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THERMODYNAMIC PROPERTIES OF HYDROCARBONS

T.E. Parker, R.F. Sawyer, and A.K. Oppenheim

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THERMODYNAMIC PROPERTIES OF HYDROCARBONS

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ABSTRACT

A numerical technique for calculating thermodynamic properties of non-polar pure substances is presented. It is based on the use of the extended principle of corresponding states for the determination of P-V-T relations and their reduction to the Benedict-Webb-Rubin equation of state. Virial coefficients are deduced and combined with specific heat data to determine the internal energy, entropy, and bulk modulus of elasticity. On this basis an algorithm is developed to calculate properties for a state fixed by any two independent parameters. The technique thus established is applied to normal paraffins, and the results for all species, from methane to hexadecane, are presented in tabular and graphical form.

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1 Introduction

Research on ignition of fuels at supercritical pressures and temperatures revealed a lack of fundamental thermodynamic information. A numerical method for calculating these properties for pure substances has been developed and applied to the normal parafins methane through hexadecane. Previous methods relied primarily upon experimental data, available in the literature, for production of thermodynamic charts and tables (for example Reynolds (1979); Din (1956); and Sage and Lacy (1950)). This work is based upon the extended principle of corresponding states, which has the advantage of direct volumetric data production and the ability to produce a continuous data grid free from the gaps typical of experimental data sets.

The extended principle of corresponding states provides the information required to define an equation of state, which is then used in conjunction with ideal gas specific heat data to produce a complete thermodynamic description of the substance. The process consists of four principle steps, enumerated below and described in detail in the remaining sections of this report.

1) predicting the dependence of specific volume upon pressure and temperature using the extended principle of corresponding states,

2) fitting these data to the appropriate P(v,T) function,

3) fitting available ideal gas specific heat data to an appropriate function, and

4) using these empirical expressions to derive other thermodynamic properties such as internal energy, entropy, isothermal and isobaric compressibilities, and the speed of sound.

This general technique for producing thermodynamic data is a marriage between Lee and Keslers' (1975) extended principle of corresponding states and the procedure documented by Reynolds (1979) for predicting thermodynamic properties given a volumetric data set. Nomenclature used in this report and the associated Appendices (I-III) is listed in Table 1. An introduction to the extended principle of corresponding states is given in Section 2. Volumetric data calculation and the construction of a data grid are presented in Sections 3 and 4; determination of the equation of state and the ideal gas specific heat equation is discussed in Sections 5 and 6. Details of property prediction are given in Section 7 and 8, and the numerical techniques used for plotting and table generation are presented in Section 9. Finally a brief note on the accuracy of the derived proper-ties is given in Section 10.

Calculation results, in the form of both pressure-enthalpy diagrams and tabulated data, for the normal paraffins methane to hexadecane are presented in Appendix I.

2. Extended Principle of Corresponding States

According to the principle of corresponding states, substances at identical reduced pressures, P_r, and temperatures, T_r, (pressure and temperature normalized by their critical values) have the same compressibility, Z. This concept provides the basis for predicting a pure substance's volumetric behavior based on the known behavior of another substance. In concept, experimental specific volume information would be required for one reference substance only; the corresponding states principle providing the means to relate this data to any other substance. Specific volume predictions derived from the corresponding states principle can be in error by 15% or more. The extended principle of corresponding states adds a parameter, the acentric factor, and reduces this error by approximately one order of magnitude.

Pitzer and his co-workers (Pitzer (1955); Pitzer et al. (1955); and Pitzer and Curl (1957)) postulated that the inaccuracy of the corresponding states principle was due to its failure to account for the variation between substances' intermolecular forces. These differences in forces are manifested in the shape of the intermolecular potential function, most specifically in the width of the potential well.

A macroscopic effect of this width is the Clapeyron coefficient (the derivative of the saturated pressure with respect to temperature), since the vapor-liquid equilibria provides a dramatic

and easily measurable manifestation of intermolecular forces. The slope of the saturation line may be approximated by the reduced pressure at a temperature significantly below the critical value. This reduced temperature is chosen as .7 and the resulting pressure is used in the definition of the acentric factor.

$$\omega = -\log P^{o}_{rs} - 1.00 \qquad (1)$$

Ideal fluids, monatomic gases and methane have essentially spherical molecular shapes , inverse sixth power attractive potentials and acentric factors equal to zero. Because an inverse sixth power attractive potential is assumed, the extended principle of corresponding states is only accurate for non-polar substances. Real fluids, with either non-spherical or globular molecular shapes, have acentric factors greater than zero. The acentric factor, based upon the Clapeyron coefficient, is the third parameter in Pitzer's extended principle of corresponding states.

The addition of a third correlating parameter provides a simple extension to the principle of corresponding states, ie. substances with identical acentric factors, reduced pressures, and temperatures, have identical compressibilities. Since the principle is implemented solely with experimentally derived specific volumes, its application requires the measurement and indexing of large quantities of data before it can be of any practical use. Pitzer recognized this limitation and simplified the problem by using the acentric factor as

a proportionality coefficient to be used with experimentally determined ideal fluid compressibilities ,$Z^{(0)}$, and their first order deviation, $Z^{(1)}$. This deviation is defined as the departure from ideal fluid behavior, normalized by the acentric factor. Tabular values used with Equation 2 specify the compressibility, Z, for the substance of interest by interpolation as follows

$$Z = Z^{(0)} + \omega Z^{(1)} \tag{2}$$

Volumetric behavior prediction by this relationship yielded an average deviation from experimental values equal to 0.2% for fluids whose acentric factors do not exceed 0.352 (Pitzer et al. (1955)), a significant improvement over predictions using the basic principle of corresponding states. Lee and Kesler (1975) significantly improved this tabular form of volumetric data prediction. Specific volume behaviors for two substances, a simple fluid and a reference fluid, were represented by a modified Benedict-Webb-Rubin (1940) equation. These specific volumes define compressibilities for the simple and reference fluid which are then used to find the compressibility for the substance of interest by interpolation as follows

$$Z = Z^{(0)} + \frac{w}{\omega_{ref}} \left(Z^{(r)} - Z^{(0)}\right) \tag{3}$$

Simple fluid compressibility data were compiled using Ar, Kr, Xe, and CH_4 . The basis for the reference fluid was octane (ω = 0.3987). Expressions for ideal fluid compressibility, $Z^{(0)}$, and reference fluid compressibility, $Z^{(r)}$, corresponding to the reduced Benedict-Webb-Rubin equation are presented in the next section. These functions replace and extend the original tabular data provided by Pitzer (1955). It should be noted that the extended principle of corresponding states assumes an inverse sixth power attractive potential and is therefore only accurate for non-polar substances.

3. Basic Compressibility Calculation

Generation of the P-v-T data used in this work to define an equation of state follows the method of Lee and Kesler (1975), which provides a virial equation, 4, expressed in terms of the reduced specific volume, V_r.

$$\frac{P_r V_r}{T_r} = 1 + \frac{B}{V_r} + \frac{C}{V_r^2} + \frac{D}{V_r^5} + \frac{C_4}{T_r^3 V_r^2}\left(\lambda + \frac{\gamma}{V_r^2}\right)\exp(-\gamma/V_r^2) \qquad (4)$$

The coefficients in this function are defined by Equations 5 - 7.

$$B = b_1 - \frac{b_2}{T_r} - \frac{b_3}{T_r^2} - \frac{b_4}{T_r^3} \tag{5}$$

$$C = c_1 - \frac{c_2}{T_r} + \frac{c_3}{T_r^3} \tag{6}$$

$$D = d_1 + \frac{d_2}{T_r} \tag{7}$$

These equations completely describe the volumetric behavior of the two base substances, the ideal and reference fluids. A separate family of parameters, $b_1 - b_4$, $c_1 - c_4$, d_1, d_2, β, and γ is used for each substance; their values are listed in Table 2. The compilation of Passut and Danner (1973) provided values for acentric factors, critical temperatures, and pressures. Figure 1 illustrates the variation in acentric factor for normal paraffins.

The numerical implementation of these relations requires an iterative solution in V_r for both the simple and reference fluids. Special care has to be taken in the liquid, or high density, region since the functional relationship is exceptionally stiff with respect to V_r. Solution is further complicated for subcritical states by the occurrence of three roots. This multiroot phenomenon corresponds to the well known Van der Waals behavior, as illustrated in Figure 2. Two of the roots are situated within the vapor dome and are of no

interest. The meaningful root lies outside of the dome and is identified by first using the empirical saturation pressure equation provided by Lee and Kesler, Equation 8, to define the fluid's phase. Once this is known, the appropriate root is easily chosen: liquid phases dictate the selection of the high density root and the converse for the gas phase.

$$\ln P_{rs} = 5.92714 - \frac{6.09648}{T_r} - 1.28862 \ln T_r + .169347\, T_r^{6}$$

$$+ \omega\left(15.2518 - \frac{15.6875}{T_r} - 13.4721 \ln T_r + .43577\, T_r^{6}\right) \qquad (8)$$

These nondimensionalized specific volumes, V_r, are used to calculate the ideal and reference compressibilities, Equation 9,

$$Z^{(a)} = \frac{P_r V_r^{(a)}}{T_r} \qquad (9)$$

where the superscript a, when equal to "0", denotes a simple fluid and when equal to "r" indicates a reference or base fluid. These two compressibilities form the basis for the interpolation defined by Equation 3.

The calculation just described has meaningful results only if the two base fluids and the fluid of interest are in the same phase.

This restriction creates a pressure region for which straightforward data generation is not possible due to the change in saturation pressure with acentric factor, illustrated in Figure 3. The minimum size for this pressure region is determined by the difference in saturation pressures of the two base fluids, whose acentric factors equal 0 and .3978. Unknown fluids with acentric factors greater than 0.3978 result in an increased zone of conflicting phases, since the three fluids must all be either liquid or gaseous.

Data generation may be accomplished in the saturation region by first determining the appropriate phase for the unknown fluid and then calculating specific volume data of a corresponding phase for the two base fluids. This calculation is based upon extending an isotherm from the saturation line into the vapor dome and determining an equivalent phase specific volume for the base fluid. The slope of the isotherm at the intersection of the saturation line is used to construct this extension into the vapor dome. This technique was first documented by Curl and Pitzer (1958) and provides the key to uninhibited data generation in the vicinity of the vapor dome.

4. Equation of State

The previous section described the details of finding the specific volume at a given pressure and temperature. This technique may now be utilized to produce a grid of specific volume data, in the temperature - pressure plane, used to find the coefficients in an

appropriate equation of state.

The final determination of state coefficients employed a grid size of 1600 data points, which represents the maximum that the CDC 7600 can accommodate in small core memory with the twenty four coefficient state equation. Preliminary work with a smaller number of coefficients was performed with a grid size of both 1600 and 2500 data points, and no significant change in the quality of the fit was observed.

The data grid was defined by the intersection of forty temperature and pressure points, whose range was approximately 450 K to 950 K and 0.1 to 10. MPa. The exact value for the low temperature varied from substance to substance due to the value of the saturation temperature at the minimum grid pressure. A full discussion of this is deferred until Section 7. Grid points were spaced evenly through the temperature range and logarithmically through the pressure range.

Supplemental data points were also used in the determination of coefficients, the purpose being to control properly the behavior of the equation of state. These points discourage multi-valued solutions and control the derivatives at the grid edges. The spacing of these control points, illustrated in Figure 4, was empirically determined. Twelve control points near each grid boundary were used to control derivatives and are located outside of the grid by one half of a grid spacing. In addition, five control points were located near the exterior at a distance of three grid spacings from the edge. These points are intended to control the global behavior of the function

near the temperature and pressure extremes. Thirty six additional points were added at saturation conditions to direct the equation of states' behavior across the vapor dome. These points represent the liquid and gas specific volumes at eighteen positions along the saturation line.

Actual prediction of the specific volume at a given temperature and pressure was described in Section 3. The repetitive application of this technique over a large range of temperatures and pressures results in several numerical pitfalls which must circumvented. These problems significantly effect the final form of the data prediction program and are listed along with their solutions below.

The grid is first divided into three regions, illustrated in Figure 5. Solution in the two supercritical regions is relatively straightforward since only one specific volume root exists for each point. However, the function describing this volumetric behavior is algebraically stiff with respect to the specific volume in the high density, liquid-like, region. The solution, determined using a Newton-Raphson technique, is extremely dependent on an accurate initial guess. A reasonable guess is found by moving through the data subgrids as illustrated in Figure 5; the solution from the previous point providing an appropriate guess for the next point.

Subcritical temperature and pressure points form a special region within the grid since either one or three roots are possible. In order to find the correct specific volume the number of solutions must first be identified. The two roots of the partial derivative of

Equation 4 with respect to specific volume provide the location of the minimum and maximum for the function. These values are found using a Newton-Raphson solution technique, subject to the same dependence on the initial guess, discussed above for the supercritical case. The roots of the partial derivative function, coupled with a high and low bound, divide the range of specific volumes into three parts. Each subrange contains at most one solution for the pressure function, Equation 4, found using a bisection scheme. In this manner the number and value of the roots are determined. If three roots exist the correct one is identified as discussed in Section 3.

Control points are treated similarly to the points within the grid. If the control point is supercritical in either pressure or temperature, solution is straightforward given an appropriate guess. This guess is provided by entering the grid and identifying the data point closest to the control point. The solution at this location provides the guess for the control point. Subcritical control points pose a separate problem as the data grid does not contain the roots of the derivative function, necessary for the subcritical solution scheme. This is circumvented by supplying a guess, determined empirically, which yields at least one convergent root for the derivative function. The remaining root is determined by dividing the specific volume range into two subranges, bounded by the high and low specific volume and the known root. The subrange used in the bisection solution for the remaining root is identified by perturbating about the known root. Once both roots of the derivative

function have been identified , calculation of the specific volume is identical to that described for the subcritical data point case.

5. Equation of State Coefficients

The data grid described in the last section provides the required information to produce an equation of state. The overall goal was to produce a state equation for heavy hydrocarbons with average deviations from the data grid no greater than two percent and a maximum deviation of fifteen percent. The functional form, Equation 10, was determined empirically, starting with the modified Benedict-Webb-Rubin (1940) equation of state, and evolving the function by adding terms to decrease the disagreement between the data grid and state equation values. Virial coefficients, represented by F_1 to F_8, and their specific temperature dependencies are listed in Appendix III.

$$P=\rho RT + F_1\rho^2 + F_2\rho^3 + F_3\rho^4 + F_4\rho^5 + F_5\rho^6 + \left(F_6 + F_7\rho^2 + F_8\rho^4\right)\rho^3\left(\exp(-\gamma\rho^2)\right) \qquad (10)$$

The large number of points in the generated data base eliminates the necessity for predetermined weighting factors, often used in previous work based on experimentally gathered data (Reynolds (1979)). The assumption here is that the data grid is dense enough to portray accurately the substance's behavior in all regions.

Three functional constraints are used with Equation 10 at the critical point insuring a proper transition from the subcritical two phase region to the supercritical region immediately above the dome. The first constraint requires the equation of state to pass exactly through the critical point, no error is permitted here. The second and third constraints, listed in Equations 11 and 12, force the function to have a point of inflection at the critical point.

$$\partial P/\partial \rho)_T = 0 \tag{11}$$

$$\partial^2 P/\partial \rho^2)_T = 0 \tag{12}$$

where $\rho=\rho_c$ and $T=T_c$

The addition of these three constraints reduces the number of independently determined coefficients from twenty-four to twenty-one. The process used to produce the coefficients required that the dependent coefficients be prespecified. These coefficients, denoted in the equations as $Y_1 - Y_3$, were chosen on the basis of their contribution near the critical point; a coefficient with little influence would be an inappropriate numerical choice.

Application of the method of least mean squares to Equation 10 results in a nonlinear set of simultaneous equations which have no unique solution. This nonlinearity is caused by the exponential term and can be eliminated by fixing the value for γ. The linearized

equations have one, unique solution. Final values for the coefficients in the equation of state were determined by fitting the data for a range of values in gamma, identifying the value which produced the best result, and using this fit as the final solution. This effectively circumvented the nonlinearity problem for the fitting process.

An additional obstacle to determining the equation of state is the stiffness of the data in the liquid region: changes of .01 percent or less in the specific volume significantly effect the pressure. Pressure variations corresponding to small perturbations in the specific volume have been smoothed out to produce a fit that is more representative of the data grid. This was accomplished by fitting the data four successive times. If a perturbation of .025 percent or less in specific volume, increased the accuracy at a point, the specific volume data was adjusted accordingly. The maximum possible perturbation is 0.1 percent, less than the accuracy of the data prediction scheme. This smoothing process is an essential ingredient to producing a suitable fit for the substances with higher acentric factors (i.e.pentadecane and hexadecane) and allows the equation of state to accurately represent the overall trends in the data.

Accuracies were still not acceptable for pentadecane and hexadecane after incorporating the smoothing process into the fit. To increase the accuracy, results of each fit and smoothing iteration were examined and all data points which still had an error greater than ten percent were flagged. The error at these data points was

weighted by a factor of 1.3 for the next fit. This weighting scheme produced acceptable results for the substances with high acentric factors.

Coefficients for the equation of state for methane through hexadecane are listed in Appendix II. The number of significant digits may be extreme, but for some regions in the thermodynamic state space, the pressure is determined by differences which are several orders of magnitude greater than the pressure itself. The use of eight significant digits reduced the accuracy of the constraints at the critical point by six orders of magnitude. Consequently, the calculations should be performed at an accuracy greater than eight digits. This constitutes double precision for many computers. The CDC 7600, on which these calculations were performed, carries sixteen digits in all single precision calculations and this was found to be adequate.

6. Ideal Gas Specific Heats

The ideal gas specific heat is readily represented by a power series in temperature, Equation 13, and the coefficients are easily evaluated by linear regression.

$$c_v^o = \sum_{i=1}^{6} G_i T^{i-2} \tag{13}$$

Actual specific heat data were provided by the classical compilation

of the American Petroleum Research Project No. 44 (1953) and the values of the resulting coefficients are listed in Appendix II.

7. Dependent Properties - Internal Energy and Entropy

The information required for the evaluation of internal energy and the entropy is contained in the equation of state and the ideal gas specific heat. The methodology closely follows that of Reynolds (1979) with the exception of the integration path through the vapor dome. Property calculations are performed using the density, ρ, rather than specific volume, as done by Reynolds(1979).

Internal energy for a simple substance is evaluated from the relation:

$$du = c_v + (\partial u/\partial v)_T \, dv \tag{14}$$

which when integrated yields the following equation.

$$u = \int_{T_o}^{T} c_v^o \, dT + \int_0^{\rho} \frac{1}{\rho^2} \left[P - T \left(\frac{\partial P}{\partial T} \right)_\rho \right] d\rho + u_o \tag{15}$$

The integration is performed first at zero density and then at constant temperature. The ideal gas relation is valid at zero density which reduces the second integral to zero, simplifying property evaluation considerably. However, this path traverses regions in which no data points were used to constrain the equation of state, denoted as A and B in Figure 6.

The first region, A, represents the transition from a true ideal gas to the substances actual behavior on the gas side of the vapor dome. Luckily, the contribution of this unconstrained integral is negligible when compared to the specific heat contribution. This is partially due to a relatively small change in density across this region and partially due to the equation of state's reduction to an ideal gas relation for low densities.

The second region in question is the integration across the vapor dome. This integral drastically affects the value of both the internal energy and entropy since it represents the change of phase. If left unconstrained it will produce an unacceptable variability of the properties in the liquid region. In fact this effect could explain the inconsistency in vapor dome shape associated with different weighting factors, noted by Reynolds (1979). To produce thermodynamically consistent data and remove this unacceptable variability, the integral across the vapor dome is not used. Instead, the change in internal energy and entropy is deduced from the Clapeyron relationship, Equation 16.

$$\frac{dP_s}{dT_s} = \frac{h_{fg}}{T_s v_{fg}} \tag{16}$$

Proper utilization of the Clapeyron relation mandates an apriori knowledge of the saturation pressure behavior as a function of temperature. This is provided by the saturation pressure equation of

Lee and Kesler (1975), 8, a function of both acentric factor and temperature. Differentiation of this function with respect to temperature provides a usable relation for evaluating the slope of the saturation curve. The change in specific volume, v_{fg}, is provided by the equation of state. Equation 16 is used to calculate the enthalpy of vaporization, h_{fg}, from which the change in internal energy, u_{fg}, may be deduced.

The final integration path for states on the liquid side of the dome consists of four parts: a zero density integration, the constant temperature integration from density equal to zero to the saturated gas density, an internal energy change across the dome, and the constant temperature integration from the saturated liquid density to the density at the point in question, Equation 17. Appendix III lists the fully integrated form of this equation.

$$u = \int_{T_o}^{T} c_v^o \, dT + \int_{0}^{\rho_g} \frac{1}{\rho^2} \left[P - T \left.\frac{\partial P}{\partial T}\right)_\rho \right] d\rho + u_{fg}$$

$$+ \int_{\rho_f}^{\rho} \frac{1}{\rho^2} \left[P - T \left.\frac{\partial P}{\partial T}\right)_\rho \right] d\rho + u_o \qquad (17)$$

The entropy is defined in a similar manner, starting with a differential expression, Equation 18, and using the same integration path used for the internal energy.

$$ds = \frac{1}{T}\, du + \frac{P}{T}\, dv \tag{18}$$

Before integration the term $Rd\rho/\rho$ is added and subtracted, the final result being Equation 19.

$$s = \int_{T_o}^{T} \frac{c_v^o}{T}\, dT - R \ln \rho + \int_0^{\rho} \frac{1}{\rho^2} \left[\rho R - \left(\frac{\partial P}{\partial T}\right)_\rho \right] + S_o \tag{19}$$

This integration is similarly susceptible to error when used to cross the vapor dome and is consequently broken into four segments for property evaluation on the liquid side of the dome. The Gibbs function equality across the dome, Equation 20, provides the vaporization entropy and the entropy in the liquid region is given by Equation 21. Fully evaluated integrals are found in Appendix III.

$$s_{fg} = h_{fg} / T \tag{20}$$

$$s = \int_{T_o}^{T} \frac{c_v^o}{T}\, dT - R \ln \rho + \int_0^{\rho} \frac{1}{\rho^2} \left[\rho R - \left(\frac{\partial P}{\partial T}\right)_\rho \right] + s_{fg}$$

$$+ \int_{\rho_f}^{\rho} \frac{1}{\rho^2} \left[\rho R - \left(\frac{\partial P}{\partial T}\right)_\rho \right] + s_o \tag{21}$$

The integration path produces an effective limit to property prediction on the liquid side of the vapor dome. Evaluation of liquid

properties requires the saturation specific volumes, available only within the fitting region. Therefore, the low temperature boundary for property prediction in the liquid region is the intersection of the saturation line with the low pressure of the fitting region.

Integration constants, corresponding to the starting values of the internal energy and entropy at T_o and $\rho=0$ and the value of T_o are given in Appendix III.

8. Derivatives

Several properties of interest are based on the derivatives of previously defined quantities. Equations for the isothermal and isobaric compressibilities along with the speed sound are developed below.

The isothermal compressibility, defined by Equation 22, is implemented by direct differentiation of the state equation.

$$\kappa = \frac{-1}{v} \left(\frac{\partial v}{\partial P}\right)_T \tag{22}$$

A similar situation is presented for the isobaric compressibility with the exception that a small amount of differential calculus is required to put the definition in a form with the specific volume and temperature as the independent variables. The result is given by Equation 23.

$$\beta = \frac{-1}{v} \left(\frac{\partial v}{\partial P}\right)_T \left(\frac{\partial P}{\partial T}\right)_v \tag{23}$$

Calculations for the speed of sound are slightly more involved since the basic definition does not readily lend itself to formulation with independent variables of temperature and specific volume. The relationship for the speed of sound is transformed to these independent variables following exactly the development presented by Oppenheim et al. (1964) which yields Equation 24.

$$a^2 = \left.\frac{\partial P}{\partial \rho}\right)_S = -v^2 \gamma_s \left.\frac{\partial P}{\partial v}\right)_T \tag{24}$$

This formulation requires the evaluation of the ratio of specific heats, γ_s, obtained from the relationship between specific heat and the isothermal and isobaric compressibilities (Callen (1960)),Equation 25.

$$\gamma_s = 1 + \frac{Tv\beta^2}{\kappa c_v} \tag{25}$$

The value for the specific heat at constant volume, c_v, is evaluated by differentiating the initial internal energy equation, (15) which yields Equation 26.

$$c_v = c_v^o - \int_0^\rho \frac{1}{\rho^2} \left(\frac{\partial^2 P}{\partial T^2}\right)_\rho \, d\rho \tag{26}$$

The density integral is subject to the same restrictions as those discussed for the evaluation of the internal energy and entropy and their evaluation in the liquid region. However, an easy replacement for the integral's value across the vapor dome is not available and the specific heat on the liquid side of the dome is evaluated numerically.

9. Numerical Techniques

The functions presented in the preceding sections used temperature and density as the independent variables and are not easily transformable to a different set of independent variables. Plotting and table generation, therefore, is a matter of iteratively solving for these independent variables given the values for two thermodynamic properties. The difficulty of the problem relates directly to the number of these undetermined independent variables. Iteration to determine one independent variable is relatively straightforward; solution for two undetermined independent variables is a two dimensional problem and is more involved.

Bisection is used for the one dimensional iteration case and the problem is reduced to specifying an appropriate range that contains the solution. Values of the independent variables at the four corners

of the fitting region are known; one of the corners typically provides an extreme value for the unknown independent variable. The other boundary is either an appropriate value from the saturation curve, or for the supercritical case, the value from a second corner point. For subcritical states the range is specifically limited to exclude the interior of the vapor dome and thereby eliminate the possibility of multiple roots. Once the range is specified, solution is a simple matter of repetitive calculation.

Definition of an appropriate range for the density within the liquid region is complicated by the near parallel behavior of temperature with respect to density. End point selection which simply specifies a corner point and a point on the dome results in a corresponding pressure range significantly beyond that of the original state equation fit. Several erroneous roots are normally contained within this range and a more confined region must be employed. An iterative scheme which starts at the vapor dome end point and marches slowly up the constant temperature line by changing the density is used. The first value which produces a pressure greater than the high pressure bound for the grid provides the second density endpoint.

Solution for two unknown independent variables requires iteration in two dimensions and convergence is not guaranteed. The same constraints for bisection bounds apply and, in addition, a reasonable guess for one of the independent variables is required. Each of the two dependent variables that define the state is matched with one of the independent variables. These variable pairs are used for

sequential one dimensional iteration; the independent variable being used to satisfy the condition imposed by the dependent variable. The solution for this independent-dependent variable pair is applied as a guess for the solution of the remaining variable pair, and the iteration passes sequentially from one variable set to the other. Convergence is achieved when the results from one iteration form a solution for the next. As an example, if pressure and enthalpy are defined, the solution is obtained by choosing a guess for the temperature, iteratively solving for ρ given the pressure, iteratively solving for temperature given the enthalpy, resolving for ρ given the pressure, etc., until the results of one iteration satisfy the conditions for the next. Figure 7a illustrates a two dimensional convergent iteration in the pressure-enthalpy plane. A flowchart for the process is provided by 7b. The pitfall of this technique is that if the iteration pairs are chosen incorrectly a divergent result may occur. Figure 8 illustrates a divergent, two dimensional iteration.

Proper choice of the iteration pairs is accomplished by selecting them so that the fixed independent variable influences the dependent variable as little as possible. In a geometrical sense this corresponds to choosing orthogonal variables. The pressure-enthalpy calculation provides a good example of this concept. Enthalpy is a very strong function of temperature: this mandates that the density remain fixed while a temperature is calculated which produces the specified value for enthalpy.

10. Accuracy

Accuracy estimates are somewhat difficult to make for the heavier parafins; if the data were readily available there would be no need to predict it. This dilemma is further complicated by large portions of available thermodynamic data not being derived from experiment but instead being inferred from a relatively small experimental data set. Therefore, properties reported from other compilations must be associated with both the error intrinsic to any experiment and the correlational error: that error due to the mathematical or graphical process which produces a fine mesh grid for tabulation and plotting.

A reasonable judgement of the data quality in this work may be made by splitting the property prediction algorithm into its two primary components, 1) the actual corresponding states compressibility calculation and 2) the fitting of this data to an appropriate equation of state, and examining the error associated with each. A small amount of applicable experimental/correlational data has also been used as a basis for comparison.

The error associated with the volumetric data production was examined by it creators, Lee and Kesler (1975). Comparison of their predictions with experimentally derived compressibilities for normal paraffins including methane through heptadecane indicated a good agreement between the two. Specifically, calculated compressibilities for heptadecane exhibited an average deviation of 2.8 percent from their experimental counterparts. Experimental-calculational

discrepancies improved for substances of lower molecular weight, dropping to approximately one percent for normal paraffins with twelve carbon atoms or less. The error associated with heptadecane is quite encouraging since its acentric factor is significantly greater than those of the base fluids and the calculation therefore represents an extrapolation instead of an interpolation.

Accuracies associated with the production of the equation of state have been quantified. Table 3 lists both the maximum and average deviations of the function from the data. The increased inaccuracy for substances with large acentric factors is due to an increase in the deviation from ideal fluid behavior.

The functional form for the equation of state evolved from the Benedict-Webb-Rubin (1940) equation originally used for low molecular weight paraffins. Accuracy is maintained by adding terms to this basic form. As an illustration of the required coefficient growth for increased acentric factor, an intermediate, eleven coefficient equation of state was developed for decane which gave quite acceptable accuracies. Twenty-four coefficients were required to produce acceptable results for hexadecane. A practical limit for the number of coefficients is posed by both computational storage limitations and the ability of the fitting algorithm to handle a large Jacobian matrix. The final form contains twenty-four coefficients and represents an effective limit from both a memory and algorithmic standpoint. Resulting accuracies for the normal paraffins methane through hexadecane are quite acceptable.

Errors in the original compressibility data and the resulting equation of state are spread unevenly through the data grid. The highest compressibility errors appear near the most complex region of the state space: the vapor dome. Equation of state errors typically appear at the two high pressure corners for the data set and in a small area near the critical point in the liquid portion of the grid.

A small amount of data for octane, Reynolds (1979), and for hexadecane, Lenoir and Hipkin (1970), was directly compared to the predicted values. The comparison with octane is really a test of the software since there is every reason to expect very good agreement between the two data sets. This expectation is based upon the calculation procedure for compressibilities; one of the base fluids is octane so no interpolation is involved. The correlation is good, as expected, with an exception in the immediate vicinity of the critical point caused by the difference in the values used for the critical temperatures and pressures (this work used values reported by Passut and Danner (1973)). Actual deviations between the two correlations are listed in Table 4. This table also includes a comparison with the experimental enthalpy data of Lenoir and Hipkin (1970) and shows the deviation in all cases to be three percent or less. Accuracy estimates for methane through heptane have not been made but are expected to be of the same order as that for octane.

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TABLE 1 **Nomenclature**

a	speed of sound
b_i	i=1,2,3,4, constants in Lee and Kesler's equation of state
c_i	i=1,2,3,4, constants in Lee and Kesler's of state
c_v	specific heat at constant volume
c_v^o	ideal gas specific heat at constant volume
F_i	i= 1 to 8, virial coefficients
G_i	i=1 to 6, constants in the specific heat equation
h_{fg}	enthalpy of vaporization
P	pressure
P_c	critical pressure
P_r	reduced pressure
P_{rs}	reduced saturation pressure
P_{rs}^o	reduced saturation pressure at $T_r = .70$
P_s	saturation pressure
R	ideal gas constant
s	entropy
s_{fg}	entropy of vaporization
s_o	entropy at $T=T_o$ and $\rho = 0$
T	temperature
T_c	critical temperature
T_o	reference or base temperature (300 K)
T_r	reduced temperature

u	internal energy
u_{fg}	internal energy change for vaporization
u_o	internal energy at $T=T_o$ and $\rho = 0$
v	specific volume
v_{fg}	specific volume change for vaporization
V_r	nondimensionalized specific volume, P_cV/RT_c
X_i	i=1 to 20, coefficients used in the derived equation of state
Y_i	i=1 to 3, dependent coefficients in the derived equation of state
Z	compressibility
$Z^{(r)}$	reference fluid compressibility
$Z^{(0)}$	simple fluid compressibility
$Z^{(1)}$	first order deviation of compressibility from the simple fluid
β	isobaric compressibilty
γ	constant used in the derived equaiton of state, and in Lee and Keslers' formulation
γ_s	specific heat ratio
κ	isothermal compressibility
λ	constant used in Lee and Keslers' equation of state
ρ	density
ρ_f	saturated liquid density
ρ_g	saturated gas density
ω	acentric factor
ω_{ref}	acentric factor for the reference or base fluid

TABLE 2 Coefficients for Lee and Kesler's Compressibility Function

	Simple Fluid	Reference Fluid
b_1	.1181193	.2026579
b_2	.265728	.331511
b_3	.154790	.027655
b_4	.030323	.203488
c_1	.0236744	.0313385
c_2	.0186984	.0503618
c_3	0.0	.016901
c_4	.042724	.041577
d_1	$.155488 \times 10^{-4}$	$.48736 \times 10^{-4}$
d_2	$.623689 \times 10^{-4}$	$.740366 \times 10^{-5}$
β	.65392	1.226
γ	.060167	.03754

Table 3 Maximum and Average Deviations between the Derived Equation of State and the Calculated Data

	Maximum Deviation	Average Deviation
Octane	.82%	.063%
Nonane	1.20	.080
Decane	1.06	.097
Undecane	1.87	.172
Dodecane	2.71	.232
Tridecane	4.14	.273
Tetradecane	7.17	.497
Pentadecane	9.51	.825
Hexadecane	13.78	1.595

TABLE 4 Average Deviations of Calculated Properties from Literature Data

OCTANE

	Saturation data		Gas Region	
	liquid	gas	$P<P_c$	$P>P_c$
v	5.%	.29%	.21%	5.%
h	1.	.17	.18	.27
s	.83	.15	.17	.26

HEXADECANE (experimental enthalpies)

h(liquid, $P<P_c$)	3.0%
h(gas, $P<P_c$)	2.3
h(gas, $P>P_c$)	2.3

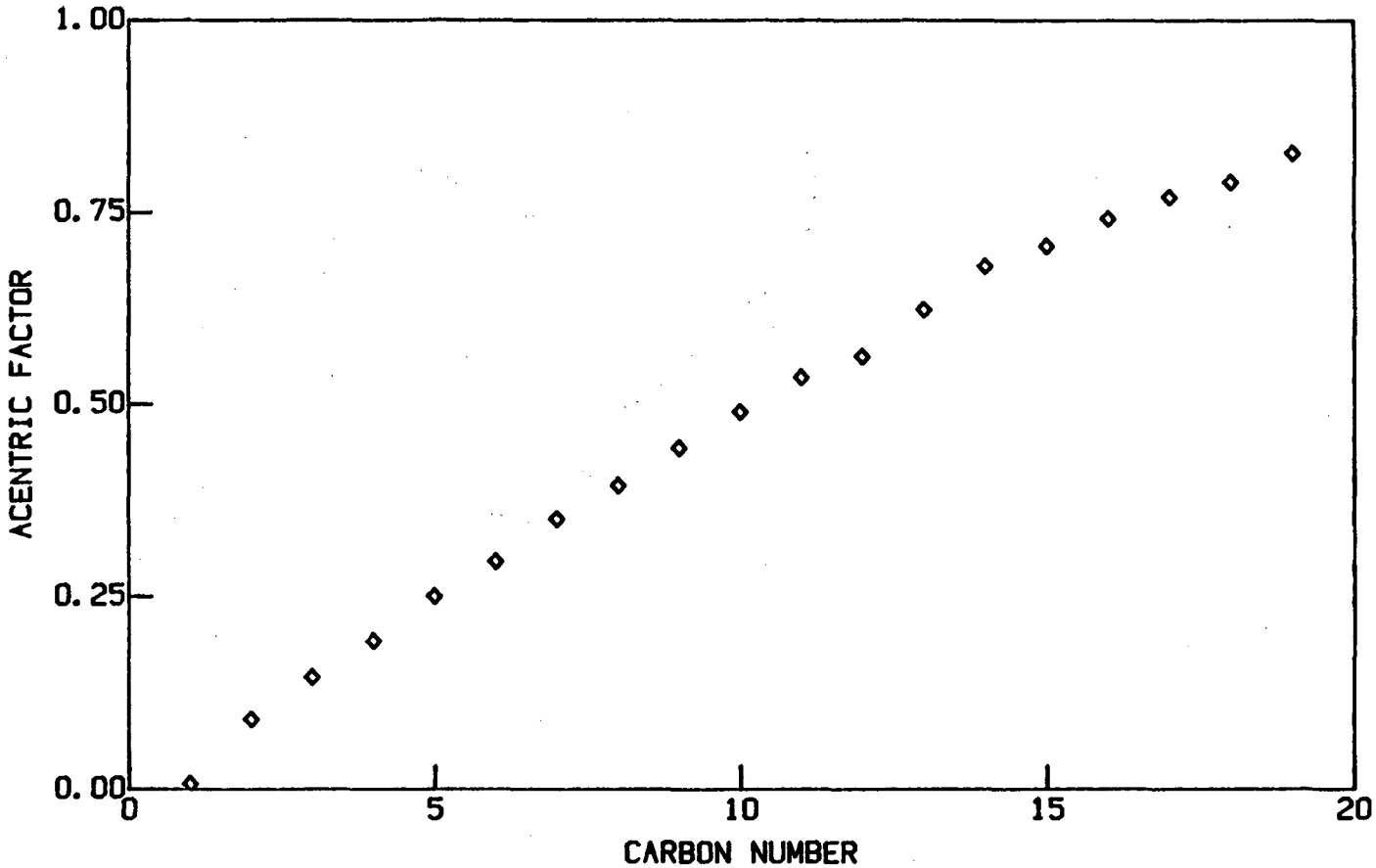


Figure 1 Acentric factor for normal paraffins.

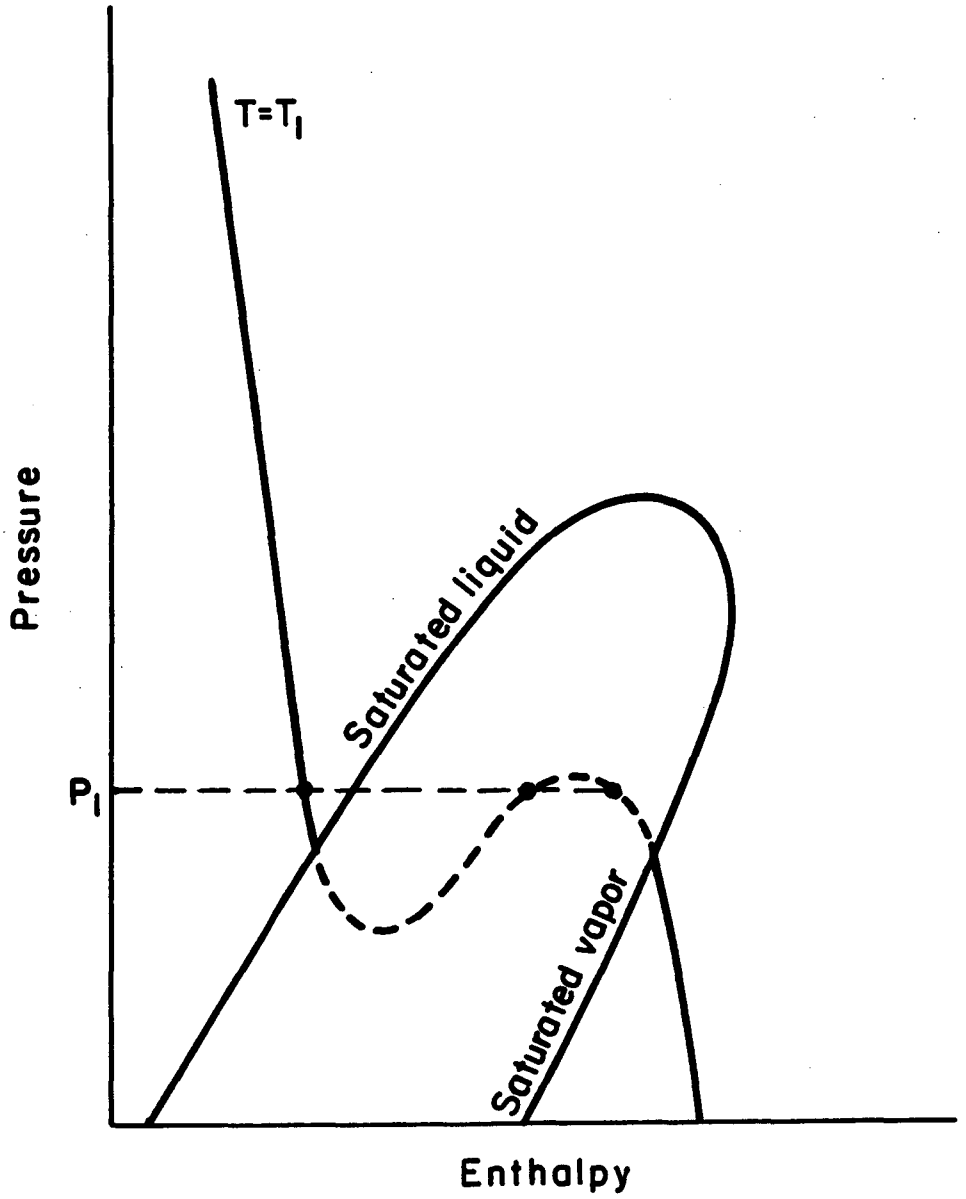


Figure 2 Triple root behavior for a subcritical state.

