3095D-01	7.2468D-04	8.9918D+00	1.4488D+01	5.0019D-05
6.0000D-02	1.3092D+02	2.4577D+01	1.5201D+01	1.8806D+02	1.1202D-01	7.1686D-04	1.0435D+01	1.6871D+01	4.2491D-05
5.0000D-02	1.3108D+02	2.3983D+01	1.4777D+01	1.8966D+02	9.3156D-02	7.0890D-04	1.2450D+01	2.0206D+01	3.5084D-05
4.0000D-02	1.3123D+02	2.3375D+01	1.4342D+01	1.9160D+02	7.4370D-02	7.0079D-04	1.5467D+01	2.5208D+01	2.7800D-05
3.0000D-02	1.3139D+02	2.2752D+01	1.3894D+01	1.9408D+02	5.5661D-02	6.9252D-04	2.0485D+01	3.3543D+01	2.0645D-05
2.0000D-02	1.3156D+02	2.2113D+01	1.3434D+01	1.9754D+02	3.7029D-02	6.8408D-04	3.0504D+01	5.0212D+01	1.3624D-05
1.0000D-02	1.3172D+02	2.1458D+01	1.2960D+01	2.0340D+02	1.8475D-02	6.7547D-04	6.0526D+01	1.0021D+02	6.7402D-06
9.0000D-03	1.3174D+02	2.1392D+01	1.2912D+01	2.0428D+02	1.6624D-02	6.7459D-04	6.7195D+01	1.1133D+02	6.0596D-06
8.0000D-03	1.3175D+02	2.1325D+01	1.2863D+01	2.0527D+02	1.4773D-02	6.7372D-04	7.5530D+01	1.2521D+02	5.3805D-06
7.0000D-03	1.3177D+02	2.1258D+01	1.2815D+01	2.0639D+02	1.2924D-02	6.7285D-04	8.6247D+01	1.4307D+02	4.7028D-06
6.0000D-03	1.3178D+02	2.1192D+01	1.2766D+01	2.0768D+02	1.1075D-02	6.7197D-04	1.0054D+02	1.6688D+02	4.0266D-06
5.0000D-03	1.3180D+02	2.1124D+01	1.2718D+01	2.0921D+02	9.2274D-03	6.7109D-04	1.2054D+02	2.0022D+02	3.3518D-06
4.0000D-03	1.3182D+02	2.1057D+01	1.2669D+01	2.1107D+02	7.3803D-03	6.7021D-04	1.5054D+02	2.5022D+02	2.6785D-06
3.0000D-03	1.3183D+02	2.0990D+01	1.2620D+01	2.1347D+02	5.5341D-03	6.6933D-04	2.0054D+02	3.3355D+02	2.0067D-06

SUPERHEATED SODIUM VAPOUR PROPERTIES AT T= 1500.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMHAY (MPa/K)
2.00000D-03	1.3185D+02	2.0922D+01	1.2571D+01	2.1685D+02	3.6886D-03	6.6844D-04	3.0055D+02	5.0022D+02	1.3363D-06
1.0000E-03	1.3187D+02	2.0854D+01	1.2521D+01	2.2263D+02	1.8439D-03	6.6756D-04	6.0055D+02	1.0002D+03	6.6741D-07
9.0000D-04	1.3187D+02	2.0847D+01	1.2516D+01	2.2350D+02	1.6595D-03	6.6747D-04	6.6722D+02	1.1113D+03	6.0060D-07
8.0000D-04	1.3187D+02	2.0841D+01	1.2512D+01	2.2448D+02	1.4750D-03	6.6738D-04	7.5056D+02	1.2502D+03	5.3381D-07
7.0000D-04	1.3187D+02	2.0834D+01	1.2507D+01	2.2559D+02	1.2906D-03	6.6729D-04	8.5770D+02	1.4288D+03	4.6703D-07
6.0000D-04	1.3187D+02	2.0827D+01	1.2502D+01	2.2688D+02	1.1062D-03	6.6720D-04	1.0006D+03	1.6669D+03	4.0027D-07
5.0000D-04	1.3188D+02	2.0820D+01	1.2497D+01	2.2839D+02	9.2184D-04	6.6711D-04	1.2006D+03	2.0002D+03	3.3352D-07
4.0000D-04	1.3188D+02	2.0814D+01	1.2492D+01	2.3025D+02	7.3746D-04	6.6702D-04	1.5006D+03	2.5002D+03	2.6679D-07
3.0000D-04	1.3188D+02	2.0807D+01	1.2487D+01	2.3264D+02	5.5308D-04	6.6693D-04	2.0006D+03	3.3336D+03	2.0007D-07
2.0000D-04	1.3188D+02	2.0800D+01	1.2482D+01	2.3601D+02	3.6871D-04	6.6684D-04	3.0006D+03	5.0002D+03	1.3336D-07
1.0000D-04	1.3188D+02	2.0793D+01	1.2477D+01	2.4178D+02	1.8435D-04	6.6676D-04	6.0006D+03	1.0000D+04	6.6674D-08
9.0000D-05	1.3188D+02	2.0792D+01	1.2476D+01	2.4265D+02	1.6592D-04	6.6675D-04	6.6673D+03	1.1111D+04	6.0006D-08
8.0000D-05	1.3188D+02	2.0792D+01	1.2476D+01	2.4363D+02	1.4748D-04	6.6674D-04	7.5007D+03	1.2500D+04	5.3338D-08
7.0000D-05	1.3188D+02	2.0791D+01	1.2476D+01	2.4474D+02	1.2905D-04	6.6673D-04	8.5722D+03	1.4286D+04	4.6670D-08
6.0000D-05	1.3188D+02	2.0790D+01	1.2475D+01	2.4603D+02	1.1061D-04	6.6672D-04	1.0001D+04	1.6667D+04	4.0003D-08
5.0000E-05	1.3188D+02	2.0790D+01	1.2475D+01	2.4754D+02	9.2175D-05	6.6671D-04	1.2001D+04	2.0000D+04	3.3335D-08
4.0000D-05	1.3188D+02	2.0789D+01	1.2474D+01	2.4940D+02	7.3740D-05	6.6670D-04	1.5001D+04	2.5000D+04	2.6668D-08
3.0000D-05	1.3188D+02	2.0788D+01	1.2474D+01	2.5179D+02	5.5305D-05	6.6669D-04	2.0001D+04	3.3334D+04	2.0001D-08
2.0000D-05	1.3188D+02	2.0788D+01	1.2473D+01	2.5516D+02	3.6870D-05	6.6668D-04	3.0001D+04	5.0000D+04	1.3334D-08
1.0000D-05	1.3188D+02	2.0787D+01	1.2472D+01	2.6092D+02	1.8435D-05	6.6668D-04	6.0002D+04	1.0000D+05	6.6667D-09
9.0000D-06	1.3188D+02	2.0787D+01	1.2472D+01	2.6180D+02	1.6591D-05	6.6667D-04	6.6668D+04	1.1111D+05	6.0001D-09
8.0000D-06	1.3188D+02	2.0787D+01	1.2472D+01	2.6278D+02	1.4748D-05	6.6667D-04	7.5002D+04	1.2500D+05	5.3334D-09
7.0000D-06	1.3188D+02	2.0787D+01	1.2472D+01	2.6389D+02	1.2904D-05	6.6667D-04	8.5716D+04	1.4286D+05	4.6667D-09
6.0000D-06	1.3188D+02	2.0787D+01	1.2472D+01	2.6517D+02	1.1061D-05	6.6667D-04	1.0000D+05	1.6667D+05	4.0000D-09
5.0000D-06	1.3188D+02	2.0787D+01	1.2472D+01	2.6669D+02	9.2174D-06	6.6667D-04	1.2000D+05	2.0000D+05	3.3334D-09
4.0000E-06	1.3188D+02	2.0787D+01	1.2472D+01	2.6854D+02	7.3739D-06	6.6667D-04	1.5000D+05	2.5000D+05	2.6667D-09