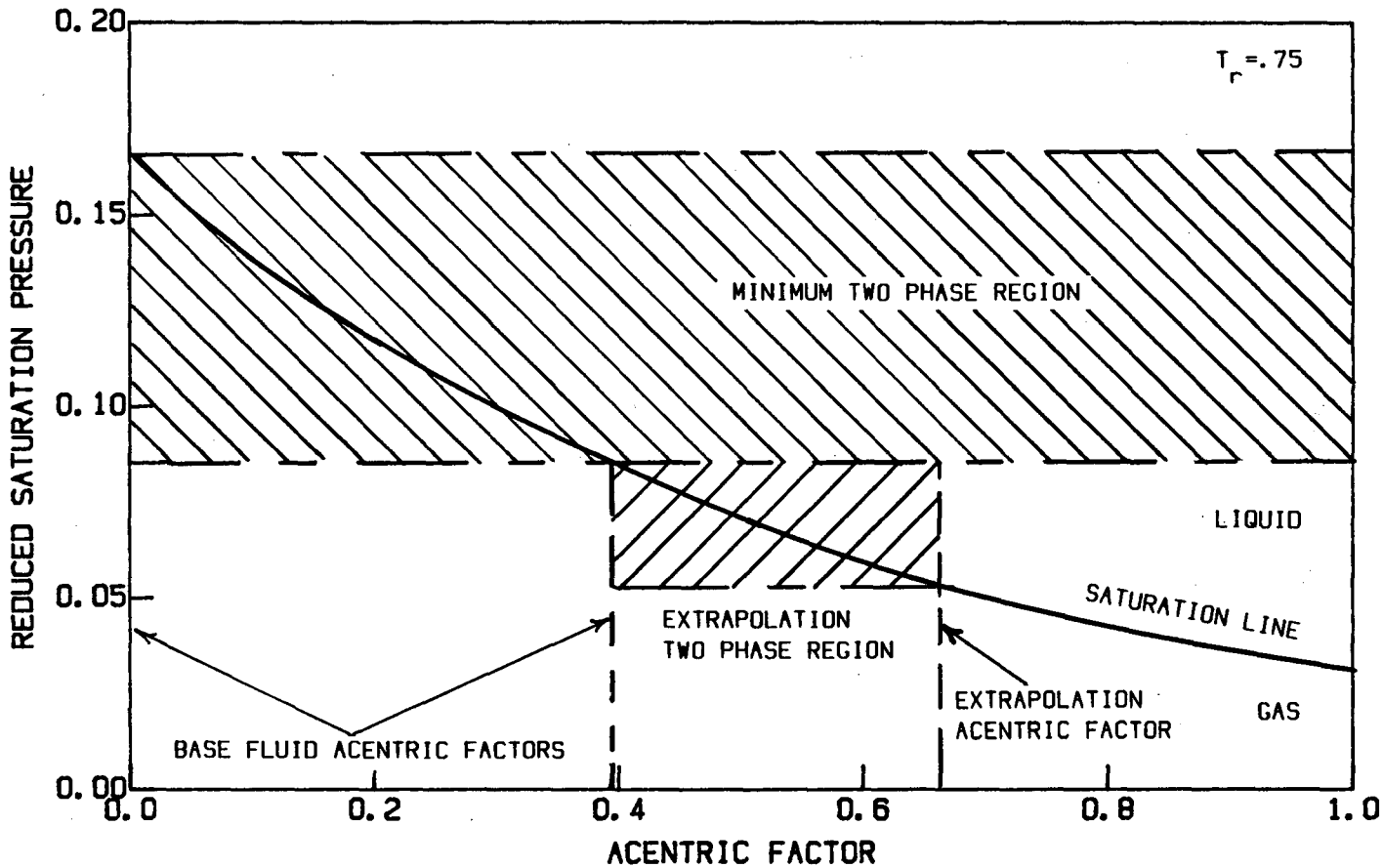


Figure 3 Dependence of the saturation pressure on the acentric factor and regions of conflicting phases.

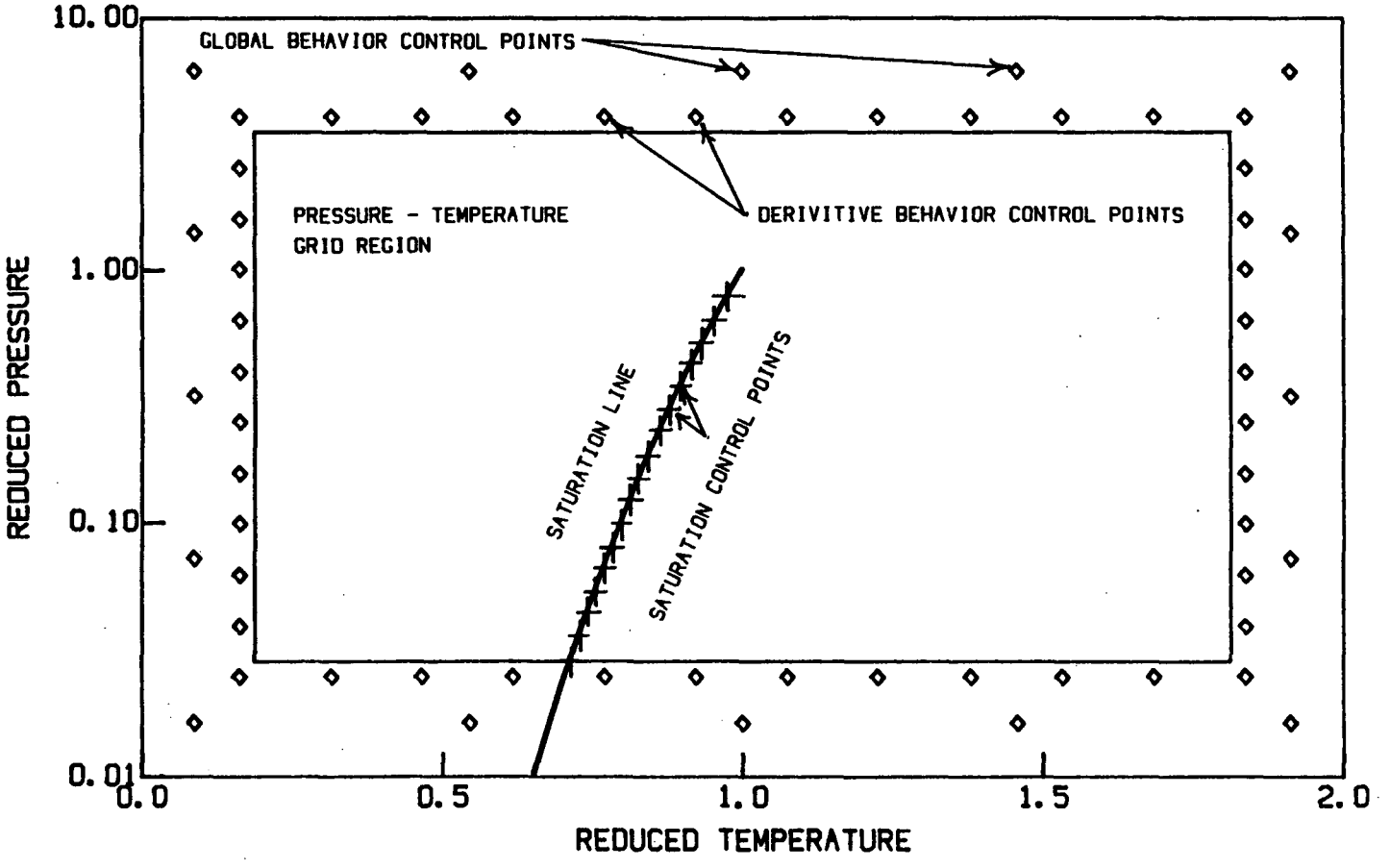


Figure 4 Control point positions for the data grid.

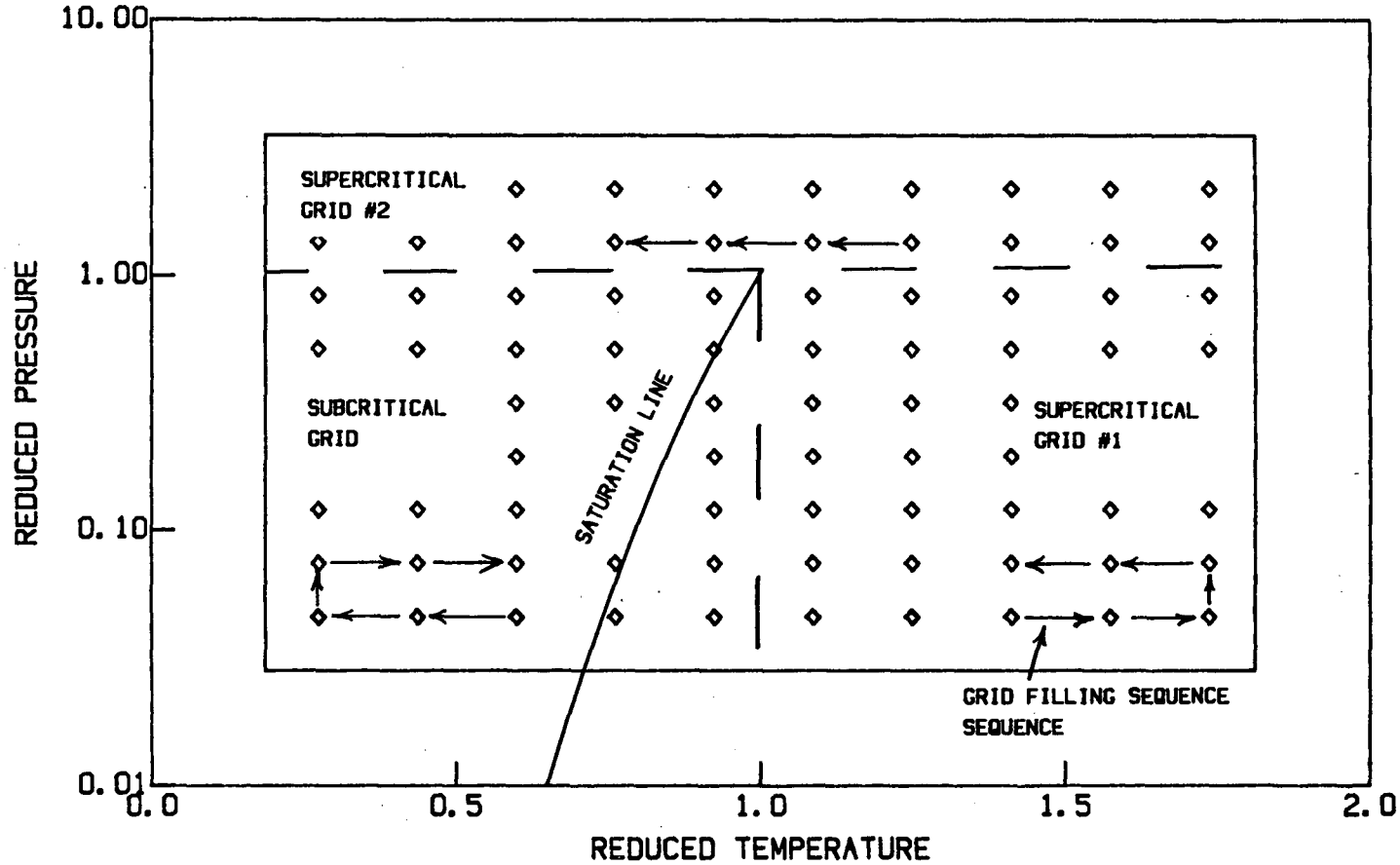


Figure 5 Grid regions and filling sequence.

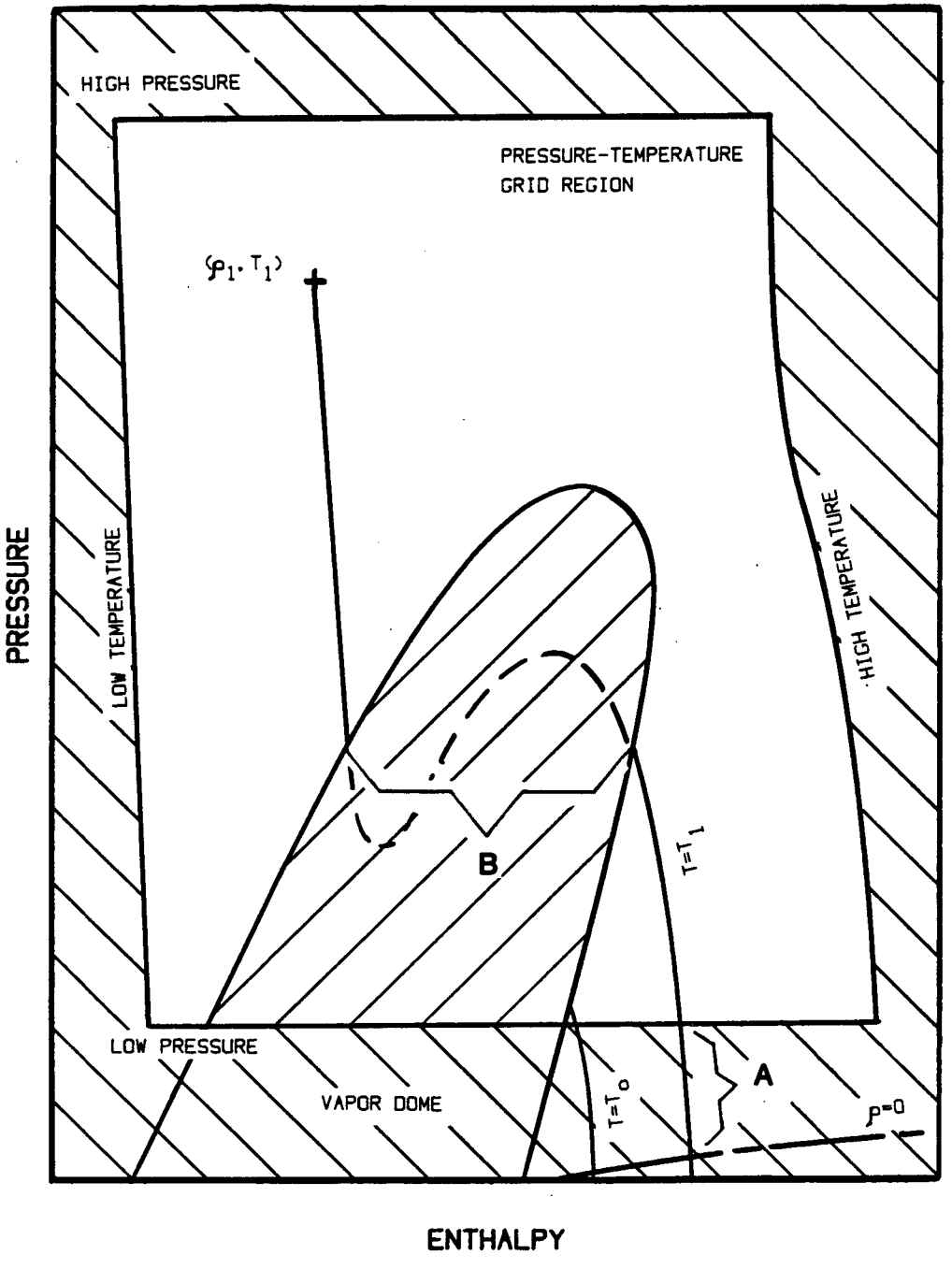
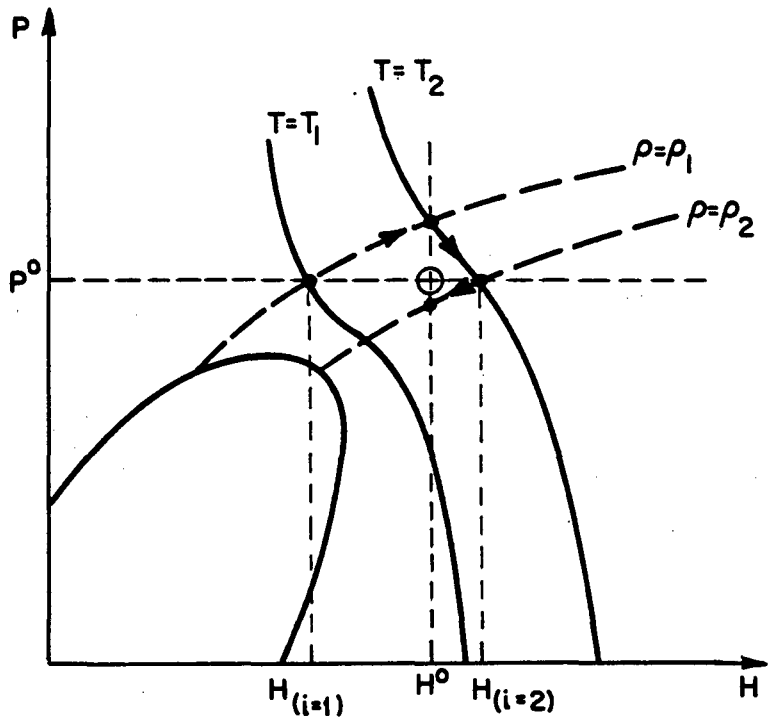
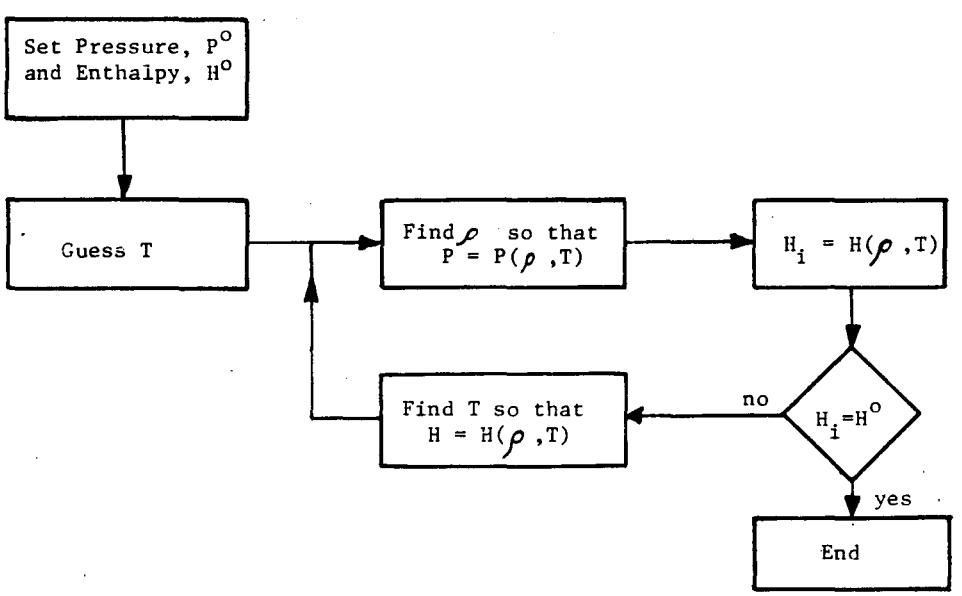


Figure 6 Integration path for property calculation.

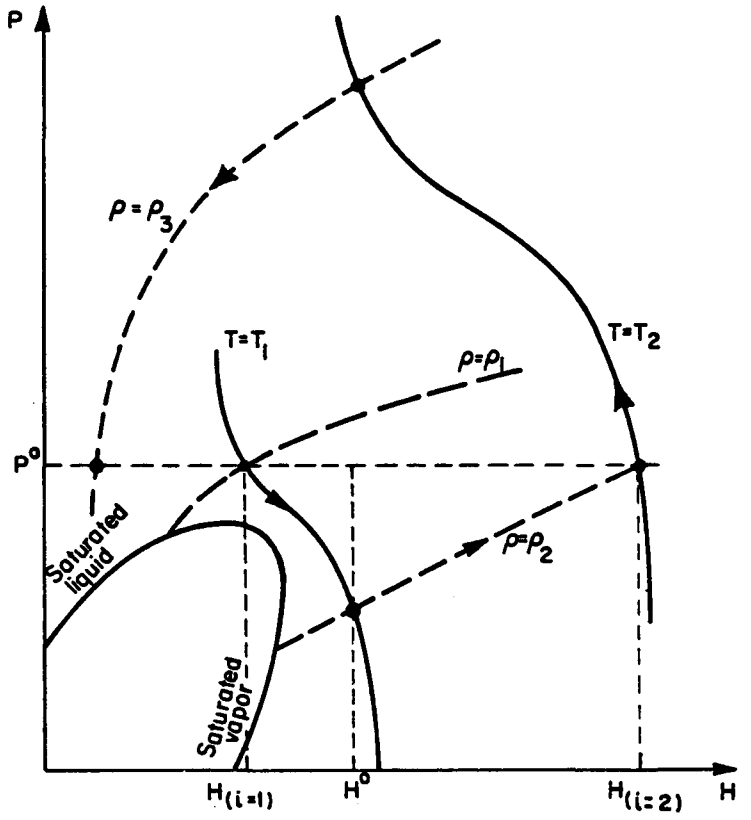


(a)

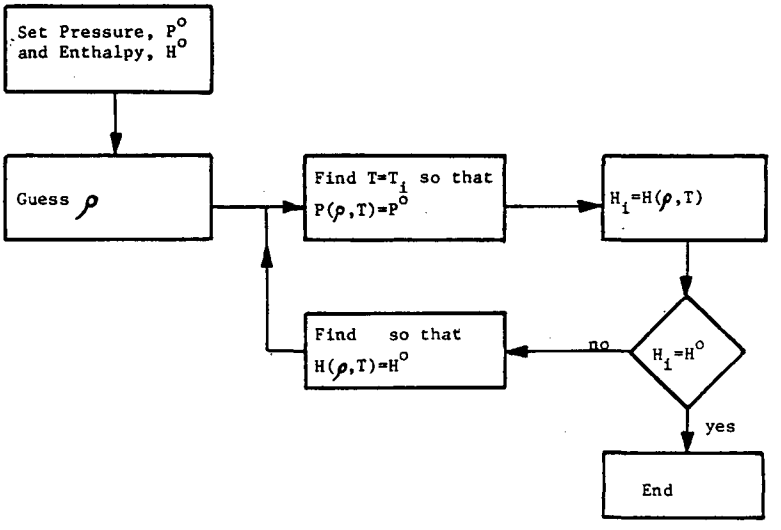


(b)

Figure 7 Convergent two dimensional iteration to evaluate specific volume and temperature for given pressure and enthalpy.



(a)



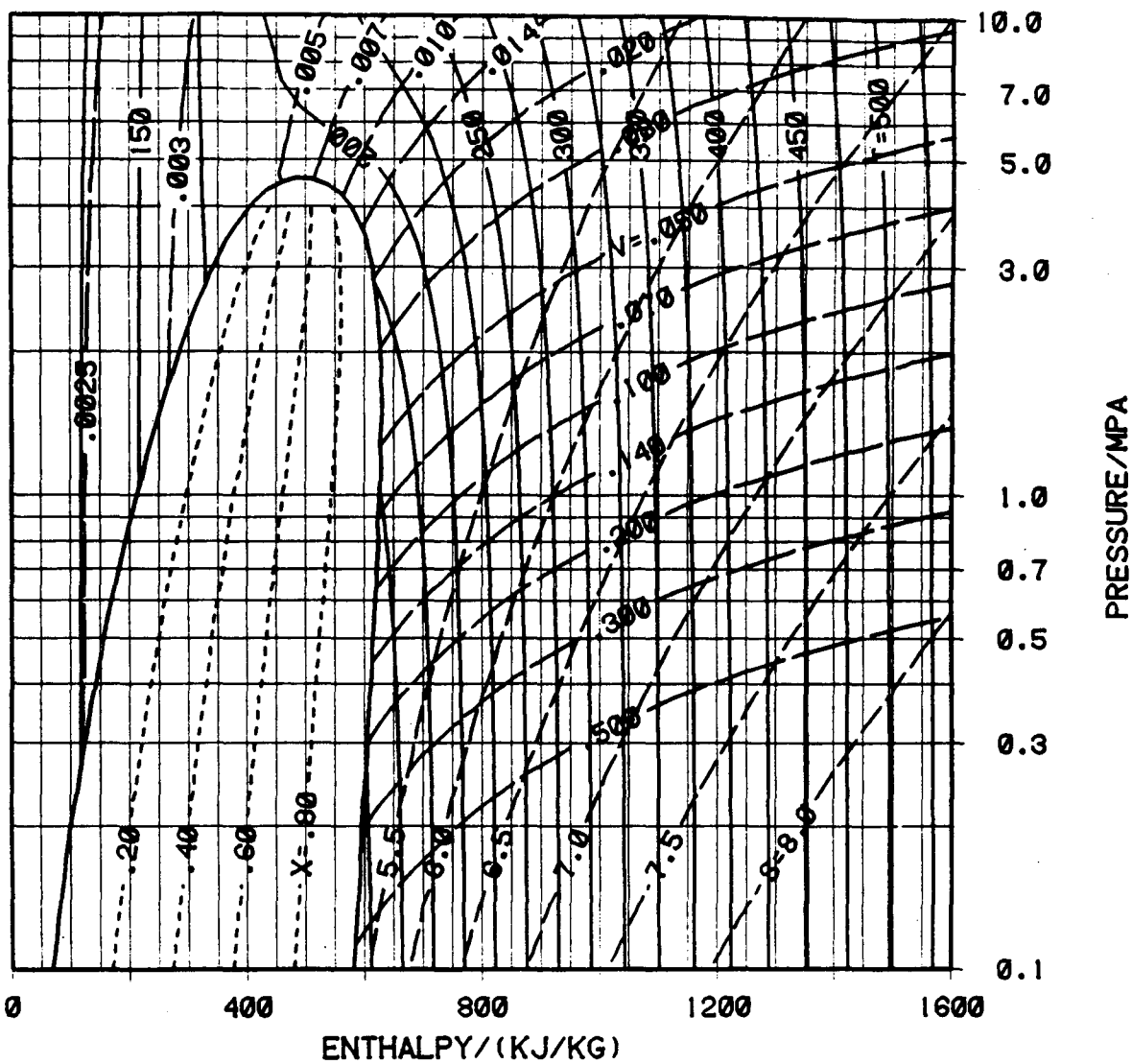
(b)

Figure 8 Divergent computational scheme in an attempt to evaluate specific volume and temperature for given pressure and enthalpy.

APPENDIX I: THERMODYNAMIC PROPERTIES OF NORMAL PARAFFINS

Graphs and tables for normal paraffins methane through hexadecane are presented in this appendix. They are ordered by increasing molecular weight. A pressure-enthalpy diagram is presented for each substance in addition to a table of saturation properties and a general properties tables indexed by pressure and temperature. Units throughout the appendix are in SI Metric and are listed below.

Temperature	K
Enthalpy(H)	kJ/kg
Entropy(S)	kJ/kg•K
Specific Volume(V)	m^3/kg
Pressure	MPa
Speed of Sound(C)	m/sec
Isothermal Compressibility(Kappa)	1/MPa
Isobaric Compressibility(Beta)	1000/K


10.0
7.0
5.0
3.0
1.0
0.7
0.5
0.3
0.1
PRESSURE/MPA
0
400
800
1200
1600
ENTHALPY/(KJ/KG)
.0025
150
.003
.005
.007
.010
.014
.020
250
300
350
400
450
T=500
V=.080
.010
.100
.140
.200
.300
.500
X=.80
.20
.40
.60
5.5
6.0
6.5
7.0
7.5
8=8.0

METHANE

PROPERTIES OF SATURATED METHANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
115.00000	.13290	.00239	.42864	80.55130	507.26486	587.81616	.78729	4.41100	5.19829
120.00000	.19283	.00244	.30405	98.74400	496.70862	595.45262	.94090	4.13924	5.08014
125.00000	.27115	.00249	.22162	117.40889	485.07593	602.48482	1.09170	3.88061	4.97230
130.00000	.37096	.00254	.16534	136.49474	472.35606	608.85079	1.23943	3.63351	4.87294
135.00000	.49540	.00260	.12583	155.95375	458.53091	614.48466	1.38388	3.39653	4.78041
140.00000	.64766	.00266	.09739	175.74541	443.56725	619.31266	1.52492	3.16834	4.69326
145.00000	.83095	.00273	.07645	195.84841	427.39772	623.24613	1.66254	2.94757	4.61011
150.00000	1.04857	.00280	.06072	216.27383	409.89805	626.17188	1.79694	2.73265	4.52960
155.00000	1.30396	.00288	.04865	237.08217	390.85534	627.93751	1.92864	2.52165	4.45029
160.00000	1.60075	.00297	.03923	258.41269	369.91425	628.32694	2.05856	2.31196	4.37053
165.00000	1.94296	.00308	.03174	280.52305	346.49641	627.01946	2.18826	2.09998	4.28824
170.00000	2.33506	.00320	.02565	303.87032	319.63710	623.50743	2.32029	1.88022	4.20051
175.00000	2.78228	.00336	.02060	329.26811	287.64742	616.91553	2.45900	1.64370	4.10270
180.00000	3.29075	.00358	.01626	358.27950	247.23220	605.51170	2.61247	1.37351	3.98598
185.00000	3.86792	.00393	.01229	394.62067	190.21011	584.83078	2.79966	1.02816	3.82783
190.00000	4.52284	.00503	.00760	459.13894	68.09964	527.23858	3.12792	.35842	3.48634
190.58000	5.26675	.00621	.00621	498.51178	0.	498.51178	3.31081	0.	3.31081

THERMODYNAMIC PROPERTIES OF METHANE

TEMPERATURES/(K)

P/(MPA)		115.000	125.000	150.000	175.000	200.000	225.000	250.000	275.000	300.000
.1000	V/(M3/KG)	.57642	.63136	.76610	.89879	1.03041	1.16142	1.29205	1.42244	1.55266
	H/(KJ/KG)	589.8	611.5	665.0	717.7	770.3	823.0	876.4	930.6	986.0
	S/(KJ/KG K)	5.3575	5.5386	5.9283	6.2536	6.5343	6.7828	7.0076	7.2142	7.4070
	C/(M/SEC)	276.2751	289.3656	319.2010	345.9179	370.2008	392.4475	412.9426	431.9197	449.5851
	KAPPA/(1/MPA)	10.3529	10.2695	10.1518	10.0942	10.0622	10.0428	10.0304	10.0220	10.0162
	BETA/(1000/K)	9.6	8.6	7.0	5.9	5.1	4.5	4.0	3.7	3.4
.1013	V/(M3/KG)	.56861	.62288	.75593	.88692	1.01685	1.14616	1.27511	1.40380	1.53232
	H/(KJ/KG)	589.7	611.5	664.9	717.7	770.2	823.0	876.3	930.6	986.0
	S/(KJ/KG K)	5.3503	5.5314	5.9213	6.2466	6.5274	6.7760	7.0007	7.2074	7.4002
	C/(M/SEC)	276.1988	289.3048	319.1637	345.8934	370.1840	392.4357	412.9342	431.9137	449.5808
	KAPPA/(1/MPA)	10.2226	10.1390	10.0212	9.9634	9.9314	9.9121	9.8996	9.8913	9.8854
	BETA/(1000/K)	9.6	8.7	7.0	5.9	5.1	4.5	4.0	3.7	3.4
.2000	V/(M3/KG)	.00239	.30696	.37716	.44513	.51198	.57821	.64406	.70965	.77507
	H/(KJ/KG)	80.6	606.4	661.4	715.1	768.3	821.4	875.1	929.5	985.1
	S/(KJ/KG K)	.7866	5.1512	5.5533	5.8844	6.1682	6.4187	6.6446	6.8521	7.0455
	C/(M/SEC)	1906.4916	284.6271	316.3407	344.0518	368.9267	391.5541	412.3076	431.4675	449.2663
	KAPPA/(1/MPA)	.0019	5.2916	5.1585	5.0966	5.0632	5.0433	5.0306	5.0221	5.0162
	BETA/(1000/K)	4.0	9.4	7.3	6.0	5.2	4.6	4.1	3.7	3.4
.3000	V/(M3/KG)	.00239	.00249	.24740	.29386	.33915	.38380	.42806	.47205	.51588
	H/(KJ/KG)	80.8	117.4	657.8	712.5	766.3	819.8	873.8	928.4	984.1
	S/(KJ/KG K)	.7857	1.0914	5.3267	5.6641	5.9512	6.2036	6.4308	6.6391	6.8331
	C/(M/SEC)	1907.6191	1557.2947	313.3790	342.1491	367.6392	390.6568	411.6728	431.0173	448.9505
	KAPPA/(1/MPA)	.0019	.0025	3.4991	3.4325	3.3976	3.3771	3.3641	3.3555	3.3496
	BETA/(1000/K)	4.0	4.2	7.7	6.2	5.3	4.6	4.1	3.7	3.4
.4000	V/(M3/KG)	.00239	.00249	.18242	.21819	.25272	.28659	.32005	.35326	.38628
	H/(KJ/KG)	80.9	117.6	654.1	709.8	764.2	818.2	872.4	927.3	983.2
	S/(KJ/KG K)	.7847	1.0903	5.1607	5.5046	5.7952	6.0496	6.2780	6.4872	6.6817
	C/(M/SEC)	1908.7450	1558.7469	310.3067	340.2084	366.3380	389.7554	411.0383	430.5694	448.6378
	KAPPA/(1/MPA)	.0019	.0025	2.6738	2.6020	2.5654	2.5442	2.5310	2.5223	2.5162
	BETA/(1000/K)	4.0	4.2	8.1	6.4	5.4	4.7	4.2	3.7	3.4
.5000	V/(M3/KG)	.00239	.00249	.14336	.17276	.20085	.22825	.25525	.28197	.30852
	H/(KJ/KG)	81.0	117.7	650.2	707.1	762.2	816.6	871.1	926.2	982.3
	S/(KJ/KG K)	.7837	1.0893	5.0273	5.3783	5.6725	5.9290	6.1587	6.3687	6.5638
	C/(M/SEC)	1909.8686	1560.1956	307.1128	338.2277	365.0230	388.8503	410.4043	430.1239	448.3283
	KAPPA/(1/MPA)	.0019	.0025	2.1828	2.1049	2.0665	2.0447	2.0312	2.0224	2.0163
	BETA/(1000/K)	4.0	4.2	8.5	6.6	5.5	4.8	4.2	3.8	3.4
.6000	V/(M3/KG)	.00239	.00249	.11725	.14244	.16626	.18936	.21204	.23445	.25669
	H/(KJ/KG)	81.1	117.8	646.2	704.4	760.1	815.0	869.8	925.1	981.4
	S/(KJ/KG K)	.7828	1.0882	4.9144	5.2730	5.5709	5.8295	6.0605	6.2713	6.4670
	C/(M/SEC)	1910.9894	1561.6407	303.7844	336.2051	363.6939	387.9413	409.7707	429.6807	448.0219
	KAPPA/(1/MPA)	.0019	.0025	1.8595	1.7746	1.7343	1.7119	1.6981	1.6891	1.6830
	BETA/(1000/K)	4.0	4.2	9.0	6.8	5.6	4.8	4.2	3.8	3.5

THERMODYNAMIC PROPERTIES OF METHANE

TEMPERATURES/(K)

P/(MPA)		325.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000	525.000
.1000	V/(M3/KG)	1.68276	1.81276	1.94270	2.07259	2.20243	2.33224	2.46203	2.59179	2.72153
	H/(KJ/KG)	1042.8	1101.3	1161.7	1224.0	1288.5	1355.2	1424.3	1495.7	1569.5
	S/(KJ/KG K)	7.5890	7.7623	7.9288	8.0898	8.2462	8.3987	8.5480	8.6945	8.8385
	C/(M/SEC)	466.1242	481.7029	496.4669	510.5418	524.0338	537.0314	549.6078	561.8226	573.7243
	KAPPA/(1/MPA)	10.0119	10.0088	10.0065	10.0047	10.0033	10.0022	10.0013	10.0006	10.0000
	BETA/(1000/K)	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.9
.1013	V/(M3/KG)	1.66072	1.78904	1.91728	2.04547	2.17362	2.30173	2.42983	2.55789	2.68594
	H/(KJ/KG)	1042.8	1101.3	1161.6	1224.0	1288.5	1355.2	1424.3	1495.7	1569.5
	S/(KJ/KG K)	7.5821	7.7555	7.9220	8.0830	8.2393	8.3919	8.5412	8.6877	8.8317
	C/(M/SEC)	466.1213	481.7010	496.4658	510.5413	524.0338	537.0319	549.6086	561.8237	573.7256
	KAPPA/(1/MPA)	9.8812	9.8781	9.8757	9.8739	9.8725	9.8714	9.8705	9.8698	9.8693
	BETA/(1000/K)	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.9
.2000	V/(M3/KG)	.84037	.90558	.97072	1.03581	1.10086	1.16587	1.23085	1.29582	1.36076
	H/(KJ/KG)	1042.0	1100.6	1161.1	1223.5	1288.0	1354.8	1423.9	1495.4	1569.2
	S/(KJ/KG K)	7.2278	7.4015	7.5683	7.7294	7.8859	8.0386	8.1880	8.3346	8.4787
	C/(M/SEC)	465.9055	481.5609	496.3850	510.5076	524.0380	537.0672	549.6695	561.9060	573.8259
	KAPPA/(1/MPA)	5.0119	5.0088	5.0065	5.0046	5.0033	5.0021	5.0013	5.0006	5.0000
	BETA/(1000/K)	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.9
.3000	V/(M3/KG)	.55958	.60319	.64673	.69022	.73367	.77708	.82047	.86383	.90718
	H/(KJ/KG)	1041.2	1099.9	1160.5	1223.0	1287.6	1354.4	1423.6	1495.1	1568.9
	S/(KJ/KG K)	7.0158	7.1898	7.3568	7.5182	7.6748	7.8276	7.9771	8.1238	8.2679
	C/(M/SEC)	465.6901	481.4225	496.3065	510.4767	524.0456	537.1060	549.7342	561.9922	573.9302
	KAPPA/(1/MPA)	3.3453	3.3421	3.3398	3.3380	3.3366	3.3355	3.3346	3.3339	3.3333
	BETA/(1000/K)	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.9
.4000	V/(M3/KG)	.41919	.45200	.48474	.51743	.55007	.58269	.61527	.64784	.68038
	H/(KJ/KG)	1040.4	1099.3	1159.9	1222.4	1287.1	1354.0	1423.2	1494.7	1568.6
	S/(KJ/KG K)	6.8649	7.0392	7.2064	7.3680	7.5248	7.6777	7.8273	7.9740	8.1182
	C/(M/SEC)	465.4783	481.2876	496.2316	510.4493	524.0563	537.1479	549.8018	562.0811	574.0371
	KAPPA/(1/MPA)	2.5119	2.5088	2.5064	2.5046	2.5032	2.5021	2.5012	2.5005	2.5000
	BETA/(1000/K)	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.9
.5000	V/(M3/KG)	.33495	.36128	.38754	.41375	.43992	.46605	.49216	.51824	.54431
	H/(KJ/KG)	1039.7	1098.6	1159.3	1221.9	1286.7	1353.6	1422.8	1494.4	1568.3
	S/(KJ/KG K)	6.7474	6.9220	7.0895	7.2512	7.4082	7.5612	7.7109	7.8577	8.0020
	C/(M/SEC)	465.2699	481.1562	496.1601	510.4252	524.0703	537.1928	549.8722	562.1729	574.1467
	KAPPA/(1/MPA)	2.0119	2.0087	2.0064	2.0046	2.0032	2.0021	2.0012	2.0005	1.9999
	BETA/(1000/K)	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.9
.6000	V/(M3/KG)	.27879	.30080	.32275	.34464	.36648	.38830	.41009	.43185	.45360
	H/(KJ/KG)	1038.9	1097.9	1158.7	1221.4	1286.2	1353.2	1422.5	1494.1	1568.0
	S/(KJ/KG K)	6.6511	6.8260	6.9937	7.1556	7.3128	7.4659	7.6157	7.7626	7.9069
	C/(M/SEC)	465.0650	481.0284	496.0921	510.4045	524.0875	537.2409	549.9456	562.2673	574.2588
	KAPPA/(1/MPA)	1.6786	1.6754	1.6730	1.6712	1.6698	1.6687	1.6678	1.6671	1.6666
	BETA/(1000/K)	3.2	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.9

THERMODYNAMIC PROPERTIES OF METHANE

TEMPERATURES/(K)

P/(MPA)		550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000
.1000	V/(M3/KG)	2.85126	2.98098	3.11067	3.24037	3.37006	3.49974	3.62940	3.75907	3.88874
	H/(KJ/KG)	1645.7	1724.2	1805.1	1888.4	1973.8	2061.5	2151.3	2243.1	2336.9
	S/(KJ/KG K)	8.9803	9.1199	9.2577	9.3935	9.5276	9.6599	9.7905	9.9194	10.0466
	C/(M/SEC)	585.3522	596.7379	607.9071	618.8804	629.6742	640.3020	650.7741	661.0987	671.2819
	KAPPA/(1/MPA)	9.9996	9.9992	9.9989	9.9986	9.9984	9.9983	9.9981	9.9980	9.9979
	BETA/(1000/K)	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
.1013	V/(M3/KG)	2.81398	2.94200	3.07001	3.19800	3.32600	3.45398	3.58196	3.70993	3.83789
	H/(KJ/KG)	1645.7	1724.2	1805.1	1888.4	1973.8	2061.5	2151.3	2243.1	2336.9
	S/(KJ/KG K)	8.9734	9.1131	9.2508	9.3867	9.5208	9.6531	9.7837	9.9126	10.0398
	C/(M/SEC)	585.3537	596.7396	607.9090	618.8823	629.6763	640.3042	650.7764	661.1010	671.2844
	KAPPA/(1/MPA)	9.8688	9.8684	9.8682	9.8679	9.8677	9.8675	9.8674	9.8672	9.8671
	BETA/(1000/K)	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
.2000	V/(M3/KG)	1.42569	1.49061	1.55551	1.62041	1.68529	1.75017	1.81505	1.87991	1.94478
	H/(KJ/KG)	1645.4	1724.0	1804.9	1888.2	1973.7	2061.3	2151.1	2243.0	2336.8
	S/(KJ/KG K)	8.6205	8.7602	8.8979	9.0338	9.1679	9.3003	9.4309	9.5598	9.6871
	C/(M/SEC)	585.4693	596.8682	608.0487	619.0317	629.8340	640.4691	650.9475	661.2776	671.4657
	KAPPA/(1/MPA)	4.9996	4.9992	4.9989	4.9986	4.9984	4.9982	4.9981	4.9980	4.9979
	BETA/(1000/K)	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
.3000	V/(M3/KG)	.95050	.99382	1.03713	1.08042	1.12371	1.16699	1.21026	1.25353	1.29679
	H/(KJ/KG)	1645.2	1723.8	1804.7	1888.0	1973.5	2061.2	2151.0	2242.9	2336.7
	S/(KJ/KG K)	8.4098	8.5495	8.6873	8.8233	8.9574	9.0898	9.2204	9.3494	9.4766
	C/(M/SEC)	585.5889	597.0008	608.1925	619.1852	629.9958	640.6381	651.1228	661.4584	671.6512
	KAPPA/(1/MPA)	3.3329	3.3325	3.3322	3.3319	3.3317	3.3316	3.3314	3.3313	3.3312
	BETA/(1000/K)	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
.4000	V/(M3/KG)	.71291	.74543	.77794	.81043	.84292	.87540	.90787	.94034	.97280
	H/(KJ/KG)	1644.9	1723.5	1804.5	1887.8	1973.3	2061.0	2150.9	2242.8	2336.6
	S/(KJ/KG K)	8.2602	8.4000	8.5378	8.6738	8.8079	8.9404	9.0710	9.2000	9.3273
	C/(M/SEC)	585.7110	597.1359	608.3386	619.3408	630.1597	640.8091	651.3000	661.6409	671.8385
	KAPPA/(1/MPA)	2.4995	2.4991	2.4988	2.4986	2.4984	2.4982	2.4981	2.4980	2.4979
	BETA/(1000/K)	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
.5000	V/(M3/KG)	.57036	.59640	.62242	.64844	.67444	.70044	.72644	.75242	.77841
	H/(KJ/KG)	1644.6	1723.3	1804.3	1887.6	1973.2	2060.9	2150.7	2242.6	2336.5
	S/(KJ/KG K)	8.1440	8.2838	8.4217	8.5577	8.6919	8.8244	8.9551	9.0841	9.2114
	C/(M/SEC)	585.8355	597.2733	608.4870	619.4986	630.3256	640.9820	651.4790	661.8253	672.0274
	KAPPA/(1/MPA)	1.9995	1.9991	1.9988	1.9986	1.9984	1.9982	1.9980	1.9979	1.9978
	BETA/(1000/K)	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
.6000	V/(M3/KG)	.47533	.49704	.51875	.54044	.56213	.58381	.60548	.62715	.64881
	H/(KJ/KG)	1644.4	1723.1	1804.1	1887.4	1973.0	2060.7	2150.6	2242.5	2336.4
	S/(KJ/KG K)	8.0490	8.1889	8.3268	8.4629	8.5971	8.7295	8.8603	8.9893	9.1166
	C/(M/SEC)	585.9626	597.4130	608.6376	619.6585	630.4935	641.1569	651.6599	662.0114	672.2180
	KAPPA/(1/MPA)	1.6661	1.6657	1.6654	1.6652	1.6650	1.6648	1.6647	1.6646	1.6645
	BETA/(1000/K)	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3

THERMODYNAMIC PROPERTIES OF METHANE

TEMPERATURES/(K)

P/(MPA)		115.000	125.000	150.000	175.000	200.000	225.000	250.000	275.000	300.000
.7000	V/(M3/KG)	.00239	.00249	.09852	.12076	.14154	.16157	.18118	.20051	.21966
	H/(KJ/KG)	81.3	117.9	642.1	701.5	758.0	813.4	868.5	924.0	980.4
	S/(KJ/KG K)	.7818	1.0872	4.8151	5.1820	5.4838	5.7445	5.9768	6.1886	6.3849
	C/(M/SEC)	1912.1080	1563.0824	300.3064	334.1386	362.3503	387.0286	409.1378	429.2400	447.7189
	KAPPA/(1/MPA)	.0019	.0025	1.6328	1.5398	1.4974	1.4743	1.4602	1.4511	1.4449
	BETA/(1000/K)	4.0	4.2	9.5	7.1	5.7	4.9	4.3	3.8	3.5
.8000	V/(M3/KG)	.00239	.00249	.08441	.10448	.12299	.14073	.15803	.17505	.19189
	H/(KJ/KG)	81.4	118.0	637.8	698.7	755.9	811.7	867.2	922.9	979.5
	S/(KJ/KG K)	.7809	1.0861	4.7256	5.1013	5.4072	5.6702	5.9038	6.1165	6.3134
	C/(M/SEC)	1913.2254	1564.5211	296.6603	332.0257	360.9922	386.1123	408.5056	428.8019	447.4192
	KAPPA/(1/MPA)	.0019	.0025	1.4673	1.3648	1.3201	1.2962	1.2819	1.2726	1.2663
	BETA/(1000/K)	4.0	4.2	10.1	7.3	5.9	5.0	4.3	3.9	3.5
.9000	V/(M3/KG)	.00239	.00249	.07336	.09179	.10855	.12451	.14002	.15525	.17029
	H/(KJ/KG)	81.5	118.1	633.3	695.7	753.7	810.0	865.8	921.8	978.6
	S/(KJ/KG K)	.7799	1.0851	4.6431	5.0286	5.3387	5.6039	5.8390	6.0525	6.2500
	C/(M/SEC)	1914.3394	1565.9562	292.8236	329.8641	359.6192	385.1924	407.8743	428.3664	447.1229
	KAPPA/(1/MPA)	.0019	.0025	1.3435	1.2296	1.1826	1.1579	1.1432	1.1338	1.1275
	BETA/(1000/K)	4.0	4.2	10.9	7.6	6.0	5.0	4.4	3.9	3.5
1.0000	V/(M3/KG)	.00239	.00249	.06446	.08162	.09699	.11153	.12561	.13940	.15301
	H/(KJ/KG)	81.7	118.3	628.6	692.7	751.6	808.3	864.5	920.7	977.6
	S/(KJ/KG K)	.7790	1.0840	4.5658	4.9619	5.2765	5.5441	5.7806	5.9950	6.1931
	C/(M/SEC)	1915.4518	1567.3881	288.7683	327.6509	358.2311	384.2691	407.2439	427.9337	446.8300
	KAPPA/(1/MPA)	.0019	.0025	1.2500	1.1226	1.0728	1.0473	1.0323	1.0228	1.0164
	BETA/(1000/K)	4.0	4.2	11.7	7.8	6.1	5.1	4.4	3.9	3.5
2.0000	V/(M3/KG)	.00238	.00248	.00278	.03509	.04473	.05304	.06074	.06810	.07526
	H/(KJ/KG)	83.0	119.5	216.7	657.6	728.0	790.7	850.5	909.3	968.2
	S/(KJ/KG K)	.7695	1.0737	1.7821	4.4571	4.8338	5.1295	5.3817	5.6059	5.8106
	C/(M/SEC)	1926.4607	1581.5264	1077.0593	301.7962	343.4638	374.8769	401.0255	423.7817	444.1068
	KAPPA/(1/MPA)	.0018	.0024	.0055	.6900	.5900	.5533	.5346	.5236	.5165
	BETA/(1000/K)	3.9	4.1	5.5	12.5	7.8	6.0	4.9	4.3	3.8
3.0000	V/(M3/KG)	.00238	.00247	.00277	.00334	.02691	.03341	.03907	.04433	.04935
	H/(KJ/KG)	84.3	120.7	217.3	328.3	700.0	771.4	835.8	897.6	958.5
	S/(KJ/KG K)	.7602	1.0636	1.7673	2.4496	4.5206	4.8573	5.1290	5.3645	5.5764
	C/(M/SEC)	1874.6567	1595.3181	1099.7844	654.4459	326.9519	365.3539	395.0918	420.0329	441.8103
	KAPPA/(1/MPA)	.0018	.0023	.0052	.0243	.4512	.3939	.3703	.3576	.3499
	BETA/(1000/K)	3.9	4.1	5.3	12.6	10.8	7.1	5.6	4.6	4.0
4.0000	V/(M3/KG)	.00237	.00247	.00276	.00327	.01752	.02348	.02821	.03244	.03640
	H/(KJ/KG)	85.6	121.9	217.9	325.1	664.5	750.0	820.2	885.4	948.6
	S/(KJ/KG K)	.7510	1.0536	1.7530	2.4119	4.2339	4.6378	4.9342	5.1827	5.4026
	C/(M/SEC)	1947.8681	1608.8351	1121.5333	702.9969	308.9117	356.1230	389.6971	416.8348	440.0261
	KAPPA/(1/MPA)	.0018	.0023	.0049	.0187	.4217	.3194	.2893	.2749	.2665
	BETA/(1000/K)	3.9	4.0	5.1	10.4	16.8	8.7	6.3	5.0	4.2

THERMODYNAMIC PROPERTIES OF METHANE

TEMPERATURES/(K)

P/(MPA)		325.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000	525.000
.7000	V/(M3/KG)	.23868	.25761	.27647	.29527	.31403	.33276	.35146	.37014	.38880
	H/(KJ/KG)	1038.1	1097.2	1158.1	1220.9	1285.7	1352.8	1422.1	1493.8	1567.8
	S/(KJ/KG K)	6.5693	6.7446	6.9126	7.0746	7.2319	7.3852	7.5351	7.6821	7.8265
	C/(M/SEC)	464.8637	480.9042	496.0277	510.3872	524.1079	537.2920	550.0220	562.3646	574.3735
	KAPPA/(1/MPA)	1.4405	1.4373	1.4349	1.4331	1.4317	1.4306	1.4297	1.4290	1.4284
	BETA/(1000/K)	3.2	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.9
.8000	V/(M3/KG)	.20860	.22521	.24176	.25825	.27469	.29111	.30750	.32386	.34021
	H/(KJ/KG)	1037.3	1096.5	1157.5	1220.3	1285.3	1352.4	1421.7	1493.4	1567.5
	S/(KJ/KG K)	6.4983	6.6739	6.8421	7.0044	7.1618	7.3152	7.4652	7.6122	7.7567
	C/(M/SEC)	464.6659	480.7837	495.9668	510.3732	524.1316	537.3461	550.1012	562.4645	574.4909
	KAPPA/(1/MPA)	1.2619	1.2587	1.2563	1.2545	1.2530	1.2520	1.2511	1.2504	1.2498
	BETA/(1000/K)	3.2	2.9	2.7	2.6	2.4	2.3	2.1	2.0	1.9
.9000	V/(M3/KG)	.18520	.20001	.21476	.22945	.24410	.25871	.27330	.28786	.30241
	H/(KJ/KG)	1036.5	1095.8	1156.9	1219.8	1284.8	1352.0	1421.4	1493.1	1567.2
	S/(KJ/KG K)	6.4354	6.6113	6.7798	6.9422	7.0998	7.2533	7.4034	7.5506	7.6951
	C/(M/SEC)	464.4718	480.6667	495.9094	510.3627	524.1585	537.4034	550.1832	562.5672	574.6108
	KAPPA/(1/MPA)	1.1230	1.1198	1.1174	1.1155	1.1141	1.1130	1.1122	1.1115	1.1109
	BETA/(1000/K)	3.2	3.0	2.7	2.6	2.4	2.3	2.1	2.0	1.9
1.0000	V/(M3/KG)	.16648	.17986	.19316	.20641	.21962	.23280	.24594	.25907	.27217
	H/(KJ/KG)	1035.7	1095.1	1156.3	1219.3	1284.4	1351.6	1421.0	1492.8	1566.9
	S/(KJ/KG K)	6.3789	6.5552	6.7239	6.8865	7.0443	7.1979	7.3481	7.4953	7.6399
	C/(M/SEC)	464.2814	480.5535	495.8555	510.3555	524.1886	537.4636	550.2682	562.6726	574.7333
	KAPPA/(1/MPA)	1.0119	1.0086	1.0062	1.0044	1.0030	1.0019	1.0010	1.0003	.9998
	BETA/(1000/K)	3.2	3.0	2.7	2.6	2.4	2.3	2.1	2.0	1.9
2.0000	V/(M3/KG)	.08226	.08917	.09600	.10277	.10950	.11620	.12287	.12951	.13614
	H/(KJ/KG)	1027.6	1088.2	1150.3	1214.1	1279.8	1347.5	1417.4	1489.6	1564.0
	S/(KJ/KG K)	6.0010	6.1806	6.3518	6.5164	6.6757	6.8306	6.9818	7.1298	7.2751
	C/(M/SEC)	462.5887	479.6278	495.5154	510.4717	524.6666	538.2328	551.2747	563.8746	576.0977
	KAPPA/(1/MPA)	.5117	.5084	.5059	.5040	.5026	.5016	.5007	.5000	.4995
	BETA/(1000/K)	3.4	3.1	2.8	2.6	2.5	2.3	2.2	2.0	1.9
3.0000	V/(M3/KG)	.05421	.05896	.06363	.06825	.07282	.07736	.08187	.08635	.09081
	H/(KJ/KG)	1019.5	1081.3	1144.3	1208.8	1275.2	1343.5	1413.9	1486.4	1561.3
	S/(KJ/KG K)	5.7718	5.9549	6.1288	6.2954	6.4562	6.6124	6.7646	6.9135	7.0595
	C/(M/SEC)	461.3123	479.0965	495.5444	510.9320	525.4652	539.3011	552.5607	565.3385	577.7083
	KAPPA/(1/MPA)	.3449	.3414	.3389	.3370	.3356	.3346	.3337	.3331	.3326
	BETA/(1000/K)	3.5	3.2	2.9	2.7	2.5	2.3	2.2	2.1	2.0
4.0000	V/(M3/KG)	.04019	.04387	.04747	.05101	.05450	.05796	.06138	.06479	.06817
	H/(KJ/KG)	1011.2	1074.3	1138.3	1203.6	1270.6	1339.5	1410.4	1483.3	1558.5
	S/(KJ/KG K)	5.6032	5.7901	5.9667	6.1354	6.2978	6.4552	6.6085	6.7582	6.9049
	C/(M/SEC)	460.5015	478.9864	495.9554	511.7403	526.5827	540.6630	554.1186	567.0552	579.5549
	KAPPA/(1/MPA)	.2613	.2577	.2551	.2533	.2519	.2509	.2501	.2495	.2490
	BETA/(1000/K)	3.7	3.3	3.0	2.8	2.5	2.4	2.2	2.1	2.0

THERMODYNAMIC PROPERTIES OF METHANE

TEMPERATURES/(K)

P/(MPA)		550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000
.7000	V/(M3/KG)	.40745	.42608	.44470	.46331	.48191	.50050	.51909	.53767	.55625
	H/(KJ/KG)	1644.1	1722.9	1803.9	1887.3	1972.8	2060.6	2150.5	2242.4	2336.3
	S/(KJ/KG K)	7.9686	8.1085	8.2465	8.3826	8.5168	8.6493	8.7801	8.9091	9.0364
	C/(M/SEC)	586.0921	597.5551	608.7904	619.8205	630.6635	641.3337	651.8426	662.1992	672.4103
	KAPPA/(1/MPA)	1.4280	1.4276	1.4273	1.4271	1.4269	1.4267	1.4266	1.4265	1.4264
	BETA/(1000/K)	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
.8000	V/(M3/KG)	.35654	.37285	.38916	.40545	.42174	.43802	.45429	.47056	.48682
	H/(KJ/KG)	1643.9	1722.6	1803.7	1887.1	1972.7	2060.5	2150.4	2242.3	2336.2
	S/(KJ/KG K)	7.8989	8.0389	8.1769	8.3130	8.4473	8.5798	8.7106	8.8396	8.9670
	C/(M/SEC)	586.2241	597.6995	608.9455	619.9846	630.8354	641.5124	652.0272	662.3888	672.6043
	KAPPA/(1/MPA)	1.2494	1.2490	1.2487	1.2485	1.2483	1.2481	1.2480	1.2479	1.2478
	BETA/(1000/K)	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
.9000	V/(M3/KG)	.31694	.33146	.34596	.36046	.37494	.38942	.40390	.41836	.43283
	H/(KJ/KG)	1643.6	1722.4	1803.5	1886.9	1972.5	2060.3	2150.2	2242.2	2336.1
	S/(KJ/KG K)	7.8373	7.9774	8.1154	8.2516	8.3859	8.5184	8.6492	8.7783	8.9057
	C/(M/SEC)	586.3586	597.8463	609.1027	620.1509	631.0094	641.6930	652.2135	662.5802	672.8000
	KAPPA/(1/MPA)	1.1105	1.1101	1.1098	1.1096	1.1094	1.1092	1.1091	1.1090	1.1089
	BETA/(1000/K)	1.8	1.8	1.7	1.6	1.5	1.5	1.4	1.4	1.3
1.0000	V/(M3/KG)	.28526	.29834	.31141	.32446	.33751	.35055	.36358	.37661	.38963
	H/(KJ/KG)	1643.4	1722.2	1803.3	1886.7	1972.4	2060.2	2150.1	2242.1	2336.0
	S/(KJ/KG K)	7.7822	7.9223	8.0604	8.1966	8.3309	8.4635	8.5943	8.7234	8.8508
	C/(M/SEC)	586.4955	597.9954	609.2621	620.3192	631.1853	641.8755	652.4017	662.7732	672.9973
	KAPPA/(1/MPA)	.9993	.9990	.9987	.9984	.9982	.9981	.9980	.9979	.9978
	BETA/(1000/K)	1.8	1.8	1.7	1.6	1.5	1.5	1.4	1.4	1.3
2.0000	V/(M3/KG)	.14275	.14934	.15593	.16250	.16907	.17563	.18218	.18873	.19527
	H/(KJ/KG)	1640.8	1719.9	1801.3	1884.9	1970.8	2058.8	2148.9	2241.0	2335.1
	S/(KJ/KG K)	7.4180	7.5586	7.6971	7.8336	7.9683	8.1012	8.2322	8.3615	8.4891
	C/(M/SEC)	587.9959	599.6106	610.9747	622.1146	633.0515	643.8024	654.3806	664.7968	675.0591
	KAPPA/(1/MPA)	.4991	.4987	.4985	.4982	.4981	.4979	.4978	.4977	.4976
	BETA/(1000/K)	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4	1.3
3.0000	V/(M3/KG)	.09526	.09970	.10412	.10854	.11294	.11734	.12173	.12612	.13050
	H/(KJ/KG)	1638.3	1717.7	1799.3	1883.2	1969.2	2057.4	2147.7	2240.0	2334.2
	S/(KJ/KG K)	7.2029	7.3440	7.4829	7.6198	7.7548	7.8880	8.0193	8.1488	8.2766
	C/(M/SEC)	589.7283	601.4448	612.8945	624.1065	635.1045	645.9070	656.5291	666.9824	677.2761
	KAPPA/(1/MPA)	.3322	.3318	.3316	.3314	.3312	.3311	.3310	.3309	.3308
	BETA/(1000/K)	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4	1.3
4.0000	V/(M3/KG)	.07154	.07489	.07824	.08157	.08490	.08821	.09152	.09483	.09813
	H/(KJ/KG)	1635.9	1715.6	1797.4	1881.5	1967.8	2056.1	2146.6	2239.0	2333.4
	S/(KJ/KG K)	7.0489	7.1905	7.3299	7.4671	7.6024	7.7358	7.8674	7.9971	8.1251
	C/(M/SEC)	591.6819	603.4871	615.0106	626.2843	637.3338	648.1794	658.8373	669.3205	679.6389
	KAPPA/(1/MPA)	.2486	.2483	.2480	.2478	.2477	.2476	.2475	.2474	.2473
	BETA/(1000/K)	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4	1.3

THERMODYNAMIC PROPERTIES OF METHANE

TEMPERATURES/(K)

P/(MPA)		115.000	125.000	150.000	175.000	200.000	225.000	250.000	275.000	300.000
5.0000	V/(M3/KG)	.00237	.00246	.00274	.00322	.01116	.01744	.02167	.02531	.02865
	H/(KJ/KG)	86.9	123.1	218.6	322.8	612.2	726.0	803.8	872.8	938.5
	S/(KJ/KG K)	.7419	1.0439	1.7393	2.3805	3.9014	4.4413	4.7695	5.0330	5.2615
	C/(M/SEC)	1958.2835	1622.0633	1142.4124	744.7495	293.1410	348.0540	385.2093	414.3696	438.8509
	KAPPA/(1/MPA)	.0017	.0022	.0046	.0154	.5095	.2796	.2414	.2252	.2163
	BETA/(1000/K)	3.8	3.9	4.9	9.0	35.5	10.9	7.1	5.5	4.5
6.0000	V/(M3/KG)	.00236	.00246	.00273	.00317	.00626	.01335	.01731	.02057	.02349
	H/(KJ/KG)	88.2	124.4	219.3	321.2	523.1	699.1	786.4	859.9	928.3
	S/(KJ/KG K)	.7329	1.0342	1.7261	2.3532	3.4131	4.2539	4.6228	4.9032	5.1411
	C/(M/SEC)	1968.5073	1635.0240	1162.5149	781.8766	317.4347	342.8265	382.1284	412.8505	438.3886
	KAPPA/(1/MPA)	.0017	.0022	.0044	.0131	.5116	.2558	.2094	.1918	.1826
	BETA/(1000/K)	3.8	3.9	4.7	8.1	75.8	13.9	8.1	5.9	4.8
7.0000	V/(M3/KG)	.00236	.00245	.00272	.00313	.00463	.01044	.01422	.01720	.01982
	H/(KJ/KG)	89.6	125.7	220.2	320.1	467.6	669.5	768.4	846.8	918.0
	S/(KJ/KG K)	.7241	1.0248	1.7134	2.3289	3.1096	4.0699	4.4879	4.7871	5.0350
	C/(M/SEC)	1978.5678	1647.7226	1181.9020	815.5932	397.8829	343.2001	381.0755	412.5098	438.7444
	KAPPA/(1/MPA)	.0017	.0021	.0042	.0115	.1605	.2347	.1857	.1674	.1581
	BETA/(1000/K)	3.7	3.8	4.6	7.4	38.6	17.4	9.2	6.4	5.1
8.0000	V/(M3/KG)	.00236	.00245	.00271	.00310	.00415	.00838	.01193	.01469	.01709
	H/(KJ/KG)	90.9	126.9	221.0	319.4	446.4	639.1	750.0	833.5	907.7
	S/(KJ/KG K)	.7153	1.0155	1.7011	2.3069	2.9819	3.8932	4.3621	4.6811	4.9393
	C/(M/SEC)	1988.4619	1660.1759	1200.6446	846.6499	468.1025	352.0403	382.7070	413.5770	440.0167
	KAPPA/(1/MPA)	.0016	.0021	.0040	.0102	.0751	.2042	.1658	.1483	.1393
	BETA/(1000/K)	3.7	3.8	4.5	6.8	22.5	20.2	10.2	6.9	5.3
9.0000	V/(M3/KG)	.00235	.00244	.00270	.00307	.00392	.00697	.01020	.01277	.01498
	H/(KJ/KG)	92.3	128.2	221.9	318.9	435.2	611.2	731.6	820.3	897.4
	S/(KJ/KG K)	.7067	1.0063	1.6891	2.2866	2.9057	3.7350	4.2444	4.5832	4.8519
	C/(M/SEC)	1998.1877	1672.4088	1218.7963	875.5655	524.9400	369.6602	387.5358	416.2457	442.2878
	KAPPA/(1/MPA)	.0016	.0020	.0039	.0092	.0470	.1643	.1475	.1325	.1243
	BETA/(1000/K)	3.7	3.7	4.4	6.4	16.1	20.9	11.1	7.4	5.6
10.0000	V/(M3/KG)	.00235	.00244	.00269	.00304	.00376	.00603	.00888	.01126	.01332
	H/(KJ/KG)	93.7	129.6	222.9	318.7	428.1	587.8	713.9	807.3	887.3
	S/(KJ/KG K)	.6981	.9972	1.6775	2.2678	2.8508	3.6024	4.1355	4.4924	4.7711
	C/(M/SEC)	2007.7728	1684.3987	1236.4047	902.6927	573.0779	393.7239	395.7265	420.6380	445.6144
	KAPPA/(1/MPA)	.0016	.0020	.0037	.0084	.0338	.1263	.1297	.1189	.1117
	BETA/(1000/K)	3.6	3.7	4.3	6.0	12.8	19.8	11.8	7.8	5.8

THERMODYNAMIC PROPERTIES OF METHANE

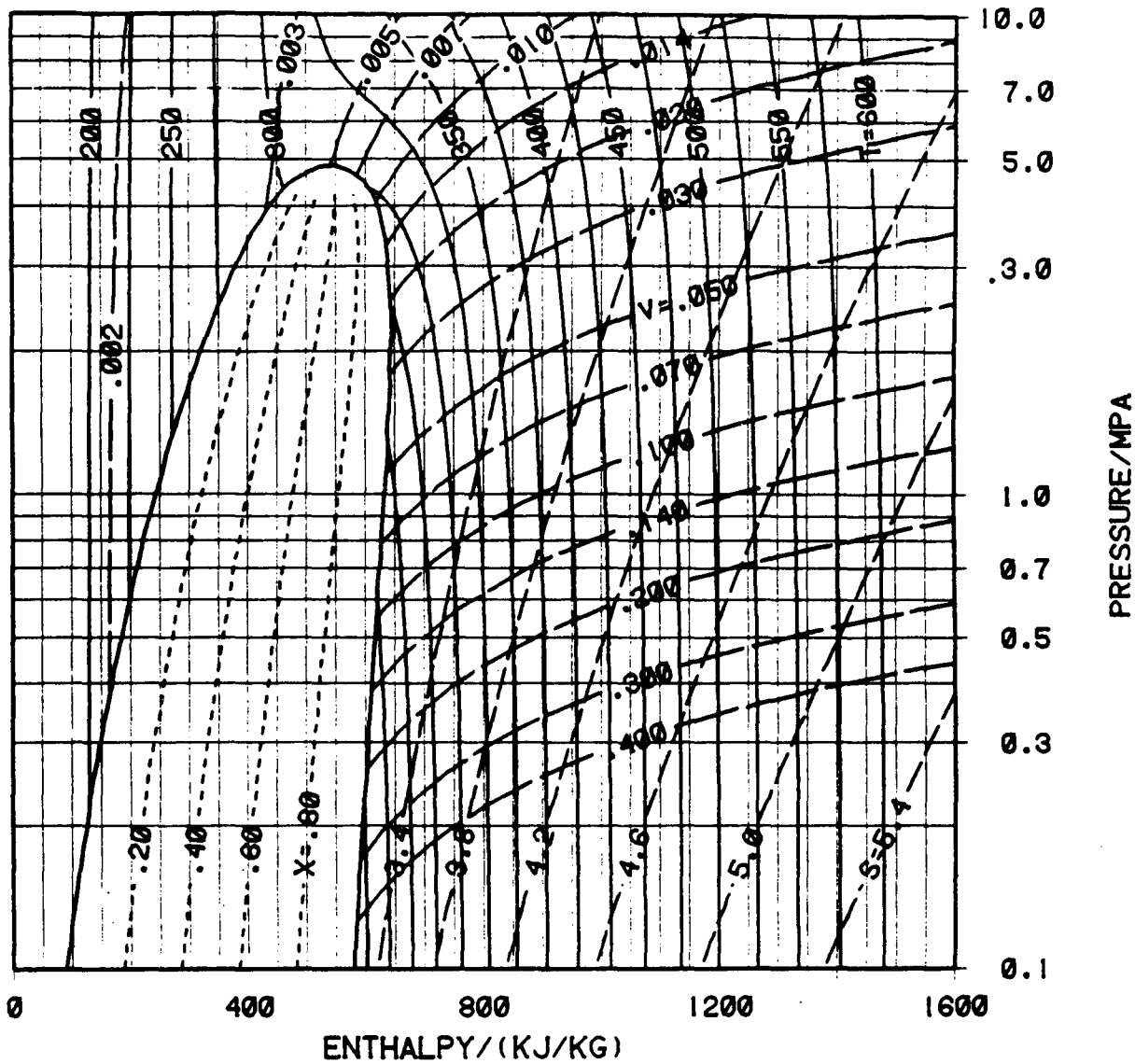
TEMPERATURES/(K)

P/(MPA)		325.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000	525.000
5.0000	V/(M3/KG)	.03180	.03484	.03779	.04068	.04352	.04633	.04911	.05186	.05460
	H/(KJ/KG)	1002.9	1067.3	1132.3	1198.4	1266.1	1335.5	1406.9	1480.3	1555.8
	S/(KJ/KG K)	5.4678	5.6585	5.8380	6.0088	6.1728	6.3315	6.4858	6.6364	6.7838
	C/(M/SEC)	460.2084	479.3246	496.7607	512.9001	528.0167	542.3128	555.9403	569.0152	581.6273
	KAPPA/(1/MPA)	.2109	.2073	.2047	.2029	.2016	.2006	.1998	.1992	.1987
	BETA/(1000/K)	3.9	3.4	3.1	2.8	2.6	2.4	2.3	2.1	2.0
6.0000	V/(M3/KG)	.02622	.02883	.03135	.03381	.03622	.03859	.04094	.04326	.04556
	H/(KJ/KG)	994.5	1060.2	1126.3	1193.3	1261.7	1331.6	1403.5	1477.3	1553.2
	S/(KJ/KG K)	5.3533	5.5481	5.7304	5.9033	6.0691	6.2291	6.3844	6.5358	6.6839
	C/(M/SEC)	460.4859	480.1376	497.9718	514.4137	529.7644	544.2441	558.0174	571.2093	583.9156
	KAPPA/(1/MPA)	.1770	.1734	.1710	.1692	.1679	.1669	.1662	.1656	.1651
	BETA/(1000/K)	4.1	3.6	3.2	2.9	2.6	2.4	2.3	2.1	2.0
7.0000	V/(M3/KG)	.02225	.02455	.02676	.02891	.03101	.03308	.03511	.03713	.03912
	H/(KJ/KG)	986.2	1053.3	1120.4	1188.2	1257.3	1327.8	1400.1	1474.3	1550.6
	S/(KJ/KG K)	5.2533	5.4522	5.6374	5.8125	5.9799	6.1412	6.2976	6.4499	6.5987
	C/(M/SEC)	461.3850	481.4493	499.5981	516.2825	531.8221	546.4505	560.3419	573.6279	586.4098
	KAPPA/(1/MPA)	.1526	.1491	.1467	.1450	.1437	.1428	.1421	.1415	.1411
	BETA/(1000/K)	4.2	3.7	3.3	2.9	2.7	2.5	2.3	2.2	2.0
8.0000	V/(M3/KG)	.01929	.02135	.02333	.02525	.02712	.02895	.03075	.03253	.03429
	H/(KJ/KG)	977.8	1046.3	1114.5	1183.2	1252.9	1324.0	1396.8	1471.5	1548.1
	S/(KJ/KG K)	5.1639	5.3669	5.5551	5.7325	5.9015	6.0641	6.2215	6.3746	6.5241
	C/(M/SEC)	462.9510	483.2799	501.6467	518.5060	534.1851	548.9248	562.9048	576.2618	589.1002
	KAPPA/(1/MPA)	.1340	.1306	.1283	.1267	.1255	.1246	.1239	.1234	.1230
	BETA/(1000/K)	4.4	3.8	3.3	3.0	2.7	2.5	2.3	2.2	2.0
9.0000	V/(M3/KG)	.01700	.01888	.02068	.02241	.02410	.02575	.02737	.02897	.03055
	H/(KJ/KG)	969.5	1039.4	1108.7	1178.2	1248.6	1320.3	1393.6	1468.7	1545.6
	S/(KJ/KG K)	5.0827	5.2900	5.4811	5.6606	5.8314	5.9953	6.1537	6.3077	6.4578
	C/(M/SEC)	465.2206	485.6445	504.1213	521.0819	536.8478	551.6593	565.6978	579.1016	591.9773
	KAPPA/(1/MPA)	.1193	.1161	.1139	.1123	.1112	.1104	.1098	.1093	.1089
	BETA/(1000/K)	4.6	3.9	3.4	3.0	2.8	2.5	2.4	2.2	2.1
10.0000	V/(M3/KG)	.01518	.01692	.01856	.02015	.02169	.02319	.02467	.02612	.02755
	H/(KJ/KG)	961.4	1032.7	1103.0	1173.4	1244.4	1316.7	1390.4	1465.9	1543.2
	S/(KJ/KG K)	5.0082	5.2196	5.4137	5.5953	5.7677	5.9329	6.0924	6.2472	6.3980
	C/(M/SEC)	468.2184	488.5519	507.0225	524.0064	539.8036	554.6459	568.7116	582.1380	595.0315
	KAPPA/(1/MPA)	.1072	.1042	.1022	.1008	.0997	.0990	.0984	.0979	.0976
	BETA/(1000/K)	4.7	4.0	3.5	3.1	2.8	2.6	2.4	2.2	2.1

THERMODYNAMIC PROPERTIES OF METHANE

TEMPERATURES/(K)

P/(MPA)		550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000
5.0000	V/(M3/KG)	.05732	.06002	.06272	.06540	.06808	.07075	.07341	.07607	.07872
	H/(KJ/KG)	1633.5	1713.5	1795.6	1879.9	1966.3	2054.9	2145.5	2238.1	2332.6
	S/(KJ/KG K)	6.9284	7.0705	7.2103	7.3479	7.4835	7.6172	7.7490	7.8790	8.0071
	C/(M/SEC)	593.8463	605.7269	617.3125	628.6374	639.7291	650.6094	661.2957	671.8018	682.1386
	KAPPA/(1/MPA)	.1984	.1981	.1978	.1977	.1975	.1974	.1973	.1972	.1972
	BETA/(1000/K)	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4	1.3
6.0000	V/(M3/KG)	.04785	.05012	.05238	.05464	.05688	.05911	.06134	.06357	.06579
	H/(KJ/KG)	1631.2	1711.4	1793.8	1878.3	1965.0	2053.7	2144.5	2237.2	2331.9
	S/(KJ/KG K)	6.8291	6.9717	7.1119	7.2499	7.3858	7.5198	7.6518	7.7820	7.9103
	C/(M/SEC)	596.2110	608.1537	619.7899	631.1558	642.2806	653.1875	663.8949	674.4175	684.7666
	KAPPA/(1/MPA)	.1648	.1645	.1643	.1641	.1640	.1639	.1638	.1638	.1637
	BETA/(1000/K)	1.9	1.8	1.7	1.6	1.6	1.5	1.5	1.4	1.3
7.0000	V/(M3/KG)	.04110	.04306	.04501	.04695	.04889	.05081	.05273	.05465	.05656
	H/(KJ/KG)	1628.9	1709.4	1792.0	1876.8	1963.6	2052.6	2143.5	2236.4	2331.2
	S/(KJ/KG K)	6.7444	6.8875	7.0281	7.1665	7.3028	7.4370	7.5693	7.6996	7.8282
	C/(M/SEC)	598.7659	610.7574	622.4326	633.8296	644.9788	655.9045	666.6261	677.1588	687.5147
	KAPPA/(1/MPA)	.1408	.1405	.1403	.1402	.1401	.1400	.1399	.1399	.1398
	BETA/(1000/K)	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.3
8.0000	V/(M3/KG)	.03604	.03777	.03949	.04120	.04290	.04459	.04628	.04796	.04964
	H/(KJ/KG)	1626.7	1707.5	1790.4	1875.3	1962.4	2051.5	2142.6	2235.6	2330.5
	S/(KJ/KG K)	6.6705	6.8141	6.9551	7.0939	7.2304	7.3649	7.4974	7.6280	7.7567
	C/(M/SEC)	601.5012	613.5282	625.2311	636.6493	647.8144	658.7515	669.4805	680.0175	690.3748
	KAPPA/(1/MPA)	.1227	.1225	.1223	.1222	.1221	.1220	.1219	.1219	.1219
	BETA/(1000/K)	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.3
9.0000	V/(M3/KG)	.03211	.03366	.03520	.03673	.03825	.03976	.04127	.04277	.04427
	H/(KJ/KG)	1624.6	1705.6	1788.7	1873.9	1961.2	2050.4	2141.7	2234.9	2329.9
	S/(KJ/KG K)	6.6048	6.7488	6.8903	7.0294	7.1663	7.3010	7.4338	7.5646	7.6935
	C/(M/SEC)	604.4073	616.4566	628.1760	639.6060	650.7787	661.7199	672.4502	682.9857	693.3395
	KAPPA/(1/MPA)	.1086	.1084	.1083	.1081	.1080	.1080	.1079	.1079	.1079
	BETA/(1000/K)	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4
10.0000	V/(M3/KG)	.02897	.03038	.03177	.03315	.03453	.03590	.03726	.03862	.03997
	H/(KJ/KG)	1622.5	1703.8	1787.1	1872.5	1960.0	2049.4	2140.9	2234.2	2329.4
	S/(KJ/KG K)	6.5455	6.6901	6.8320	6.9714	7.1086	7.2436	7.3766	7.5076	7.6367
	C/(M/SEC)	607.4750	619.5335	631.2585	642.6909	653.8634	664.8018	675.5272	686.0561	696.4014
	KAPPA/(1/MPA)	.0973	.0971	.0970	.0969	.0968	.0967	.0967	.0967	.0967
	BETA/(1000/K)	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4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0.7
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0.3
0.1
PRESSURE/MPA
0
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800
1200
1600
ENTHALPY/(KJ/KG)
200
250
300
350
400
450
500
550
T=600
.002
.003
.005
.007
.010
.014
.020
.030
V=.050
.070
.100
.140
.200
.300
.400
.20
.40
.60
X=.80
3.4
3.8
4.2
4.6
5.0
S=5.4

ETHANE

PROPERTIES OF SATURATED ETHANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
185.00000	.10544	.00186	.46775	91.52337	489.56928	581.09265	.54763	2.64632	3.19395
190.00000	.13696	.00188	.36700	104.07286	482.57043	586.64329	.61425	2.53984	3.15409
195.00000	.17529	.00191	.29175	116.87440	475.17165	592.04605	.68037	2.43678	3.11715
200.00000	.22133	.00193	.23469	129.91717	467.36954	597.28672	.74597	2.33685	3.08281
205.00000	.27600	.00196	.19084	143.18824	459.16296	602.35120	.81098	2.23982	3.05080
210.00000	.34023	.00199	.15671	156.67363	450.55159	607.22522	.87536	2.14548	3.02084
215.00000	.41498	.00201	.12983	170.35918	441.53481	611.89399	.93906	2.05365	2.99271
220.00000	.50123	.00204	.10842	184.23151	432.11019	616.34171	1.00203	1.96414	2.96617
225.00000	.59995	.00207	.09120	198.27907	422.27194	620.55101	1.06426	1.87676	2.94102
230.00000	.71215	.00211	.07721	212.49341	412.00879	624.50220	1.12571	1.79134	2.91705
235.00000	.83883	.00214	.06574	226.86945	401.30307	628.17252	1.18638	1.70767	2.89406
240.00000	.98103	.00218	.05625	241.41144	390.12258	631.53402	1.24632	1.62551	2.87183
245.00000	1.13980	.00222	.04834	256.12816	378.42521	634.55337	1.30557	1.54459	2.85016
250.00000	1.31626	.00226	.04170	271.04057	366.14798	637.18855	1.36423	1.46459	2.82882
255.00000	1.51156	.00230	.03607	286.18409	353.20194	639.38603	1.42244	1.38511	2.80755
260.00000	1.72692	.00235	.03126	301.61298	339.46335	641.07633	1.48041	1.30563	2.78604
265.00000	1.96366	.00241	.02712	317.40714	324.76005	642.16719	1.53843	1.22551	2.76394
270.00000	2.22322	.00247	.02354	333.68207	308.85079	642.53286	1.59691	1.14389	2.74080
275.00000	2.50717	.00254	.02039	350.60450	291.39161	641.99612	1.65640	1.05961	2.71601
280.00000	2.81725	.00262	.01761	368.42091	271.87433	640.29524	1.71772	.97098	2.68870
285.00000	3.15543	.00271	.01512	387.50207	249.51971	637.02178	1.78207	.87551	2.65758
290.00000	3.52391	.00284	.01284	408.45684	223.01524	631.47208	1.85139	.76902	2.62041
295.00000	3.92521	.00300	.01069	432.40600	189.84303	622.24903	1.92925	.64354	2.57279
300.00000	4.36220	.00327	.00853	462.03902	143.65042	605.68943	2.02423	.47883	2.50307
305.42000	4.83819	.00488	.00488	537.43905	0.	537.43905	2.26698	0.	2.26698

THERMODYNAMIC PROPERTIES OF ETHANE

TEMPERATURES/(K)