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1500.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHA (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
3.0000D-06	1.3188D+02	2.0787D+01	1.2472D+01	2.7093D+02	5.5305D-06	6.6667D-04	2.0000D+05	3.3333D+05	2.0000D-09
2.0000D-06	1.3188D+02	2.0786D+01	1.2472D+01	2.7431D+02	3.6870D-06	6.6667D-04	3.0001D+05	5.0000D+05	1.3333D-09
1.0000D-06	1.3188D+02	2.0786D+01	1.2472D+01	2.8007D+02	1.8435D-06	6.6667D-04	6.0001D+05	1.0000D+06	6.6667D-10
9.0000D-07	1.3188D+02	2.0786D+01	1.2472D+01	2.8094D+02	1.6591D-06	6.6667D-04	6.6668D+05	1.1111D+06	6.0000D-10
8.0000D-07	1.3188D+02	2.0786D+01	1.2472D+01	2.8192D+02	1.4748D-06	6.6667D-04	7.5001D+05	1.2500D+06	5.3333D-10
7.0000D-07	1.3188D+02	2.0786D+01	1.2472D+01	2.8303D+02	1.2904D-06	6.6667D-04	8.5716D+05	1.4286D+06	4.6667D-10
6.0000D-07	1.3188D+02	2.0786D+01	1.2472D+01	2.8432D+02	1.1061D-06	6.6667D-04	1.0000D+06	1.6667D+06	4.0000D-10
5.0000D-07	1.3188D+02	2.0786D+01	1.2472D+01	2.8583D+02	9.2174D-07	6.6667D-04	1.2000D+06	2.0000D+06	3.3333D-10
4.0000D-07	1.3188D+02	2.0786D+01	1.2472D+01	2.8769D+02	7.3739D-07	6.6667D-04	1.5000D+06	2.5000D+06	2.6667D-10
3.0000D-07	1.3188D+02	2.0786D+01	1.2472D+01	2.9008D+02	5.5305D-07	6.6667D-04	2.0000D+06	3.3333D+06	2.0000D-10
2.0000D-07	1.3188D+02	2.0786D+01	1.2472D+01	2.9345D+02	3.6870D-07	6.6667D-04	3.0000D+06	5.0000D+06	1.3333D-10
1.0000D-07	1.3188D+02	2.0786D+01	1.2472D+01	2.9921D+02	1.8435D-07	6.6667D-04	6.0001D+06	1.0000D+07	6.6667D-11
9.0000D-08	1.3188D+02	2.0786D+01	1.2472D+01	3.0009D+02	1.6591D-07	6.6667D-04	6.6668D+06	1.1111D+07	6.0000D-11
8.0000D-08	1.3188D+02	2.0786D+01	1.2472D+01	3.0107D+02	1.4748D-07	6.6667D-04	7.5001D+06	1.2500D+07	5.3333D-11
7.0000D-08	1.3188D+02	2.0786D+01	1.2472D+01	3.0218D+02	1.2904D-07	6.6667D-04	8.5716D+06	1.4286D+07	4.6667D-11
6.0000D-08	1.3188D+02	2.0786D+01	1.2472D+01	3.0346D+02	1.1061D-07	6.6667D-04	1.0000D+07	1.6667D+07	4.0000D-11
5.0000D-08	1.3188D+02	2.0786D+01	1.2472D+01	3.0498D+02	9.2174D-08	6.6667D-04	1.2000D+07	2.0000D+07	3.3333D-11
4.0000D-08	1.3188D+02	2.0786D+01	1.2472D+01	3.0683D+02	7.3739D-08	6.6667D-04	1.5000D+07	2.5000D+07	2.6667D-11
3.0000D-08	1.3188D+02	2.0786D+01	1.2472D+01	3.0922D+02	5.5304D-08	6.6667D-04	2.0000D+07	3.3333D+07	2.0000D-11
2.0000D-08	1.3188D+02	2.0786D+01	1.2472D+01	3.1259D+02	3.6870D-08	6.6667D-04	3.0000D+07	5.0000D+07	1.3333D-11
1.0000D-08	1.3188D+02	2.0786D+01	1.2472D+01	3.1836D+02	1.8435D-08	6.6667D-04	6.0001D+07	1.0000D+08	6.6667D-12
9.0000D-09	1.3188D+02	2.0786D+01	1.2472D+01	3.1923D+02	1.6591D-08	6.6667D-04	6.6668D+07	1.1111D+08	6.0000D-12
8.0000D-09	1.3188D+02	2.0786D+01	1.2472D+01	3.2021D+02	1.4748D-08	6.6667D-04	7.5001D+07	1.2500D+08	5.3333D-12
7.0000D-09	1.3188D+02	2.0786D+01	1.2472D+01	3.2132D+02	1.2904D-08	6.6667D-04	8.5716D+07	1.4286D+08	4.6667D-12
6.0000D-09	1.3188D+02	2.0786D+01	1.2472D+01	3.2260D+02	1.1061D-08	6.6667D-04	1.0000D+08	1.6667D+08	4.0000D-12
5.0000D-09	1.3188D+02	2.0786D+01	1.2472D+01	3.2412D+02	9.2174D-09	6.6667D-04	1.2000D+08	2.0000D+08	3.3333D-12

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1500.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
4.0000D-09	1.3188D+02	2.0786D+01	1.2472D+01	3.2598D+02	7.3739D-09	6.6667D-04	1.5000D+08	2.5000D+08	2.6667D-12
3.0000D-09	1.3188D+02	2.0786D+01	1.2472D+01	3.2837D+02	5.5304D-09	6.6667D-04	2.0000D+08	3.3333D+08	2.0000D-12
2.0000D-09	1.3188D+02	2.0786D+01	1.2472D+01	3.3174D+02	3.6870D-09	6.6667D-04	3.0000D+08	5.0000D+08	1.3333D-12

SUPERHEATED VAPOR PROPERTIES AT T = 1500.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
9.8692D+00	5.2384D+00	2.3300D+00	1.4384D+00	6.9180D+00	2.1849D-03	1.2247D-03	7.2181D-02	1.1692D-01	1.0474D-02
8.8823D+00	5.2775D+00	2.2513D+00	1.4006D+00	6.9764D+00	1.9362D-03	1.1795D-03	7.9801D-02	1.2827D-01	9.1953D-03
7.8954D+00	5.3180D+00	2.1638D+00	1.3562D+00	7.0402D+00	1.6945D-03	1.1330D-03	8.9286D-02	1.4246D-01	7.9531D-03
6.9085D+00	5.3601D+00	2.0669D+00	1.3044D+00	7.1107D+00	1.4596D-03	1.0851D-03	1.0142D-01	1.6070D-01	6.7526D-03
5.9215D+00	5.4041D+00	1.9595D+00	1.2441D+00	7.1897D+00	1.2314D-03	1.0360D-03	1.1748D-01	1.8503D-01	5.5987D-03
4.9346D+00	5.4503D+00	1.8402D+00	1.1738D+00	7.2802D+00	1.0097D-03	9.8523D-04	1.3977D-01	2.1912D-01	4.4962D-03
3.9477D+00	5.4990D+00	1.7065D+00	1.0915D+00	7.3870D+00	7.9456D-04	9.3240D-04	1.7285D-01	2.7024D-01	3.4502D-03
2.9608D+00	5.5510D+00	1.5545D+00	9.9397D-01	7.5190D+00	5.8584D-04	8.7647D-04	2.2721D-01	3.5535D-01	2.4665D-03
1.9738D+00	5.6069D+00	1.3780D+00	8.7623D-01	7.6961D+00	3.8364D-04	8.1572D-04	3.3397D-01	5.2520D-01	1.5532D-03
9.8692D-01	5.6681D+00	1.1666D+00	7.3025D-01	7.9803D+00	1.8820D-04	7.4732D-04	6.4673D-01	1.0332D+00	7.2329D-04
8.8823D-01	5.6746D+00	1.1430D+00	7.1364D-01	8.0220D+00	1.6905D-04	7.3990D-04	7.1547D-01	1.1460D+00	6.4565D-04
7.8954D-01	5.6811D+00	1.1189D+00	6.9661D-01	8.0682D+00	1.4996D-04	7.3235D-04	8.0118D-01	1.2869D+00	5.6909D-04
6.9085D-01	5.6878D+00	1.0942D+00	6.7913D-01	8.1202D+00	1.3095D-04	7.2468D-04	9.1110D-01	1.4680D+00	4.9365D-04
5.9215D-01	5.6945D+00	1.0690D+00	6.6118D-01	8.1796D+00	1.1202D-04	7.1686D-04	1.0573D+00	1.7094D+00	4.1936D-04
4.9346D-01	5.7012D+00	1.0432D+00	6.4275D-01	8.2493D+00	9.3156D-05	7.0890D-04	1.2615D+00	2.0474D+00	3.4625D-04
3.9477D-01	5.7081D+00	1.0167D+00	6.2381D-01	8.3338D+00	7.4370D-05	7.0079D-04	1.5672D+00	2.5542D+00	2.7437D-04
2.9608D-01	5.7150D+00	9.8960D-01	6.0434D-01	8.4417D+00	5.5661D-05	6.9252D-04	2.0756D+00	3.3988D+00	2.0375D-04
1.9738D-01	5.7220D+00	9.6182D-01	5.8431D-01	8.5922D+00	3.7029D-05	6.8408D-04	3.0908D+00	5.0878D+00	1.3446D-04
9.8692D-02	5.7291D+00	9.3333D-01	5.6369D-01	8.8469D+00	1.8475D-05	6.7547D-04	6.1328D+00	1.0154D+01	6.6521D-05
8.8823D-02	5.7299D+00	9.3044D-01	5.6160D-01	8.8854D+00	1.6624D-05	6.7459D-04	6.8085D+00	1.1280D+01	5.9804D-05
7.8954D-02	5.7306D+00	9.2755D-01	5.5950D-01	8.9284D+00	1.4773D-05	6.7372D-04	7.6531D+00	1.2687D+01	5.3102D-05
6.9085D-02	5.7313D+00	9.2464D-01	5.5739D-01	8.9770D+00	1.2924D-05	6.7285D-04	8.7390D+00	1.4497D+01	4.6413D-05
5.9215D-02	5.7320D+00	9.2173D-01	5.5528D-01	9.0332D+00	1.1075D-05	6.7197D-04	1.0187D+01	1.6909D+01	3.9740D-05
4.9346D-02	5.7327D+00	9.1881D-01	5.5316D-01	9.0995D+00	9.2274D-06	6.7109D-04	1.2213D+01	2.0287D+01	3.3080D-05
3.9477D-02	5.7334D+00	9.1589D-01	5.5104D-01	9.1806D+00	7.3803D-06	6.7021D-04	1.5254D+01	2.5353D+01	2.6435D-05
2.9608D-02	5.7342D+00	9.1295D-01	5.4891D-01	9.2851D+00	5.5341D-06	6.6933D-04	2.0320D+01	3.3797D+01	1.9804D-05

SUPERHEATED VAPOR PROPERTIES AT T = 1500.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
1.9738D-02	5.7349D+00	9.1001D-01	5.4677D-01	9.4321D+00	3.6886D-06	6.6844D-04	3.0453D+01	5.0684D+01	1.3188D-05
9.8692E-03	5.7356D+00	9.0706D-01	5.4462D-01	9.6832D+00	1.8439D-06	6.6756D-04	6.0851D+01	1.0135D+02	6.5868D-06
8.8823D-03	5.7357D+00	9.0677D-01	5.4441D-01	9.7213D+00	1.6595D-06	6.6747D-04	6.7606D+01	1.1261D+02	5.9275D-06
7.8954D-03	5.7358D+00	9.0647D-01	5.4419D-01	9.7639D+00	1.4750D-06	6.6738D-04	7.6050D+01	1.2668D+02	5.2683D-06
6.9085D-03	5.7358D+00	9.0618D-01	5.4398D-01	9.8123D+00	1.2906D-06	6.6729D-04	8.6907D+01	1.4477D+02	4.6092D-06
5.9215D-03	5.7359D+00	9.0588D-01	5.4376D-01	9.8681D+00	1.1062D-06	6.6720D-04	1.0138D+02	1.6890D+02	3.9503D-06
4.9346D-03	5.7360D+00	9.0559D-01	5.4355D-01	9.9340D+00	9.2184D-07	6.6711D-04	1.2165D+02	2.0267D+02	3.2916D-06
3.9477D-03	5.7360D+00	9.0529D-01	5.4333D-01	1.0015D+01	7.3746D-07	6.6702D-04	1.5205D+02	2.5333D+02	2.6330D-06
2.9608D-03	5.7361D+00	9.0499D-01	5.4312D-01	1.0119D+01	5.5308D-07	6.6693D-04	2.0271D+02	3.3777D+02	1.9745D-06
1.9738D-03	5.7362D+00	9.0470D-01	5.4290D-01	1.0266D+01	3.6871D-07	6.6684D-04	3.0403D+02	5.0665D+02	1.3162D-06
9.8692D-04	5.7363D+00	9.0440D-01	5.4269D-01	1.0516D+01	1.8435D-07	6.6676D-04	6.0801D+02	1.0133D+03	6.5802D-07
8.8823D-04	5.7363D+00	9.0437D-01	5.4267D-01	1.0554D+01	1.6592D-07	6.6675D-04	6.7557D+02	1.1259D+03	5.9221D-07
7.8954E-04	5.7363D+00	9.0434D-01	5.4265D-01	1.0597D+01	1.4748D-07	6.6674D-04	7.6001D+02	1.2666D+03	5.2641D-07
6.9085D-04	5.7363D+00	9.0431D-01	5.4263D-01	1.0645D+01	1.2905D-07	6.6673D-04	8.6858D+02	1.4475D+03	4.6060D-07
5.9215D-04	5.7363D+00	9.0428D-01	5.4261D-01	1.0701D+01	1.1061D-07	6.6672D-04	1.0133D+03	1.6888D+03	3.9480D-07
4.9346D-04	5.7363D+00	9.0425D-01	5.4258D-01	1.0767D+01	9.2175D-08	6.6671D-04	1.2160D+03	2.0265D+03	3.2899D-07
3.9477D-04	5.7363D+00	9.0422D-01	5.4256D-01	1.0848D+01	7.3740D-08	6.6670D-04	1.5200D+03	2.5331D+03	2.6319D-07
2.9608D-04	5.7363D+00	9.0419D-01	5.4254D-01	1.0952D+01	5.5305D-08	6.6669D-04	2.0266D+03	3.3775D+03	1.9739D-07
1.9738D-04	5.7363D+00	9.0417D-01	5.4252D-01	1.1098D+01	3.6870D-08	6.6668D-04	3.0399D+03	5.0663D+03	1.3159D-07
9.8692D-05	5.7363D+00	9.0414D-01	5.4249D-01	1.1349D+01	1.8435D-08	6.6668D-04	6.0797D+03	1.0133D+04	6.5796D-08
8.8823D-05	5.7363D+00	9.0413D-01	5.4249D-01	1.1387D+01	1.6591D-08	6.6667D-04	6.7552D+03	1.1258D+04	5.9216D-08
7.8954D-05	5.7363D+00	9.0413D-01	5.4249D-01	1.1430D+01	1.4748D-08	6.6667D-04	7.5996D+03	1.2666D+04	5.2636D-08
6.9085D-05	5.7363D+00	9.0413D-01	5.4249D-01	1.1478D+01	1.2904D-08	6.6667D-04	8.6852D+03	1.4475D+04	4.6057D-08
5.9215D-05	5.7363D+00	9.0412D-01	5.4249D-01	1.1534D+01	1.1061D-08	6.6667D-04	1.0133D+04	1.6888D+04	3.9477D-08
4.9346D-05	5.7363D+00	9.0412D-01	5.4248D-01	1.1600D+01	9.2174D-09	6.6667D-04	1.2159D+04	2.0265D+04	3.2898D-08
3.9477D-05	5.7363D+00	9.0412D-01	5.4248D-01	1.1680D+01	7.3739D-09	6.6667D-04	1.5199D+04	2.5331D+04	2.6318D-08