P/(MPA)		185.000	200.000	225.000	250.000	275.000	300.000	325.000	350.000	375.000	400.000	425.000	450.000
.1000	V/(M3/KG)	.49416	.53837	.61085	.68235	.75320	.82364	.89379	.96373	1.03352	1.10319	1.17278	1.24230
	H/(KJ/KG)	581.4	603.2	640.5	679.6	720.7	763.9	809.4	857.5	908.0	961.2	1017.0	1075.5
	S/(KJ/KG K)	3.2097	3.3228	3.4989	3.6635	3.8199	3.9703	4.1161	4.2584	4.3979	4.5351	4.6705	4.8041
	C/(M/SEC)	247.5337	257.6355	273.0272	287.0399	300.0087	312.1632	323.6667	334.6390	345.1691	355.3247	365.1581	374.7097
	KAPPA/(1/MPA)	10.3651	10.2808	10.1900	10.1345	10.0986	10.0741	10.0569	10.0444	10.0351	10.0280	10.0225	10.0182
	BETA/(1000/K)	6.0	5.4	4.7	4.2	3.8	3.4	3.1	2.9	2.7	2.5	2.4	2.2
.1013	V/(M3/KG)	.48746	.53114	.60271	.67330	.74326	.81279	.88203	.95107	1.01995	1.08873	1.15741	1.22603
	H/(KJ/KG)	581.3	603.1	640.5	679.6	720.6	763.9	809.4	857.4	908.0	961.2	1017.0	1075.5
	S/(KJ/KG K)	3.2058	3.3190	3.4951	3.6597	3.8162	3.9666	4.1124	4.2547	4.3942	4.5315	4.6668	4.8004
	C/(M/SEC)	247.4580	257.5741	272.9823	287.0059	299.9823	312.1422	323.6499	334.6253	345.1579	355.3155	365.1505	374.7034
	KAPPA/(1/MPA)	10.2348	10.1503	10.0594	10.0038	9.9678	9.9434	9.9261	9.9137	9.9043	9.8973	9.8918	9.8875
	BETA/(1000/K)	6.0	5.4	4.7	4.2	3.8	3.4	3.1	2.9	2.7	2.5	2.4	2.2
.2000	V/(M3/KG)	.00186	.26143	.29953	.33653	.37286	.40875	.44434	.47972	.51494	.55005	.58507	.62002
	H/(KJ/KG)	91.6	598.3	636.8	676.7	718.3	761.9	807.8	856.0	906.8	960.1	1016.1	1074.6
	S/(KJ/KG K)	.5472	3.1145	3.2959	3.4637	3.6222	3.7740	3.9208	4.0638	4.2038	4.3415	4.4771	4.6110
	C/(M/SEC)	1536.0875	252.8543	269.5693	284.4378	297.9943	310.5711	322.3892	333.6024	344.3217	354.6287	364.5852	374.2384
	KAPPA/(1/MPA)	.0017	5.3045	5.2003	5.1395	5.1011	5.0755	5.0577	5.0449	5.0354	5.0282	5.0226	5.0183
	BETA/(1000/K)	2.5	5.9	5.0	4.4	3.9	3.5	3.2	2.9	2.7	2.5	2.4	2.3
.3000	V/(M3/KG)	.00186	.00193	.19561	.22119	.24604	.27043	.29451	.31837	.34208	.36566	.38916	.41259
	H/(KJ/KG)	91.7	130.0	633.0	673.7	715.9	759.9	806.1	854.6	905.5	959.0	1015.1	1073.8
	S/(KJ/KG K)	.5467	.7456	3.1719	3.3433	3.5040	3.6572	3.8050	3.9488	4.0893	4.2274	4.3633	4.4975
	C/(M/SEC)	1536.9307	1311.5729	265.9586	281.7596	295.9397	308.9571	321.0996	332.5596	343.4713	353.9318	364.0127	373.7684
	KAPPA/(1/MPA)	.0017	.0022	3.5453	3.4783	3.4372	3.4103	3.3919	3.3787	3.3690	3.3617	3.3560	3.3516
	BETA/(1000/K)	2.5	2.7	5.3	4.5	4.0	3.6	3.3	3.0	2.8	2.6	2.4	2.3
.4000	V/(M3/KG)	.00186	.00193	.14354	.16346	.18260	.20125	.21958	.23769	.25564	.27347	.29121	.30888
	H/(KJ/KG)	91.8	130.1	629.0	670.6	713.4	757.9	804.4	853.1	904.3	957.9	1014.1	1072.9
	S/(KJ/KG K)	.5462	.7450	3.0800	3.2551	3.4182	3.5729	3.7218	3.8663	4.0074	4.1459	4.2821	4.4165
	C/(M/SEC)	1537.7725	1312.6446	262.1758	278.9991	293.8426	307.3204	319.7978	331.5104	342.6182	353.2341	363.4407	373.2997
	KAPPA/(1/MPA)	.0017	.0022	2.7253	2.6508	2.6068	2.5786	2.5594	2.5458	2.5359	2.5285	2.5228	2.5183
	BETA/(1000/K)	2.5	2.7	5.7	4.8	4.1	3.7	3.3	3.0	2.8	2.6	2.4	2.3
.5000	V/(M3/KG)	.00186	.00193	.11219	.12877	.14450	.15973	.17462	.18928	.20378	.21815	.23243	.24665
	H/(KJ/KG)	91.9	130.2	624.9	667.4	710.9	755.8	802.7	851.7	903.0	956.8	1013.2	1072.0
	S/(KJ/KG K)	.5458	.7445	3.0052	3.1845	3.3501	3.5064	3.6564	3.8016	3.9433	4.0822	4.2187	4.3533
	C/(M/SEC)	1538.6129	1313.7140	258.1971	276.1494	291.7009	305.6601	318.4836	330.4549	341.7621	352.5357	362.8693	372.8323
	KAPPA/(1/MPA)	.0017	.0022	2.2406	2.1573	2.1099	2.0802	2.0603	2.0464	2.0362	2.0287	2.0229	2.0184
	BETA/(1000/K)	2.5	2.7	6.1	5.0	4.3	3.8	3.4	3.1	2.8	2.6	2.5	2.3
.6000	V/(M3/KG)	.00186	.00193	.00207	.10559	.11908	.13203	.14463	.15700	.16920	.18127	.19325	.20516
	H/(KJ/KG)	92.0	130.3	198.3	664.2	708.3	753.7	800.9	850.2	901.7	955.7	1012.2	1071.2
	S/(KJ/KG K)	.5453	.7440	1.0643	3.1249	3.2931	3.4511	3.6022	3.7482	3.8904	4.0297	4.1666	4.3015
	C/(M/SEC)	1539.4517	1314.7812	1034.9196	273.2026	289.5119	303.9756	317.1566	329.3930	340.9033	351.8366	362.2985	372.3663
	KAPPA/(1/MPA)	.0017	.0022	.0035	1.8311	1.7799	1.7485	1.7279	1.7135	1.7032	1.6955	1.6896	1.6851
	BETA/(1000/K)	2.5	2.7	3.1	5.3	4.4	3.9	3.4	3.1	2.9	2.7	2.5	2.3

THERMODYNAMIC PROPERTIES OF ETHANE

TEMPERATURES/(K)

P/(MPA)		475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000
.1000	V/(M3/KG)	1.31177	1.38119	1.45059	1.51995	1.58928	1.65860	1.72790	1.79719	1.86646	1.93572	2.00497	2.07422
	H/(KJ/KG)	1136.6	1200.3	1266.5	1335.3	1406.5	1480.0	1555.7	1633.7	1713.7	1795.6	1879.5	1965.1
	S/(KJ/KG K)	4.9362	5.0669	5.1962	5.3241	5.4506	5.5758	5.6995	5.8217	5.9424	6.0617	6.1793	6.2954
	C/(M/SEC)	384.0119	393.0904	401.9665	410.6573	419.1774	427.5389	435.7521	443.8256	451.7670	459.5827	467.2779	474.8573
	KAPPA/(1/MPA)	10.0148	10.0120	10.0097	10.0078	10.0062	10.0049	10.0038	10.0029	10.0021	10.0014	10.0008	10.0003
	BETA/(1000/K)	2.1	2.0	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
.1013	V/(M3/KG)	1.29459	1.36311	1.43160	1.50006	1.56849	1.63690	1.70530	1.77368	1.84204	1.91040	1.97875	2.04709
	H/(KJ/KG)	1136.6	1200.3	1266.5	1335.3	1406.5	1480.0	1555.7	1633.7	1713.6	1795.6	1879.5	1965.1
	S/(KJ/KG K)	4.9326	5.0632	5.1925	5.3204	5.4470	5.5721	5.6958	5.8180	5.9388	6.0580	6.1757	6.2918
	C/(M/SEC)	384.0067	393.0863	401.9631	410.6547	419.1754	427.5374	435.7510	443.8249	451.7667	459.5827	467.2782	474.8578
	KAPPA/(1/MPA)	9.8840	9.8812	9.8789	9.8770	9.8755	9.8742	9.8730	9.8721	9.8713	9.8706	9.8700	9.8695
	BETA/(1000/K)	2.1	2.0	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
.2000	V/(M3/KG)	.65492	.68977	.72459	.75938	.79415	.82889	.86362	.89834	.93304	.96773	1.00241	1.03708
	H/(KJ/KG)	1135.8	1199.6	1265.9	1334.7	1405.9	1479.5	1555.3	1633.3	1713.3	1795.3	1879.1	1964.8
	S/(KJ/KG K)	4.7433	4.8741	5.0035	5.1316	5.2582	5.3834	5.5071	5.6294	5.7502	5.8695	5.9872	6.1034
	C/(M/SEC)	383.6255	392.7758	401.7130	410.4564	419.0219	427.4230	435.6709	443.7750	451.7434	459.5831	467.2997	474.8982
	KAPPA/(1/MPA)	5.0148	5.0120	5.0097	5.0078	5.0062	5.0049	5.0038	5.0028	5.0020	5.0014	5.0008	5.0003
	BETA/(1000/K)	2.1	2.0	1.9	1.8	1.8	1.7	1.6	1.5	1.5	1.4	1.4	1.3
.3000	V/(M3/KG)	.43597	.45930	.48259	.50586	.52910	.55233	.57553	.59872	.62190	.64506	.66822	.69137
	H/(KJ/KG)	1135.1	1198.9	1265.3	1334.2	1405.4	1479.0	1554.9	1632.9	1712.9	1794.9	1878.8	1964.5
	S/(KJ/KG K)	4.6299	4.7609	4.8905	5.0186	5.1453	5.2706	5.3944	5.5168	5.6376	5.7569	5.8746	5.9908
	C/(M/SEC)	383.2410	392.4633	401.4617	410.2577	418.8688	427.3094	435.5919	443.7265	451.7219	459.5855	467.3235	474.9411
	KAPPA/(1/MPA)	3.3481	3.3453	3.3430	3.3411	3.3395	3.3382	3.3371	3.3362	3.3353	3.3347	3.3341	3.3336
	BETA/(1000/K)	2.1	2.0	1.9	1.8	1.8	1.7	1.6	1.5	1.5	1.4	1.4	1.3
.4000	V/(M3/KG)	.32649	.34406	.36160	.37910	.39658	.41404	.43149	.44892	.46633	.48374	.50113	.51852
	H/(KJ/KG)	1134.3	1198.2	1264.7	1333.6	1404.9	1478.5	1554.4	1632.4	1712.5	1794.6	1878.5	1964.2
	S/(KJ/KG K)	4.5492	4.6803	4.8100	4.9382	5.0650	5.1904	5.3142	5.4366	5.5575	5.6769	5.7947	5.9109
	C/(M/SEC)	382.8581	392.1528	401.2127	410.0613	418.7179	427.1981	435.5152	443.6803	451.7026	459.5901	467.3494	474.9860
	KAPPA/(1/MPA)	2.5148	2.5120	2.5096	2.5077	2.5062	2.5048	2.5037	2.5028	2.5020	2.5013	2.5007	2.5002
	BETA/(1000/K)	2.2	2.0	1.9	1.8	1.8	1.7	1.6	1.6	1.5	1.4	1.4	1.3
.5000	V/(M3/KG)	.26081	.27492	.28900	.30305	.31707	.33108	.34506	.35903	.37299	.38694	.40088	.41481
	H/(KJ/KG)	1133.5	1197.5	1264.0	1333.0	1404.4	1478.1	1554.0	1632.0	1712.2	1794.2	1878.2	1963.9
	S/(KJ/KG K)	4.4862	4.6175	4.7473	4.8757	5.0025	5.1280	5.2519	5.3744	5.4953	5.6147	5.7325	5.8488
	C/(M/SEC)	382.4771	391.8443	400.9658	409.8672	418.5693	427.0891	435.4408	443.6363	451.6854	459.5967	467.3772	475.0328
	KAPPA/(1/MPA)	2.0148	2.0120	2.0096	2.0077	2.0061	2.0048	2.0037	2.0028	2.0020	2.0013	2.0007	2.0002
	BETA/(1000/K)	2.2	2.1	1.9	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4	1.3
.6000	V/(M3/KG)	.21702	.22883	.24060	.25234	.26407	.27576	.28745	.29911	.31077	.32241	.33404	.34567
	H/(KJ/KG)	1132.7	1196.8	1263.4	1332.4	1403.9	1477.6	1553.5	1631.6	1711.8	1793.9	1877.9	1963.6
	S/(KJ/KG K)	4.4346	4.5660	4.6960	4.8244	4.9514	5.0769	5.2009	5.3234	5.4444	5.5638	5.6817	5.7980
	C/(M/SEC)	382.0979	391.5380	400.7212	409.6755	418.4231	426.9824	435.3687	443.5945	451.6704	459.6055	467.4071	475.0815
	KAPPA/(1/MPA)	1.6815	1.6786	1.6763	1.6744	1.6728	1.6714	1.6703	1.6694	1.6686	1.6679	1.6673	1.6668
	BETA/(1000/K)	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4	1.3

THERMODYNAMIC PROPERTIES OF ETHANE

TEMPERATURES/(K)

P/(MPA)		775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	2.14345	2.21268	2.28190	2.35112	2.42033	2.48955	2.55875	2.62795
	H/(KJ/KG)	2052.4	2141.4	2232.0	2324.1	2417.8	2512.9	2609.5	2707.7
	S/(KJ/KG K)	6.4100	6.5230	6.6345	6.7445	6.8531	6.9602	7.0662	7.1709
	C/(M/SEC)	482.3245	489.6825	496.9336	504.0796	511.1214	518.0596	524.8942	531.6248
	KAPPA/(1/MPA)	9.9998	9.9994	9.9991	9.9988	9.9986	9.9983	9.9981	9.9980
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.1013	V/(M3/KG)	2.11542	2.18375	2.25207	2.32038	2.38869	2.45699	2.52529	2.59359
	H/(KJ/KG)	2052.4	2141.4	2232.0	2324.1	2417.8	2512.9	2609.5	2707.7
	S/(KJ/KG K)	6.4064	6.5194	6.6309	6.7409	6.8494	6.9566	7.0625	7.1672
	C/(M/SEC)	482.3252	489.6835	496.9348	504.0809	511.1229	518.0612	524.8960	531.6267
	KAPPA/(1/MPA)	9.8691	9.8687	9.8683	9.8681	9.8678	9.8675	9.8674	9.8672
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.2000	V/(M3/KG)	1.07174	1.10640	1.14105	1.17570	1.21034	1.24498	1.27961	1.31424
	H/(KJ/KG)	2052.2	2141.2	2231.8	2323.9	2417.6	2512.7	2609.3	2707.5
	S/(KJ/KG K)	6.2179	6.3310	6.4425	6.5525	6.6611	6.7683	6.8742	6.9790
	C/(M/SEC)	482.3826	489.7561	497.0212	504.1798	511.2330	518.1816	525.0255	531.7647
	KAPPA/(1/MPA)	4.9998	4.9994	4.9991	4.9988	4.9985	4.9983	4.9981	4.9980
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.3000	V/(M3/KG)	.71451	.73765	.76077	.78389	.80701	.83013	.85324	.87634
	H/(KJ/KG)	2051.9	2140.9	2231.5	2323.7	2417.3	2512.5	2609.2	2707.4
	S/(KJ/KG K)	6.1054	6.2185	6.3300	6.4401	6.5487	6.6559	6.7618	6.8666
	C/(M/SEC)	482.4427	489.8315	497.1105	504.2816	511.3462	518.3051	525.1584	531.9060
	KAPPA/(1/MPA)	3.3331	3.3327	3.3324	3.3321	3.3319	3.3316	3.3314	3.3313
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.4000	V/(M3/KG)	.53590	.55327	.57063	.58799	.60535	.62270	.64005	.65739
	H/(KJ/KG)	2051.6	2140.7	2231.3	2323.5	2417.1	2512.3	2609.0	2707.2
	S/(KJ/KG K)	6.0255	6.1386	6.2502	6.3602	6.4688	6.5761	6.6820	6.7868
	C/(M/SEC)	482.5046	489.9088	497.2016	504.3852	511.4611	518.4301	525.2927	532.0487
	KAPPA/(1/MPA)	2.4998	2.4994	2.4990	2.4988	2.4985	2.4983	2.4981	2.4979
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.5000	V/(M3/KG)	.42873	.44264	.45655	.47045	.48435	.49825	.51214	.52603
	H/(KJ/KG)	2051.3	2140.4	2231.1	2323.3	2416.9	2512.1	2608.8	2707.1
	S/(KJ/KG K)	5.9635	6.0766	6.1881	6.2982	6.4068	6.5141	6.6201	6.7249
	C/(M/SEC)	482.5683	489.9878	497.2944	504.4904	511.5775	518.5567	525.4285	532.1929
	KAPPA/(1/MPA)	1.9997	1.9994	1.9990	1.9987	1.9985	1.9983	1.9981	1.9979
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.6000	V/(M3/KG)	.35728	.36889	.38050	.39210	.40369	.41528	.42687	.43845
	H/(KJ/KG)	2051.1	2140.2	2230.8	2323.0	2416.7	2511.9	2608.6	2706.9
	S/(KJ/KG K)	5.9127	6.0258	6.1374	6.2475	6.3561	6.4634	6.5694	6.6742
	C/(M/SEC)	482.6340	490.0687	497.3889	504.5973	511.6955	518.6849	525.5658	532.3385
	KAPPA/(1/MPA)	1.6664	1.6660	1.6657	1.6654	1.6651	1.6649	1.6647	1.6645
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1

THERMODYNAMIC PROPERTIES OF ETHANE

TEMPERATURES/(K)

P/(MPA)		185.000	200.000	225.000	250.000	275.000	300.000	325.000	350.000	375.000	400.000	425.000	450.000
.7000	V/(M3/KG)	.00186	.00193	.00207	.08900	.10091	.11224	.12321	.13394	.14450	.15493	.16526	.17553
	H/(KJ/KG)	92.1	130.3	198.3	660.8	705.7	751.6	799.2	848.7	900.5	954.6	1011.2	1070.3
	S/(KJ/KG K)	.5448	.7435	1.0636	3.0728	3.2438	3.4035	3.5557	3.7026	3.8454	3.9851	4.1223	4.2574
	C/(M/SEC)	1540.2891	1315.8461	1036.4260	270.1494	287.2731	302.2659	315.8168	328.3247	340.0418	351.1369	361.7284	371.9017
	KAPPA/(1/MPA)	.0017	.0022	.0035	1.6009	1.5453	1.5122	1.4907	1.4759	1.4654	1.4576	1.4516	1.4470
	BETA/(1000/K)	2.5	2.7	3.1	5.5	4.6	4.0	3.5	3.2	2.9	2.7	2.5	2.3
.8000	V/(M3/KG)	.00186	.00193	.00207	.07651	.08725	.09738	.10714	.11664	.12597	.13517	.14427	.15330
	H/(KJ/KG)	92.2	130.4	198.4	657.4	703.0	749.5	797.4	847.2	899.2	953.5	1010.2	1069.4
	S/(KJ/KG K)	.5444	.7430	1.0630	3.0259	3.2000	3.3616	3.5150	3.6626	3.8060	3.9461	4.0837	4.2191
	C/(M/SEC)	1541.1250	1316.9088	1037.9278	266.9791	284.9813	300.5302	314.4637	327.2500	339.1775	350.4367	361.1590	371.4386
	KAPPA/(1/MPA)	.0017	.0022	.0035	1.4311	1.3705	1.3355	1.3131	1.2979	1.2871	1.2791	1.2731	1.2685
	BETA/(1000/K)	2.5	2.7	3.1	5.8	4.8	4.1	3.6	3.2	2.9	2.7	2.5	2.3
.9000	V/(M3/KG)	.00186	.00193	.00207	.06676	.07661	.08582	.09463	.10318	.11155	.11980	.12794	.13602
	H/(KJ/KG)	92.3	130.5	198.5	653.8	700.3	747.3	795.6	845.7	897.9	952.4	1009.2	1068.6
	S/(KJ/KG K)	.5439	.7425	1.0623	2.9830	3.1603	3.3239	3.4785	3.6270	3.7710	3.9115	4.0494	4.1851
	C/(M/SEC)	1541.9596	1317.9693	1039.4249	263.6791	282.6333	298.7675	313.0973	326.1688	338.3107	349.7361	360.5904	370.9771
	KAPPA/(1/MPA)	.0017	.0021	.0035	1.3020	1.2357	1.1985	1.1752	1.1596	1.1485	1.1404	1.1343	1.1296
	BETA/(1000/K)	2.5	2.7	3.1	6.2	4.9	4.2	3.7	3.3	3.0	2.7	2.5	2.4
1.0000	V/(M3/KG)	.00186	.00193	.00207	.05891	.06808	.07656	.08462	.09241	.10002	.10750	.11488	.12219
	H/(KJ/KG)	92.4	130.6	198.5	650.1	697.5	745.1	793.8	844.2	896.6	951.2	1008.2	1067.7
	S/(KJ/KG K)	.5434	.7420	1.0617	2.9431	3.1239	3.2895	3.4454	3.5947	3.7393	3.8804	4.0186	4.1545
	C/(M/SEC)	1542.7926	1319.0277	1040.9173	260.2343	280.2254	296.9767	311.7172	325.0811	337.4412	349.0350	360.0227	370.5172
	KAPPA/(1/MPA)	.0017	.0021	.0035	1.2020	1.1290	1.0894	1.0651	1.0490	1.0377	1.0295	1.0233	1.0186
	BETA/(1000/K)	2.5	2.6	3.1	6.6	5.1	4.3	3.7	3.3	3.0	2.8	2.6	2.4
2.0000	V/(M3/KG)	.00185	.00193	.00206	.00225	.02900	.03457	.03941	.04386	.04808	.05215	.05609	.05996
	H/(KJ/KG)	93.4	131.5	199.2	271.0	664.8	720.7	774.5	828.2	883.1	939.7	998.2	1058.8
	S/(KJ/KG K)	.5388	.7369	1.0554	1.3581	2.8439	3.0388	3.2108	3.3702	3.5217	3.6676	3.8094	3.9481
	C/(M/SEC)	1514.4333	1323.3294	1055.5696	823.2902	251.6131	277.2514	297.1082	313.8527	328.6232	342.0225	354.4107	366.0203
	KAPPA/(1/MPA)	.0016	.0021	.0034	.0062	.7047	.6172	.5777	.5552	.5409	.5312	.5241	.5189
	BETA/(1000/K)	2.5	2.6	3.0	3.9	8.5	5.9	4.7	3.9	3.4	3.1	2.8	2.6
3.0000	V/(M3/KG)	.00185	.00192	.00206	.00223	.00252	.02000	.02410	.02757	.03072	.03367	.03649	.03922
	H/(KJ/KG)	94.4	132.5	199.9	271.1	349.6	690.0	752.3	810.8	868.8	927.5	987.7	1049.7
	S/(KJ/KG K)	.5342	.7319	1.0493	1.3494	1.6482	2.8485	3.0479	3.2214	3.3814	3.5331	3.6790	3.8207
	C/(M/SEC)	1559.1582	1339.7446	1069.7880	843.9570	590.5619	252.8621	280.8564	302.0334	319.6672	335.0877	348.9837	361.7613
	KAPPA/(1/MPA)	.0016	.0021	.0032	.0058	.0151	.5080	.4297	.3964	.3779	.3662	.3582	.3525
	BETA/(1000/K)	2.5	2.6	2.9	3.8	6.4	9.3	6.1	4.8	4.0	3.4	3.0	2.7
4.0000	V/(M3/KG)	.00185	.00192	.00205	.00222	.00248	.01165	.01619	.01932	.02199	.02441	.02669	.02885
	H/(KJ/KG)	95.4	133.4	200.6	271.3	348.0	642.4	725.7	791.4	853.4	914.8	976.9	1040.4
	S/(KJ/KG K)	.5297	.7270	1.0433	1.3412	1.6331	2.6378	2.9053	3.1001	3.2713	3.4299	3.5804	3.7254
	C/(M/SEC)	1567.1375	1349.7710	1083.6003	863.6139	631.0335	219.2403	262.8447	289.8377	310.7814	328.3930	343.8620	357.8286
	KAPPA/(1/MPA)	.0016	.0020	.0031	.0055	.0128	.6505	.3769	.3230	.2986	.2845	.2755	.2693
	BETA/(1000/K)	2.4	2.5	2.9	3.6	5.7	23.2	8.7	5.9	4.6	3.8	3.3	2.9

THERMODYNAMIC PROPERTIES OF ETHANE

TEMPERATURES/(K)

P/(MPA)		475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000
.7000	V/(M3/KG)	.18574	.19590	.20603	.21613	.22620	.23626	.24629	.25631	.26632	.27632	.28630	.29628
	H/(KJ/KG)	1132.0	1196.1	1262.8	1331.9	1403.3	1477.1	1553.1	1631.2	1711.4	1793.5	1877.5	1963.3
	S/(KJ/KG K)	4.3907	4.5223	4.6524	4.7809	4.9080	5.0336	5.1577	5.2802	5.4013	5.5207	5.6386	5.7549
	C/(M/SEC)	381.7207	391.2338	400.4790	409.4861	418.2792	426.8781	435.2988	443.5549	451.6576	459.6163	467.4390	475.1322
	KAPPA/(1/MPA)	1.4434	1.4405	1.4382	1.4362	1.4346	1.4333	1.4322	1.4313	1.4305	1.4298	1.4292	1.4287
	BETA/(1000/K)	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4	1.3
.8000	V/(M3/KG)	.16228	.17121	.18010	.18897	.19781	.20663	.21543	.22421	.23299	.24175	.25050	.25924
	H/(KJ/KG)	1131.2	1195.4	1262.1	1331.3	1402.8	1476.6	1552.7	1630.8	1711.0	1793.2	1877.2	1963.0
	S/(KJ/KG K)	4.3526	4.4843	4.6145	4.7432	4.8703	4.9960	5.1201	5.2428	5.3638	5.4834	5.6013	5.7176
	C/(M/SEC)	381.3453	390.9318	400.2390	409.2990	418.1377	426.7761	435.2312	443.5175	451.6469	459.6292	467.4728	475.1848
	KAPPA/(1/MPA)	1.2648	1.2619	1.2596	1.2576	1.2560	1.2547	1.2536	1.2527	1.2519	1.2512	1.2506	1.2501
	BETA/(1000/K)	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4	1.3
.9000	V/(M3/KG)	.14404	.15201	.15994	.16784	.17572	.18358	.19142	.19925	.20706	.21486	.22265	.23044
	H/(KJ/KG)	1130.4	1194.7	1261.5	1330.7	1402.3	1476.1	1552.2	1630.4	1710.7	1792.9	1876.9	1962.7
	S/(KJ/KG K)	4.3187	4.4507	4.5810	4.7098	4.8370	4.9628	5.0870	5.2096	5.3308	5.4503	5.5683	5.6847
	C/(M/SEC)	380.9719	390.6320	400.0014	409.1144	417.9986	426.6764	435.1660	443.4824	451.6383	459.6442	467.5087	475.2394
	KAPPA/(1/MPA)	1.1260	1.1230	1.1207	1.1187	1.1171	1.1158	1.1147	1.1137	1.1129	1.1123	1.1117	1.1112
	BETA/(1000/K)	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.5	1.4	1.4
1.0000	V/(M3/KG)	.12944	.13664	.14381	.15094	.15806	.16515	.17222	.17928	.18632	.19335	.20038	.20739
	H/(KJ/KG)	1129.6	1194.0	1260.9	1330.1	1401.8	1475.7	1551.8	1630.0	1710.3	1792.5	1876.6	1962.4
	S/(KJ/KG K)	4.2884	4.4205	4.5509	4.6798	4.8071	4.9329	5.0572	5.1800	5.3011	5.4207	5.5387	5.6551
	C/(M/SEC)	380.6006	390.3345	399.7661	408.9321	417.8619	426.5791	435.1030	443.4495	451.6319	459.6612	467.5466	475.2959
	KAPPA/(1/MPA)	1.0149	1.0119	1.0095	1.0076	1.0060	1.0047	1.0035	1.0026	1.0018	1.0011	1.0005	1.0000
	BETA/(1000/K)	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.5	1.4	1.4
2.0000	V/(M3/KG)	.06376	.06752	.07123	.07491	.07857	.08220	.08582	.08942	.09301	.09658	.10015	.10370
	H/(KJ/KG)	1121.7	1186.9	1254.5	1324.4	1396.5	1470.9	1547.4	1626.0	1706.6	1789.1	1873.4	1959.5
	S/(KJ/KG K)	4.0841	4.2179	4.3497	4.4797	4.6080	4.7346	4.8595	4.9828	5.1045	5.2245	5.3428	5.4596
	C/(M/SEC)	377.0098	387.4921	397.5503	407.2468	416.6301	425.7382	434.6015	443.2444	451.6873	459.9464	468.0356	475.9662
	KAPPA/(1/MPA)	.5149	.5118	.5093	.5073	.5057	.5044	.5032	.5023	.5015	.5008	.5003	.4998
	BETA/(1000/K)	2.4	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.5	1.4	1.4
3.0000	V/(M3/KG)	.04188	.04449	.04705	.04958	.05209	.05457	.05704	.05948	.06192	.06434	.06676	.06916
	H/(KJ/KG)	1113.7	1179.8	1248.1	1318.6	1391.2	1466.1	1543.0	1622.0	1702.9	1785.7	1870.3	1956.6
	S/(KJ/KG K)	3.9590	4.0947	4.2279	4.3591	4.4883	4.6157	4.7413	4.8652	4.9874	5.1078	5.2265	5.3436
	C/(M/SEC)	373.6813	384.9206	395.6050	405.8268	415.6556	425.1452	434.3377	443.2670	451.9603	460.4396	468.7233	476.8264
	KAPPA/(1/MPA)	.3482	.3449	.3424	.3403	.3387	.3374	.3362	.3353	.3345	.3339	.3333	.3329
	BETA/(1000/K)	2.5	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4
4.0000	V/(M3/KG)	.03095	.03298	.03498	.03693	.03886	.04077	.04266	.04453	.04639	.04824	.05007	.05190
	H/(KJ/KG)	1105.5	1172.5	1241.6	1312.8	1386.0	1461.3	1538.7	1618.0	1699.3	1782.4	1867.2	1953.8
	S/(KJ/KG K)	3.8663	4.0038	4.1386	4.2710	4.4012	4.5294	4.6557	4.7802	4.9028	5.0237	5.1428	5.2602
	C/(M/SEC)	370.6793	382.6665	393.9638	404.6958	414.9549	424.8110	434.3188	443.5210	452.4522	461.1402	469.6077	477.8733
	KAPPA/(1/MPA)	.2647	.2613	.2587	.2567	.2550	.2537	.2526	.2517	.2509	.2503	.2497	.2493
	BETA/(1000/K)	2.7	2.4	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.5	1.4

THERMODYNAMIC PROPERTIES OF ETHANE

TEMPERATURES/(K)

P/(MPA)		775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.30625	.31622	.32617	.33613	.34607	.35602	.36596	.37589
	H/(KJ/KG)	2050.8	2139.9	2230.6	2322.8	2416.5	2511.8	2608.5	2706.7
	S/(KJ/KG K)	5.8697	5.9828	6.0945	6.2046	6.3132	6.4205	6.5265	6.6313
	C/(M/SEC)	482.7015	490.1513	497.4852	504.7058	511.8152	518.8146	525.7046	532.4856
	KAPPA/(1/MPA)	1.4283	1.4279	1.4275	1.4273	1.4270	1.4268	1.4266	1.4264
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.8000	V/(M3/KG)	.26798	.27671	.28543	.29415	.30286	.31157	.32028	.32898
	H/(KJ/KG)	2050.5	2139.7	2230.4	2322.6	2416.3	2511.6	2608.3	2706.6
	S/(KJ/KG K)	5.8324	5.9456	6.0572	6.1674	6.2760	6.3833	6.4894	6.5942
	C/(M/SEC)	482.7709	490.2358	497.5832	504.8160	511.9364	518.9458	525.8449	532.6340
	KAPPA/(1/MPA)	1.2497	1.2493	1.2490	1.2487	1.2484	1.2482	1.2480	1.2478
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.9000	V/(M3/KG)	.23821	.24598	.25374	.26150	.26925	.27700	.28475	.29249
	H/(KJ/KG)	2050.3	2139.4	2230.1	2322.4	2416.1	2511.4	2608.1	2706.4
	S/(KJ/KG K)	5.7995	5.9127	6.0243	6.1345	6.2432	6.3505	6.4565	6.5614
	C/(M/SEC)	482.8422	490.3220	497.6829	504.9279	512.0593	519.0786	525.9867	532.7839
	KAPPA/(1/MPA)	1.1107	1.1104	1.1100	1.1098	1.1095	1.1093	1.1091	1.1089
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
1.0000	V/(M3/KG)	.21440	.22140	.22839	.23538	.24237	.24935	.25632	.26330
	H/(KJ/KG)	2050.0	2139.2	2229.9	2322.2	2415.9	2511.2	2608.0	2706.3
	S/(KJ/KG K)	5.7700	5.8832	5.9949	6.1051	6.2138	6.3211	6.4272	6.5320
	C/(M/SEC)	482.9153	490.4100	497.7843	505.0414	512.1837	519.2128	526.1299	532.9352
	KAPPA/(1/MPA)	.9996	.9992	.9989	.9986	.9984	.9982	.9980	.9978
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
2.0000	V/(M3/KG)	.10725	.11080	.11433	.11787	.12139	.12491	.12843	.13195
	H/(KJ/KG)	2047.3	2136.7	2227.6	2320.0	2414.0	2509.4	2606.3	2704.7
	S/(KJ/KG K)	5.5747	5.6882	5.8001	5.9105	6.0194	6.1269	6.2331	6.3381
	C/(M/SEC)	483.7475	491.3873	498.8918	506.2660	513.5138	520.6382	527.6413	534.5245
	KAPPA/(1/MPA)	.4994	.4990	.4987	.4984	.4982	.4980	.4978	.4976
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
3.0000	V/(M3/KG)	.07156	.07395	.07633	.07871	.08108	.08345	.08582	.08818
	H/(KJ/KG)	2044.6	2134.2	2225.3	2317.9	2412.0	2507.6	2604.6	2703.2
	S/(KJ/KG K)	5.4590	5.5727	5.6849	5.7955	5.9046	6.0122	6.1186	6.2237
	C/(M/SEC)	484.7612	492.5381	500.1652	507.6495	514.9962	522.2096	529.2929	536.2484
	KAPPA/(1/MPA)	.3325	.3321	.3318	.3315	.3313	.3311	.3310	.3308
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
4.0000	V/(M3/KG)	.05372	.05553	.05734	.05914	.06094	.06273	.06452	.06631
	H/(KJ/KG)	2042.0	2131.8	2223.1	2315.9	2410.1	2505.8	2603.0	2701.7
	S/(KJ/KG K)	5.3759	5.4899	5.6023	5.7131	5.8223	5.9302	6.0367	6.1419
	C/(M/SEC)	485.9524	493.8578	501.5997	509.1867	516.6254	523.9215	531.0789	538.1010
	KAPPA/(1/MPA)	.2489	.2486	.2483	.2480	.2478	.2476	.2475	.2473
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1

THERMODYNAMIC PROPERTIES OF ETHANE

TEMPERATURES/(K)

P/(MPA)		185.000	200.000	225.000	250.000	275.000	300.000	325.000	350.000	375.000	400.000	425.000	450.000
5.0000	V/(M3/KG)	.00185	.00191	.00205	.00221	.00245	.00305	.01112	.01428	.01672	.01885	.02081	.02264
	H/(KJ/KG)	96.4	134.3	201.3	271.6	346.8	448.5	691.6	769.6	836.9	901.5	965.8	1030.8
	S/(KJ/KG K)	.5252	.7222	1.0374	1.3334	1.6198	1.9724	2.7587	2.9902	3.1762	3.3431	3.4989	3.6476
	C/(M/SEC)	1574.9816	1359.6397	1097.0351	882.3852	660.8156	361.9165	243.9287	277.8590	302.3355	322.1752	339.2029	354.3287
	KAPPA/(1/MPA)	.0016	.0020	.0030	.0052	.0112	.0739	.3836	.2852	.2526	.2360	.2259	.2192
	BETA/(1000/K)	2.4	2.5	2.8	3.5	5.2	18.3	14.1	7.5	5.4	4.3	3.6	3.2
6.0000	V/(M3/KG)	.00184	.00191	.00204	.00220	.00243	.00289	.00736	.01086	.01320	.01515	.01689	.01851
	H/(KJ/KG)	97.5	135.3	202.1	271.9	345.9	438.9	642.7	744.7	819.2	887.7	954.4	1021.2
	S/(KJ/KG K)	.5208	.7174	1.0317	1.3259	1.6077	1.9305	2.5801	2.8836	3.0895	3.2662	3.4280	3.5806
	C/(M/SEC)	1582.7077	1369.3146	1110.1186	900.3787	688.0683	423.8170	231.3046	267.5224	294.9407	316.7618	335.2011	351.3851
	KAPPA/(1/MPA)	.0015	.0019	.0029	.0049	.0099	.0399	.4477	.2651	.2228	.2037	.1927	.1856
	BETA/(1000/K)	2.4	2.5	2.8	3.4	4.8	11.4	27.8	9.8	6.4	4.8	4.0	3.4
7.0000	V/(M3/KG)	.00184	.00191	.00203	.00219	.00240	.00279	.00484	.00839	.01068	.01251	.01411	.01557
	H/(KJ/KG)	98.5	136.3	202.8	272.3	345.2	433.3	582.2	716.6	800.4	873.3	942.7	1011.4
	S/(KJ/KG K)	.5164	.7127	1.0262	1.3186	1.5966	1.9025	2.3757	2.7761	3.0077	3.1958	3.3642	3.5212
	C/(M/SEC)	1590.3145	1378.8150	1122.8722	917.6592	713.3110	470.6208	250.8337	261.7395	289.5136	312.5719	332.0839	349.1328
	KAPPA/(1/MPA)	.0015	.0019	.0028	.0046	.0090	.0279	.3351	.2492	.2009	.1800	.1685	.1613
	BETA/(1000/K)	2.4	2.4	2.7	3.2	4.4	8.7	36.4	12.9	7.5	5.4	4.3	3.6
8.0000	V/(M3/KG)	.00184	.00190	.00203	.00218	.00238	.00273	.00383	.00662	.00882	.01055	.01204	.01338
	H/(KJ/KG)	99.5	137.3	203.7	272.7	344.8	429.5	544.0	686.9	780.9	858.6	930.9	1001.5
	S/(KJ/KG K)	.5121	.7080	1.0207	1.3117	1.5863	1.8807	2.2450	2.6699	2.9296	3.1303	3.3058	3.4672
	C/(M/SEC)	1597.8131	1388.1482	1135.3170	934.3058	736.9129	509.6720	298.3513	264.4353	287.2061	310.0850	330.0946	347.7098
	KAPPA/(1/MPA)	.0015	.0019	.0028	.0044	.0082	.0216	.1541	.2208	.1816	.1611	.1497	.1426
	BETA/(1000/K)	2.3	2.4	2.7	3.1	4.2	7.2	24.2	15.5	8.6	6.0	4.7	3.9
9.0000	V/(M3/KG)	.00183	.00190	.00202	.00217	.00236	.00267	.00343	.00543	.00743	.00906	.01045	.01170
	H/(KJ/KG)	100.6	138.2	204.5	273.2	344.5	426.8	524.7	659.3	761.2	843.8	919.1	991.7
	S/(KJ/KG K)	.5078	.7035	1.0154	1.3049	1.5767	1.8625	2.1746	2.5738	2.8555	3.0689	3.2515	3.4176
	C/(M/SEC)	1605.1814	1397.3112	1147.4716	950.3771	759.1217	543.7749	348.9166	276.9146	289.0404	309.7594	329.4644	347.2451
	KAPPA/(1/MPA)	.0015	.0018	.0027	.0042	.0075	.0177	.0810	.1764	.1614	.1447	.1342	.1275
	BETA/(1000/K)	2.3	2.4	2.6	3.1	4.0	6.3	15.7	16.3	9.6	6.6	5.0	4.1
10.0000	V/(M3/KG)	.00183	.00190	.00202	.00216	.00235	.00263	.00321	.00465	.00639	.00790	.00920	.01036
	H/(KJ/KG)	101.6	139.2	205.3	273.7	344.4	424.7	513.6	636.4	742.4	829.2	907.4	981.9
	S/(KJ/KG K)	.5036	.6990	1.0101	1.2984	1.5676	1.8467	2.1302	2.4942	2.7869	3.0113	3.2009	3.3715
	C/(M/SEC)	1612.4568	1406.3282	1159.3487	965.9326	780.1572	574.3623	394.0602	296.6747	295.3537	311.9092	330.3746	347.8431
	KAPPA/(1/MPA)	.0014	.0018	.0026	.0040	.0070	.0151	.0515	.1323	.1397	.1293	.1208	.1148
	BETA/(1000/K)	2.3	2.4	2.6	3.0	3.8	5.6	11.5	15.3	10.2	7.0	5.3	4.3

THERMODYNAMIC PROPERTIES OF ETHANE

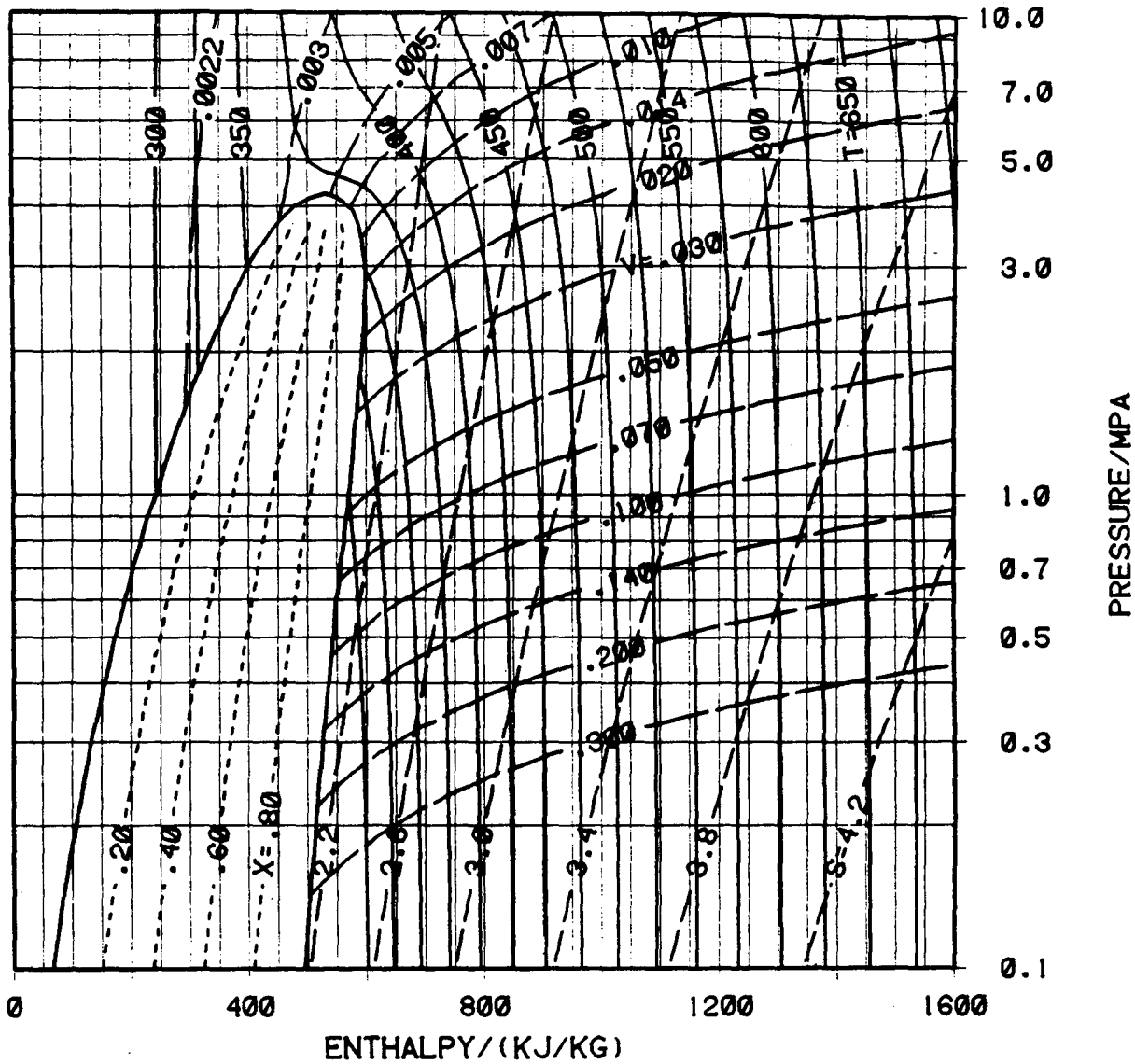
TEMPERATURES/(K)

P/(MPA)		475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000
5.0000	V/(M3/KG)	.02440	.02609	.02774	.02936	.03094	.03250	.03405	.03557	.03708	.03858	.04008	.04156
	H/(KJ/KG)	1097.2	1165.2	1235.1	1306.9	1380.8	1456.6	1534.4	1614.1	1695.7	1779.1	1864.2	1951.0
	S/(KJ/KG K)	3.7911	3.9307	4.0670	4.2007	4.3319	4.4610	4.5880	4.7130	4.8362	4.9575	5.0770	5.1947
	C/(M/SEC)	368.0776	380.7812	392.6625	403.8788	414.5448	424.7469	434.5512	444.0099	453.1642	462.0473	470.6865	479.1037
	KAPPA/(1/MPA)	.2145	.2110	.2083	.2063	.2046	.2033	.2022	.2013	.2006	.2000	.1995	.1990
	BETA/(1000/K)	2.8	2.6	2.4	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.5	1.4
6.0000	V/(M3/KG)	.02004	.02151	.02293	.02432	.02567	.02700	.02831	.02961	.03089	.03216	.03342	.03467
	H/(KJ/KG)	1088.8	1157.9	1228.6	1301.1	1375.5	1451.9	1530.1	1610.2	1692.1	1775.8	1861.2	1948.3
	S/(KJ/KG K)	3.7270	3.8687	4.0067	4.1416	4.2739	4.4038	4.5315	4.6572	4.7808	4.9026	5.0225	5.1405
	C/(M/SEC)	365.9572	379.3191	391.7380	403.4005	414.4418	424.9630	435.0411	444.7364	454.0966	463.1599	471.9573	480.5141
	KAPPA/(1/MPA)	.1807	.1772	.1745	.1725	.1709	.1696	.1685	.1677	.1670	.1664	.1659	.1654
	BETA/(1000/K)	3.0	2.7	2.4	2.3	2.1	2.0	1.8	1.7	1.7	1.6	1.5	1.4
7.0000	V/(M3/KG)	.01694	.01825	.01951	.02073	.02192	.02308	.02423	.02536	.02647	.02758	.02867	.02976
	H/(KJ/KG)	1080.4	1150.6	1222.1	1295.4	1370.4	1447.2	1525.9	1606.3	1688.6	1772.6	1858.3	1945.6
	S/(KJ/KG K)	3.6705	3.8144	3.9541	4.0903	4.2237	4.3544	4.4829	4.6091	4.7333	4.8555	4.9758	5.0941
	C/(M/SEC)	364.4028	378.3350	391.2262	403.2845	414.6611	425.4688	435.7937	445.7029	455.2495	464.4761	473.4173	482.1010
	KAPPA/(1/MPA)	.1564	.1528	.1502	.1482	.1466	.1454	.1443	.1435	.1428	.1423	.1418	.1414
	BETA/(1000/K)	3.2	2.8	2.5	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.5
8.0000	V/(M3/KG)	.01463	.01582	.01695	.01804	.01911	.02015	.02117	.02218	.02317	.02415	.02512	.02608
	H/(KJ/KG)	1072.0	1143.2	1215.7	1289.6	1365.2	1442.6	1521.7	1602.6	1685.2	1769.5	1855.4	1942.9
	S/(KJ/KG K)	3.6197	3.7658	3.9072	4.0448	4.1792	4.3108	4.4400	4.5668	4.6915	4.8142	4.9348	5.0535
	C/(M/SEC)	363.4982	377.8817	391.1609	403.5525	415.2162	426.2722	436.8129	446.9105	456.6222	465.9941	475.0632	483.8603
	KAPPA/(1/MPA)	.1377	.1343	.1317	.1298	.1283	.1271	.1261	.1253	.1247	.1241	.1237	.1233
	BETA/(1000/K)	3.3	2.9	2.6	2.4	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.5
9.0000	V/(M3/KG)	.01285	.01393	.01497	.01597	.01694	.01788	.01880	.01971	.02060	.02149	.02236	.02322
	H/(KJ/KG)	1063.6	1136.0	1209.3	1284.0	1360.2	1438.0	1517.6	1598.8	1681.8	1766.4	1852.6	1940.4
	S/(KJ/KG K)	3.5732	3.7216	3.8647	4.0036	4.1391	4.2716	4.4015	4.5290	4.6542	4.7772	4.8982	5.0173
	C/(M/SEC)	363.3198	378.0062	391.5716	404.2227	416.1180	427.3793	438.1016	448.3596	458.2133	467.7109	476.8917	485.7879
	KAPPA/(1/MPA)	.1229	.1196	.1172	.1153	.1139	.1127	.1118	.1111	.1105	.1100	.1095	.1092
	BETA/(1000/K)	3.5	3.0	2.7	2.5	2.3	2.1	1.9	1.8	1.7	1.6	1.6	1.5
10.0000	V/(M3/KG)	.01143	.01244	.01340	.01431	.01520	.01607	.01691	.01774	.01856	.01936	.02016	.02094
	H/(KJ/KG)	1055.3	1128.8	1203.0	1278.4	1355.2	1433.6	1513.5	1595.2	1678.4	1763.3	1849.8	1937.8
	S/(KJ/KG K)	3.5302	3.6809	3.8257	3.9660	4.1026	4.2359	4.3665	4.4946	4.6203	4.7438	4.8651	4.9845
	C/(M/SEC)	363.9301	378.7468	392.4817	405.3094	417.3747	428.7940	439.6605	450.0491	460.0203	469.6234	478.8987	487.8794
	KAPPA/(1/MPA)	.1106	.1076	.1053	.1036	.1022	.1012	.1003	.0996	.0990	.0986	.0982	.0978
	BETA/(1000/K)	3.6	3.1	2.8	2.5	2.3	2.1	2.0	1.9	1.7	1.7	1.6	1.5

THERMODYNAMIC PROPERTIES OF ETHANE

TEMPERATURES/(K)

P/(MPA)		775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.04303	.04450	.04596	.04741	.04886	.05031	.05175	.05319
	H/(KJ/KG)	2039.4	2129.4	2220.9	2313.9	2408.3	2504.1	2601.4	2700.2
	S/(KJ/KG K)	5.3107	5.4249	5.5375	5.6485	5.7580	5.8660	5.9726	6.0780
	C/(M/SEC)	487.3172	495.3419	503.1903	510.8722	518.3959	525.7680	532.9936	540.0768
	KAPPA/(1/MPA)	.1987	.1983	.1981	.1978	.1976	.1975	.1973	.1972
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1
6.0000	V/(M3/KG)	.03591	.03715	.03838	.03960	.04082	.04204	.04325	.04445
	H/(KJ/KG)	2036.9	2127.1	2218.8	2311.9	2406.5	2502.4	2599.9	2698.8
	S/(KJ/KG K)	5.2568	5.3713	5.4841	5.5953	5.7049	5.8131	5.9199	6.0254
	C/(M/SEC)	488.8513	496.9858	504.9318	512.7009	520.3023	527.7439	535.0315	542.1701
	KAPPA/(1/MPA)	.1651	.1648	.1645	.1643	.1641	.1640	.1638	.1637
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
7.0000	V/(M3/KG)	.03083	.03190	.03297	.03403	.03508	.03613	.03718	.03822
	H/(KJ/KG)	2034.5	2124.8	2216.7	2310.0	2404.7	2500.8	2598.4	2697.5
	S/(KJ/KG K)	5.2107	5.3255	5.4385	5.5499	5.6597	5.7681	5.8750	5.9807
	C/(M/SEC)	490.5504	498.7847	506.8193	514.6673	522.3392	529.8435	537.1871	544.3755
	KAPPA/(1/MPA)	.1411	.1408	.1405	.1403	.1401	.1400	.1399	.1398
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
8.0000	V/(M3/KG)	.02703	.02798	.02892	.02985	.03078	.03171	.03263	.03355
	H/(KJ/KG)	2032.0	2122.6	2214.6	2308.1	2403.0	2499.3	2597.0	2696.2
	S/(KJ/KG K)	5.1703	5.2854	5.3986	5.5102	5.6202	5.7287	5.8358	5.9416
	C/(M/SEC)	492.4102	500.7337	508.8478	516.7665	524.5013	532.0616	539.4551	546.6878
	KAPPA/(1/MPA)	.1230	.1227	.1225	.1223	.1221	.1220	.1219	.1218
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
9.0000	V/(M3/KG)	.02408	.02493	.02577	.02661	.02744	.02827	.02910	.02992
	H/(KJ/KG)	2029.7	2120.4	2212.7	2306.3	2401.3	2497.7	2595.6	2694.9
	S/(KJ/KG K)	5.1344	5.2497	5.3632	5.4750	5.5851	5.6938	5.8010	5.9069
	C/(M/SEC)	494.4261	502.8281	511.0121	518.9930	526.7833	534.3929	541.8302	549.1017
	KAPPA/(1/MPA)	.1089	.1086	.1084	.1082	.1081	.1080	.1079	.1078
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
10.0000	V/(M3/KG)	.02172	.02249	.02326	.02402	.02477	.02553	.02627	.02702
	H/(KJ/KG)	2027.3	2118.3	2210.7	2304.5	2399.7	2496.2	2594.2	2693.6
	S/(KJ/KG K)	5.1019	5.2174	5.3311	5.4431	5.5535	5.6623	5.7697	5.8757
	C/(M/SEC)	496.5933	505.0628	513.3072	521.3420	529.1802	536.8324	544.3074	551.6122
	KAPPA/(1/MPA)	.0976	.0973	.0971	.0970	.0968	.0967	.0966	.0965
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1


10.0
7.0
5.0
3.0
1.0
0.7
0.5
0.3
0.1
PRESSURE/MPA
0
400
800
1200
1600
ENTHALPY/(KJ/KG)
300
350
.0022
.003
.005
.007
.010
.020
.030
.050
.070
.100
.140
.200
.300
.20
.40
.60
X=.80
2.2
2.6
3.0
3.4
3.8
S=4.2
T=650

PROPANE

PROPERTIES OF SATURATED PROPANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
235.00000	.12192	.00176	.34739	75.92856	422.59769	498.52624	.34469	1.79829	2.14298
240.00000	.15017	.00178	.28592	87.71345	416.69819	504.41164	.39410	1.73624	2.13034
245.00000	.18319	.00180	.23731	99.69602	410.55469	510.25071	.44327	1.67573	2.11900
250.00000	.22149	.00182	.19849	111.86880	404.16715	516.03595	.49217	1.61667	2.10884
255.00000	.26556	.00184	.16721	124.22338	397.53651	521.75989	.54078	1.55897	2.09975
260.00000	.31593	.00186	.14179	136.75115	390.66377	527.41493	.58907	1.50255	2.09163
265.00000	.37312	.00189	.12096	149.44369	383.54951	532.99320	.63702	1.44736	2.08437
270.00000	.43766	.00191	.10377	162.29319	376.19321	538.48640	.68460	1.39331	2.07790
275.00000	.51009	.00193	.08947	175.29301	368.59245	543.88546	.73179	1.34034	2.07213
280.00000	.59096	.00196	.07750	188.43821	360.74209	549.18030	.77860	1.28836	2.06696
285.00000	.68082	.00199	.06742	201.72342	352.63655	554.35997	.82500	1.23732	2.06232
290.00000	.78024	.00201	.05887	215.15140	344.25920	559.41059	.87101	1.18710	2.05811
295.00000	.88981	.00204	.05157	228.72378	335.59305	564.31683	.91665	1.13760	2.05426
300.00000	1.01012	.00207	.04532	242.44814	326.61176	569.05989	.96195	1.08871	2.05066
305.00000	1.14180	.00211	.03992	256.33758	317.27928	573.61686	1.00696	1.04026	2.04722
310.00000	1.28549	.00214	.03523	270.41224	307.54715	577.95939	1.05174	.99209	2.04382
315.00000	1.44188	.00218	.03114	284.70124	297.35072	582.05196	1.09638	.94397	2.04035
320.00000	1.61170	.00222	.02755	299.24493	286.60437	585.84930	1.14101	.89564	2.03665
325.00000	1.79574	.00227	.02439	314.09857	275.19427	589.29284	1.18578	.84675	2.03253
330.00000	1.99482	.00232	.02158	329.33913	262.96521	592.30434	1.23092	.79686	2.02779
335.00000	2.20987	.00238	.01906	345.06912	249.70930	594.77841	1.27671	.74540	2.02211
340.00000	2.44191	.00244	.01680	361.43366	235.13172	596.56538	1.32354	.69156	2.01511
345.00000	2.69203	.00252	.01473	378.64094	218.80312	597.44406	1.37197	.63421	2.00618
350.00000	2.96147	.00261	.01283	397.00195	200.06412	597.06607	1.42282	.57161	1.99443
355.00000	3.25161	.00273	.01105	417.02816	177.79527	594.82343	1.47743	.50083	1.97826
360.00000	3.56399	.00289	.00931	439.68250	149.79669	589.47918	1.53834	.41610	1.95444
365.00000	3.90033	.00316	.00748	467.42337	110.18592	577.60929	1.61205	.30188	1.91393
369.82000	4.26259	.00455	.00455	527.81507	0.	527.81507	1.77259	0.	1.77259

THERMODYNAMIC PROPERTIES OF PROPANE

TEMPERATURES/(K)

P/(MPA)		235.000	250.000	275.000	300.000	325.000	350.000	375.000	400.000	425.000	450.000
.1000	V/(M3/KG)	.42721	.45757	.50744	.55662	.60533	.65370	.70182	.74975	.79755	.84524
	H/(KJ/KG)	499.7	521.7	560.4	601.6	645.4	691.9	741.2	793.2	848.0	905.6
	S/(KJ/KG K)	2.1837	2.2748	2.4222	2.5654	2.7056	2.8434	2.9793	3.1136	3.2465	3.3781
	C/(M/SEC)	220.2769	227.5465	238.8466	249.3519	259.2424	268.6416	277.6368	286.2920	294.6550	302.7627
	KAPPA/(1/MPA)	10.3864	10.3121	10.2250	10.1671	10.1271	10.0987	10.0778	10.0622	10.0503	10.0410
	BETA/(1000/K)	4.8	4.4	3.9	3.5	3.2	3.0	2.7	2.6	2.4	2.3
.1013	V/(M3/KG)	.42140	.45140	.50065	.54922	.59731	.64507	.69257	.73989	.78707	.83414
	H/(KJ/KG)	499.6	521.7	560.4	601.6	645.4	691.9	741.1	793.2	848.0	905.6
	S/(KJ/KG K)	2.1810	2.2721	2.4195	2.5628	2.7030	2.8408	2.9767	3.1111	3.2440	3.3756
	C/(M/SEC)	220.1939	227.4766	238.7929	249.3096	259.2085	268.6140	277.6142	286.2732	294.6393	302.7495
	KAPPA/(1/MPA)	10.2562	10.1817	10.0944	10.0364	9.9964	9.9679	9.9471	9.9315	9.9196	9.9103
	BETA/(1000/K)	4.8	4.4	3.9	3.5	3.2	3.0	2.7	2.6	2.4	2.3
.2000	V/(M3/KG)	.00176	.22145	.24790	.27360	.29878	.32360	.34816	.37253	.39676	.42088
	H/(KJ/KG)	76.0	517.1	556.7	598.5	642.8	689.7	739.3	791.6	846.6	904.4
	S/(KJ/KG K)	.3444	2.1310	2.2819	2.4275	2.5693	2.7083	2.8450	2.9800	3.1134	3.2454
	C/(M/SEC)	1168.8581	222.0869	234.6956	246.1086	256.6551	266.5442	275.9151	284.8648	293.4631	301.7619
	KAPPA/(1/MPA)	.0021	5.3408	5.2392	5.1747	5.1314	5.1012	5.0793	5.0632	5.0509	5.0414
	BETA/(1000/K)	2.2	4.9	4.2	3.7	3.3	3.1	2.8	2.6	2.4	2.3
.3000	V/(M3/KG)	.00176	.00182	.16123	.17917	.19654	.21353	.23026	.24678	.26316	.27942
	H/(KJ/KG)	76.1	111.9	552.7	595.3	640.2	687.5	737.4	790.0	845.2	903.1
	S/(KJ/KG K)	.3440	.4918	2.1953	2.3435	2.4871	2.6274	2.7650	2.9006	3.0345	3.1669
	C/(M/SEC)	1169.9052	1043.5525	230.3263	242.7455	253.9987	264.4055	274.1682	283.4222	292.2620	300.7558
	KAPPA/(1/MPA)	.0021	.0027	3.5890	3.5164	3.4693	3.4371	3.4143	3.3975	3.3848	3.3751
	BETA/(1000/K)	2.2	2.3	4.5	3.9	3.5	3.2	2.9	2.7	2.5	2.3
.4000	V/(M3/KG)	.00176	.00182	.11776	.13188	.14538	.15847	.17129	.18389	.19635	.20869
	H/(KJ/KG)	76.2	112.0	548.6	592.1	637.5	685.3	735.5	788.3	843.8	901.9
	S/(KJ/KG K)	.3436	.4914	2.1305	2.2815	2.4270	2.5685	2.7071	2.8435	2.9779	3.1107
	C/(M/SEC)	1170.9500	1044.7689	225.7048	239.2502	251.2682	262.2235	272.3954	281.9640	291.0515	299.7443
	KAPPA/(1/MPA)	.0021	.0026	2.7748	2.6924	2.6409	2.6066	2.5826	2.5651	2.5521	2.5422
	BETA/(1000/K)	2.2	2.3	4.9	4.2	3.7	3.3	3.0	2.7	2.5	2.4
.5000	V/(M3/KG)	.00176	.00182	.09155	.10344	.11465	.12542	.13589	.14615	.15626	.16625
	H/(KJ/KG)	76.3	112.1	544.3	588.7	634.8	683.0	733.6	786.7	842.3	900.6
	S/(KJ/KG K)	.3432	.4910	2.0771	2.2314	2.3789	2.5218	2.6614	2.7984	2.9334	3.0665
	C/(M/SEC)	1171.9925	1045.9821	220.7878	235.6079	248.4580	259.9959	270.5956	280.4897	289.8316	298.7276
	KAPPA/(1/MPA)	.0021	.0026	2.2976	2.2029	2.1463	2.1096	2.0843	2.0662	2.0527	2.0426
	BETA/(1000/K)	2.2	2.3	5.4	4.4	3.8	3.4	3.0	2.8	2.6	2.4
.6000	V/(M3/KG)	.00176	.00182	.00193	.08442	.09412	.10336	.11228	.12098	.12953	.13795
	H/(KJ/KG)	76.3	112.2	175.3	585.2	631.9	680.7	731.6	785.0	840.9	899.3
	S/(KJ/KG K)	.3429	.4906	.7313	2.1885	2.3383	2.4827	2.6233	2.7610	2.8965	3.0301
	C/(M/SEC)	1173.0326	1047.1921	863.8895	231.8009	245.5616	257.7202	268.7681	278.9991	288.6022	297.7056
	KAPPA/(1/MPA)	.0021	.0026	.0040	1.8815	1.8189	1.7794	1.7528	1.7339	1.7201	1.7096
	BETA/(1000/K)	2.2	2.3	2.6	4.7	4.0	3.5	3.1	2.8	2.6	2.4

THERMODYNAMIC PROPERTIES OF PROPANE

TEMPERATURES/(K)

P/(MPA)		475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000
.1000	V/(M3/KG)	.89285	.94038	.98787	1.03532	1.08273	1.13011	1.17747	1.22480	1.27212	1.31942
	H/(KJ/KG)	965.9	1028.8	1094.4	1162.4	1232.8	1305.4	1380.3	1457.2	1536.0	1616.7
	S/(KJ/KG K)	3.5085	3.6376	3.7655	3.8920	4.0171	4.1408	4.2630	4.3837	4.5027	4.6201
	C/(M/SEC)	310.6440	318.3221	325.8161	333.1416	340.3118	347.3380	354.2297	360.9951	367.6414	374.1748
	KAPPA/(1/MPA)	10.0337	10.0278	10.0231	10.0192	10.0159	10.0132	10.0109	10.0090	10.0073	10.0059
	BETA/(1000/K)	2.1	2.0	1.9	1.8	1.8	1.7	1.6	1.5	1.5	1.4
.1013	V/(M3/KG)	.88113	.92805	.97493	1.02176	1.06855	1.11531	1.16205	1.20877	1.25547	1.30216
	H/(KJ/KG)	965.9	1028.8	1094.4	1162.4	1232.7	1305.4	1380.3	1457.2	1536.0	1616.7
	S/(KJ/KG K)	3.5060	3.6351	3.7630	3.8895	4.0146	4.1383	4.2605	4.3812	4.5002	4.6176
	C/(M/SEC)	310.6328	318.3127	325.8081	333.1349	340.3062	347.3333	354.2258	360.9919	367.6389	374.1728
	KAPPA/(1/MPA)	9.9029	9.8971	9.8923	9.8884	9.8851	9.8824	9.8801	9.8782	9.8765	9.8751
	BETA/(1000/K)	2.1	2.0	1.9	1.8	1.8	1.7	1.6	1.5	1.5	1.4
.2000	V/(M3/KG)	.44492	.46888	.49280	.51667	.54050	.56431	.58809	.61185	.63560	.65932
	H/(KJ/KG)	964.8	1027.9	1093.5	1161.6	1232.0	1304.8	1379.7	1456.6	1535.5	1616.2
	S/(KJ/KG K)	3.3761	3.5054	3.6335	3.7601	3.8854	4.0092	4.1315	4.2522	4.3713	4.4888
	C/(M/SEC)	309.8006	317.6101	325.2148	332.6346	339.8858	346.9821	353.9349	360.7541	367.4478	374.0232
	KAPPA/(1/MPA)	5.0339	5.0280	5.0231	5.0192	5.0159	5.0132	5.0109	5.0089	5.0073	5.0058
	BETA/(1000/K)	2.2	2.0	1.9	1.8	1.8	1.7	1.6	1.6	1.5	1.4
.3000	V/(M3/KG)	.29560	.31171	.32777	.34378	.35976	.37571	.39163	.40754	.42342	.43929
	H/(KJ/KG)	963.7	1026.9	1092.6	1160.8	1231.3	1304.1	1379.0	1456.0	1535.0	1615.8
	S/(KJ/KG K)	3.2979	3.4275	3.5557	3.6826	3.8080	3.9319	4.0543	4.1751	4.2942	4.4117
	C/(M/SEC)	308.9545	316.8969	324.6135	332.1283	339.4611	346.6278	353.6421	360.5150	367.2562	373.8737
	KAPPA/(1/MPA)	3.3675	3.3614	3.3566	3.3526	3.3493	3.3465	3.3442	3.3423	3.3406	3.3391
	BETA/(1000/K)	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4
.4000	V/(M3/KG)	.22094	.23313	.24526	.25734	.26939	.28141	.29341	.30538	.31734	.32928
	H/(KJ/KG)	962.6	1025.9	1091.7	1159.9	1230.5	1303.4	1378.4	1455.5	1534.5	1615.3
	S/(KJ/KG K)	3.2419	3.3718	3.5002	3.6272	3.7527	3.8767	3.9992	4.1201	4.2393	4.3569
	C/(M/SEC)	308.1056	316.1828	324.0123	331.6230	339.0377	346.2753	353.3511	360.2780	367.0667	373.7263
	KAPPA/(1/MPA)	2.5344	2.5282	2.5233	2.5193	2.5159	2.5132	2.5109	2.5089	2.5072	2.5058
	BETA/(1000/K)	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4
.5000	V/(M3/KG)	.17615	.18597	.19575	.20548	.21517	.22483	.23447	.24409	.25369	.26327
	H/(KJ/KG)	961.5	1024.9	1090.8	1159.1	1229.8	1302.7	1377.8	1454.9	1533.9	1614.8
	S/(KJ/KG K)	3.1981	3.3282	3.4568	3.5840	3.7097	3.8338	3.9563	4.0773	4.1966	4.3142
	C/(M/SEC)	307.2541	315.4677	323.4113	331.1186	338.6158	345.9246	353.0621	360.0431	366.8793	373.5811
	KAPPA/(1/MPA)	2.0346	2.0284	2.0234	2.0193	2.0160	2.0132	2.0108	2.0089	2.0072	2.0058
	BETA/(1000/K)	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.5
.6000	V/(M3/KG)	.14628	.15454	.16274	.17090	.17902	.18711	.19518	.20323	.21125	.21927
	H/(KJ/KG)	960.3	1023.9	1089.9	1158.3	1229.1	1302.1	1377.2	1454.3	1533.4	1614.3
	S/(KJ/KG K)	3.1620	3.2924	3.4212	3.5485	3.6743	3.7985	3.9212	4.0422	4.1616	4.2792
	C/(M/SEC)	306.4000	314.7517	322.8107	330.6152	338.1955	345.5756	352.7752	359.8103	366.6942	373.4381
	KAPPA/(1/MPA)	1.7016	1.6952	1.6901	1.6860	1.6826	1.6798	1.6775	1.6755	1.6738	1.6724
	BETA/(1000/K)	2.3	2.1	2.0	1.9	1.8	1.7	1.7	1.6	1.5	1.5

THERMODYNAMIC PROPERTIES OF PROPANE

TEMPERATURES/(K)

P/(MPA)		725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	1.36671	1.41400	1.46126	1.50852	1.55578	1.60302	1.65026	1.69750	1.74473	1.79195
	H/(KJ/KG)	1699.2	1783.2	1868.9	1956.0	2044.6	2134.5	2225.8	2318.5	2412.6	2508.1
	S/(KJ/KG K)	4.7358	4.8498	4.9621	5.0727	5.1817	5.2891	5.3950	5.4995	5.6026	5.7045
	C/(M/SEC)	380.6005	386.9232	393.1467	399.2742	405.3085	411.2516	417.1052	422.8705	428.5483	434.1391
	KAPPA/(1/MPA)	10.0046	10.0036	10.0026	10.0018	10.0011	10.0005	9.9999	9.9994	9.9990	9.9986
	BETA/(1000/K)	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.1013	V/(M3/KG)	1.34883	1.39550	1.44215	1.48879	1.53543	1.58206	1.62868	1.67530	1.72191	1.76852
	H/(KJ/KG)	1699.2	1783.2	1868.9	1956.0	2044.6	2134.5	2225.8	2318.5	2412.6	2508.1
	S/(KJ/KG K)	4.7333	4.8473	4.9596	5.0703	5.1793	5.2867	5.3925	5.4970	5.6001	5.7020
	C/(M/SEC)	380.5990	386.9221	393.1460	399.2739	405.3085	411.2519	417.1058	422.8714	428.5494	434.1403
	KAPPA/(1/MPA)	9.8739	9.8728	9.8719	9.8711	9.8703	9.8697	9.8692	9.8686	9.8682	9.8678
	BETA/(1000/K)	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.2000	V/(M3/KG)	.68304	.70674	.73044	.75412	.77780	.80147	.82514	.84880	.87245	.89610
	H/(KJ/KG)	1698.7	1782.8	1868.5	1955.6	2044.2	2134.2	2225.5	2318.2	2412.3	2507.9
	S/(KJ/KG K)	4.6045	4.7186	4.8309	4.9416	5.0506	5.1580	5.2639	5.3684	5.4715	5.5735
	C/(M/SEC)	380.4864	386.8426	393.0963	399.2511	405.3100	411.2754	417.1494	422.9333	428.6280	434.2343
	KAPPA/(1/MPA)	5.0046	5.0035	5.0026	5.0018	5.0011	5.0004	4.9999	4.9994	4.9989	4.9986
	BETA/(1000/K)	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.3000	V/(M3/KG)	.45515	.47100	.48683	.50266	.51848	.53429	.55010	.56590	.58170	.59749
	H/(KJ/KG)	1698.3	1782.4	1868.1	1955.3	2043.9	2133.9	2225.2	2317.9	2412.1	2507.6
	S/(KJ/KG K)	4.5275	4.6416	4.7540	4.8647	4.9737	5.0812	5.1871	5.2916	5.3948	5.4967
	C/(M/SEC)	380.3744	386.7642	393.0480	399.2299	405.3134	411.3012	417.1954	422.9978	428.7094	434.3311
	KAPPA/(1/MPA)	3.3379	3.3368	3.3359	3.3351	3.3344	3.3337	3.3332	3.3327	3.3323	3.3319
	BETA/(1000/K)	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.4000	V/(M3/KG)	.34121	.35312	.36503	.37693	.38882	.40070	.41258	.42445	.43632	.44818
	H/(KJ/KG)	1697.8	1782.0	1867.7	1954.9	2043.5	2133.5	2224.9	2317.7	2411.8	2507.4
	S/(KJ/KG K)	4.4727	4.5868	4.6993	4.8100	4.9191	5.0266	5.1325	5.2370	5.3402	5.4422
	C/(M/SEC)	380.2645	386.6878	393.0017	399.2108	405.3188	411.3288	417.2432	423.0640	428.7925	434.4295
	KAPPA/(1/MPA)	2.5046	2.5035	2.5026	2.5017	2.5010	2.5004	2.4998	2.4993	2.4989	2.4985
	BETA/(1000/K)	1.4	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.5000	V/(M3/KG)	.27284	.28240	.29195	.30149	.31102	.32055	.33007	.33958	.34909	.35860
	H/(KJ/KG)	1697.3	1781.6	1867.3	1954.5	2043.2	2133.2	2224.6	2317.4	2411.5	2507.1
	S/(KJ/KG K)	4.4301	4.5443	4.6567	4.7675	4.8766	4.9841	5.0901	5.1946	5.2978	5.3998
	C/(M/SEC)	380.1567	386.6135	392.9575	399.1936	405.3261	411.3583	417.2929	423.1320	428.8772	434.5296
	KAPPA/(1/MPA)	2.0045	2.0034	2.0025	2.0017	2.0010	2.0004	1.9998	1.9993	1.9989	1.9985
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.6000	V/(M3/KG)	.22727	.23525	.24323	.25120	.25916	.26712	.27506	.28301	.29094	.29888
	H/(KJ/KG)	1696.9	1781.1	1866.9	1954.2	2042.8	2132.9	2224.3	2317.1	2411.3	2506.9
	S/(KJ/KG K)	4.3952	4.5094	4.6219	4.7327	4.8418	4.9494	5.0554	5.1599	5.2631	5.3651
	C/(M/SEC)	380.0512	386.5414	392.9154	399.1785	405.3354	411.3897	417.3444	423.2018	428.9636	434.6312
	KAPPA/(1/MPA)	1.6712	1.6701	1.6692	1.6683	1.6676	1.6670	1.6664	1.6660	1.6655	1.6651
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1

THERMODYNAMIC PROPERTIES OF PROPANE

TEMPERATURES/(K)

P/(MPA)		235.000	250.000	275.000	300.000	325.000	350.000	375.000	400.000	425.000	450.000
.7000	V/(M3/KG)	.00176	.00182	.00193	.07077	.07943	.08759	.09541	.10300	.11043	.11773
	H/(KJ/KG)	76.4	112.2	175.4	581.5	629.1	678.3	729.6	783.3	839.4	898.0
	S/(KJ/KG K)	.3425	.4902	.7308	2.1506	2.3028	2.4487	2.5904	2.7289	2.8650	2.9990
	C/(M/SEC)	1174.0704	1048.3989	865.4654	227.8077	242.5719	255.3937	266.9116	277.4917	287.3631	296.6783
	KAPPA/(1/MPA)	.0021	.0026	.0040	1.6569	1.5872	1.5447	1.5165	1.4969	1.4826	1.4719
	BETA/(1000/K)	2.2	2.3	2.6	5.1	4.2	3.6	3.2	2.9	2.7	2.5
.8000	V/(M3/KG)	.00176	.00182	.00193	.06048	.06839	.07574	.08274	.08951	.09610	.10257
	H/(KJ/KG)	76.5	112.3	175.4	577.7	626.1	675.9	727.6	781.6	837.9	896.8
	S/(KJ/KG K)	.3421	.4898	.7303	2.1161	2.2710	2.4186	2.5613	2.7006	2.8373	2.9717
	C/(M/SEC)	1175.1059	1049.6026	867.0354	223.6022	239.4805	253.0135	265.0252	275.9673	286.1144	295.6458
	KAPPA/(1/MPA)	.0021	.0026	.0040	1.4940	1.4157	1.3697	1.3399	1.3195	1.3047	1.2938
	BETA/(1000/K)	2.2	2.3	2.6	5.5	4.4	3.8	3.3	3.0	2.7	2.5
.9000	V/(M3/KG)	.00176	.00182	.00193	.05242	.05977	.06651	.07288	.07901	.08495	.09077
	H/(KJ/KG)	76.6	112.4	175.5	573.7	623.0	673.4	725.6	779.9	836.5	895.5
	S/(KJ/KG K)	.3417	.4894	.7298	2.0840	2.2419	2.3913	2.5352	2.6753	2.8125	2.9474
	C/(M/SEC)	1176.1391	1050.8031	868.5998	219.1513	236.2779	250.5764	263.1077	274.4254	284.8560	294.6082
	KAPPA/(1/MPA)	.0021	.0026	.0040	1.3735	1.2846	1.2346	1.2031	1.1818	1.1665	1.1553
	BETA/(1000/K)	2.2	2.3	2.6	5.9	4.7	3.9	3.4	3.1	2.8	2.5
1.0000	V/(M3/KG)	.00176	.00182	.00193	.04591	.05284	.05911	.06499	.07060	.07603	.08133
	H/(KJ/KG)	76.7	112.5	175.6	569.5	619.8	670.9	723.5	778.1	835.0	894.2
	S/(KJ/KG K)	.3414	.4889	.7293	2.0537	2.2149	2.3662	2.5113	2.6523	2.7901	2.9254
	C/(M/SEC)	1177.1699	1052.0005	870.1585	214.6128	232.9531	248.0787	261.1578	272.8657	283.5879	293.5656
	KAPPA/(1/MPA)	.0021	.0026	.0039	1.2843	1.1821	1.1276	1.0942	1.0719	1.0561	1.0446
	BETA/(1000/K)	2.1	2.3	2.6	6.5	5.0	4.1	3.5	3.1	2.8	2.6
2.0000	V/(M3/KG)	.00175	.00181	.00192	.00206	.00226	.02528	.02918	.03262	.03580	.03881
	H/(KJ/KG)	77.6	113.3	176.1	242.5	313.9	641.7	700.6	759.4	819.2	880.6
	S/(KJ/KG K)	.3376	.4849	.7244	.9554	1.1836	2.1727	2.3354	2.4871	2.6321	2.7725
	C/(M/SEC)	1187.3545	1063.8055	885.4141	719.5929	540.8659	218.6233	239.5595	256.2057	270.3641	282.8816
	KAPPA/(1/MPA)	.0020	.0025	.0038	.0062	.0130	.6961	.6240	.5868	.5642	.5491
	BETA/(1000/K)	2.1	2.2	2.5	3.1	4.6	6.7	5.0	4.0	3.4	3.0
3.0000	V/(M3/KG)	.00175	.00181	.00191	.00205	.00224	.00261	.01674	.01973	.02227	.02457
	H/(KJ/KG)	78.4	114.1	176.7	242.7	312.9	396.7	671.7	737.6	801.7	866.0
	S/(KJ/KG K)	.3339	.4809	.7195	.9491	1.1737	1.4218	2.1991	2.3694	2.5247	2.6717
	C/(M/SEC)	1197.3199	1075.2909	900.1378	739.2987	570.5822	349.5846	212.6047	237.3652	256.2090	271.8531
	KAPPA/(1/MPA)	.0020	.0025	.0036	.0058	.0112	.0439	.5189	.4429	.4079	.3876
	BETA/(1000/K)	2.1	2.2	2.5	3.0	4.2	10.2	8.1	5.5	4.3	3.6
4.0000	V/(M3/KG)	.00175	.00180	.00191	.00204	.00221	.00252	.00962	.01304	.01541	.01740
	H/(KJ/KG)	79.3	114.9	177.3	242.9	312.2	391.7	627.0	711.2	782.0	850.1
	S/(KJ/KG K)	.3303	.4769	.7149	.9431	1.1647	1.4000	2.0454	2.2631	2.4348	2.5907
	C/(M/SEC)	1207.0756	1086.5176	914.3717	758.0067	597.5039	402.4934	176.2138	216.3191	241.4775	260.8261
	KAPPA/(1/MPA)	.0020	.0024	.0035	.0054	.0099	.0283	.6588	.3973	.3377	.3098
	BETA/(1000/K)	2.1	2.2	2.4	2.9	3.9	7.3	20.3	8.2	5.6	4.3

THERMODYNAMIC PROPERTIES OF PROPANE

TEMPERATURES/(K)

P/(MPA)		475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000
.7000	V/(M3/KG)	.12494	.13208	.13917	.14620	.15320	.16017	.16712	.17404	.18095	.18784
	H/(KJ/KG)	959.2	1022.9	1089.0	1157.5	1228.3	1301.4	1376.6	1453.8	1532.9	1613.8
	S/(KJ/KG K)	3.1312	3.2618	3.3908	3.5183	3.6442	3.7686	3.8913	4.0124	4.1318	4.2496
	C/(M/SEC)	305.5434	314.0350	322.2104	330.1130	337.7768	345.2286	352.4904	359.5797	366.5113	373.2973
	KAPPA/(1/MPA)	1.4637	1.4572	1.4521	1.4480	1.4446	1.4417	1.4394	1.4374	1.4357	1.4343
	BETA/(1000/K)	2.3	2.2	2.0	1.9	1.8	1.7	1.7	1.6	1.5	1.5
.8000	V/(M3/KG)	.10894	.11524	.12148	.12768	.13384	.13997	.14607	.15215	.15821	.16426
	H/(KJ/KG)	958.1	1021.8	1088.1	1156.7	1227.6	1300.7	1375.9	1453.2	1532.3	1613.3
	S/(KJ/KG K)	3.1043	3.2351	3.3643	3.4920	3.6180	3.7425	3.8653	3.9865	4.1060	4.2238
	C/(M/SEC)	304.6844	313.3177	321.6106	329.6120	337.3597	344.8836	352.2077	359.3514	366.3307	373.1588
	KAPPA/(1/MPA)	1.2854	1.2788	1.2736	1.2694	1.2660	1.2632	1.2608	1.2588	1.2571	1.2557
	BETA/(1000/K)	2.3	2.2	2.0	1.9	1.8	1.7	1.7	1.6	1.5	1.5
.9000	V/(M3/KG)	.09649	.10214	.10773	.11327	.11878	.12425	.12970	.13513	.14054	.14593
	H/(KJ/KG)	956.9	1020.8	1087.2	1155.9	1226.8	1300.0	1375.3	1452.6	1531.8	1612.8
	S/(KJ/KG K)	3.0803	3.2114	3.3408	3.4686	3.5948	3.7194	3.8423	3.9636	4.0831	4.2010
	C/(M/SEC)	303.8230	312.5999	321.0114	329.1123	336.9444	344.5407	351.9272	359.1254	366.1524	373.0227
	KAPPA/(1/MPA)	1.1467	1.1401	1.1348	1.1306	1.1271	1.1243	1.1219	1.1199	1.1182	1.1167
	BETA/(1000/K)	2.4	2.2	2.1	2.0	1.8	1.8	1.7	1.6	1.5	1.5
1.0000	V/(M3/KG)	.08653	.09166	.09673	.10175	.10673	.11168	.11660	.12151	.12639	.13126
	H/(KJ/KG)	955.8	1019.8	1086.2	1155.0	1226.1	1299.3	1374.7	1452.0	1531.3	1612.3
	S/(KJ/KG K)	3.0586	3.1900	3.3196	3.4476	3.5740	3.6986	3.8217	3.9430	4.0626	4.1805
	C/(M/SEC)	302.9595	311.8815	320.4129	328.6140	336.5310	344.1998	351.6490	358.9017	365.9765	372.8888
	KAPPA/(1/MPA)	1.0359	1.0291	1.0238	1.0195	1.0160	1.0131	1.0107	1.0087	1.0070	1.0056
	BETA/(1000/K)	2.4	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.5
2.0000	V/(M3/KG)	.04169	.04448	.04721	.04988	.05252	.05511	.05769	.06023	.06276	.06528
	H/(KJ/KG)	943.9	1009.4	1077.0	1146.7	1218.5	1292.5	1368.4	1446.3	1526.0	1607.4
	S/(KJ/KG K)	2.9095	3.0437	3.1756	3.3053	3.4331	3.5589	3.6829	3.8051	3.9254	4.0439
	C/(M/SEC)	294.2304	304.7025	314.4909	323.7298	332.5165	340.9232	349.0049	356.8047	364.3566	371.6877
	KAPPA/(1/MPA)	.5384	.5305	.5245	.5198	.5160	.5130	.5105	.5084	.5067	.5052
	BETA/(1000/K)	2.7	2.5	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5
3.0000	V/(M3/KG)	.02671	.02875	.03070	.03260	.03446	.03627	.03806	.03983	.04157	.04330
	H/(KJ/KG)	931.4	998.5	1067.4	1138.1	1210.9	1285.5	1362.1	1440.5	1520.7	1602.6
	S/(KJ/KG K)	2.8133	2.9508	3.0852	3.2169	3.3462	3.4733	3.5983	3.7213	3.8424	3.9615
	C/(M/SEC)	285.4594	297.6449	308.7802	319.1056	328.7864	337.9409	346.6563	354.9990	363.0204	370.7609
	KAPPA/(1/MPA)	.3744	.3651	.3584	.3532	.3492	.3460	.3435	.3414	.3396	.3381
	BETA/(1000/K)	3.1	2.8	2.5	2.3	2.1	2.0	1.9	1.8	1.7	1.6
4.0000	V/(M3/KG)	.01920	.02087	.02245	.02397	.02544	.02687	.02827	.02964	.03099	.03233
	H/(KJ/KG)	918.2	987.2	1057.5	1129.4	1203.1	1278.5	1355.8	1434.7	1515.4	1597.7
	S/(KJ/KG K)	2.7379	2.8793	3.0165	3.1504	3.2813	3.4098	3.5359	3.6598	3.7815	3.9012
	C/(M/SEC)	276.9291	290.9310	303.4542	314.8769	325.4474	335.3373	344.6704	353.5384	362.0114	370.1436
	KAPPA/(1/MPA)	.2935	.2828	.2753	.2698	.2656	.2623	.2596	.2575	.2558	.2543
	BETA/(1000/K)	3.6	3.1	2.8	2.5	2.3	2.1	2.0	1.8	1.7	1.6