SUPERHEATED VAPOR PROPERTIES AT T = 1500.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
2.9608D-05	5.7363D+00	9.0412D-01	5.4248D-01	1.1784D+01	5.5305D-09	6.6667D-04	2.0265D+04	3.3775D+04	1.9739D-08
1.9738D-05	5.7363D+00	9.0411D-01	5.4248D-01	1.1931D+01	3.6870D-09	6.6667D-04	3.0398D+04	5.0663D+04	1.3159D-08
9.8692D-06	5.7363D+00	9.0411D-01	5.4247D-01	1.2182D+01	1.8435D-09	6.6667D-04	6.0796D+04	1.0132D+05	6.5795D-09
8.8823D-06	5.7363D+00	9.0411D-01	5.4247D-01	1.2220D+01	1.6591D-09	6.6667D-04	6.7551D+04	1.1258D+05	5.9215D-09
7.8954D-06	5.7363D+00	9.0411D-01	5.4247D-01	1.2262D+01	1.4748D-09	6.6667D-04	7.5995D+04	1.2666D+05	5.2636D-09
6.9085D-06	5.7363D+00	9.0411D-01	5.4247D-01	1.2311D+01	1.2904D-09	6.6667D-04	8.6851D+04	1.4475D+05	4.6056D-09
5.9215D-06	5.7363D+00	9.0411D-01	5.4247D-01	1.2366D+01	1.1061D-09	6.6667D-04	1.0133D+05	1.6887D+05	3.9477D-09
4.9346D-06	5.7363D+00	9.0411D-01	5.4247D-01	1.2432D+01	9.2174D-10	6.6667D-04	1.2159D+05	2.0265D+05	3.2897D-09
3.9477D-06	5.7363D+00	9.0411D-01	5.4247D-01	1.2513D+01	7.3739D-10	6.6667D-04	1.5199D+05	2.5331D+05	2.6318D-09
2.9608D-06	5.7363D+00	9.0411D-01	5.4247D-01	1.2617D+01	5.5305D-10	6.6667D-04	2.0265D+05	3.3775D+05	1.9738D-09
1.9738D-06	5.7363D+00	9.0411D-01	5.4247D-01	1.2764D+01	3.6870D-10	6.6667D-04	3.0398D+05	5.0662D+05	1.3159D-09
9.8692D-07	5.7363D+00	9.0411D-01	5.4247D-01	1.3014D+01	1.8435D-10	6.6667D-04	6.0796D+05	1.0132D+06	6.5795D-10
8.8823D-07	5.7363D+00	9.0411D-01	5.4247D-01	1.3052D+01	1.6591D-10	6.6667D-04	6.7551D+05	1.1258D+06	5.9215D-10
7.8954D-07	5.7363D+00	9.0411D-01	5.4247D-01	1.3095D+01	1.4748D-10	6.6667D-04	7.5995D+05	1.2666D+06	5.2636D-10
6.9085D-07	5.7363D+00	9.0411D-01	5.4247D-01	1.3143D+01	1.2904D-10	6.6667D-04	8.6851D+05	1.4475D+06	4.6056D-10
5.9215D-07	5.7363D+00	9.0411D-01	5.4247D-01	1.3199D+01	1.1061D-10	6.6667D-04	1.0133D+06	1.6887D+06	3.9477D-10
4.9346D-07	5.7363D+00	9.0411D-01	5.4247D-01	1.3265D+01	9.2174D-11	6.6667D-04	1.2159D+06	2.0265D+06	3.2897D-10
3.9477D-07	5.7363D+00	9.0411D-01	5.4247D-01	1.3346D+01	7.3739D-11	6.6667D-04	1.5199D+06	2.5331D+06	2.6318D-10
2.9608D-07	5.7363D+00	9.0411D-01	5.4247D-01	1.3450D+01	5.5304D-11	6.6667D-04	2.0265D+06	3.3775D+06	1.9738D-10
1.9738D-07	5.7363D+00	9.0411D-01	5.4247D-01	1.3596D+01	3.6870D-11	6.6667D-04	3.0398D+06	5.0662D+06	1.3159D-10
9.8692D-08	5.7363D+00	9.0411D-01	5.4247D-01	1.3847D+01	1.8435D-11	6.6667D-04	6.0796D+06	1.0132D+07	6.5795D-11
8.8823D-08	5.7363D+00	9.0411D-01	5.4247D-01	1.3885D+01	1.6591D-11	6.6667D-04	6.7551D+06	1.1258D+07	5.9215D-11
7.8954D-08	5.7363D+00	9.0411D-01	5.4247D-01	1.3928D+01	1.4748D-11	6.6667D-04	7.5995D+06	1.2666D+07	5.2636D-11
6.9085D-08	5.7363D+00	9.0411D-01	5.4247D-01	1.3976D+01	1.2904D-11	6.6667D-04	8.6851D+06	1.4475D+07	4.6056D-11
5.9215D-08	5.7363D+00	9.0411D-01	5.4247D-01	1.4032D+01	1.1061D-11	6.6667D-04	1.0133D+07	1.6887D+07	3.9477D-11
4.9346D-08	5.7363D+00	9.0411D-01	5.4247D-01	1.4098D+01	9.2174D-12	6.6667D-04	1.2159D+07	2.0265D+07	3.2897D-11

SUPERHEATED VAPOR PROPERTIES AT T = 1500.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
3.9477D-08	5.7363D+00	9.0411D-01	5.4247D-01	1.4178D+01	7.3739D-12	6.6667D-04	1.5199D+07	2.5331D+07	2.6318D-11
2.9608D-08	5.7363D+00	9.0411D-01	5.4247D-01	1.4282D+01	5.5304D-12	6.6667D-04	2.0265D+07	3.3775D+07	1.9738D-11
1.9738D-08	5.7363D+00	9.0411D-01	5.4247D-01	1.4429D+01	3.6870D-12	6.6667D-04	3.0398D+07	5.0662D+07	1.3159D-11

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1600.0K

P (MPA)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPA-1)	BETAT (MPA-1)	GAMMAV (MPA/K)
1.0000D+00	1.2534D+02	4.4746D+01	2.7738D+01	1.6185D+02	1.9556D+00	1.0045D-03	6.9137D-01	1.1153D+00	9.0066D-04
9.0000D-01	1.2606D+02	4.3118D+01	2.6868D+01	1.6308D+02	1.7398D+00	9.7118D-04	7.6426D-01	1.2265D+00	7.9184D-04
8.0000D-01	1.2681D+02	4.1384D+01	2.5905D+01	1.6443D+02	1.5287D+00	9.3755D-04	8.5491D-01	1.3657D+00	6.8648D-04
7.0000D-01	1.2757D+02	3.9536D+01	2.4842D+01	1.6592D+02	1.3221D+00	9.0355D-04	9.7078D-01	1.5450D+00	5.8482D-04
6.0000D-01	1.2836D+02	3.7559D+01	2.3664D+01	1.6759D+02	1.1200D+00	8.6906D-04	1.1242D+00	1.7843D+00	4.8707D-04
5.0000D-01	1.2918D+02	3.5432D+01	2.2354D+01	1.6951D+02	9.2235D-01	8.3385D-04	1.3372D+00	2.1194D+00	3.9343D-04
4.0000D-01	1.3003D+02	3.3124D+01	2.0889D+01	1.7179D+02	7.2901D-01	7.9754D-04	1.6536D+00	2.6221D+00	3.0416D-04
3.0000D-01	1.3092D+02	3.0588D+01	1.9232D+01	1.7464D+02	5.4001D-01	7.5955D-04	2.1749D+00	3.4593D+00	2.1957D-04
2.0000D-01	1.3187D+02	2.7758D+01	1.7332D+01	1.7848D+02	3.5540D-01	7.1903D-04	3.2039D+00	5.1312D+00	1.4013D-04
1.0000D-01	1.3287D+02	2.4537D+01	1.5115D+01	1.8476D+02	1.7532D-01	6.7476D-04	6.2455D+00	1.0138D+01	6.6556D-05
9.0000D-02	1.3298D+02	2.4188D+01	1.4873D+01	1.8569D+02	1.5757D-01	6.7007D-04	6.9174D+00	1.1250D+01	5.9560D-05
8.0000D-02	1.3309D+02	2.3834D+01	1.4625D+01	1.8673D+02	1.3986D-01	6.6531D-04	7.7561D+00	1.2640D+01	5.2636D-05
7.0000D-02	1.3319D+02	2.3475D+01	1.4374D+01	1.8789D+02	1.2221D-01	6.6050D-04	8.8333D+00	1.4427D+01	4.5784D-05
6.0000D-02	1.3330D+02	2.3110D+01	1.4117D+01	1.8923D+02	1.0460D-01	6.5563D-04	1.0268D+01	1.6808D+01	3.9006D-05
5.0000D-02	1.3341D+02	2.2739D+01	1.3856D+01	1.9080D+02	8.7045D-02	6.5070D-04	1.2274D+01	2.0143D+01	3.2305D-05
4.0000D-02	1.3352D+02	2.2361D+01	1.3590D+01	1.9271D+02	6.9536D-02	6.4570D-04	1.5281D+01	2.5144D+01	2.5681D-05
3.0000D-02	1.3363D+02	2.1978D+01	1.3318D+01	1.9516D+02	5.2076D-02	6.4063D-04	2.0288D+01	3.3478D+01	1.9136D-05
2.0000D-02	1.3374D+02	2.1587D+01	1.3042D+01	1.9859D+02	3.4667D-02	6.3550D-04	3.0295D+01	5.0146D+01	1.2673D-05
1.0000D-02	1.3385D+02	2.1190D+01	1.2760D+01	2.0441D+02	1.7308D-02	6.3029D-04	6.0303D+01	1.0015D+02	6.2936D-06
9.0000D-03	1.3386D+02	2.1150D+01	1.2731D+01	2.0529D+02	1.5575D-02	6.2976D-04	6.6971D+01	1.1126D+02	5.6604D-06
8.0000D-03	1.3387D+02	2.1110D+01	1.2703D+01	2.0627D+02	1.3842D-02	6.2924D-04	7.5305D+01	1.2515D+02	5.0280D-06
7.0000D-03	1.3388D+02	2.1070D+01	1.2674D+01	2.0739D+02	1.2110D-02	6.2871D-04	8.6020D+01	1.4300D+02	4.3964D-06
6.0000D-03	1.3389D+02	2.1030D+01	1.2645D+01	2.0868D+02	1.0379D-02	6.2818D-04	1.0031D+02	1.6681D+02	3.7658D-06
5.0000D-03	1.3391D+02	2.0989D+01	1.2617D+01	2.1020D+02	8.6477D-03	6.2765D-04	1.2031D+02	2.0015D+02	3.1360D-06
4.0000D-03	1.3392D+02	2.0949D+01	1.2588D+01	2.1206D+02	6.9172D-03	6.2712D-04	1.5031D+02	2.5015D+02	2.5070D-06
3.0000D-03	1.3393D+02	2.0908D+01	1.2559D+01	2.1446D+02	5.1871D-03	6.2659D-04	2.0031D+02	3.3348D+02	1.8790D-06

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1600.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
2.0000D-03	1.3394D+02	2.0868D+01	1.2530D+01	2.1784D+02	3.4576D-03	6.2606D-04	3.0031D+02	5.0015D+02	1.2518D-06
1.0000D-03	1.3395D+02	2.0827D+01	1.2501D+01	2.2360D+02	1.7285D-03	6.2553D-04	6.0032D+02	1.0001D+03	6.2544D-07
9.0000D-04	1.3395D+02	2.0823D+01	1.2498D+01	2.2448D+02	1.5556D-03	6.2548D-04	6.6699D+02	1.1113D+03	5.6286D-07
8.0000D-04	1.3395D+02	2.0819D+01	1.2495D+01	2.2546D+02	1.3828D-03	6.2543D-04	7.5032D+02	1.2501D+03	5.0028D-07
7.0000D-04	1.3395D+02	2.0815D+01	1.2492D+01	2.2657D+02	1.2099D-03	6.2537D-04	8.5747D+02	1.4287D+03	4.3772D-07
6.0000D-04	1.3396D+02	2.0811D+01	1.2489D+01	2.2785D+02	1.0371D-03	6.2532D-04	1.0003D+03	1.6668D+03	3.7516D-07
5.0000D-04	1.3396D+02	2.0807D+01	1.2486D+01	2.2937D+02	8.6420D-04	6.2527D-04	1.2003D+03	2.0001D+03	3.1261D-07
4.0000D-04	1.3396D+02	2.0803D+01	1.2484D+01	2.3123D+02	6.9135D-04	6.2521D-04	1.5003D+03	2.5001D+03	2.5007D-07
3.0000D-04	1.3396D+02	2.0799D+01	1.2481D+01	2.3362D+02	5.1850D-04	6.2516D-04	2.0003D+03	3.3335D+03	1.8754D-07
2.0000D-04	1.3396D+02	2.0794D+01	1.2478D+01	2.3699D+02	3.4566D-04	6.2511D-04	3.0004D+03	5.0001D+03	1.2502D-07
1.0000D-04	1.3396D+02	2.0790D+01	1.2475D+01	2.4275D+02	1.7283D-04	6.2505D-04	6.0004D+03	1.0000D+04	6.2504D-08
9.0000D-05	1.3396D+02	2.0790D+01	1.2475D+01	2.4363D+02	1.5555D-04	6.2505D-04	6.6671D+03	1.1111D+04	5.6254D-08
8.0000D-05	1.3396D+02	2.0790D+01	1.2474D+01	2.4461D+02	1.3826D-04	6.2504D-04	7.5005D+03	1.2500D+04	5.0003D-08
7.0000D-05	1.3396D+02	2.0789D+01	1.2474D+01	2.4572D+02	1.2098D-04	6.2504D-04	8.5719D+03	1.4286D+04	4.3752D-08
6.0000D-05	1.3396D+02	2.0789D+01	1.2474D+01	2.4700D+02	1.0370D-04	6.2503D-04	1.0001D+04	1.6667D+04	3.7502D-08
5.0000D-05	1.3396D+02	2.0788D+01	1.2473D+01	2.4852D+02	8.6414D-05	6.2503D-04	1.2001D+04	2.0000D+04	3.1251D-08
4.0000D-05	1.3396D+02	2.0788D+01	1.2473D+01	2.5037D+02	6.9131D-05	6.2502D-04	1.5001D+04	2.5000D+04	2.5001D-08
3.0000D-05	1.3396D+02	2.0787D+01	1.2473D+01	2.5277D+02	5.1848D-05	6.2502D-04	2.0001D+04	3.3333D+04	1.8750D-08
2.0000D-05	1.3396D+02	2.0787D+01	1.2473D+01	2.5614D+02	3.4565D-05	6.2501D-04	3.0001D+04	5.0000D+04	1.2500D-08
1.0000D-05	1.3396D+02	2.0787D+01	1.2472D+01	2.6190D+02	1.7283D-05	6.2501D-04	6.0001D+04	1.0000D+05	6.2500D-09
9.0000D-06	1.3396D+02	2.0787D+01	1.2472D+01	2.6278D+02	1.5554D-05	6.2500D-04	6.6668D+04	1.1111D+05	5.6250D-09
8.0000D-06	1.3396D+02	2.0787D+01	1.2472D+01	2.6375D+02	1.3826D-05	6.2500D-04	7.5001D+04	1.2500D+05	5.0000D-09
7.0000D-06	1.3396D+02	2.0787D+01	1.2472D+01	2.6487D+02	1.2098D-05	6.2500D-04	8.5716D+04	1.4286D+05	4.3750D-09
6.0000D-06	1.3396D+02	2.0787D+01	1.2472D+01	2.6615D+02	1.0370D-05	6.2500D-04	1.0000D+05	1.6667D+05	3.7500D-09
5.0000D-06	1.3396D+02	2.0786D+01	1.2472D+01	2.6766D+02	8.6413D-06	6.2500D-04	1.2000D+05	2.0000D+05	3.1250D-09
4.0000D-06	1.3396D+02	2.0786D+01	1.2472D+01	2.6952D+02	6.9131D-06	6.2500D-04	1.5000D+05	2.5000D+05	2.5000D-09