THERMODYNAMIC PROPERTIES OF PROPANE

TEMPERATURES/(K)

P/(MPA)		725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.19471	.20158	.20843	.21528	.22212	.22895	.23577	.24259	.24941	.25622
	H/(KJ/KG)	1696.4	1780.7	1866.5	1953.8	2042.5	2132.6	2224.0	2316.8	2411.0	2506.6
	S/(KJ/KG K)	4.3655	4.4798	4.5924	4.7032	4.8124	4.9199	5.0259	5.1305	5.2337	5.3358
	C/(M/SEC)	379.9479	386.4715	392.8754	399.1655	405.3467	411.4230	417.3977	423.2733	429.0518	434.7345
	KAPPA/(1/MPA)	1.4330	1.4320	1.4310	1.4302	1.4295	1.4289	1.4283	1.4278	1.4274	1.4270
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.8000	V/(M3/KG)	.17030	.17632	.18233	.18834	.19434	.20032	.20631	.21229	.21826	.22423
	H/(KJ/KG)	1696.0	1780.3	1866.1	1953.4	2042.1	2132.2	2223.7	2316.5	2410.7	2506.4
	S/(KJ/KG K)	4.3398	4.4541	4.5667	4.6776	4.7868	4.8944	5.0004	5.1050	5.2082	5.3103
	C/(M/SEC)	379.8468	386.4038	392.8376	399.1546	405.3600	411.4583	417.4529	423.3466	429.1416	434.8395
	KAPPA/(1/MPA)	1.2544	1.2533	1.2524	1.2516	1.2509	1.2503	1.2497	1.2492	1.2488	1.2484
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.9000	V/(M3/KG)	.15131	.15668	.16204	.16739	.17273	.17806	.18339	.18871	.19403	.19934
	H/(KJ/KG)	1695.5	1779.9	1865.7	1953.1	2041.8	2131.9	2223.4	2316.2	2410.5	2506.1
	S/(KJ/KG K)	4.3171	4.4314	4.5440	4.6549	4.7642	4.8718	4.9778	5.0824	5.1857	5.2878
	C/(M/SEC)	379.7480	386.3383	392.8020	399.1457	405.3754	411.4955	417.5100	423.4218	429.2332	434.9461
	KAPPA/(1/MPA)	1.1155	1.1144	1.1135	1.1127	1.1120	1.1114	1.1108	1.1103	1.1099	1.1095
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
1.0000	V/(M3/KG)	.13612	.14096	.14580	.15062	.15544	.16025	.16506	.16986	.17465	.17944
	H/(KJ/KG)	1695.1	1779.4	1865.3	1952.7	2041.5	2131.6	2223.1	2316.0	2410.2	2505.9
	S/(KJ/KG K)	4.2967	4.4111	4.5237	4.6346	4.7439	4.8515	4.9576	5.0623	5.1655	5.2676
	C/(M/SEC)	379.6515	386.2751	392.7685	399.1390	405.3928	411.5347	417.5690	423.4987	429.3265	435.0544
	KAPPA/(1/MPA)	1.0044	1.0033	1.0024	1.0015	1.0008	1.0002	.9997	.9992	.9988	.9984
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
2.0000	V/(M3/KG)	.06778	.07026	.07274	.07521	.07767	.08012	.08257	.08501	.08745	.08988
	H/(KJ/KG)	1690.6	1775.2	1861.4	1949.0	2038.1	2128.4	2220.1	2313.2	2407.6	2503.4
	S/(KJ/KG K)	4.1605	4.2753	4.3884	4.4997	4.6092	4.7171	4.8234	4.9283	5.0318	5.1340
	C/(M/SEC)	378.8203	385.7724	392.5589	399.1921	405.6821	412.0373	418.2645	424.3694	430.3565	436.2295
	KAPPA/(1/MPA)	.5040	.5029	.5020	.5012	.5005	.4999	.4994	.4989	.4985	.4981
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1
3.0000	V/(M3/KG)	.04501	.04671	.04841	.05009	.05176	.05343	.05509	.05674	.05839	.06004
	H/(KJ/KG)	1686.0	1771.1	1857.5	1945.4	2034.7	2125.3	2217.2	2310.4	2405.0	2501.0
	S/(KJ/KG K)	4.0786	4.1939	4.3073	4.4189	4.5288	4.6370	4.7435	4.8486	4.9522	5.0547
	C/(M/SEC)	378.2529	385.5225	392.5911	399.4759	406.1915	412.7495	419.1597	425.4302	431.5675	437.5770
	KAPPA/(1/MPA)	.3369	.3358	.3349	.3342	.3335	.3329	.3324	.3319	.3316	.3312
	BETA/(1000/K)	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
4.0000	V/(M3/KG)	.03365	.03496	.03625	.03754	.03882	.04009	.04136	.04262	.04388	.04513
	H/(KJ/KG)	1681.6	1766.9	1853.7	1941.9	2031.4	2122.2	2214.3	2307.7	2402.5	2498.7
	S/(KJ/KG K)	4.0189	4.1347	4.2485	4.3605	4.4706	4.5791	4.6859	4.7911	4.8950	4.9976
	C/(M/SEC)	377.9780	385.5489	392.8840	400.0061	406.9336	413.6817	420.2631	426.6880	432.9650	439.1012
	KAPPA/(1/MPA)	.2531	.2521	.2512	.2504	.2498	.2492	.2487	.2483	.2479	.2476
	BETA/(1000/K)	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1

THERMODYNAMIC PROPERTIES OF PROPANE

TEMPERATURES/(K)

P/(MPA)		235.000	250.000	275.000	300.000	325.000	350.000	375.000	400.000	425.000	450.000
5.0000	V/(M3/KG)	.00174	.00180	.00190	.00203	.00219	.00246	.00344	.00874	.01121	.01308
	H/(KJ/KG)	80.2	115.7	178.0	243.2	311.7	388.4	500.2	676.6	759.5	833.0
	S/(KJ/KG K)	.3267	.4731	.7103	.9373	1.1565	1.3837	1.6909	2.1497	2.3508	2.5190
	C/(M/SEC)	1216.6308	1097.4768	928.1555	775.8419	622.2498	444.0421	211.3010	195.5203	227.3465	250.4998
	KAPPA/(1/MPA)	.0019	.0023	.0033	.0051	.0089	.0213	.3527	.4105	.3028	.2650
	BETA/(1000/K)	2.0	2.1	2.4	2.8	3.6	5.9	44.0	14.0	7.4	5.3
6.0000	V/(M3/KG)	.00174	.00179	.00190	.00202	.00217	.00241	.00294	.00576	.00837	.01020
	H/(KJ/KG)	81.2	116.6	178.7	243.6	311.4	386.2	476.2	630.8	733.8	814.5
	S/(KJ/KG K)	.3232	.4693	.7059	.9318	1.1489	1.3703	1.6186	2.0175	2.2676	2.4523
	C/(M/SEC)	1225.9842	1108.1860	941.5248	792.9129	645.2407	479.2057	295.6777	189.3770	216.8231	242.1130
	KAPPA/(1/MPA)	.0019	.0023	.0032	.0049	.0081	.0172	.0802	.3988	.2801	.2346
	BETA/(1000/K)	2.0	2.1	2.3	2.7	3.4	5.1	13.9	23.4	10.0	6.4
7.0000	V/(M3/KG)	.00174	.00179	.00189	.00201	.00216	.00237	.00277	.00418	.00642	.00817
	H/(KJ/KG)	82.1	117.4	179.4	244.0	311.3	384.5	467.2	589.5	706.2	795.1
	S/(KJ/KG K)	.3197	.4655	.7016	.9265	1.1417	1.3588	1.5870	1.9020	2.1854	2.3888
	C/(M/SEC)	1235.1678	1118.6590	954.5078	809.2835	666.7765	510.1382	350.6460	213.5541	214.9846	237.4401
	KAPPA/(1/MPA)	.0018	.0022	.0031	.0046	.0075	.0145	.0451	.2381	.2462	.2086
	BETA/(1000/K)	2.0	2.1	2.3	2.6	3.2	4.6	9.1	22.0	12.4	7.6
8.0000	V/(M3/KG)	.00173	.00179	.00188	.00200	.00214	.00234	.00267	.00351	.00515	.00672
	H/(KJ/KG)	83.0	118.3	180.1	244.5	311.2	383.3	461.8	564.9	680.3	775.6
	S/(KJ/KG K)	.3163	.4619	.6973	.9214	1.1350	1.3485	1.5653	1.8308	2.1109	2.3292
	C/(M/SEC)	1244.1780	1128.9084	967.1329	825.0333	687.0902	537.9990	393.9824	253.3298	224.4435	238.1313
	KAPPA/(1/MPA)	.0018	.0022	.0030	.0044	.0069	.0126	.0315	.1249	.1932	.1809
	BETA/(1000/K)	2.0	2.0	2.2	2.5	3.1	4.1	7.0	15.5	13.2	8.5
9.0000	V/(M3/KG)	.00173	.00178	.00188	.00199	.00213	.00231	.00260	.00319	.00436	.00569
	H/(KJ/KG)	83.9	119.2	180.8	245.0	311.3	382.4	458.1	550.7	659.1	757.4
	S/(KJ/KG K)	.3129	.4582	.6932	.9164	1.1286	1.3393	1.5484	1.7872	2.0500	2.2749
	C/(M/SEC)	1253.0135	1138.9538	979.4240	840.2208	706.3405	563.5147	430.6542	295.4591	242.2580	244.5504
	KAPPA/(1/MPA)	.0018	.0021	.0029	.0042	.0065	.0112	.0243	.0737	.1415	.1512
	BETA/(1000/K)	1.9	2.0	2.2	2.5	2.9	3.8	5.9	11.0	12.4	9.0
10.0000	V/(M3/KG)	.00173	.00178	.00187	.00198	.00211	.00229	.00254	.00300	.00387	.00497
	H/(KJ/KG)	84.9	120.1	181.6	245.5	311.4	381.7	455.4	541.9	642.9	741.3
	S/(KJ/KG K)	.3095	.4547	.6891	.9116	1.1225	1.3308	1.5344	1.7574	2.0023	2.2274
	C/(M/SEC)	1261.7046	1148.7684	991.3987	854.8909	724.6735	587.1318	462.8859	334.4660	265.1883	255.6364
	KAPPA/(1/MPA)	.0017	.0021	.0028	.0040	.0060	.0100	.0198	.0496	.1022	.1231
	BETA/(1000/K)	1.9	2.0	2.1	2.4	2.8	3.6	5.1	8.5	10.9	8.9

THERMODYNAMIC PROPERTIES OF PROPANE

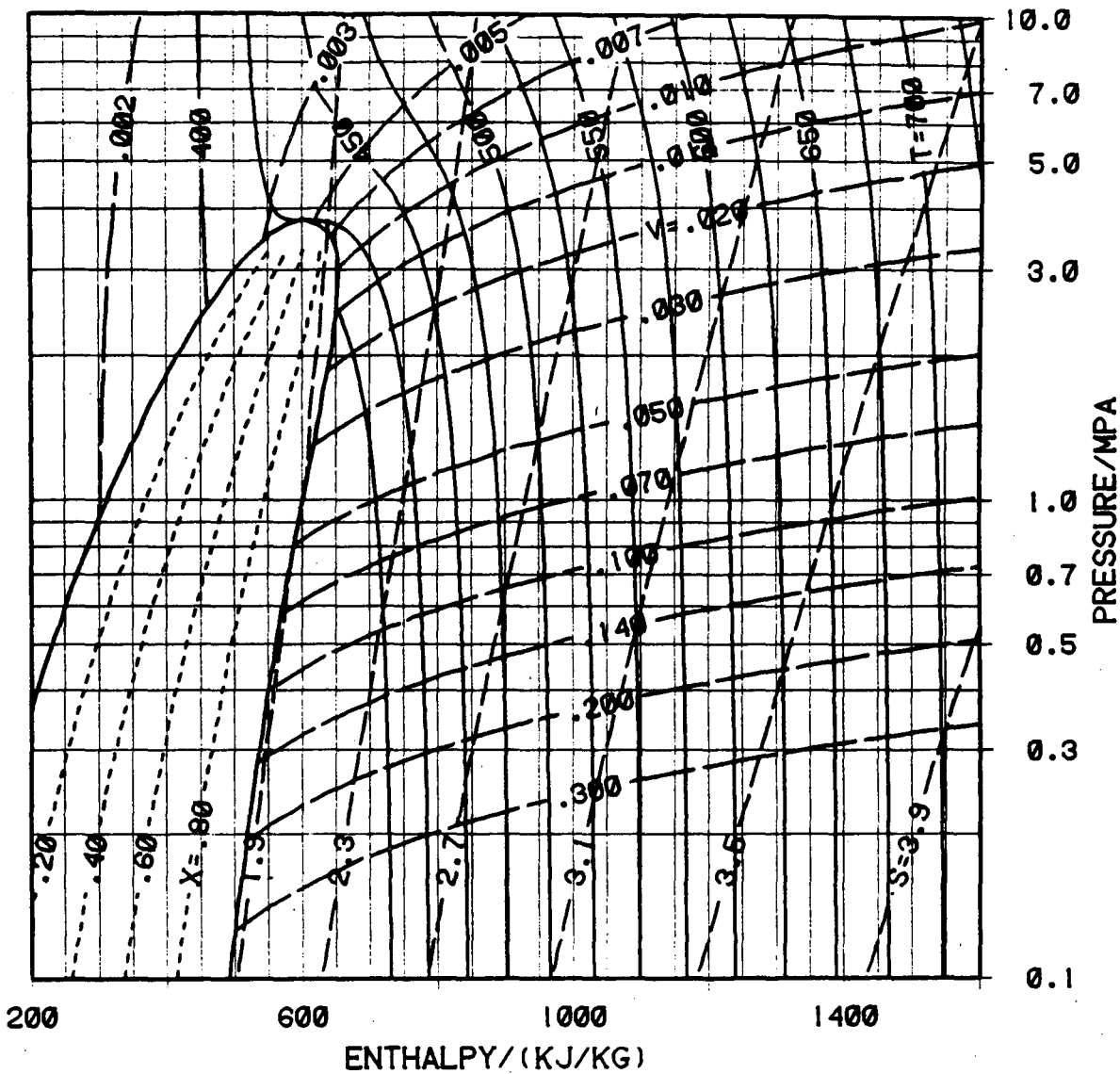
TEMPERATURES/(K)

P/(MPA)		475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000
5.0000	V/(M3/KG)	.01469	.01616	.01752	.01881	.02004	.02124	.02240	.02354	.02466	.02576
	H/(KJ/KG)	904.3	975.4	1047.4	1120.5	1195.2	1271.5	1349.4	1429.0	1510.1	1592.9
	S/(KJ/KG K)	2.6732	2.8191	2.9595	3.0957	3.2285	3.3583	3.4855	3.6103	3.7329	3.8532
	C/(M/SEC)	269.0922	284.8702	298.7325	311.2039	322.6188	333.2032	343.1170	352.4772	361.3721	369.8693
	KAPPA/(1/MPA)	.2453	.2333	.2251	.2193	.2150	.2117	.2090	.2069	.2052	.2038
	BETA/(1000/K)	4.2	3.5	3.0	2.7	2.4	2.2	2.1	1.9	1.8	1.7
6.0000	V/(M3/KG)	.01170	.01302	.01424	.01538	.01646	.01750	.01851	.01949	.02045	.02139
	H/(KJ/KG)	889.7	963.3	1037.0	1111.6	1187.3	1264.4	1343.1	1423.2	1504.9	1588.1
	S/(KJ/KG K)	2.6148	2.7660	2.9098	3.0485	3.1832	3.3145	3.4428	3.5686	3.6919	3.8129
	C/(M/SEC)	262.6072	279.8601	294.8742	308.2642	320.4268	331.6304	342.0643	351.8668	361.1415	369.9679
	KAPPA/(1/MPA)	.2125	.1996	.1911	.1852	.1808	.1775	.1750	.1729	.1712	.1699
	BETA/(1000/K)	4.8	3.9	3.3	2.9	2.6	2.3	2.1	2.0	1.9	1.7
7.0000	V/(M3/KG)	.00958	.01081	.01192	.01295	.01392	.01484	.01574	.01661	.01745	.01828
	H/(KJ/KG)	874.6	951.0	1026.6	1102.6	1179.4	1257.4	1336.8	1417.5	1499.7	1583.4
	S/(KJ/KG K)	2.5609	2.7176	2.8652	3.0065	3.1431	3.2759	3.4055	3.5322	3.6563	3.7779
	C/(M/SEC)	258.3018	276.3569	292.1574	306.2391	318.9950	330.7057	341.5748	351.7528	361.3536	370.4648
	KAPPA/(1/MPA)	.1871	.1743	.1660	.1602	.1559	.1527	.1503	.1483	.1467	.1454
	BETA/(1000/K)	5.4	4.3	3.6	3.1	2.7	2.5	2.2	2.1	1.9	1.8
8.0000	V/(M3/KG)	.00804	.00918	.01020	.01114	.01203	.01287	.01368	.01446	.01522	.01596
	H/(KJ/KG)	859.5	938.7	1016.2	1093.6	1171.6	1250.5	1330.6	1411.9	1494.7	1578.7
	S/(KJ/KG K)	2.5105	2.6730	2.8244	2.9684	3.1070	3.2413	3.3721	3.4997	3.6246	3.7469
	C/(M/SEC)	256.9871	274.8002	290.8428	305.2934	318.4324	330.5040	341.7009	352.1726	362.0350	371.3790
	KAPPA/(1/MPA)	.1648	.1537	.1460	.1407	.1367	.1337	.1314	.1296	.1281	.1269
	BETA/(1000/K)	6.0	4.7	3.8	3.3	2.9	2.6	2.3	2.1	2.0	1.8
9.0000	V/(M3/KG)	.00689	.00794	.00889	.00976	.01057	.01135	.01209	.01280	.01349	.01417
	H/(KJ/KG)	844.7	926.5	1006.0	1084.8	1163.8	1243.6	1324.4	1406.4	1489.7	1574.2
	S/(KJ/KG K)	2.4639	2.6317	2.7868	2.9334	3.0740	3.2098	3.3417	3.4704	3.5960	3.7190
	C/(M/SEC)	259.1409	275.5024	291.1264	305.5527	318.8219	331.0809	342.4807	353.1523	363.2036	372.7227
	KAPPA/(1/MPA)	.1437	.1356	.1294	.1247	.1212	.1185	.1164	.1147	.1134	.1123
	BETA/(1000/K)	6.5	5.0	4.1	3.4	3.0	2.7	2.4	2.2	2.0	1.9
10.0000	V/(M3/KG)	.00603	.00699	.00787	.00867	.00943	.01014	.01083	.01148	.01212	.01274
	H/(KJ/KG)	830.9	914.9	996.1	1076.2	1156.3	1237.0	1318.5	1401.0	1484.8	1569.7
	S/(KJ/KG K)	2.4212	2.5935	2.7519	2.9011	3.0435	3.1808	3.3139	3.4434	3.5699	3.6934
	C/(M/SEC)	264.6850	278.5531	293.0977	307.0837	320.2099	332.4680	343.9351	354.7054	364.8680	374.5007
	KAPPA/(1/MPA)	.1236	.1193	.1149	.1112	.1083	.1060	.1041	.1026	.1014	.1004
	BETA/(1000/K)	6.7	5.2	4.3	3.6	3.1	2.7	2.5	2.2	2.1	1.9

THERMODYNAMIC PROPERTIES OF PROPANE

TEMPERATURES/(K)

P/(MPA)		725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.02684	.02791	.02897	.03003	.03107	.03211	.03314	.03416	.03518	.03619
	H/(KJ/KG)	1677.1	1762.8	1849.9	1938.3	2028.1	2119.1	2211.4	2305.1	2400.0	2496.3
	S/(KJ/KG K)	3.9714	4.0876	4.2019	4.3142	4.4246	4.5333	4.6404	4.7459	4.8499	4.9527
	C/(M/SEC)	378.0220	385.8724	393.4546	400.7959	407.9190	414.8424	421.5811	428.1479	434.5530	440.8051
	KAPPA/(1/MPA)	.2026	.2016	.2008	.2000	.1994	.1989	.1984	.1980	.1977	.1974
	BETA/(1000/K)	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.2	1.1
6.0000	V/(M3/KG)	.02232	.02323	.02413	.02503	.02591	.02679	.02766	.02853	.02939	.03025
	H/(KJ/KG)	1672.7	1758.8	1846.2	1934.9	2024.9	2116.1	2208.7	2302.5	2397.6	2494.1
	S/(KJ/KG K)	3.9317	4.0483	4.1630	4.2756	4.3864	4.4954	4.6027	4.7084	4.8126	4.9155
	C/(M/SEC)	378.4080	386.5111	394.3164	401.8560	409.1559	416.2375	423.1184	429.8132	436.3338	442.6903
	KAPPA/(1/MPA)	.1687	.1678	.1670	.1663	.1657	.1652	.1648	.1644	.1641	.1638
	BETA/(1000/K)	1.6	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1
7.0000	V/(M3/KG)	.01909	.01989	.02068	.02146	.02224	.02300	.02376	.02451	.02526	.02600
	H/(KJ/KG)	1668.4	1754.8	1842.5	1931.5	2021.7	2113.2	2205.9	2299.9	2395.2	2491.9
	S/(KJ/KG K)	3.8973	4.0144	4.1294	4.2424	4.3535	4.4628	4.5703	4.6762	4.7806	4.8837
	C/(M/SEC)	379.1550	387.4789	395.4800	403.1940	410.6497	417.8710	424.8775	431.6853	438.3080	444.7567
	KAPPA/(1/MPA)	.1443	.1434	.1427	.1420	.1415	.1410	.1406	.1403	.1400	.1397
	BETA/(1000/K)	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1
8.0000	V/(M3/KG)	.01669	.01740	.01811	.01880	.01949	.02017	.02084	.02151	.02217	.02283
	H/(KJ/KG)	1664.1	1750.9	1838.9	1928.1	2018.6	2110.4	2203.3	2297.5	2392.9	2489.7
	S/(KJ/KG K)	3.8668	3.9844	4.0998	4.2132	4.3246	4.4341	4.5418	4.6480	4.7526	4.8559
	C/(M/SEC)	380.2766	388.7855	396.9520	404.8142	412.4031	419.7441	426.8585	433.7638	440.4745	447.0029
	KAPPA/(1/MPA)	.1259	.1250	.1243	.1237	.1232	.1228	.1224	.1221	.1218	.1216
	BETA/(1000/K)	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.1
9.0000	V/(M3/KG)	.01482	.01547	.01611	.01674	.01736	.01797	.01857	.01918	.01977	.02036
	H/(KJ/KG)	1660.0	1747.1	1835.4	1924.9	2015.6	2107.6	2200.7	2295.1	2390.7	2487.7
	S/(KJ/KG K)	3.8394	3.9575	4.0733	4.1870	4.2987	4.4084	4.5164	4.6227	4.7275	4.8310
	C/(M/SEC)	381.7807	390.4358	398.7351	406.7178	414.4158	421.8558	429.0599	436.0465	442.8308	449.4259
	KAPPA/(1/MPA)	.1114	.1106	.1100	.1094	.1090	.1086	.1082	.1079	.1077	.1075
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.2
10.0000	V/(M3/KG)	.01334	.01394	.01452	.01509	.01566	.01622	.01677	.01732	.01786	.01840
	H/(KJ/KG)	1655.9	1743.3	1831.9	1921.7	2012.7	2104.9	2198.2	2292.7	2388.5	2485.7
	S/(KJ/KG K)	3.8144	3.9329	4.0491	4.1632	4.2751	4.3852	4.4934	4.5999	4.7049	4.8085
	C/(M/SEC)	383.6696	392.4301	400.8282	408.9025	416.6851	424.2028	431.4780	438.5295	445.3731	452.0220
	KAPPA/(1/MPA)	.0996	.0989	.0983	.0979	.0974	.0971	.0968	.0965	.0963	.0961
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2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PRESSURE/MPA
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1000
1400
ENTHALPY/(KJ/KG)
.002
.003
.005
.007
.010
.020
.030
.050
.070
.100
.140
.200
.300
V=.020
T=700
400
450
500
550
600
650
.20
.40
.60
X=.80
1.9
2.3
2.7
3.1
3.5
S=3.9

BUTANE

PROPERTIES OF SATURATED BUTANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
275.00000	.11210	.00170	.33465	109.82799	385.46085	495.28885	.45576	1.40168	1.85743
280.00000	.13474	.00171	.28160	121.80466	380.44113	502.24579	.49878	1.35872	1.85749
285.00000	.16075	.00173	.23851	133.95070	375.25556	509.20626	.54161	1.31669	1.85830
290.00000	.19045	.00175	.20323	146.26113	369.90515	516.16629	.58425	1.27554	1.85979
295.00000	.22416	.00176	.17415	158.73143	364.39039	523.12183	.62668	1.23522	1.86191
300.00000	.26221	.00178	.15002	171.35683	358.71177	530.06860	.66890	1.19571	1.86460
305.00000	.30494	.00180	.12986	184.13252	352.86953	537.00205	.71088	1.15695	1.86783
310.00000	.35267	.00182	.11293	197.05388	346.86337	543.91725	.75262	1.11891	1.87153
315.00000	.40576	.00184	.09861	210.11714	340.69159	550.80873	.79411	1.08156	1.87567
320.00000	.46455	.00186	.08645	223.31676	334.35406	557.67082	.83534	1.04486	1.88020
325.00000	.52941	.00188	.07605	236.65289	327.84336	564.49625	.87631	1.00875	1.88506
330.00000	.60069	.00191	.06712	250.12266	321.15491	571.27758	.91703	.97320	1.89023
335.00000	.67876	.00193	.05942	263.72620	314.27967	578.00588	.95749	.93815	1.89564
340.00000	.76400	.00196	.05274	277.46560	307.20517	584.67077	.99771	.90354	1.90126
345.00000	.85681	.00198	.04693	291.34532	299.91469	591.26001	1.03770	.86932	1.90702
350.00000	.95757	.00201	.04184	305.37285	292.38621	597.75906	1.07749	.83539	1.91288
355.00000	1.06672	.00204	.03736	319.55933	284.59109	604.15041	1.11711	.80167	1.91877
360.00000	1.18468	.00207	.03341	333.92044	276.49243	610.41286	1.15660	.76803	1.92464
365.00000	1.31192	.00211	.02991	348.47754	268.04283	616.52037	1.19603	.73436	1.93039
370.00000	1.44893	.00214	.02680	363.25925	259.18127	622.44052	1.23546	.70049	1.93595
375.00000	1.59623	.00218	.02401	378.30268	249.83001	628.13269	1.27499	.66621	1.94120
380.00000	1.75437	.00223	.02150	393.65825	239.88583	633.54408	1.31474	.63128	1.94602
385.00000	1.92396	.00227	.01923	409.39067	229.21547	638.60614	1.35487	.59536	1.95024
390.00000	2.10565	.00233	.01717	425.58785	217.63793	643.22579	1.39559	.55805	1.95364
395.00000	2.30016	.00239	.01528	442.36973	204.90298	647.27271	1.43718	.51874	1.95592
400.00000	2.50826	.00246	.01354	459.90479	190.65105	650.55584	1.48002	.47663	1.95665
405.00000	2.73082	.00255	.01190	478.44352	174.33219	652.77571	1.52469	.43045	1.95514
410.00000	2.96879	.00266	.01034	498.39033	155.02447	653.41480	1.57212	.37811	1.95023
415.00000	3.22321	.00280	.00880	520.49585	130.93594	651.43178	1.62402	.31551	1.93953
420.00000	3.49526	.00305	.00717	546.61010	97.41184	644.02194	1.68466	.23193	1.91659
425.18000	3.78623	.00438	.00438	602.35542	0.	602.35542	1.81404	0.	1.81404

THERMODYNAMIC PROPERTIES OF BUTANE

TEMPERATURES/(K)

P/(MPA)		275.000	300.000	325.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000
.1000	V/(M3/KG)	.37720	.41617	.45431	.49187	.52903	.56591	.60258	.63908	.67547	.71176
	H/(KJ/KG)	496.0	537.9	582.2	629.2	678.8	731.1	786.1	843.6	903.7	966.3
	S/(KJ/KG K)	1.8756	2.0213	2.1632	2.3024	2.4393	2.5743	2.7075	2.8391	2.9691	3.0974
	C/(M/SEC)	201.0858	211.1999	220.5057	229.2158	237.4636	245.3380	252.9009	260.1974	267.2612	274.1184
	KAPPA/(1/MPA)	10.4474	10.3222	10.2401	10.1837	10.1436	10.1142	10.0921	10.0751	10.0619	10.0513
	BETA/(1000/K)	4.2	3.7	3.3	3.0	2.8	2.6	2.4	2.3	2.2	2.0
.1013	V/(M3/KG)	.37204	.41056	.44822	.48532	.52202	.55843	.59462	.63066	.66658	.70240
	H/(KJ/KG)	495.9	537.8	582.2	629.1	678.8	731.1	786.0	843.6	903.7	966.3
	S/(KJ/KG K)	1.8735	2.0193	2.1612	2.3004	2.4373	2.5724	2.7056	2.8372	2.9672	3.0955
	C/(M/SEC)	200.9894	211.1262	220.4477	229.1692	237.4255	245.3065	252.8747	260.1752	267.2424	274.1024
	KAPPA/(1/MPA)	10.3174	10.1918	10.1095	10.0531	10.0129	9.9835	9.9614	9.9444	9.9311	9.9206
	BETA/(1000/K)	4.2	3.7	3.3	3.0	2.8	2.6	2.4	2.3	2.2	2.0
.2000	V/(M3/KG)	.00169	.20119	.22159	.24135	.26067	.27970	.29849	.31713	.33563	.35404
	H/(KJ/KG)	109.9	533.2	578.4	626.0	676.2	728.9	784.1	841.9	902.2	965.0
	S/(KJ/KG K)	.4555	1.9108	2.0557	2.1968	2.3351	2.4711	2.6051	2.7373	2.8676	2.9963
	C/(M/SEC)	1011.9704	205.4273	216.0116	225.6301	234.5496	242.9359	250.8985	258.5134	265.8353	272.9049
	KAPPA/(1/MPA)	.0024	5.3529	5.2564	5.1930	5.1491	5.1176	5.0943	5.0765	5.0628	5.0520
	BETA/(1000/K)	1.9	4.1	3.6	3.2	2.9	2.7	2.5	2.3	2.2	2.1
.3000	V/(M3/KG)	.00169	.00178	.14385	.15774	.17116	.18425	.19711	.20979	.22235	.23480
	H/(KJ/KG)	110.0	171.4	574.4	622.8	673.5	726.6	782.2	840.2	900.7	963.6
	S/(KJ/KG K)	.4551	.6688	1.9888	2.1321	2.2719	2.4090	2.5438	2.6765	2.8073	2.9364
	C/(M/SEC)	1013.0681	865.8893	211.2546	221.8922	231.5430	240.4756	248.8587	256.8052	264.3937	271.6812
	KAPPA/(1/MPA)	.0024	.0033	3.6087	3.5366	3.4884	3.4546	3.4299	3.4113	3.3971	3.3859
	BETA/(1000/K)	1.9	2.1	3.9	3.5	3.1	2.8	2.6	2.4	2.2	2.1
.4000	V/(M3/KG)	.00169	.00178	.10485	.11586	.12635	.13650	.14639	.15611	.16569	.17517
	H/(KJ/KG)	110.1	171.4	570.3	619.4	670.7	724.2	780.2	838.5	899.2	962.3
	S/(KJ/KG K)	.4548	.6684	1.9383	2.0840	2.2254	2.3636	2.4992	2.6326	2.7639	2.8932
	C/(M/SEC)	1014.1633	867.2497	206.1900	217.9841	228.4362	237.9536	246.7800	255.0720	262.9361	270.4474
	KAPPA/(1/MPA)	.0024	.0033	2.7979	2.7150	2.6616	2.6251	2.5989	2.5795	2.5647	2.5532
	BETA/(1000/K)	1.9	2.1	4.3	3.7	3.3	2.9	2.7	2.5	2.3	2.2
.5000	V/(M3/KG)	.00169	.00178	.08131	.09066	.09943	.10782	.11595	.12389	.13169	.13939
	H/(KJ/KG)	110.1	171.5	565.8	615.9	667.8	721.9	778.1	836.7	897.7	960.9
	S/(KJ/KG K)	.4545	.6680	1.8963	2.0448	2.1880	2.3274	2.4638	2.5978	2.7296	2.8593
	C/(M/SEC)	1015.2558	868.6060	200.7593	213.8842	225.2201	235.3661	244.6606	253.3132	261.4622	269.2034
	KAPPA/(1/MPA)	.0024	.0033	2.3250	2.2282	2.1688	2.1292	2.1014	2.0811	2.0657	2.0539
	BETA/(1000/K)	1.9	2.1	4.8	4.0	3.4	3.1	2.8	2.5	2.4	2.2
.6000	V/(M3/KG)	.00169	.00178	.00188	.07379	.08144	.08867	.09563	.10240	.10902	.11553
	H/(KJ/KG)	110.2	171.6	236.7	612.3	664.9	719.4	776.1	835.0	896.1	959.5
	S/(KJ/KG K)	.4542	.6676	.8760	2.0111	2.1562	2.2969	2.4342	2.5689	2.7011	2.8312
	C/(M/SEC)	1016.3459	869.9580	732.9620	209.5659	221.8845	232.7088	242.4988	251.5279	259.9717	267.9493
	KAPPA/(1/MPA)	.0024	.0033	.0049	1.9101	1.8434	1.8004	1.7707	1.7494	1.7334	1.7212
	BETA/(1000/K)	1.9	2.1	2.4	4.3	3.6	3.2	2.9	2.6	2.4	2.2

THERMODYNAMIC PROPERTIES OF BUTANE

TEMPERATURES/(K)

P/(MPA)		525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
.1000	V/(M3/KG)	.74797	.78413	.82023	.85630	.89233	.92834	.96432	1.00028	1.03622
	H/(KJ/KG)	1031.2	1098.5	1167.9	1239.5	1313.2	1388.8	1466.3	1545.7	1626.9
	S/(KJ/KG K)	3.2241	3.3492	3.4727	3.5946	3.7148	3.8335	3.9505	4.0660	4.1799
	C/(M/SEC)	280.7901	287.2932	293.6419	299.8480	305.9219	311.8723	317.7072	323.4334	329.0571
	KAPPA/(1/MPA)	10.0429	10.0360	10.0303	10.0255	10.0215	10.0181	10.0153	10.0128	10.0107
	BETA/(1000/K)	1.9	1.8	1.8	1.7	1.6	1.6	1.5	1.4	1.4
.1013	V/(M3/KG)	.73815	.77384	.80947	.84507	.88064	.91617	.95169	.98718	1.02266
	H/(KJ/KG)	1031.2	1098.5	1167.9	1239.5	1313.2	1388.8	1466.3	1545.7	1626.9
	S/(KJ/KG K)	3.2222	3.3473	3.4708	3.5927	3.7129	3.8316	3.9486	4.0641	4.1780
	C/(M/SEC)	280.7764	287.2815	293.6318	299.8394	305.9145	311.8660	317.7019	323.4289	329.0533
	KAPPA/(1/MPA)	9.9121	9.9052	9.8995	9.8947	9.8908	9.8874	9.8845	9.8820	9.8799
	BETA/(1000/K)	1.9	1.8	1.8	1.7	1.6	1.6	1.5	1.4	1.4
.2000	V/(M3/KG)	.37238	.39065	.40887	.42706	.44520	.46333	.48142	.49950	.51756
	H/(KJ/KG)	1030.0	1097.4	1167.0	1238.6	1312.4	1388.1	1465.6	1545.1	1626.3
	S/(KJ/KG K)	3.1233	3.2486	3.3723	3.4943	3.6147	3.7334	3.8505	3.9661	4.0800
	C/(M/SEC)	279.7535	286.4056	292.8811	299.1961	305.3642	311.3969	317.3039	323.0937	328.7740
	KAPPA/(1/MPA)	5.0433	5.0362	5.0304	5.0256	5.0216	5.0182	5.0153	5.0128	5.0107
	BETA/(1000/K)	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4
.3000	V/(M3/KG)	.24718	.25949	.27175	.28397	.29616	.30832	.32046	.33257	.34467
	H/(KJ/KG)	1028.8	1096.3	1166.0	1237.7	1311.5	1387.3	1465.0	1544.4	1625.7
	S/(KJ/KG K)	3.0636	3.1892	3.3130	3.4352	3.5557	3.6745	3.7917	3.9073	4.0213
	C/(M/SEC)	278.7105	285.5143	292.1185	298.5437	304.8070	310.9225	316.9021	322.7560	328.4929
	KAPPA/(1/MPA)	3.3770	3.3698	3.3639	3.3591	3.3550	3.3515	3.3486	3.3461	3.3440
	BETA/(1000/K)	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.5	1.4
.4000	V/(M3/KG)	.18457	.19391	.20319	.21243	.22164	.23082	.23998	.24911	.25823
	H/(KJ/KG)	1027.6	1095.2	1165.0	1236.9	1310.7	1386.6	1464.3	1543.8	1625.1
	S/(KJ/KG K)	3.0208	3.1466	3.2706	3.3929	3.5135	3.6324	3.7497	3.8654	3.9795
	C/(M/SEC)	277.6614	284.6195	291.3542	297.8910	304.2504	310.4493	316.5020	322.4202	328.2141
	KAPPA/(1/MPA)	2.5441	2.5368	2.5308	2.5258	2.5217	2.5182	2.5153	2.5128	2.5106
	BETA/(1000/K)	2.0	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.4
.5000	V/(M3/KG)	.14700	.15455	.16205	.16951	.17693	.18432	.19169	.19904	.20637
	H/(KJ/KG)	1026.4	1094.2	1164.0	1236.0	1309.9	1385.8	1463.6	1543.1	1624.5
	S/(KJ/KG K)	2.9872	3.1132	3.2374	3.3598	3.4806	3.5996	3.7170	3.8328	3.9469
	C/(M/SEC)	276.6061	283.7213	290.5885	297.2380	303.6944	309.9775	316.1036	322.0864	327.9375
	KAPPA/(1/MPA)	2.0445	2.0370	2.0309	2.0259	2.0217	2.0182	2.0153	2.0128	2.0106
	BETA/(1000/K)	2.1	1.9	1.8	1.8	1.7	1.6	1.5	1.5	1.4
.6000	V/(M3/KG)	.12196	.12832	.13462	.14089	.14712	.15332	.15950	.16565	.17179
	H/(KJ/KG)	1025.2	1093.1	1163.0	1235.1	1309.1	1385.0	1462.9	1542.5	1623.9
	S/(KJ/KG K)	2.9594	3.0856	3.2100	3.3326	3.4535	3.5726	3.6901	3.8059	3.9202
	C/(M/SEC)	275.5447	282.8199	289.8213	296.5850	303.1393	309.5072	315.7071	321.7548	327.6632
	KAPPA/(1/MPA)	1.7116	1.7040	1.6978	1.6927	1.6885	1.6849	1.6819	1.6794	1.6772
	BETA/(1000/K)	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.5	1.4

THERMODYNAMIC PROPERTIES OF BUTANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	1.07215	1.10807	1.14397	1.17987	1.21576	1.25164	1.28751	1.32337	1.35923
	H/(KJ/KG)	1709.7	1794.2	1880.3	1968.0	2057.1	2147.7	2239.6	2332.9	2427.5
	S/(KJ/KG K)	4.2922	4.4031	4.5124	4.6203	4.7267	4.8317	4.9353	5.0376	5.1385
	C/(M/SEC)	334.5839	340.0188	345.3664	350.6310	355.8164	360.9263	365.9641	370.9328	375.8354
	KAPPA/(1/MPA)	10.0088	10.0072	10.0058	10.0046	10.0035	10.0025	10.0016	10.0009	10.0002
	BETA/(1000/K)	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.1013	V/(M3/KG)	1.05812	1.09357	1.12901	1.16443	1.19985	1.23526	1.27067	1.30607	1.34146
	H/(KJ/KG)	1709.7	1794.2	1880.3	1968.0	2057.1	2147.7	2239.6	2332.9	2427.5
	S/(KJ/KG K)	4.2903	4.4012	4.5105	4.6184	4.7248	4.8298	4.9334	5.0357	5.1366
	C/(M/SEC)	334.5808	340.0163	345.3644	350.6295	355.8154	360.9257	365.9638	370.9328	375.8357
	KAPPA/(1/MPA)	9.8781	9.8764	9.8750	9.8738	9.8727	9.8717	9.8708	9.8701	9.8694
	BETA/(1000/K)	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.2000	V/(M3/KG)	.53560	.55363	.57166	.58967	.60767	.62566	.64365	.66163	.67961
	H/(KJ/KG)	1709.2	1793.7	1879.8	1967.5	2056.7	2147.3	2239.2	2332.6	2427.2
	S/(KJ/KG K)	4.1924	4.3033	4.4127	4.5206	4.6271	4.7321	4.8357	4.9380	5.0390
	C/(M/SEC)	334.3512	339.8313	345.2196	350.5209	355.7396	360.8798	365.9451	370.9390	375.8648
	KAPPA/(1/MPA)	5.0088	5.0072	5.0058	5.0045	5.0034	5.0025	5.0016	5.0008	5.0001
	BETA/(1000/K)	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.3000	V/(M3/KG)	.35676	.36883	.38089	.39294	.40497	.41701	.42903	.44105	.45306
	H/(KJ/KG)	1708.6	1793.2	1879.4	1967.1	2056.2	2146.9	2238.9	2332.2	2426.8
	S/(KJ/KG K)	4.1338	4.2447	4.3542	4.4621	4.5686	4.6737	4.7773	4.8796	4.9806
	C/(M/SEC)	334.1207	339.6461	345.0750	350.4131	355.6651	360.8355	365.9284	370.9475	375.8963
	KAPPA/(1/MPA)	3.3421	3.3405	3.3391	3.3378	3.3367	3.3357	3.3349	3.3341	3.3334
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.4000	V/(M3/KG)	.26733	.27642	.28550	.29457	.30363	.31268	.32173	.33076	.33980
	H/(KJ/KG)	1708.1	1792.7	1878.9	1966.6	2055.8	2146.5	2238.5	2331.9	2426.5
	S/(KJ/KG K)	4.0920	4.2030	4.3125	4.4205	4.5270	4.6321	4.7358	4.8381	4.9391
	C/(M/SEC)	333.8925	339.4632	344.9329	350.3077	355.5929	360.7935	365.9139	370.9582	375.9301
	KAPPA/(1/MPA)	2.5087	2.5071	2.5057	2.5044	2.5033	2.5024	2.5015	2.5007	2.5001
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.5000	V/(M3/KG)	.21368	.22098	.22827	.23555	.24282	.25009	.25734	.26459	.27183
	H/(KJ/KG)	1707.5	1792.2	1878.4	1966.1	2055.4	2146.1	2238.1	2331.5	2426.2
	S/(KJ/KG K)	4.0595	4.1705	4.2800	4.3880	4.4946	4.5997	4.7035	4.8058	4.9068
	C/(M/SEC)	333.6667	339.2828	344.7933	350.2048	355.5232	360.7539	365.9018	370.9711	375.9659
	KAPPA/(1/MPA)	2.0087	2.0071	2.0056	2.0044	2.0033	2.0023	2.0015	2.0007	2.0000
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.6000	V/(M3/KG)	.17791	.18402	.19012	.19621	.20229	.20836	.21442	.22048	.22653
	H/(KJ/KG)	1706.9	1791.6	1877.9	1965.7	2055.0	2145.7	2237.7	2331.1	2425.8
	S/(KJ/KG K)	4.0328	4.1439	4.2534	4.3615	4.4681	4.5732	4.6770	4.7793	4.8804
	C/(M/SEC)	333.4433	339.1049	344.6561	350.1043	355.4559	360.7167	365.8920	370.9863	376.0040
	KAPPA/(1/MPA)	1.6753	1.6737	1.6723	1.6710	1.6699	1.6690	1.6681	1.6673	1.6667
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1

THERMODYNAMIC PROPERTIES OF BUTANE

TEMPERATURES/(K)

P/(MPA)		275.000	300.000	325.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000
.7000	V/(M3/KG)	.00169	.00178	.00188	.06167	.06855	.07498	.08111	.08704	.09282	.09848
	H/(KJ/KG)	110.3	171.6	236.7	608.5	661.9	716.9	774.0	833.1	894.5	958.2
	S/(KJ/KG K)	.4538	.6672	.8755	1.9810	2.1282	2.2703	2.4086	2.5439	2.6766	2.8072
	C/(M/SEC)	1017.4333	871.3059	734.6754	204.9962	218.4176	229.9769	240.2925	249.7155	258.4646	266.6849
	KAPPA/(1/MPA)	.0024	.0033	.0049	1.6898	1.6141	1.5671	1.5355	1.5130	1.4964	1.4838
	BETA/(1000/K)	1.9	2.1	2.4	4.7	3.9	3.3	3.0	2.7	2.5	2.3
.8000	V/(M3/KG)	.00169	.00178	.00188	.05252	.05885	.06469	.07021	.07551	.08066	.08569
	H/(KJ/KG)	110.4	171.7	236.8	604.5	658.8	714.4	771.8	831.3	893.0	956.8
	S/(KJ/KG K)	.4535	.6669	.8751	1.9533	2.1030	2.2465	2.3858	2.5218	2.6551	2.7860
	C/(M/SEC)	1018.5183	872.6497	736.3815	200.1331	214.8051	227.1651	238.0397	247.8751	256.9404	265.4103
	KAPPA/(1/MPA)	.0023	.0033	.0048	1.5322	1.4453	1.3937	1.3598	1.3362	1.3189	1.3059
	BETA/(1000/K)	1.9	2.1	2.4	5.1	4.1	3.5	3.1	2.8	2.5	2.3
.9000	V/(M3/KG)	.00169	.00178	.00188	.04533	.05127	.05666	.06172	.06654	.07120	.07575
	H/(KJ/KG)	110.5	171.8	236.8	600.3	655.5	711.8	769.6	829.5	891.4	955.4
	S/(KJ/KG K)	.4532	.6665	.8746	1.9273	2.0797	2.2248	2.3652	2.5019	2.6358	2.7671
	C/(M/SEC)	1019.6007	873.9893	738.0805	194.9219	211.0305	224.2675	235.7381	246.0059	255.3990	264.1256
	KAPPA/(1/MPA)	.0023	.0033	.0048	1.4187	1.3175	1.2605	1.2241	1.1992	1.1812	1.1677
	BETA/(1000/K)	1.9	2.1	2.4	5.6	4.4	3.7	3.2	2.8	2.6	2.4
1.0000	V/(M3/KG)	.00169	.00178	.00188	.00201	.04518	.05023	.05491	.05936	.06363	.06778
	H/(KJ/KG)	110.5	171.8	236.8	305.4	652.2	709.1	767.4	827.6	889.7	953.9
	S/(KJ/KG K)	.4529	.6661	.8742	1.0772	2.0579	2.2048	2.3463	2.4838	2.6182	2.7499
	C/(M/SEC)	1011.9060	869.9163	739.7722	603.0296	207.0739	221.2773	233.3852	244.1070	253.8401	262.8307
	KAPPA/(1/MPA)	.0023	.0032	.0048	.0078	1.2190	1.1555	1.1163	1.0900	1.0712	1.0573
	BETA/(1000/K)	1.9	2.1	2.4	3.0	4.7	3.9	3.3	2.9	2.6	2.4
2.0000	V/(M3/KG)	.00169	.00177	.00187	.00200	.00217	.02049	.02391	.02681	.02943	.03188
	H/(KJ/KG)	111.3	172.5	237.3	305.3	377.8	676.4	742.2	807.0	872.4	939.0
	S/(KJ/KG K)	.4497	.6624	.8697	1.0714	1.2714	2.0427	2.2023	2.3504	2.4918	2.6285
	C/(M/SEC)	1031.3441	888.4404	756.2603	624.9129	481.2170	183.7791	206.3130	223.2710	237.2498	249.3442
	KAPPA/(1/MPA)	.0023	.0031	.0045	.0071	.0137	.7768	.6669	.6154	.5852	.5654
	BETA/(1000/K)	1.9	2.1	2.3	2.9	4.0	7.5	5.2	4.1	3.4	3.0
3.0000	V/(M3/KG)	.00168	.00177	.00186	.00198	.00214	.00242	.01273	.01561	.01785	.01981
	H/(KJ/KG)	112.2	173.2	237.7	305.4	376.9	457.6	706.5	781.7	852.4	922.5
	S/(KJ/KG K)	.4465	.6589	.8654	1.0658	1.2631	1.4711	2.0767	2.2487	2.4016	2.5453
	C/(M/SEC)	1041.7459	901.1800	772.0806	645.4208	510.5578	345.5395	168.3849	198.2814	218.8164	235.0534
	KAPPA/(1/MPA)	.0022	.0030	.0043	.0066	.0118	.0326	.6498	.4944	.4383	.4085
	BETA/(1000/K)	1.9	2.0	2.3	2.7	3.6	6.8	11.0	6.3	4.7	3.8
4.0000	V/(M3/KG)	.00168	.00176	.00186	.00197	.00212	.00235	.00312	.00955	.01190	.01371
	H/(KJ/KG)	113.0	173.9	238.2	305.5	376.2	454.2	558.1	747.1	828.7	904.0
	S/(KJ/KG K)	.4434	.6553	.8613	1.0606	1.2557	1.4568	1.7082	2.1444	2.3210	2.4754
	C/(M/SEC)	1051.9434	913.5603	787.2957	664.7811	537.0259	389.5946	302.9872	168.7297	199.1891	220.6120
	KAPPA/(1/MPA)	.0022	.0029	.0041	.0061	.0104	.0235	.3314	.5112	.3827	.3361
	BETA/(1000/K)	1.8	2.0	2.2	2.6	3.4	5.4	37.2	12.1	6.7	4.9

THERMODYNAMIC PROPERTIES OF BUTANE

TEMPERATURES/(K)

P/(MPA)		525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
.7000	V/(M3/KG)	.10406	.10957	.11503	.12045	.12583	.13118	.13650	.14181	.14709
	H/(KJ/KG)	1024.0	1092.0	1162.0	1234.2	1308.3	1384.3	1462.2	1541.9	1623.3
	S/(KJ/KG K)	2.9356	3.0620	3.1866	3.3094	3.4304	3.5497	3.6672	3.7831	3.8974
	C/(M/SEC)	274.4774	281.9153	289.0530	295.9321	302.5852	309.0383	315.3126	321.4254	327.3913
	KAPPA/(1/MPA)	1.4740	1.4662	1.4599	1.4547	1.4504	1.4469	1.4439	1.4413	1.4391
	BETA/(1000/K)	2.1	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4
.8000	V/(M3/KG)	.09064	.09552	.10034	.10512	.10986	.11457	.11926	.12392	.12857
	H/(KJ/KG)	1022.7	1090.8	1161.0	1233.2	1307.4	1383.5	1461.5	1541.2	1622.7
	S/(KJ/KG K)	2.9147	3.0414	3.1662	3.2892	3.4103	3.5297	3.6473	3.7633	3.8777
	C/(M/SEC)	273.4043	281.0078	288.2836	295.2794	302.0321	308.5712	314.9202	321.0984	327.1218
	KAPPA/(1/MPA)	1.2958	1.2879	1.2814	1.2762	1.2719	1.2683	1.2653	1.2627	1.2605
	BETA/(1000/K)	2.2	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4
.9000	V/(M3/KG)	.08020	.08458	.08891	.09319	.09744	.10165	.10584	.11001	.11417
	H/(KJ/KG)	1021.5	1089.7	1160.0	1232.3	1306.6	1382.8	1460.8	1540.6	1622.1
	S/(KJ/KG K)	2.8961	3.0231	3.1481	3.2711	3.3924	3.5119	3.6296	3.7457	3.8601
	C/(M/SEC)	272.3255	280.0974	287.5133	294.6270	301.4803	308.1059	314.5299	320.7737	326.8550
	KAPPA/(1/MPA)	1.1574	1.1492	1.1427	1.1374	1.1331	1.1294	1.1264	1.1238	1.1216
	BETA/(1000/K)	2.2	2.1	1.9	1.8	1.7	1.7	1.6	1.5	1.5
1.0000	V/(M3/KG)	.07184	.07583	.07976	.08365	.08750	.09132	.09511	.09889	.10264
	H/(KJ/KG)	1020.2	1088.6	1159.0	1231.4	1305.8	1382.0	1460.1	1539.9	1621.5
	S/(KJ/KG K)	2.8793	3.0065	3.1317	3.2549	3.3763	3.4959	3.6137	3.7299	3.8444
	C/(M/SEC)	271.2411	279.1844	286.7422	293.9752	300.9299	307.6425	314.1419	320.4516	326.5907
	KAPPA/(1/MPA)	1.0467	1.0384	1.0318	1.0264	1.0220	1.0183	1.0153	1.0127	1.0104
	BETA/(1000/K)	2.2	2.1	2.0	1.8	1.8	1.7	1.6	1.5	1.5
2.0000	V/(M3/KG)	.03420	.03644	.03860	.04072	.04279	.04483	.04684	.04883	.05080
	H/(KJ/KG)	1007.2	1077.0	1148.7	1222.1	1297.3	1374.3	1453.0	1533.4	1615.5
	S/(KJ/KG K)	2.7615	2.8915	3.0189	3.1439	3.2667	3.3874	3.5062	3.6232	3.7384
	C/(M/SEC)	260.1308	269.9531	279.0335	287.5242	295.5337	303.1424	310.4114	317.3881	324.1100
	KAPPA/(1/MPA)	.5515	.5412	.5334	.5272	.5223	.5184	.5151	.5123	.5100
	BETA/(1000/K)	2.7	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.5
3.0000	V/(M3/KG)	.02160	.02328	.02487	.02641	.02790	.02935	.03077	.03216	.03354
	H/(KJ/KG)	993.1	1064.8	1137.8	1212.4	1288.6	1366.4	1445.8	1526.8	1609.4
	S/(KJ/KG K)	2.6831	2.8165	2.9465	3.0734	3.1978	3.3199	3.4397	3.5576	3.6735
	C/(M/SEC)	248.7446	260.7339	271.4991	281.3394	290.4548	298.9858	307.0350	314.6798	321.9794
	KAPPA/(1/MPA)	.3899	.3772	.3680	.3611	.3557	.3515	.3480	.3452	.3428
	BETA/(1000/K)	3.2	2.8	2.5	2.3	2.1	2.0	1.8	1.7	1.6
4.0000	V/(M3/KG)	.01527	.01669	.01801	.01926	.02046	.02162	.02274	.02384	.02492
	H/(KJ/KG)	977.8	1051.8	1126.6	1202.5	1279.7	1358.4	1438.6	1520.2	1603.3
	S/(KJ/KG K)	2.6196	2.7572	2.8902	3.0194	3.1455	3.2689	3.3899	3.5087	3.6253
	C/(M/SEC)	237.6157	251.9436	264.4631	275.6738	285.8917	295.3295	304.1376	312.4265	320.2792
	KAPPA/(1/MPA)	.3114	.2959	.2854	.2778	.2720	.2676	.2640	.2612	.2588
	BETA/(1000/K)	3.9	3.3	2.8	2.5	2.3	2.1	2.0	1.8	1.7

THERMODYNAMIC PROPERTIES OF BUTANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.15236	.15762	.16287	.16810	.17333	.17855	.18376	.18897	.19417
	H/(KJ/KG)	1706.4	1791.1	1877.4	1965.2	2054.5	2145.3	2237.4	2330.8	2425.5
	S/(KJ/KG K)	4.0101	4.1212	4.2308	4.3389	4.4456	4.5507	4.6545	4.7569	4.8580
	C/(M/SEC)	333.2224	338.9295	344.5214	350.0063	355.3911	360.6820	365.8845	371.0038	376.0442
	KAPPA/(1/MPA)	1.4372	1.4356	1.4341	1.4329	1.4318	1.4308	1.4300	1.4292	1.4285
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.8000	V/(M3/KG)	.13320	.13782	.14243	.14703	.15162	.15620	.16077	.16534	.16990
	H/(KJ/KG)	1705.8	1790.6	1876.9	1964.8	2054.1	2144.9	2237.0	2330.4	2425.2
	S/(KJ/KG K)	3.9904	4.1016	4.2112	4.3193	4.4260	4.5312	4.6350	4.7374	4.8385
	C/(M/SEC)	333.0041	338.7566	344.3894	349.9109	355.3288	360.6496	365.8794	371.0235	376.0867
	KAPPA/(1/MPA)	1.2586	1.2570	1.2555	1.2543	1.2532	1.2522	1.2514	1.2506	1.2499
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.9000	V/(M3/KG)	.11830	.12242	.12654	.13064	.13473	.13881	.14289	.14696	.15102
	H/(KJ/KG)	1705.3	1790.1	1876.4	1964.3	2053.7	2144.5	2236.6	2330.1	2424.9
	S/(KJ/KG K)	3.9729	4.0841	4.1938	4.3020	4.4087	4.5139	4.6178	4.7202	4.8213
	C/(M/SEC)	332.7884	338.5865	344.2599	349.8181	355.2690	360.6197	365.8767	371.0456	376.1314
	KAPPA/(1/MPA)	1.1197	1.1180	1.1166	1.1153	1.1142	1.1133	1.1124	1.1117	1.1110
	BETA/(1000/K)	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1
1.0000	V/(M3/KG)	.10638	.11011	.11382	.11752	.12122	.12490	.12858	.13225	.13592
	H/(KJ/KG)	1704.7	1789.6	1876.0	1963.9	2053.3	2144.1	2236.2	2329.7	2424.5
	S/(KJ/KG K)	3.9572	4.0685	4.1782	4.2864	4.3932	4.4984	4.6023	4.7048	4.8059
	C/(M/SEC)	332.5753	338.4190	344.1332	349.7279	355.2118	360.5924	365.8764	371.0700	376.1784
	KAPPA/(1/MPA)	1.0085	1.0069	1.0054	1.0042	1.0031	1.0021	1.0013	1.0005	.9998
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1
2.0000	V/(M3/KG)	.05275	.05469	.05661	.05853	.06044	.06233	.06422	.06611	.06798
	H/(KJ/KG)	1699.1	1784.4	1871.1	1959.4	2049.0	2140.1	2232.5	2326.2	2421.2
	S/(KJ/KG K)	3.8518	3.9636	4.0738	4.1824	4.2895	4.3951	4.4992	4.6019	4.7032
	C/(M/SEC)	330.6073	336.9049	343.0232	348.9795	354.7883	360.4621	366.0118	371.4467	376.7752
	KAPPA/(1/MPA)	.5081	.5064	.5050	.5037	.5026	.5017	.5008	.5001	.4995
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
3.0000	V/(M3/KG)	.03489	.03624	.03757	.03888	.04019	.04150	.04279	.04408	.04536
	H/(KJ/KG)	1693.5	1779.2	1866.3	1954.9	2044.8	2136.2	2228.8	2322.8	2418.0
	S/(KJ/KG K)	3.7875	3.8999	4.0105	4.1195	4.2269	4.3328	4.4373	4.5402	4.6418
	C/(M/SEC)	328.9807	335.7211	342.2312	348.5360	354.6565	360.6103	366.4126	372.0763	377.6126
	KAPPA/(1/MPA)	.3409	.3392	.3377	.3365	.3354	.3345	.3337	.3330	.3324
	BETA/(1000/K)	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1
4.0000	V/(M3/KG)	.02598	.02703	.02806	.02908	.03009	.03109	.03209	.03308	.03406
	H/(KJ/KG)	1687.9	1774.0	1861.5	1950.4	2040.7	2132.3	2225.2	2319.4	2414.8
	S/(KJ/KG K)	3.7401	3.8530	3.9641	4.0735	4.1813	4.2875	4.3922	4.4954	4.5972
	C/(M/SEC)	327.7601	334.9199	341.7993	348.4315	354.8437	361.0589	367.0963	372.9724	378.7013
	KAPPA/(1/MPA)	.2568	.2552	.2538	.2526	.2516	.2507	.2499	.2492	.2486
	BETA/(1000/K)	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.2

THERMODYNAMIC PROPERTIES OF BUTANE

TEMPERATURES/(K)

P/(MPA)		275.000	300.000	325.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000
5.0000	V/(M3/KG)	.00168	.00176	.00185	.00196	.00210	.00230	.00272	.00543	.00820	.01001
	H/(KJ/KG)	113.8	174.6	238.8	305.7	375.8	451.9	538.9	692.3	799.8	883.3
	S/(KJ/KG K)	.4404	.6519	.8572	1.0556	1.2488	1.4453	1.6563	2.0062	2.2393	2.4106
	C/(M/SEC)	1061.9241	925.6082	801.9634	683.1282	561.2817	425.8953	403.5994	150.6531	181.8971	207.6921
	KAPPA/(1/MPA)	.0021	.0028	.0039	.0058	.0093	.0185	.0703	.5791	.3626	.2954
	BETA/(1000/K)	1.8	1.9	2.1	2.5	3.1	4.6	10.8	28.3	10.2	6.4
6.0000	V/(M3/KG)	.00167	.00175	.00184	.00195	.00208	.00226	.00258	.00360	.00581	.00758
	H/(KJ/KG)	114.7	175.4	239.4	306.0	375.5	450.3	531.7	643.2	766.7	860.7
	S/(KJ/KG K)	.4374	.6485	.8533	1.0508	1.2425	1.4356	1.6332	1.8875	2.1549	2.3480
	C/(M/SEC)	1071.7073	937.3463	816.1352	700.6044	583.7674	457.3473	464.5800	184.9276	176.8301	199.5550
	KAPPA/(1/MPA)	.0021	.0028	.0038	.0054	.0084	.0154	.0406	.2440	.3165	.2618
	BETA/(1000/K)	1.8	1.9	2.1	2.4	2.9	4.0	7.2	21.7	14.1	8.1
7.0000	V/(M3/KG)	.00167	.00175	.00183	.00194	.00206	.00223	.00250	.00307	.00444	.00595
	H/(KJ/KG)	115.6	176.1	240.0	306.3	375.3	449.1	527.4	622.3	736.8	837.9
	S/(KJ/KG K)	.4345	.6452	.8495	1.0462	1.2366	1.4270	1.6171	1.8337	2.0815	2.2890
	C/(M/SEC)	1081.2903	948.7932	829.8478	717.3085	604.7963	485.4091	512.5098	237.3999	189.9249	199.7873
	KAPPA/(1/MPA)	.0020	.0027	.0036	.0051	.0077	.0132	.0289	.1014	.2208	.2194
	BETA/(1000/K)	1.8	1.9	2.0	2.3	2.8	3.6	5.7	12.1	14.3	9.4
8.0000	V/(M3/KG)	.00167	.00174	.00183	.00193	.00205	.00220	.00243	.00285	.00371	.00489
	H/(KJ/KG)	116.4	176.9	240.6	306.7	375.3	448.3	524.5	612.0	715.4	817.4
	S/(KJ/KG K)	.4315	.6420	.8458	1.0418	1.2311	1.4193	1.6044	1.8043	2.0278	2.2373
	C/(M/SEC)	1090.6891	959.9672	843.1412	733.3293	624.6032	510.9163	553.1891	283.9355	214.7403	208.6865
	KAPPA/(1/MPA)	.0020	.0026	.0035	.0049	.0072	.0116	.0225	.0583	.1402	.1712
	BETA/(1000/K)	1.7	1.8	2.0	2.2	2.6	3.3	4.8	8.3	12.0	9.6
9.0000	V/(M3/KG)	.00166	.00174	.00182	.00192	.00203	.00218	.00238	.00271	.00332	.00422
	H/(KJ/KG)	117.3	177.7	241.2	307.2	375.4	447.6	522.3	605.7	701.1	800.6
	S/(KJ/KG K)	.4287	.6388	.8422	1.0376	1.2258	1.4123	1.5936	1.7842	1.9903	2.1946
	C/(M/SEC)	1099.9009	970.8845	856.0473	748.7370	643.3538	534.4359	589.0869	323.5601	245.6667	223.7606
	KAPPA/(1/MPA)	.0019	.0025	.0034	.0046	.0067	.0104	.0185	.0400	.0903	.1290
	BETA/(1000/K)	1.7	1.8	2.0	2.2	2.5	3.1	4.2	6.4	9.5	9.1
10.0000	V/(M3/KG)	.00166	.00173	.00182	.00191	.00202	.00216	.00234	.00262	.00308	.00377
	H/(KJ/KG)	118.2	178.5	241.9	307.6	375.5	447.2	520.7	601.4	691.4	787.4
	S/(KJ/KG K)	.4258	.6357	.8387	1.0334	1.2208	1.4057	1.5843	1.7687	1.9633	2.1602
	C/(M/SEC)	1108.9694	981.5559	868.5901	763.5847	661.1970	556.3279	621.5329	358.0666	278.1248	243.0323
	KAPPA/(1/MPA)	.0019	.0025	.0032	.0044	.0062	.0094	.0157	.0302	.0619	.0966
	BETA/(1000/K)	1.7	1.8	1.9	2.1	2.4	2.9	3.8	5.3	7.6	8.2

THERMODYNAMIC PROPERTIES OF BUTANE

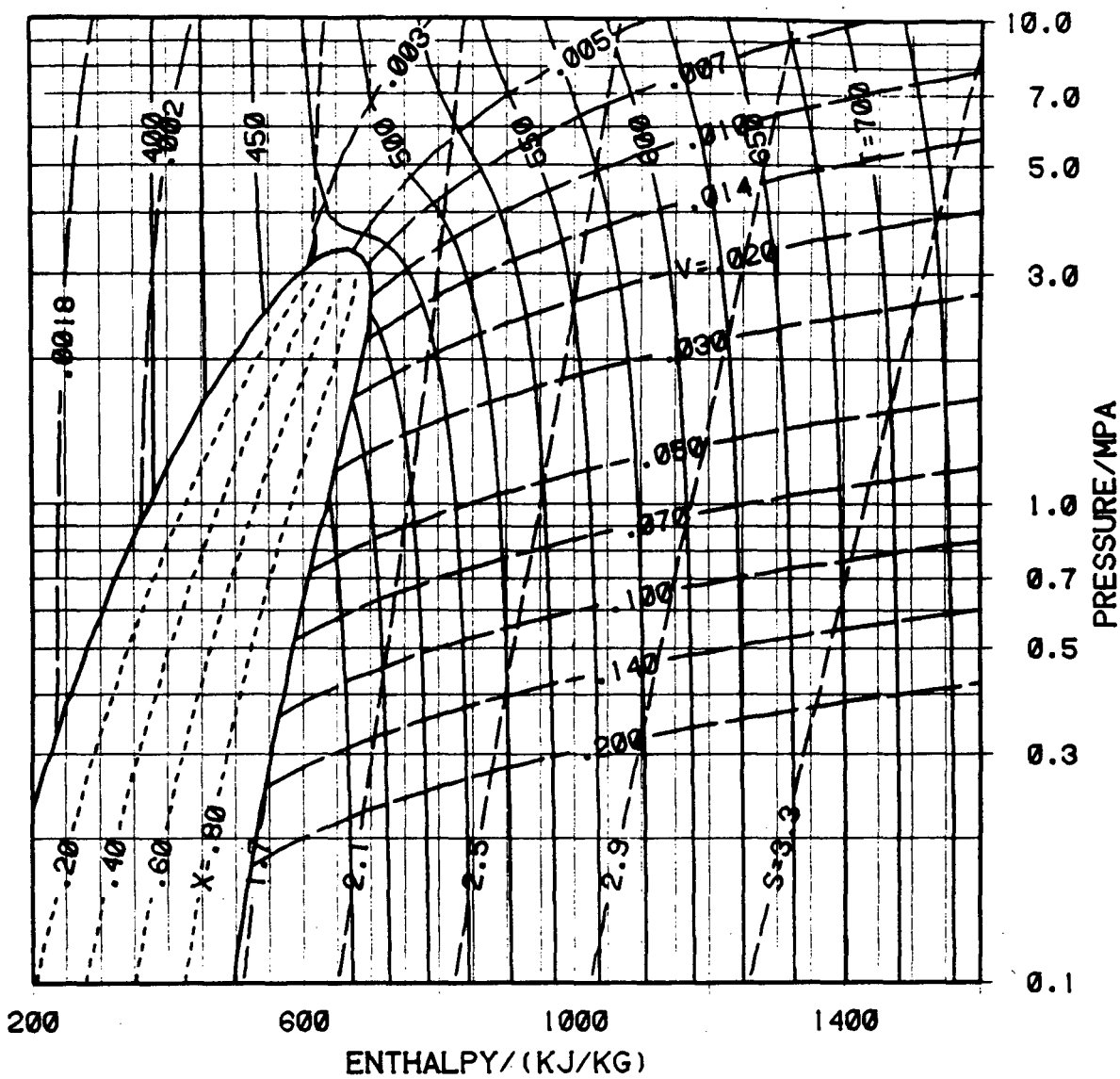
TEMPERATURES/(K)

P/(MPA)		525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
5.0000	V/(M3/KG)	.01147	.01275	.01391	.01499	.01602	.01700	.01795	.01887	.01977
	H/(KJ/KG)	961.5	1038.2	1114.9	1192.3	1270.7	1350.4	1431.3	1513.6	1597.3
	S/(KJ/KG K)	2.5632	2.7060	2.8424	2.9742	3.1022	3.2271	3.3492	3.4690	3.5864
	C/(M/SEC)	227.7231	244.2151	258.3589	270.8363	282.0708	292.3429	301.8479	310.7272	319.0862
	KAPPA/(1/MPA)	.2646	.2468	.2352	.2271	.2212	.2167	.2131	.2103	.2079
	BETA/(1000/K)	4.7	3.8	3.2	2.8	2.5	2.3	2.1	1.9	1.8
6.0000	V/(M3/KG)	.00896	.01014	.01120	.01217	.01308	.01394	.01477	.01557	.01635
	H/(KJ/KG)	944.2	1024.1	1103.0	1182.0	1261.7	1342.3	1424.0	1507.0	1591.3
	S/(KJ/KG K)	2.5109	2.6597	2.8000	2.9345	3.0645	3.1910	3.3144	3.4351	3.5534
	C/(M/SEC)	220.5790	238.3888	253.7056	267.1693	279.2283	290.1942	300.2885	309.6727	318.4682
	KAPPA/(1/MPA)	.2304	.2121	.2004	.1923	.1864	.1820	.1786	.1758	.1736
	BETA/(1000/K)	5.6	4.4	3.6	3.1	2.7	2.4	2.2	2.0	1.9
7.0000	V/(M3/KG)	.00723	.00832	.00929	.01018	.01100	.01178	.01252	.01324	.01393
	H/(KJ/KG)	926.6	1009.8	1091.0	1171.7	1252.6	1334.3	1416.8	1500.5	1585.4
	S/(KJ/KG K)	2.4621	2.6171	2.7615	2.8988	3.0309	3.1590	3.2836	3.4053	3.5244
	C/(M/SEC)	217.8742	235.3578	251.0252	265.0010	277.5817	289.0329	299.5644	309.3384	313.4801
	KAPPA/(1/MPA)	.1992	.1840	.1735	.1661	.1606	.1565	.1533	.1507	.1487
	BETA/(1000/K)	6.5	4.9	4.0	3.3	2.9	2.6	2.3	2.1	2.0
8.0000	V/(M3/KG)	.00602	.00701	.00790	.00871	.00947	.01018	.01085	.01150	.01212
	H/(KJ/KG)	909.7	995.9	1079.3	1161.6	1243.8	1326.4	1409.8	1494.1	1579.6
	S/(KJ/KG K)	2.4174	2.5778	2.7261	2.8662	3.0004	3.1300	3.2559	3.3786	3.4985
	C/(M/SEC)	220.5142	235.7425	250.7082	264.5814	277.2954	288.9696	299.7520	309.7771	319.1585
	KAPPA/(1/MPA)	.1678	.1589	.1510	.1449	.1402	.1366	.1337	.1314	.1296
	BETA/(1000/K)	7.0	5.3	4.3	3.6	3.1	2.7	2.4	2.2	2.0
9.0000	V/(M3/KG)	.00517	.00605	.00686	.00761	.00830	.00895	.00957	.01016	.01074
	H/(KJ/KG)	894.4	982.8	1068.0	1151.8	1235.1	1318.7	1402.9	1487.9	1573.9
	S/(KJ/KG K)	2.3777	2.5421	2.6937	2.8363	2.9724	3.1036	3.2306	3.3543	3.4750
	C/(M/SEC)	228.0202	239.6037	252.8875	266.0226	278.4513	290.0618	300.8902	311.0150	320.5204
	KAPPA/(1/MPA)	.1378	.1357	.1312	.1269	.1233	.1203	.1179	.1160	.1143
	BETA/(1000/K)	7.2	5.6	4.5	3.8	3.2	2.8	2.5	2.3	2.1
10.0000	V/(M3/KG)	.00456	.00534	.00607	.00675	.00739	.00799	.00856	.00911	.00964
	H/(KJ/KG)	881.2	970.8	1057.4	1142.4	1226.9	1311.3	1396.3	1481.9	1568.5
	S/(KJ/KG K)	2.3433	2.5100	2.6640	2.8088	2.9467	3.0792	3.2074	3.3320	3.4535
	C/(M/SEC)	239.2195	246.4906	257.4146	269.2803	281.0382	292.3074	302.9783	313.0499	322.5620
	KAPPA/(1/MPA)	.1116	.1148	.1137	.1113	.1089	.1067	.1048	.1032	.1019
	BETA/(1000/K)	7.0	5.7	4.6	3.9	3.3	2.9	2.6	2.4	2.1

THERMODYNAMIC PROPERTIES OF BUTANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.02065	.02152	.02237	.02321	.02404	.02486	.02568	.02649	.02729
	H/(KJ/KG)	1682.4	1768.9	1856.8	1946.0	2036.6	2128.5	2221.6	2316.1	2411.7
	S/(KJ/KG K)	3.7018	3.8153	3.9269	4.0367	4.1449	4.2514	4.3564	4.4599	4.5619
	C/(M/SEC)	327.0054	334.5480	341.7642	348.6945	355.3723	361.8251	368.0762	374.1451	380.0487
	KAPPA/(1/MPA)	.2060	.2044	.2031	.2019	.2010	.2001	.1994	.1987	.1982
	BETA/(1000/K)	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2
6.0000	V/(M3/KG)	.01711	.01786	.01859	.01931	.02002	.02072	.02142	.02211	.02279
	H/(KJ/KG)	1676.9	1763.8	1852.1	1941.7	2032.6	2124.7	2218.1	2312.8	2408.6
	S/(KJ/KG K)	3.6695	3.7835	3.8956	4.0059	4.1144	4.2212	4.3265	4.4302	4.5325
	C/(M/SEC)	326.7679	334.6443	342.1553	349.3474	356.2589	362.9212	369.3609	375.6003	381.6585
	KAPPA/(1/MPA)	.1718	.1703	.1690	.1679	.1670	.1662	.1655	.1649	.1644
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2
7.0000	V/(M3/KG)	.01460	.01526	.01590	.01654	.01716	.01778	.01838	.01899	.01958
	H/(KJ/KG)	1671.5	1758.9	1847.5	1937.4	2028.6	2121.1	2214.7	2309.6	2405.7
	S/(KJ/KG K)	3.6412	3.7558	3.8684	3.9791	4.0880	4.1951	4.3007	4.4047	4.5071
	C/(M/SEC)	327.0874	335.2378	342.9936	350.4050	357.5137	364.3539	370.9545	377.3399	383.5310
	KAPPA/(1/MPA)	.1470	.1456	.1444	.1434	.1425	.1418	.1412	.1406	.1402
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2
8.0000	V/(M3/KG)	.01273	.01332	.01390	.01447	.01503	.01558	.01612	.01665	.01718
	H/(KJ/KG)	1666.2	1754.0	1843.0	1933.3	2024.8	2117.5	2211.4	2306.5	2402.8
	S/(KJ/KG K)	3.6160	3.7311	3.8442	3.9553	4.0646	4.1721	4.2779	4.3821	4.4848
	C/(M/SEC)	327.9894	336.3459	344.2904	351.8744	359.1405	366.1245	372.8565	379.3621	385.6633
	KAPPA/(1/MPA)	.1280	.1268	.1257	.1248	.1240	.1234	.1228	.1223	.1219
	BETA/(1000/K)	1.9	1.8	1.6	1.6	1.5	1.4	1.3	1.3	1.2
9.0000	V/(M3/KG)	.01129	.01183	.01235	.01287	.01337	.01387	.01436	.01485	.01532
	H/(KJ/KG)	1661.0	1749.3	1838.7	1929.3	2021.1	2114.0	2208.2	2303.5	2400.0
	S/(KJ/KG K)	3.5931	3.7089	3.8224	3.9339	4.0435	4.1513	4.2574	4.3619	4.4648
	C/(M/SEC)	329.4840	337.9738	346.0477	353.7548	361.1368	368.2291	375.0620	381.6613	388.0494
	KAPPA/(1/MPA)	.1130	.1119	.1109	.1101	.1095	.1089	.1084	.1079	.1076
	BETA/(1000/K)	1.9	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.2
10.0000	V/(M3/KG)	.01015	.01064	.01112	.01160	.01206	.01252	.01296	.01341	.01384
	H/(KJ/KG)	1656.0	1744.7	1834.4	1925.4	2017.4	2110.7	2205.1	2300.6	2397.2
	S/(KJ/KG K)	3.5722	3.6885	3.8025	3.9144	4.0243	4.1324	4.2388	4.3435	4.4466
	C/(M/SEC)	331.5662	340.1153	348.2582	356.0384	363.4944	370.6595	377.5627	384.2291	390.6810
	KAPPA/(1/MPA)	.1007	.0998	.0990	.0983	.0977	.0972	.0967	.0964	.0960
	BETA/(1000/K)	2.0	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3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3.0
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0.7
0.5
0.3
0.1
PRESSURE/MPA
200
600
1000
1400
ENTHALPY/(KJ/KG)
.003
.005
.007
.014
V=.020
.030
.050
.070
.100
.140
.200
.0018
.20
.40
.60
X=.80
1.7
2.1
2.5
2.9
S=3.3
T=700
450

PENTANE

PROPERTIES OF SATURATED PENTANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
310.00000	.10346	.00167	.32918	135.31149	361.54358	496.85508	.48862	1.16627	1.65489
315.00000	.12250	.00169	.28074	147.70171	356.96488	504.66658	.52817	1.13322	1.66139
320.00000	.14415	.00170	.24073	160.25025	352.25522	512.50547	.56758	1.10080	1.66837
325.00000	.16863	.00172	.20746	172.95321	347.41470	520.36790	.60684	1.06897	1.67580
330.00000	.19618	.00173	.17964	185.80641	342.44355	528.24997	.64594	1.03771	1.68364
335.00000	.22704	.00175	.15625	198.80552	337.34206	536.14758	.68487	1.00699	1.69186
340.00000	.26144	.00177	.13646	211.94615	332.11035	544.05650	.72363	.97680	1.70042
345.00000	.29964	.00179	.11965	225.22414	326.74807	551.97221	.76220	.94710	1.70929
350.00000	.34188	.00180	.10528	238.63561	321.25429	559.88990	.80057	.91787	1.71844
355.00000	.38843	.00182	.09296	252.17510	315.62961	567.80471	.83874	.88910	1.72784
360.00000	.43953	.00184	.08233	265.84237	309.86815	575.71053	.87671	.86074	1.73746
365.00000	.49546	.00186	.07313	279.63376	303.96758	583.60135	.91447	.83279	1.74726
370.00000	.55649	.00189	.06512	293.54798	297.92221	591.47020	.95202	.80520	1.75722
375.00000	.62289	.00191	.05813	307.58497	291.72424	599.30921	.98937	.77793	1.76730
380.00000	.69495	.00193	.05201	321.74615	285.36323	607.10938	1.02651	.75096	1.77747
385.00000	.77296	.00196	.04661	336.03481	278.82555	614.86035	1.06347	.72422	1.78769
390.00000	.85722	.00198	.04185	350.45644	272.09359	622.55003	1.10026	.69768	1.79794
395.00000	.94806	.00201	.03763	365.01927	265.14490	630.16417	1.13690	.67125	1.80815
400.00000	1.04580	.00204	.03387	379.73481	257.95102	637.68583	1.17342	.64488	1.81830
405.00000	1.15079	.00207	.03051	394.61867	250.47597	645.09463	1.20987	.61846	1.82832
410.00000	1.26340	.00210	.02750	409.69162	242.67406	652.36568	1.24628	.59189	1.83817
415.00000	1.38401	.00214	.02479	424.97987	234.48865	659.46852	1.28272	.56503	1.84775
420.00000	1.51304	.00218	.02234	440.51979	225.84439	666.36419	1.31927	.53772	1.85700
425.00000	1.65094	.00222	.02011	456.35583	216.64779	673.00362	1.35604	.50976	1.86580
430.00000	1.79820	.00227	.01808	472.54808	206.77393	679.32200	1.39314	.48087	1.87401
435.00000	1.95533	.00232	.01621	489.17621	196.05551	685.23173	1.43075	.45070	1.88145
440.00000	2.12289	.00238	.01449	506.34860	184.26128	690.60988	1.46910	.41878	1.88788
445.00000	2.30152	.00245	.01288	524.21751	171.05783	695.27534	1.50850	.38440	1.89290
450.00000	2.49189	.00254	.01136	543.01166	155.92924	698.94090	1.54944	.34651	1.89595
455.00000	2.69473	.00265	.00989	563.10292	138.00086	701.10378	1.59267	.30330	1.89597
460.00000	2.91088	.00280	.00843	585.19805	115.52695	700.72500	1.63968	.25115	1.89082
465.00000	3.14123	.00305	.00683	611.12751	83.71465	694.84215	1.69428	.18003	1.87431
469.65000	3.38679	.00431	.00431	659.91299	0.	659.91299	1.79672	0.	1.79672

THERMODYNAMIC PROPERTIES OF PENTANE

TEMPERATURES/(K)