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1600.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
3.0000D-06	1.3396D+02	2.0786D+01	1.2472D+01	2.7191D+02	5.1848D-06	6.2500D-04	2.0000D+05	3.3333D+05	1.8750D-09
2.0000D-06	1.3396D+02	2.0786D+01	1.2472D+01	2.7528D+02	3.4565D-06	6.2500D-04	3.0000D+05	5.0000D+05	1.2500D-09
1.0000D-06	1.3396D+02	2.0786D+01	1.2472D+01	2.8104D+02	1.7283D-06	6.2500D-04	6.0001D+05	1.0000D+06	6.2500D-10
9.0000D-07	1.3396D+02	2.0786D+01	1.2472D+01	2.8192D+02	1.5554D-06	6.2500D-04	6.6668D+05	1.1111D+06	5.6250D-10
8.0000D-07	1.3396D+02	2.0786D+01	1.2472D+01	2.8290D+02	1.3826D-06	6.2500D-04	7.5001D+05	1.2500D+06	5.0000D-10
7.0000D-07	1.3396D+02	2.0786D+01	1.2472D+01	2.8401D+02	1.2098D-06	6.2500D-04	8.5716D+05	1.4286D+06	4.3750D-10
6.0000D-07	1.3396D+02	2.0786D+01	1.2472D+01	2.8529D+02	1.0370D-06	6.2500D-04	1.0000D+06	1.6667D+06	3.7500D-10
5.0000D-07	1.3396D+02	2.0786D+01	1.2472D+01	2.8681D+02	8.6413D-07	6.2500D-04	1.2000D+06	2.0000D+06	3.1250D-10
4.0000D-07	1.3396D+02	2.0786D+01	1.2472D+01	2.8866D+02	6.9131D-07	6.2500D-04	1.5000D+06	2.5000D+06	2.5000D-10
3.0000D-07	1.3396D+02	2.0786D+01	1.2472D+01	2.9105D+02	5.1848D-07	6.2500D-04	2.0000D+06	3.3333D+06	1.8750D-10
2.0000D-07	1.3396D+02	2.0786D+01	1.2472D+01	2.9443D+02	3.4565D-07	6.2500D-04	3.0000D+06	5.0000D+06	1.2500D-10
1.0000D-07	1.3396D+02	2.0786D+01	1.2472D+01	3.0019D+02	1.7283D-07	6.2500D-04	6.0001D+06	1.0000D+07	6.2500D-11
9.0000D-08	1.3396D+02	2.0786D+01	1.2472D+01	3.0106D+02	1.5554D-07	6.2500D-04	6.6668D+06	1.1111D+07	5.6250D-11
8.0000D-08	1.3396D+02	2.0786D+01	1.2472D+01	3.0204D+02	1.3826D-07	6.2500D-04	7.5001D+06	1.2500D+07	5.0000D-11
7.0000D-08	1.3396D+02	2.0786D+01	1.2472D+01	3.0315D+02	1.2098D-07	6.2500D-04	8.5716D+06	1.4286D+07	4.3750D-11
6.0000D-08	1.3396D+02	2.0786D+01	1.2472D+01	3.0444D+02	1.0370D-07	6.2500D-04	1.0000D+07	1.6667D+07	3.7500D-11
5.0000D-08	1.3396D+02	2.0786D+01	1.2472D+01	3.0595D+02	8.6413D-08	6.2500D-04	1.2000D+07	2.0000D+07	3.1250D-11
4.0000D-08	1.3396D+02	2.0786D+01	1.2472D+01	3.0781D+02	6.9131D-08	6.2500D-04	1.5000D+07	2.5000D+07	2.5000D-11
3.0000D-08	1.3396D+02	2.0786D+01	1.2472D+01	3.1020D+02	5.1848D-08	6.2500D-04	2.0000D+07	3.3333D+07	1.8750D-11
2.0000D-08	1.3396D+02	2.0786D+01	1.2472D+01	3.1357D+02	3.4565D-08	6.2500D-04	3.0000D+07	5.0000D+07	1.2500D-11
1.0000D-08	1.3396D+02	2.0786D+01	1.2472D+01	3.1933D+02	1.7283D-08	6.2500D-04	6.0001D+07	1.0000D+08	6.2500D-12
9.0000D-09	1.3396D+02	2.0786D+01	1.2472D+01	3.2021D+02	1.5554D-08	6.2500D-04	6.6668D+07	1.1111D+08	5.6250D-12
8.0000D-09	1.3396D+02	2.0786D+01	1.2472D+01	3.2119D+02	1.3826D-08	6.2500D-04	7.5001D+07	1.2500D+08	5.0000D-12
7.0000D-09	1.3396D+02	2.0786D+01	1.2472D+01	3.2230D+02	1.2098D-08	6.2500D-04	8.5716D+07	1.4286D+08	4.3750D-12
6.0000D-09	1.3396D+02	2.0786D+01	1.2472D+01	3.2358D+02	1.0370D-08	6.2500D-04	1.0000D+08	1.6667D+08	3.7500D-12
5.0000D-09	1.3396D+02	2.0786D+01	1.2472D+01	3.2510D+02	8.6413D-09	6.2500D-04	1.2000D+08	2.0000D+08	3.1250D-12

SUPERHEATED SODIUM VAPOR PROPERTIES AT T= 1600.0K

P (MPa)	H-H (298) (KJ/MOL)	CP (J/MOL-K)	CV (J/MOL-K)	S (J/MOL-K)	RHO (KG/M**3)	ALPHAP (K-1)	BETAS (MPa-1)	BETAT (MPa-1)	GAMMAV (MPa/K)
4.0000D-09	1.3396D+02	2.0786D+01	1.2472D+01	3.2695D+02	6.9131D-09	6.2500D-04	1.5000D+08	2.5000D+08	2.5000D-12
3.0000D-09	1.3396D+02	2.0786D+01	1.2472D+01	3.2934D+02	5.1848D-09	6.2500D-04	2.0000D+08	3.3333D+08	1.8750D-12
2.0000D-09	1.3396D+02	2.0786D+01	1.2472D+01	3.3271D+02	3.4565D-09	6.2500D-04	3.0000D+08	5.0000D+08	1.2500D-12

SUPERHEATED VAPOR PROPERTIES AT T = 1600.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
9.8692D+00	5.4517D+00	1.9462D+00	1.2065D+00	7.0399D+00	1.9556D-03	1.0045D-03	7.0053D-02	1.1300D-01	8.8888D-03
8.8823D+00	5.4832D+00	1.8754D+00	1.1686D+00	7.0934D+00	1.7398D-03	9.7118D-04	7.7438D-02	1.2427D-01	7.8148D-03
7.8954D+00	5.5154D+00	1.8000D+00	1.1268D+00	7.1519D+00	1.5287D-03	9.3755D-04	8.6624D-02	1.3838D-01	6.7751D-03
6.9085D+00	5.5487D+00	1.7196D+00	1.0805D+00	7.2166D+00	1.3221D-03	9.0355D-04	9.8364D-02	1.5655D-01	5.7718D-03
5.9215D+00	5.5830D+00	1.6336D+00	1.0293D+00	7.2893D+00	1.1200D-03	8.6906D-04	1.1391D-01	1.8079D-01	4.8070D-03
4.9346D+00	5.6185D+00	1.5411D+00	9.7231D-01	7.3730D+00	9.2235D-04	8.3385D-04	1.3549D-01	2.1475D-01	3.8828D-03
3.9477D+00	5.6556D+00	1.4407D+00	9.0856D-01	7.4722D+00	7.2901D-04	7.9754D-04	1.6755D-01	2.6569D-01	3.0018D-03
2.9608D+00	5.6945D+00	1.3304D+00	8.3648D-01	7.5958D+00	5.4001D-04	7.5955D-04	2.2037D-01	3.5051D-01	2.1670D-03
1.9738D+00	5.7355D+00	1.2073D+00	7.5385D-01	7.7632D+00	3.5540D-04	7.1903D-04	3.2463D-01	5.1992D-01	1.3830D-03
9.8692D-01	5.7794D+00	1.0672D+00	6.5745D-01	8.0363D+00	1.7532D-04	6.7476D-04	6.3282D-01	1.0273D+00	6.5685D-04
8.8823D-01	5.7840D+00	1.0521D+00	6.4689D-01	8.0767D+00	1.5757D-04	6.7007D-04	7.0090D-01	1.1399D+00	5.8781D-04
7.8954D-01	5.7886D+00	1.0367D+00	6.3613D-01	8.1217D+00	1.3986D-04	6.6531D-04	7.8589D-01	1.2807D+00	5.1948D-04
6.9085D-01	5.7932D+00	1.0211D+00	6.2518D-01	8.1723D+00	1.2221D-04	6.6050D-04	8.9503D-01	1.4618D+00	4.5185D-04
5.9215D-01	5.7979D+00	1.0052D+00	6.1403D-01	8.2305D+00	1.0460D-04	6.5563D-04	1.0404D+00	1.7031D+00	3.8496D-04
4.9346D-01	5.8026D+00	9.8902D-01	6.0267D-01	8.2988D+00	8.7045D-05	6.5070D-04	1.2437D+00	2.0410D+00	3.1882D-04
3.9477D-01	5.8073D+00	9.7261D-01	5.9109D-01	8.3820D+00	6.9536D-05	6.4570D-04	1.5483D+00	2.5477D+00	2.5345D-04
2.9608D-01	5.8121D+00	9.5592D-01	5.7929D-01	8.4885D+00	5.2076D-05	6.4063D-04	2.0556D+00	3.3922D+00	1.8886D-04
1.9738D-01	5.8170D+00	9.3895D-01	5.6725D-01	8.6376D+00	3.4667D-05	6.3550D-04	3.0696D+00	5.0810D+00	1.2507D-04
9.8692D-02	5.8218D+00	9.2168D-01	5.5499D-01	8.8908D+00	1.7308D-05	6.3029D-04	6.1102D+00	1.0147D+01	6.2113D-05
8.8823D-02	5.8223D+00	9.1993D-01	5.5375D-01	8.9291D+00	1.5575D-05	6.2976D-04	6.7858D+00	1.1273D+01	5.5864D-05
7.8954D-02	5.8228D+00	9.1819D-01	5.5250D-01	8.9720D+00	1.3842D-05	6.2924D-04	7.6303D+00	1.2681D+01	4.9622D-05
6.9085D-02	5.8233D+00	9.1644D-01	5.5126D-01	9.0205D+00	1.2110D-05	6.2871D-04	8.7160D+00	1.4490D+01	4.3389D-05
5.9215D-02	5.8238D+00	9.1469D-01	5.5001D-01	9.0765D+00	1.0379D-05	6.2818D-04	1.0164D+01	1.6902D+01	3.7165D-05
4.9346D-02	5.8243D+00	9.1293D-01	5.4876D-01	9.1427D+00	8.6477D-06	6.2765D-04	1.2190D+01	2.0280D+01	3.0949D-05
3.9477D-02	5.8248D+00	9.1117D-01	5.4751D-01	9.2237D+00	6.9172D-06	6.2712D-04	1.5230D+01	2.5346D+01	2.4742D-05
2.9608D-02	5.8253D+00	9.0941D-01	5.4625D-01	9.3279D+00	5.1871D-06	6.2659D-04	2.0296D+01	3.3790D+01	1.8544D-05

SUPERHEATED VAPOR PROPERTIES AT T = 1600.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
1.9738D-02	5.8258D+00	9.0764D-01	5.4499D-01	9.4748D+00	3.4576D-06	6.2606D-04	3.0429D+01	5.0677D+01	1.2354D-05
9.8692D-03	5.8263D+00	9.0588D-01	5.4373D-01	9.7258D+00	1.7285D-06	6.2553D-04	6.0827D+01	1.0134D+02	6.1726D-06
8.8823D-03	5.8263D+00	9.0570D-01	5.4361D-01	9.7639D+00	1.5556D-06	6.2548D-04	6.7582D+01	1.1260D+02	5.5550D-06
7.8954D-03	5.8264D+00	9.0552D-01	5.4348D-01	9.8065D+00	1.3828D-06	6.2543D-04	7.6026D+01	1.2667D+02	4.9374D-06
6.9085D-03	5.8264D+00	9.0535D-01	5.4336D-01	9.8548D+00	1.2099D-06	6.2537D-04	8.6883D+01	1.4476D+02	4.3199D-06
5.9215D-03	5.8265D+00	9.0517D-01	5.4323D-01	9.9106D+00	1.0371D-06	6.2532D-04	1.0136D+02	1.6889D+02	3.7025D-06
4.9346D-03	5.8265D+00	9.0499D-01	5.4310D-01	9.9765D+00	8.6420D-07	6.2527D-04	1.2162D+02	2.0266D+02	3.0852D-06
3.9477D-03	5.8266D+00	9.0481D-01	5.4298D-01	1.0057D+01	6.9135D-07	6.2521D-04	1.5202D+02	2.5333D+02	2.4680D-06
2.9608D-03	5.8266D+00	9.0464D-01	5.4285D-01	1.0161D+01	5.1850D-07	6.2516D-04	2.0268D+02	3.3776D+02	1.8509D-06
1.9738D-03	5.8266D+00	9.0446D-01	5.4272D-01	1.0308D+01	3.4566D-07	6.2511D-04	3.0401D+02	5.0664D+02	1.2338D-06
9.8692D-04	5.8267D+00	9.0428D-01	5.4260D-01	1.0559D+01	1.7283D-07	6.2505D-04	6.0800D+02	1.0133D+03	6.1687D-07
8.8823D-04	5.8267D+00	9.0426D-01	5.4259D-01	1.0597D+01	1.5555D-07	6.2505D-04	6.7555D+02	1.1258D+03	5.5518D-07
7.8954D-04	5.8267D+00	9.0425D-01	5.4258D-01	1.0639D+01	1.3826D-07	6.2504D-04	7.5998D+02	1.2666D+03	4.9349D-07
6.9085D-04	5.8267D+00	9.0423D-01	5.4256D-01	1.0688D+01	1.2098D-07	6.2504D-04	8.6855D+02	1.4475D+03	4.3180D-07
5.9215D-04	5.8267D+00	9.0421D-01	5.4255D-01	1.0743D+01	1.0370D-07	6.2503D-04	1.0133D+03	1.6888D+03	3.7011D-07
4.9346D-04	5.8267D+00	9.0419D-01	5.4254D-01	1.0809D+01	8.6414D-08	6.2503D-04	1.2160D+03	2.0265D+03	3.0842D-07
3.9477D-04	5.8267D+00	9.0418D-01	5.4252D-01	1.0890D+01	6.9131D-08	6.2502D-04	1.5199D+03	2.5331D+03	2.4674D-07
2.9608D-04	5.8267D+00	9.0416D-01	5.4251D-01	1.0994D+01	5.1848D-08	6.2502D-04	2.0266D+03	3.3775D+03	1.8505D-07
1.9738D-04	5.8267D+00	9.0414D-01	5.4250D-01	1.1141D+01	3.4565D-08	6.2501D-04	3.0398D+03	5.0663D+03	1.2337D-07
9.8692D-05	5.8267D+00	9.0412D-01	5.4248D-01	1.1391D+01	1.7283D-08	6.2501D-04	6.0796D+03	1.0133D+04	6.1683D-08
8.8823D-05	5.8267D+00	9.0412D-01	5.4248D-01	1.1430D+01	1.5554D-08	6.2500D-04	6.7551D+03	1.1258D+04	5.5515D-08
7.8954D-05	5.8267D+00	9.0412D-01	5.4248D-01	1.1472D+01	1.3826D-08	6.2500D-04	7.5995D+03	1.2666D+04	4.9346D-08
6.9085D-05	5.8267D+00	9.0412D-01	5.4248D-01	1.1520D+01	1.2098D-08	6.2500D-04	8.6852D+03	1.4475D+04	4.3178D-08
5.9215D-05	5.8267D+00	9.0412D-01	5.4248D-01	1.1576D+01	1.0370D-08	6.2500D-04	1.0133D+04	1.6888D+04	3.7010D-08
4.9346D-05	5.8267D+00	9.0411D-01	5.4248D-01	1.1642D+01	8.6413D-09	6.2500D-04	1.2159D+04	2.0265D+04	3.0841D-08
3.9477D-05	5.8267D+00	9.0411D-01	5.4248D-01	1.1723D+01	6.9131D-09	6.2500D-04	1.5199D+04	2.5331D+04	2.4673D-08

SUPERHEATED VAPOR PROPERTIES AT T = 1600.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHAP (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMAV (ATM/K)
2.9608D-05	5.8267D+00	9.0411D-01	5.4247D-01	1.1827D+01	5.1848D-09	6.2500D-04	2.0265D+04	3.3775D+04	1.8505D-08
1.9738D-05	5.8267D+00	9.0411D-01	5.4247D-01	1.1973D+01	3.4565D-09	6.2500D-04	3.0398D+04	5.0663D+04	1.2337D-08
9.8692D-06	5.8267D+00	9.0411D-01	5.4247D-01	1.2224D+01	1.7283D-09	6.2500D-04	6.0796D+04	1.0132D+05	6.1683D-09
8.8823D-06	5.8267D+00	9.0411D-01	5.4247D-01	1.2262D+01	1.5554D-09	6.2500D-04	6.7551D+04	1.1258D+05	5.5514D-09
7.8954D-06	5.8267D+00	9.0411D-01	5.4247D-01	1.2305D+01	1.3826D-09	6.2500D-04	7.5995D+04	1.2666D+05	4.9346D-09
6.9085D-06	5.8267D+00	9.0411D-01	5.4247D-01	1.2353D+01	1.2098D-09	6.2500D-04	8.6851D+04	1.4475D+05	4.3178D-09
5.9215D-06	5.8267D+00	9.0411D-01	5.4247D-01	1.2409D+01	1.0370D-09	6.2500D-04	1.0133D+05	1.6887D+05	3.7010D-09
4.9346D-06	5.8267D+00	9.0411D-01	5.4247D-01	1.2475D+01	8.6413D-10	6.2500D-04	1.2159D+05	2.0265D+05	3.0841D-09
3.9477D-06	5.8267D+00	9.0411D-01	5.4247D-01	1.2555D+01	6.9131D-10	6.2500D-04	1.5199D+05	2.5331D+05	2.4673D-09
2.9608D-06	5.8267D+00	9.0411D-01	5.4247D-01	1.2659D+01	5.1848D-10	6.2500D-04	2.0265D+05	3.3775D+05	1.8505D-09
1.9738D-06	5.8267D+00	9.0411D-01	5.4247D-01	1.2806D+01	3.4565D-10	6.2500D-04	3.0398D+05	5.0662D+05	1.2337D-09
9.8692D-07	5.8267D+00	9.0411D-01	5.4247D-01	1.3057D+01	1.7283D-10	6.2500D-04	6.0796D+05	1.0132D+06	6.1683D-10
8.8823D-07	5.8267D+00	9.0411D-01	5.4247D-01	1.3095D+01	1.5554D-10	6.2500D-04	6.7551D+05	1.1258D+06	5.5514D-10
7.8954D-07	5.8267D+00	9.0411D-01	5.4247D-01	1.3137D+01	1.3826D-10	6.2500D-04	7.5995D+05	1.2666D+06	4.9346D-10
6.9085D-07	5.8267D+00	9.0411D-01	5.4247D-01	1.3186D+01	1.2098D-10	6.2500D-04	8.6851D+05	1.4475D+06	4.3178D-10
5.9215D-07	5.8267D+00	9.0411D-01	5.4247D-01	1.3242D+01	1.0370D-10	6.2500D-04	1.0133D+06	1.6887D+06	3.7010D-10
4.9346D-07	5.8267D+00	9.0411D-01	5.4247D-01	1.3307D+01	8.6413D-11	6.2500D-04	1.2159D+06	2.0265D+06	3.0841D-10
3.9477D-07	5.8267D+00	9.0411D-01	5.4247D-01	1.3388D+01	6.9131D-11	6.2500D-04	1.5199D+06	2.5331D+06	2.4673D-10
2.9608D-07	5.8267D+00	9.0411D-01	5.4247D-01	1.3492D+01	5.1848D-11	6.2500D-04	2.0265D+06	3.3775D+06	1.8505D-10
1.9738D-07	5.8267D+00	9.0411D-01	5.4247D-01	1.3639D+01	3.4565D-11	6.2500D-04	3.0398D+06	5.0662D+06	1.2337D-10
9.8692D-08	5.8267D+00	9.0411D-01	5.4247D-01	1.3889D+01	1.7283D-11	6.2500D-04	6.0796D+06	1.0132D+07	6.1683D-11
8.8823D-08	5.8267D+00	9.0411D-01	5.4247D-01	1.3928D+01	1.5554D-11	6.2500D-04	6.7551D+06	1.1258D+07	5.5514D-11
7.8954D-08	5.8267D+00	9.0411D-01	5.4247D-01	1.3970D+01	1.3826D-11	6.2500D-04	7.5995D+06	1.2666D+07	4.9346D-11
6.9085D-08	5.8267D+00	9.0411D-01	5.4247D-01	1.4018D+01	1.2098D-11	6.2500D-04	8.6851D+06	1.4475D+07	4.3178D-11
5.9215D-08	5.8267D+00	9.0411D-01	5.4247D-01	1.4074D+01	1.0370D-11	6.2500D-04	1.0133D+07	1.6887D+07	3.7010D-11
4.9346D-08	5.8267D+00	9.0411D-01	5.4247D-01	1.4140D+01	8.6413D-12	6.2500D-04	1.2159D+07	2.0265D+07	3.0841D-11

SUPERHEATED VAPOR PROPERTIES AT T = 1600.0K

P (ATM)	H-H (298) (KJ/G)	CP (J/G-K)	CV (J/G-K)	S (J/G-K)	RHO (G/CC)	ALPHA P (K-1)	BETAS (ATM-1)	BETAT (ATM-1)	GAMMA V (ATM/K)
3.9477D-08	5.8267D+00	9.0411D-01	5.4247D-01	1.4221D+01	6.9131D-12	6.2500D-04	1.5199D+07	2.5331D+07	2.4673D-11
2.9608D-08	5.8267D+00	9.0411D-01	5.4247D-01	1.4325D+01	5.1848D-12	6.2500D-04	2.0265D+07	3.3775D+07	1.8505D-11
1.9738D-08	5.8267D+00	9.0411D-01	5.4247D-01	1.4472D+01	3.4565D-12	6.2500D-04	3.0398D+07	5.0662D+07	1.2337D-11

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