P/(MPA)		310.000	325.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000
.1000	V/(M3/KG)	.34116	.36028	.39156	.42228	.45261	.48264	.51244	.54208	.57158
	H/(KJ/KG)	497.1	523.9	570.8	620.3	672.5	727.2	784.5	844.3	906.5
	S/(KJ/KG K)	1.6593	1.7440	1.8829	2.0195	2.1540	2.2867	2.4177	2.5470	2.6747
	C/(M/SEC)	188.1051	193.5199	201.9625	209.8362	217.2663	224.3388	231.1143	237.6375	243.9423
	KAPPA/(1/MPA)	10.4935	10.4116	10.3112	10.2409	10.1899	10.1521	10.1235	10.1013	10.0838
	BETA/(1000/K)	3.8	3.5	3.2	2.9	2.7	2.5	2.3	2.2	2.1
.1013	V/(M3/KG)	.33648	.35537	.38628	.41663	.44658	.47623	.50566	.53492	.56405
	H/(KJ/KG)	497.0	523.9	570.8	620.3	672.4	727.2	784.5	844.3	906.5
	S/(KJ/KG K)	1.6576	1.7423	1.8812	2.0179	2.1524	2.2852	2.4162	2.5455	2.6731
	C/(M/SEC)	187.9988	193.4284	201.8901	209.7777	217.2184	224.2990	231.0809	237.6093	243.9183
	KAPPA/(1/MPA)	10.3636	10.2815	10.1808	10.1103	10.0593	10.0215	9.9927	9.9705	9.9531
	BETA/(1000/K)	3.8	3.5	3.2	2.9	2.7	2.5	2.3	2.2	2.1
.2000	V/(M3/KG)	.00167	.00172	.18952	.20595	.22194	.23760	.25303	.26828	.28338
	H/(KJ/KG)	135.4	173.0	566.5	616.7	669.4	724.6	782.3	842.3	904.8
	S/(KJ/KG K)	.4883	.6067	1.7941	1.9326	2.0686	2.2024	2.3342	2.4641	2.5922
	C/(M/SEC)	917.3477	844.3623	196.2966	205.3028	213.5732	221.2873	228.5646	235.4879	242.1169
	KAPPA/(1/MPA)	.0027	.0032	5.3395	5.2571	5.1997	5.1582	5.1273	5.1038	5.0855
	BETA/(1000/K)	1.8	1.9	3.5	3.1	2.8	2.6	2.4	2.3	2.1
.3000	V/(M3/KG)	.00167	.00172	.12192	.13369	.14496	.15587	.16652	.17698	.18730
	H/(KJ/KG)	135.5	173.0	561.9	613.0	666.3	721.9	779.9	840.3	903.0
	S/(KJ/KG K)	.4880	.6064	1.7378	1.8786	2.0162	2.1511	2.2837	2.4143	2.5429
	C/(M/SEC)	918.5162	845.6712	190.1694	200.5037	209.7193	218.1353	225.9504	233.2962	240.2640
	KAPPA/(1/MPA)	.0027	.0032	3.7077	3.6093	3.5439	3.4981	3.4648	3.4398	3.4206
	BETA/(1000/K)	1.8	1.9	4.0	3.4	3.1	2.8	2.5	2.3	2.2
.4000	V/(M3/KG)	.00167	.00172	.00180	.09744	.10639	.11495	.12323	.13131	.13924
	H/(KJ/KG)	135.5	173.1	238.7	609.0	663.0	719.2	777.6	838.3	901.2
	S/(KJ/KG K)	.4877	.6061	.8003	1.8377	1.9770	2.1132	2.2468	2.3780	2.5071
	C/(M/SEC)	919.6816	846.9760	730.0426	195.3940	205.6852	214.8737	223.2675	231.0607	238.3829
	KAPPA/(1/MPA)	.0026	.0032	.0044	2.7983	2.7230	2.6721	2.6359	2.6093	2.5890
	BETA/(1000/K)	1.8	1.9	2.1	3.8	3.3	2.9	2.7	2.4	2.3
.5000	V/(M3/KG)	.00167	.00172	.00180	.07556	.08318	.09035	.09723	.10389	.11040
	H/(KJ/KG)	135.6	173.2	238.7	604.8	659.6	716.3	775.2	836.2	899.4
	S/(KJ/KG K)	.4874	.6058	.8000	1.8037	1.9451	2.0826	2.2171	2.3491	2.4787
	C/(M/SEC)	920.8439	848.2768	731.6408	189.9151	201.4474	211.4923	220.5113	228.7792	236.4726
	KAPPA/(1/MPA)	.0026	.0032	.0044	2.3252	2.2371	2.1801	2.1407	2.1122	2.0909
	BETA/(1000/K)	1.8	1.9	2.1	4.2	3.5	3.1	2.8	2.5	2.3
.6000	V/(M3/KG)	.00167	.00172	.00180	.06085	.06764	.07392	.07987	.08560	.09115
	H/(KJ/KG)	135.7	173.2	238.8	600.4	656.0	713.4	772.7	834.1	897.5
	S/(KJ/KG K)	.4871	.6054	.7996	1.7738	1.9175	2.0565	2.1921	2.3248	2.4550
	C/(M/SEC)	922.0030	849.5737	733.2325	183.9884	196.9770	207.9794	217.6766	226.4494	234.5320
	KAPPA/(1/MPA)	.0026	.0032	.0044	2.0250	1.9200	1.8556	1.8125	1.7820	1.7596
	BETA/(1000/K)	1.8	1.9	2.1	4.7	3.8	3.3	2.9	2.6	2.4

THERMODYNAMIC PROPERTIES OF PENTANE

TEMPERATURES/(K)

P/(MPA)		525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
.1000	V/(M3/KG)	.60099	.63030	.65955	.68875	.71790	.74701	.77610	.80515	.83418
	H/(KJ/KG)	971.1	1037.9	1106.9	1178.0	1251.1	1326.1	1403.0	1481.8	1562.2
	S/(KJ/KG K)	2.8006	2.9250	3.0476	3.1686	3.2880	3.4057	3.5218	3.6363	3.7492
	C/(M/SEC)	250.0547	255.9955	261.7816	267.4268	272.9427	278.3392	283.6248	288.8068	293.8917
	KAPPA/(1/MPA)	10.0699	10.0586	10.0494	10.0418	10.0354	10.0300	10.0255	10.0216	10.0182
	BETA/(1000/K)	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4
.1013	V/(M3/KG)	.59307	.62201	.65088	.67970	.70848	.73721	.76592	.79460	.82326
	H/(KJ/KG)	971.1	1037.9	1106.9	1178.0	1251.1	1326.1	1403.0	1481.7	1562.2
	S/(KJ/KG K)	2.7991	2.9234	3.0461	3.1671	3.2864	3.4042	3.5203	3.6348	3.7477
	C/(M/SEC)	250.0342	255.9779	261.7664	267.4137	272.9314	278.3295	283.6164	288.7996	293.8856
	KAPPA/(1/MPA)	9.9391	9.9279	9.9186	9.9110	9.9046	9.8993	9.8947	9.8908	9.8875
	BETA/(1000/K)	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4
.2000	V/(M3/KG)	.29838	.31330	.32814	.34293	.35768	.37238	.38706	.40171	.41633
	H/(KJ/KG)	969.5	1036.5	1105.6	1176.8	1250.0	1325.2	1402.2	1480.9	1561.4
	S/(KJ/KG K)	2.7186	2.8432	2.9661	3.0873	3.2068	3.3247	3.4409	3.5555	3.6685
	C/(M/SEC)	248.4960	254.6590	260.6322	266.4366	272.0893	277.6042	282.9931	288.2659	293.4311
	KAPPA/(1/MPA)	5.0710	5.0594	5.0499	5.0421	5.0356	5.0302	5.0256	5.0216	5.0183
	BETA/(1000/K)	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.5	1.4
.3000	V/(M3/KG)	.19750	.20762	.21767	.22766	.23760	.24751	.25738	.26722	.27705
	H/(KJ/KG)	968.0	1035.1	1104.4	1175.7	1249.0	1324.2	1401.3	1480.1	1560.7
	S/(KJ/KG K)	2.6696	2.7946	2.9177	3.0391	3.1588	3.2768	3.3931	3.5078	3.6209
	C/(M/SEC)	246.9194	253.3110	259.4757	265.4425	271.2341	276.8689	282.3621	287.7264	292.9723
	KAPPA/(1/MPA)	3.4055	3.3935	3.3837	3.3758	3.3692	3.3636	3.3590	3.3550	3.3516
	BETA/(1000/K)	2.1	1.9	1.8	1.8	1.7	1.6	1.5	1.5	1.4
.4000	V/(M3/KG)	.14705	.15478	.16243	.17002	.17756	.18507	.19254	.19998	.20741
	H/(KJ/KG)	966.4	1033.7	1103.1	1174.5	1248.0	1323.3	1400.4	1479.3	1559.9
	S/(KJ/KG K)	2.6343	2.7595	2.8829	3.0045	3.1244	3.2425	3.3590	3.4738	3.5869
	C/(M/SEC)	245.3247	251.9515	258.3123	264.4445	270.3771	276.1333	281.7319	287.1884	292.5155
	KAPPA/(1/MPA)	2.5733	2.5609	2.5509	2.5428	2.5361	2.5304	2.5257	2.5217	2.5183
	BETA/(1000/K)	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.5	1.4
.5000	V/(M3/KG)	.11678	.12306	.12928	.13543	.14154	.14760	.15364	.15964	.16562
	H/(KJ/KG)	964.8	1032.3	1101.8	1173.4	1246.9	1322.3	1399.5	1478.5	1559.2
	S/(KJ/KG K)	2.6063	2.7319	2.8555	2.9774	3.0974	3.2157	3.3322	3.4471	3.5604
	C/(M/SEC)	243.7114	250.5805	257.1421	263.4428	269.5185	275.3976	281.1026	286.6519	292.0607
	KAPPA/(1/MPA)	2.0746	2.0617	2.0515	2.0431	2.0363	2.0306	2.0258	2.0217	2.0183
	BETA/(1000/K)	2.2	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4
.6000	V/(M3/KG)	.09658	.10192	.10718	.11237	.11752	.12263	.12770	.13275	.13777
	H/(KJ/KG)	963.1	1030.8	1100.5	1172.2	1245.8	1321.3	1398.6	1477.7	1558.4
	S/(KJ/KG K)	2.5830	2.7089	2.8328	2.9549	3.0751	3.1935	3.3102	3.4252	3.5385
	C/(M/SEC)	242.0792	249.1979	255.9650	262.4375	268.6586	274.6620	280.4744	286.1173	291.6081
	KAPPA/(1/MPA)	1.7425	1.7292	1.7186	1.7101	1.7031	1.6974	1.6925	1.6884	1.6849
	BETA/(1000/K)	2.2	2.1	1.9	1.8	1.7	1.7	1.6	1.5	1.5

THERMODYNAMIC PROPERTIES OF PENTANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	.86320	.89220	.92118	.95015	.97911	1.00806	1.03701	1.06594	1.09487
	H/(KJ/KG)	1644.3	1728.0	1813.3	1900.1	1988.4	2078.0	2169.0	2261.4	2354.9
	S/(KJ/KG K)	3.8606	3.9704	4.0787	4.1855	4.2909	4.3948	4.4974	4.5985	4.6984
	C/(M/SEC)	298.8854	303.7929	308.6190	313.3678	318.0431	322.6486	327.1874	331.6626	336.0769
	KAPPA/(1/MPA)	10.0154	10.0128	10.0106	10.0087	10.0069	10.0054	10.0041	10.0029	10.0018
	BETA/(1000/K)	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.1013	V/(M3/KG)	.85189	.88051	.90912	.93772	.96630	.99487	1.02344	1.05200	1.08055
	H/(KJ/KG)	1644.3	1728.0	1813.3	1900.1	1988.4	2078.0	2169.0	2261.3	2354.9
	S/(KJ/KG K)	3.8590	3.9688	4.0772	4.1840	4.2894	4.3933	4.4958	4.5970	4.6968
	C/(M/SEC)	298.8802	303.7886	308.6154	313.3649	318.0408	322.6468	327.1862	331.6618	336.0767
	KAPPA/(1/MPA)	9.8846	9.8820	9.8798	9.8779	9.8762	9.8747	9.8733	9.8721	9.8710
	BETA/(1000/K)	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
.2000	V/(M3/KG)	.43094	.44553	.46010	.47467	.48922	.50376	.51829	.53282	.54734
	H/(KJ/KG)	1643.6	1727.4	1812.7	1899.6	1987.8	2077.5	2168.6	2260.9	2354.5
	S/(KJ/KG K)	3.7799	3.8898	3.9981	4.1050	4.2104	4.3144	4.4170	4.5182	4.6180
	C/(M/SEC)	298.4961	303.4674	308.3507	313.1511	317.8732	322.5211	327.0987	331.6093	336.0563
	KAPPA/(1/MPA)	5.0153	5.0128	5.0106	5.0086	5.0069	5.0054	5.0040	5.0028	5.0018
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.3000	V/(M3/KG)	.28685	.29664	.30641	.31617	.32592	.33566	.34539	.35511	.36483
	H/(KJ/KG)	1642.9	1726.7	1812.1	1899.0	1987.3	2077.0	2168.1	2260.5	2354.1
	S/(KJ/KG K)	3.7324	3.8424	3.9508	4.0577	4.1631	4.2672	4.3698	4.4710	4.5709
	C/(M/SEC)	298.1090	303.1442	308.0848	312.9369	317.7057	322.3961	327.0124	331.5584	336.0378
	KAPPA/(1/MPA)	3.3486	3.3461	3.3439	3.3419	3.3402	3.3387	3.3373	3.3361	3.3351
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.4000	V/(M3/KG)	.21481	.22220	.22957	.23693	.24427	.25161	.25894	.26626	.27357
	H/(KJ/KG)	1642.2	1726.1	1811.5	1898.4	1986.8	2076.5	2167.6	2260.0	2353.7
	S/(KJ/KG K)	3.6985	3.8085	3.9170	4.0239	4.1294	4.2335	4.3361	4.4374	4.5373
	C/(M/SEC)	297.7240	302.8234	307.8215	312.7252	317.5408	322.2736	326.9285	331.5098	336.0215
	KAPPA/(1/MPA)	2.5153	2.5127	2.5105	2.5085	2.5068	2.5053	2.5040	2.5027	2.5017
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.5000	V/(M3/KG)	.17159	.17753	.18346	.18938	.19529	.20118	.20707	.21295	.21882
	H/(KJ/KG)	1641.5	1725.4	1810.9	1897.8	1986.2	2076.0	2167.1	2259.6	2353.2
	S/(KJ/KG K)	3.6720	3.7821	3.8906	3.9976	4.1032	4.2072	4.3099	4.4112	4.5112
	C/(M/SEC)	297.3415	302.5051	307.5607	312.5162	317.3785	322.1537	326.8471	331.4636	336.0076
	KAPPA/(1/MPA)	2.0153	2.0127	2.0105	2.0085	2.0068	2.0053	2.0039	2.0027	2.0016
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.6000	V/(M3/KG)	.14277	.14775	.15272	.15768	.16263	.16756	.17249	.17741	.18232
	H/(KJ/KG)	1640.8	1724.8	1810.3	1897.3	1985.7	2075.5	2166.7	2259.1	2352.8
	S/(KJ/KG K)	3.6502	3.7604	3.8689	3.9760	4.0816	4.1857	4.2884	4.3898	4.4897
	C/(M/SEC)	296.9614	302.1895	307.3027	312.3099	317.2189	322.0363	326.7682	331.4198	335.9960
	KAPPA/(1/MPA)	1.6819	1.6793	1.6771	1.6751	1.6734	1.6719	1.6705	1.6693	1.6683
	BETA/(1000/K)	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1

THERMODYNAMIC PROPERTIES OF PENTANE

TEMPERATURES/(K)

P/(MPA)		310.000	325.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000
.7000	V/(M3/KG)	.00167	.00171	.00180	.00191	.05647	.06214	.06745	.07252	.07740
	H/(KJ/KG)	135.8	173.3	238.8	307.6	652.3	710.4	770.2	831.9	895.7
	S/(KJ/KG K)	.4868	.6051	.7992	.9890	1.8927	2.0334	2.1701	2.3036	2.4345
	C/(M/SEC)	923.1591	850.8665	734.8178	619.1926	192.2378	204.3209	214.7578	224.0688	232.5603
	KAPPA/(1/MPA)	.0026	.0031	.0044	.0066	1.7009	1.6274	1.5800	1.5473	1.5236
	BETA/(1000/K)	1.8	1.9	2.1	2.5	4.2	3.5	3.1	2.7	2.5
.8000	V/(M3/KG)	.00167	.00171	.00180	.00191	.04803	.05328	.05812	.06269	.06708
	H/(KJ/KG)	135.8	173.4	238.8	307.6	648.4	707.2	767.6	829.7	893.8
	S/(KJ/KG K)	.4865	.6048	.7988	.9885	1.8699	2.0125	2.1505	2.2848	2.4163
	C/(M/SEC)	918.3624	847.4411	736.3967	621.2048	187.1832	200.5005	211.7482	221.6349	230.5564
	KAPPA/(1/MPA)	.0026	.0031	.0044	.0065	1.5450	1.4600	1.4075	1.3723	1.3471
	BETA/(1000/K)	1.8	1.9	2.1	2.5	4.6	3.8	3.2	2.9	2.6
.9000	V/(M3/KG)	.00167	.00171	.00180	.00191	.04140	.04634	.05084	.05504	.05904
	H/(KJ/KG)	135.9	173.4	238.9	307.6	644.3	704.0	764.9	827.4	891.8
	S/(KJ/KG K)	.4862	.6045	.7984	.9880	1.8484	1.9932	2.1325	2.2677	2.3998
	C/(M/SEC)	921.3099	850.4773	735.1639	623.2058	181.7521	196.4983	208.6405	219.1447	228.5192
	KAPPA/(1/MPA)	.0026	.0031	.0043	.0065	1.4335	1.3337	1.2753	1.2372	1.2105
	BETA/(1000/K)	1.8	1.9	2.1	2.5	5.1	4.0	3.4	3.0	2.7
1.0000	V/(M3/KG)	.00167	.00171	.00180	.00190	.03602	.04076	.04499	.04890	.05261
	H/(KJ/KG)	136.0	173.5	238.9	307.6	639.8	700.6	762.1	825.2	889.9
	S/(KJ/KG K)	.4860	.6041	.7981	.9876	1.8277	1.9750	2.1157	2.2520	2.3847
	C/(M/SEC)	924.3078	853.5663	738.5238	625.1804	175.8614	192.2905	205.4265	216.5952	226.4476
	KAPPA/(1/MPA)	.0026	.0031	.0043	.0064	1.3565	1.2371	1.1715	1.1301	1.1018
	BETA/(1000/K)	1.8	1.9	2.1	2.5	5.7	4.4	3.6	3.1	2.8
2.0000	V/(M3/KG)	.00166	.00171	.00179	.00189	.00202	.00221	.01785	.02089	.02341
	H/(KJ/KG)	136.7	174.2	239.4	307.8	379.3	455.6	727.9	798.7	868.2
	S/(KJ/KG K)	.4830	.6010	.7944	.9830	1.1675	1.3526	1.9761	2.1292	2.2719
	C/(M/SEC)	937.9160	867.3016	754.8199	644.4092	529.5663	398.6632	164.1544	186.8918	203.5583
	KAPPA/(1/MPA)	.0025	.0030	.0041	.0060	.0096	.0195	.8285	.6945	.6340
	BETA/(1000/K)	1.7	1.8	2.0	2.4	2.9	4.4	7.8	5.2	4.0
3.0000	V/(M3/KG)	.00166	.00170	.00178	.00188	.00200	.00217	.00247	.01055	.01328
	H/(KJ/KG)	137.5	174.9	240.0	308.1	379.0	454.1	539.2	758.5	840.7
	S/(KJ/KG K)	.4802	.5979	.7908	.9787	1.1618	1.3437	1.5383	2.0126	2.1815
	C/(M/SEC)	948.9146	879.5250	769.5258	662.5958	553.2732	433.3424	282.2449	143.5020	175.7662
	KAPPA/(1/MPA)	.0025	.0029	.0039	.0056	.0086	.0158	.0479	.7593	.5293
	BETA/(1000/K)	1.7	1.8	2.0	2.3	2.8	3.8	7.7	13.4	6.8
4.0000	V/(M3/KG)	.00165	.00170	.00178	.00187	.00199	.00214	.00238	.00314	.00771
	H/(KJ/KG)	138.3	175.6	240.5	308.4	378.9	452.9	534.7	637.1	800.9
	S/(KJ/KG K)	.4773	.5949	.7873	.9745	1.1565	1.3360	1.5227	1.7439	2.0813
	C/(M/SEC)	959.6628	891.4040	783.7000	679.8833	575.2298	463.5306	333.5684	159.7360	144.7411
	KAPPA/(1/MPA)	.0024	.0028	.0038	.0053	.0079	.0133	.0305	.3268	.5818
	BETA/(1000/K)	1.7	1.8	1.9	2.2	2.6	3.4	5.5	29.8	15.0

THERMODYNAMIC PROPERTIES OF PENTANE

TEMPERATURES/(K)

P/(MPA)		525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
.7000	V/(M3/KG)	.08216	.08681	.09139	.09590	.10036	.10478	.10917	.11353	.11787
	H/(KJ/KG)	961.5	1029.4	1099.2	1171.0	1244.8	1320.4	1397.7	1476.9	1557.7
	S/(KJ/KG K)	2.5629	2.6892	2.8134	2.9356	3.0560	3.1746	3.2914	3.4065	3.5199
	C/(M/SEC)	240.4279	247.8037	254.7813	261.4288	267.7974	273.9267	279.8475	285.5845	291.1578
	KAPPA/(1/MPA)	1.5057	1.4920	1.4811	1.4724	1.4653	1.4594	1.4545	1.4504	1.4468
	BETA/(1000/K)	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.5
.8000	V/(M3/KG)	.07133	.07548	.07954	.08354	.08749	.09140	.09528	.09913	.10295
	H/(KJ/KG)	959.8	1027.9	1097.9	1169.9	1243.7	1319.4	1396.8	1476.0	1556.9
	S/(KJ/KG K)	2.5452	2.6718	2.7963	2.9188	3.0393	3.1580	3.2750	3.3902	3.5037
	C/(M/SEC)	238.7570	246.3979	253.5910	260.4168	266.9352	273.1918	279.2219	285.0538	290.7100
	KAPPA/(1/MPA)	1.3285	1.3142	1.3031	1.2941	1.2869	1.2809	1.2760	1.2718	1.2683
	BETA/(1000/K)	2.4	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.5
.9000	V/(M3/KG)	.06290	.06666	.07033	.07393	.07749	.08100	.08447	.08792	.09134
	H/(KJ/KG)	958.1	1026.4	1096.6	1168.7	1242.6	1318.4	1396.0	1475.2	1556.2
	S/(KJ/KG K)	2.5292	2.6562	2.7810	2.9037	3.0244	3.1433	3.2604	3.3757	3.4893
	C/(M/SEC)	237.0663	244.9805	252.3943	259.4018	266.0722	272.4575	278.5980	284.5253	290.2649
	KAPPA/(1/MPA)	1.1910	1.1762	1.1647	1.1556	1.1482	1.1422	1.1372	1.1329	1.1294
	BETA/(1000/K)	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.6	1.5
1.0000	V/(M3/KG)	.05616	.05960	.06295	.06624	.06948	.07267	.07583	.07896	.08206
	H/(KJ/KG)	956.4	1024.9	1095.2	1167.5	1241.5	1317.4	1395.1	1474.4	1555.4
	S/(KJ/KG K)	2.5146	2.6420	2.7671	2.8900	3.0110	3.1300	3.2472	3.3626	3.4763
	C/(M/SEC)	235.3553	243.5514	251.1913	258.3840	265.2086	271.7241	277.9758	283.9992	289.8224
	KAPPA/(1/MPA)	1.0813	1.0660	1.0542	1.0448	1.0373	1.0312	1.0261	1.0218	1.0182
	BETA/(1000/K)	2.5	2.3	2.1	2.0	1.8	1.7	1.7	1.6	1.5
2.0000	V/(M3/KG)	.02567	.02776	.02973	.03161	.03343	.03520	.03693	.03862	.04029
	H/(KJ/KG)	938.1	1009.0	1081.3	1155.1	1230.4	1307.4	1385.9	1466.0	1547.7
	S/(KJ/KG K)	2.4083	2.5403	2.6688	2.7944	2.9174	3.0381	3.1567	3.2732	3.3879
	C/(M/SEC)	217.0819	228.6482	238.8696	248.1072	256.5929	264.4845	271.8946	278.9059	285.5809
	KAPPA/(1/MPA)	.5991	.5762	.5602	.5484	.5393	.5322	.5265	.5218	.5180
	BETA/(1000/K)	3.4	2.9	2.6	2.3	2.1	2.0	1.9	1.7	1.6
3.0000	V/(M3/KG)	.01531	.01704	.01860	.02005	.02141	.02272	.02397	.02520	.02639
	H/(KJ/KG)	916.6	991.3	1066.2	1141.9	1218.8	1297.0	1376.6	1457.5	1539.9
	S/(KJ/KG K)	2.3296	2.4686	2.6018	2.7307	2.8563	2.9789	3.0990	3.2168	3.3324
	C/(M/SEC)	196.7284	212.8971	226.3135	237.9230	248.2490	257.6144	266.2332	274.2544	281.7863
	KAPPA/(1/MPA)	.4582	.4220	.3999	.3849	.3742	.3661	.3598	.3548	.3507
	BETA/(1000/K)	4.8	3.8	3.2	2.8	2.5	2.3	2.1	1.9	1.8
4.0000	V/(M3/KG)	.00997	.01162	.01302	.01426	.01541	.01649	.01752	.01850	.01946
	H/(KJ/KG)	890.5	971.2	1049.7	1128.0	1206.7	1286.3	1367.0	1448.9	1532.1
	S/(KJ/KG K)	2.2563	2.4065	2.5461	2.6793	2.8079	2.9327	3.0546	3.1737	3.2905
	C/(M/SEC)	175.7614	197.4148	214.3523	228.4512	240.6468	251.4754	261.2739	270.2682	278.6170
	KAPPA/(1/MPA)	.4098	.3518	.3220	.3037	.2914	.2825	.2758	.2706	.2664
	BETA/(1000/K)	7.4	5.2	4.0	3.3	2.9	2.5	2.3	2.1	1.9

THERMODYNAMIC PROPERTIES OF PENTANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.12219	.12649	.13077	.13504	.13930	.14355	.14779	.15203	.15625
	H/(KJ/KG)	1640.1	1724.1	1809.7	1896.7	1985.2	2075.0	2166.2	2258.7	2352.4
	S/(KJ/KG K)	3.6317	3.7419	3.8505	3.9576	4.0633	4.1674	4.2702	4.3715	4.4715
	C/(M/SEC)	296.5839	301.8766	307.0475	312.1065	317.0620	321.9217	326.6920	331.3786	335.9867
	KAPPA/(1/MPA)	1.4438	1.4412	1.4390	1.4370	1.4353	1.4337	1.4324	1.4312	1.4301
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1
.8000	V/(M3/KG)	.10675	.11054	.11431	.11806	.12181	.12554	.12927	.13299	.13670
	H/(KJ/KG)	1639.4	1723.5	1809.1	1896.1	1984.6	2074.5	2165.7	2258.2	2352.0
	S/(KJ/KG K)	3.6155	3.7258	3.8345	3.9417	4.0473	4.1515	4.2543	4.3557	4.4557
	C/(M/SEC)	296.2092	301.5666	306.7952	311.9058	316.9080	321.8098	326.6184	331.3399	335.9799
	KAPPA/(1/MPA)	1.2652	1.2626	1.2603	1.2584	1.2566	1.2551	1.2538	1.2526	1.2515
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
.9000	V/(M3/KG)	.09475	.09813	.10150	.10486	.10820	.11154	.11486	.11818	.12149
	H/(KJ/KG)	1638.7	1722.8	1808.5	1895.6	1984.1	2074.0	2165.2	2257.8	2351.6
	S/(KJ/KG K)	3.6012	3.7115	3.8203	3.9275	4.0332	4.1374	4.2402	4.3417	4.4417
	C/(M/SEC)	295.8372	301.2595	306.5458	311.7082	316.7569	321.7008	326.5475	331.3037	335.9756
	KAPPA/(1/MPA)	1.1263	1.1237	1.1214	1.1194	1.1177	1.1162	1.1148	1.1136	1.1126
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
1.0000	V/(M3/KG)	.08514	.08821	.09126	.09429	.09732	.10033	.10334	.10634	.10933
	H/(KJ/KG)	1638.0	1722.2	1807.8	1895.0	1983.6	2073.5	2164.8	2257.3	2351.1
	S/(KJ/KG K)	3.5883	3.6987	3.8075	3.9147	4.0205	4.1248	4.2276	4.3291	4.4291
	C/(M/SEC)	295.4682	300.9554	306.2995	311.5136	316.6087	321.5946	326.4793	331.2702	335.9737
	KAPPA/(1/MPA)	1.0152	1.0125	1.0103	1.0083	1.0065	1.0050	1.0037	1.0025	1.0014
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
2.0000	V/(M3/KG)	.04194	.04356	.04517	.04677	.04836	.04993	.05149	.05305	.05460
	H/(KJ/KG)	1630.9	1715.6	1801.7	1889.3	1978.2	2068.5	2160.1	2252.9	2347.0
	S/(KJ/KG K)	3.5007	3.6117	3.7211	3.8289	3.9351	4.0397	4.1429	4.2447	4.3450
	C/(M/SEC)	291.9684	298.1066	304.0263	309.7526	315.3062	320.7045	325.9620	331.0912	336.1030
	KAPPA/(1/MPA)	.5148	.5120	.5097	.5077	.5060	.5044	.5031	.5019	.5009
	BETA/(1000/K)	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1
3.0000	V/(M3/KG)	.02756	.02871	.02984	.03095	.03206	.03315	.03423	.03531	.03638
	H/(KJ/KG)	1623.7	1709.0	1795.6	1883.6	1972.9	2063.5	2155.4	2248.5	2342.8
	S/(KJ/KG K)	3.4461	3.5579	3.6679	3.7762	3.8828	3.9879	4.0914	4.1935	4.2941
	C/(M/SEC)	288.9096	295.6866	302.1658	308.3860	314.3786	320.1693	325.7797	331.2278	336.5287
	KAPPA/(1/MPA)	.3474	.3446	.3423	.3403	.3386	.3371	.3358	.3347	.3337
	BETA/(1000/K)	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2
4.0000	V/(M3/KG)	.02039	.02130	.02219	.02306	.02393	.02478	.02562	.02646	.02728
	H/(KJ/KG)	1616.6	1702.4	1789.5	1877.9	1967.6	2058.6	2150.8	2244.2	2338.8
	S/(KJ/KG K)	3.4050	3.5176	3.6282	3.7370	3.8442	3.9496	4.0535	4.1559	4.2568
	C/(M/SEC)	286.4363	293.8134	300.8151	307.4944	313.8934	320.0462	325.9811	331.7215	337.2871
	KAPPA/(1/MPA)	.2631	.2603	.2580	.2561	.2544	.2530	.2517	.2507	.2497
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2

THERMODYNAMIC PROPERTIES OF PENTANE

TEMPERATURES/(K)

P/(MPA)		310.000	325.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000
5.0000	V/(M3/KG)	.00165	.00169	.00177	.00186	.00197	.00211	.00231	.00272	.00438
	H/(KJ/KG)	139.1	176.3	241.1	308.8	378.9	452.1	531.8	618.5	745.7
	S/(KJ/KG K)	.4746	.5919	.7839	.9705	1.1515	1.3291	1.5111	1.6986	1.9593
	C/(M/SEC)	970.1536	902.9647	797.3899	696.3818	595.7484	490.5341	373.6032	243.0297	144.0130
	KAPPA/(1/MPA)	.0023	.0027	.0036	.0050	.0072	.0116	.0228	.0763	.4462
	BETA/(1000/K)	1.7	1.7	1.9	2.1	2.5	3.1	4.5	9.7	24.1
6.0000	V/(M3/KG)	.00165	.00169	.00177	.00185	.00196	.00209	.00227	.00257	.00329
	H/(KJ/KG)	139.9	177.1	241.8	309.2	378.9	451.6	529.8	611.3	712.7
	S/(KJ/KG K)	.4718	.5890	.7806	.9666	1.1467	1.3228	1.5015	1.6780	1.8858
	C/(M/SEC)	980.4052	914.2280	810.6376	712.1880	615.0572	515.1318	407.3358	296.0439	187.5849
	KAPPA/(1/MPA)	.0023	.0027	.0035	.0047	.0067	.0103	.0183	.0436	.1689
	BETA/(1000/K)	1.6	1.7	1.8	2.0	2.4	2.9	3.9	6.5	14.5
7.0000	V/(M3/KG)	.00164	.00168	.00176	.00184	.00194	.00207	.00223	.00247	.00293
	H/(KJ/KG)	140.7	177.8	242.4	309.6	379.1	451.2	528.3	607.0	698.3
	S/(KJ/KG K)	.4692	.5862	.7774	.9629	1.1422	1.3171	1.4933	1.6636	1.8508
	C/(M/SEC)	990.4304	925.2116	823.4747	727.3562	633.3362	537.8277	436.9148	337.4698	237.2965
	KAPPA/(1/MPA)	.0022	.0026	.0034	.0045	.0063	.0093	.0154	.0307	.0816
	BETA/(1000/K)	1.6	1.7	1.8	2.0	2.3	2.7	3.5	5.1	8.9
8.0000	V/(M3/KG)	.00164	.00168	.00175	.00184	.00193	.00205	.00220	.00241	.00275
	H/(KJ/KG)	141.5	178.6	243.0	310.1	379.3	451.0	527.3	604.0	690.4
	S/(KJ/KG K)	.4665	.5833	.7743	.9593	1.1380	1.3117	1.4860	1.6523	1.8293
	C/(M/SEC)	1000.2412	935.9326	835.9343	741.9589	650.7060	558.9717	463.4953	372.3373	280.3101
	KAPPA/(1/MPA)	.0022	.0025	.0032	.0043	.0059	.0085	.0133	.0238	.0509
	BETA/(1000/K)	1.6	1.7	1.8	1.9	2.2	2.5	3.1	4.3	6.5
9.0000	V/(M3/KG)	.00164	.00168	.00175	.00183	.00192	.00203	.00217	.00236	.00263
	H/(KJ/KG)	142.4	179.4	243.7	310.6	379.6	450.9	526.5	601.9	685.3
	S/(KJ/KG K)	.4639	.5806	.7712	.9558	1.1338	1.3066	1.4794	1.6427	1.8137
	C/(M/SEC)	1009.8563	946.4062	848.0438	756.0486	667.2892	578.8277	487.7894	402.8755	317.2801
	KAPPA/(1/MPA)	.0021	.0024	.0031	.0041	.0055	.0078	.0117	.0195	.0364
	BETA/(1000/K)	1.6	1.6	1.7	1.9	2.1	2.4	2.9	3.7	5.2
10.0000	V/(M3/KG)	.00163	.00167	.00174	.00182	.00191	.00202	.00215	.00232	.00255
	H/(KJ/KG)	143.2	180.2	244.4	311.2	379.9	450.9	525.9	600.3	681.7
	S/(KJ/KG K)	.4613	.5779	.7682	.9524	1.1299	1.3019	1.4733	1.6344	1.8013
	C/(M/SEC)	1019.2630	956.6360	859.8231	769.6649	683.1742	597.5815	510.2580	430.2780	349.7657
	KAPPA/(1/MPA)	.0021	.0024	.0030	.0039	.0052	.0072	.0105	.0165	.0282
	BETA/(1000/K)	1.6	1.6	1.7	1.8	2.0	2.3	2.7	3.4	4.4

THERMODYNAMIC PROPERTIES OF PENTANE

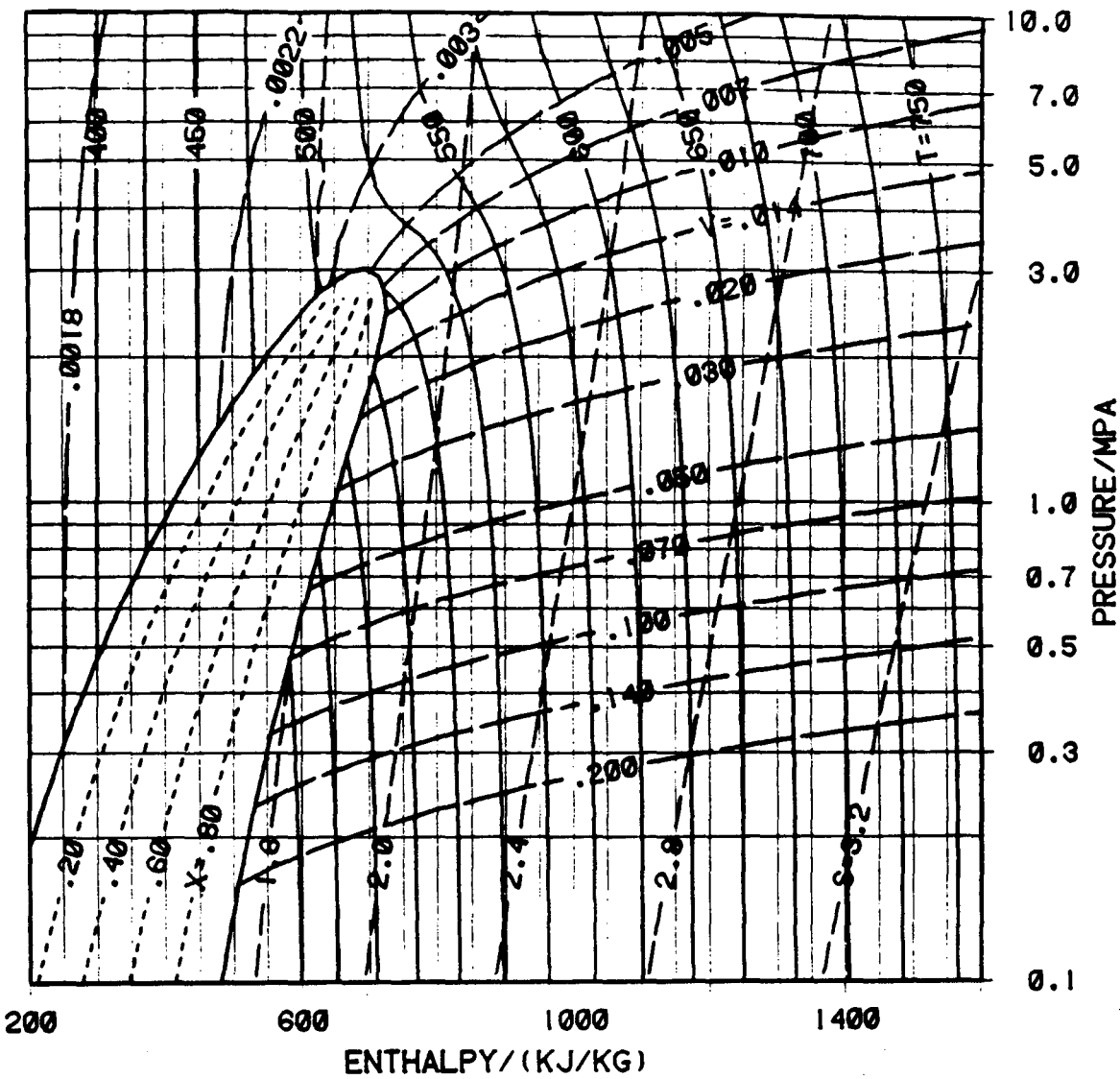
TEMPERATURES/(K)

P/(MPA)		525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
5.0000	V/(M3/KG)	.00671	.00836	.00968	.01081	.01183	.01278	.01367	.01451	.01532
	H/(KJ/KG)	858.8	948.7	1032.1	1113.3	1194.2	1275.4	1357.3	1440.2	1524.2
	S/(KJ/KG K)	2.1802	2.3477	2.4959	2.6343	2.7663	2.8936	3.0173	3.1380	3.2559
	C/(M/SEC)	161.4704	185.1728	204.5825	220.6727	234.4381	246.5233	257.3474	267.1937	276.2611
	KAPPA/(1/MPA)	.3766	.3082	.2737	.2535	.2403	.2311	.2243	.2191	.2150
	BETA/(1000/K)	11.4	6.9	5.0	4.0	3.3	2.9	2.5	2.3	2.1
6.0000	V/(M3/KG)	.00481	.00629	.00751	.00855	.00949	.01034	.01113	.01188	.01259
	H/(KJ/KG)	826.7	925.1	1013.7	1098.4	1181.5	1264.4	1347.7	1431.6	1516.5
	S/(KJ/KG K)	2.1084	2.2916	2.4492	2.5933	2.7291	2.8591	2.9848	3.1069	3.2260
	C/(M/SEC)	166.2734	181.1109	199.3050	215.8425	230.3839	243.2542	254.7940	265.2733	274.8961
	KAPPA/(1/MPA)	.2790	.2598	.2339	.2159	.2036	.1950	.1886	.1837	.1798
	BETA/(1000/K)	13.3	8.5	6.0	4.6	3.7	3.2	2.8	2.5	2.2
7.0000	V/(M3/KG)	.00385	.00499	.00606	.00701	.00786	.00863	.00935	.01002	.01066
	H/(KJ/KG)	802.6	903.4	995.9	1083.6	1169.0	1253.6	1338.1	1423.1	1508.8
	S/(KJ/KG K)	2.0543	2.2420	2.4065	2.5558	2.6952	2.8279	2.9556	3.0792	3.1995
	C/(M/SEC)	187.6869	187.7185	200.3427	215.0519	229.1533	242.0983	253.9023	264.7075	274.6653
	KAPPA/(1/MPA)	.1737	.2001	.1939	.1832	.1740	.1669	.1614	.1571	.1538
	BETA/(1000/K)	11.6	9.1	6.6	5.1	4.1	3.4	3.0	2.6	2.4
8.0000	V/(M3/KG)	.00335	.00420	.00509	.00593	.00669	.00739	.00804	.00866	.00924
	H/(KJ/KG)	786.7	885.7	979.9	1069.8	1157.0	1243.1	1328.9	1414.9	1501.4
	S/(KJ/KG K)	2.0173	2.2015	2.3690	2.5220	2.6645	2.7996	2.9291	3.0542	3.1756
	C/(M/SEC)	217.9964	202.4790	207.5655	218.6311	231.0637	243.2946	254.8437	265.6184	275.6559
	KAPPA/(1/MPA)	.1070	.1460	.1553	.1531	.1483	.1436	.1395	.1361	.1333
	BETA/(1000/K)	9.1	8.5	6.8	5.4	4.4	3.7	3.1	2.8	2.5
9.0000	V/(M3/KG)	.00307	.00371	.00444	.00515	.00583	.00647	.00706	.00762	.00816
	H/(KJ/KG)	776.4	872.1	966.3	1057.3	1145.9	1233.3	1320.1	1407.0	1494.3
	S/(KJ/KG K)	1.9915	2.1696	2.3371	2.4920	2.6368	2.7738	2.9049	3.0313	3.1539
	C/(M/SEC)	251.1977	222.5480	219.4796	226.0498	235.9698	246.8239	257.6345	268.0282	277.8873
	KAPPA/(1/MPA)	.0704	.1056	.1221	.1264	.1258	.1236	.1211	.1187	.1166
	BETA/(1000/K)	7.1	7.6	6.6	5.4	4.5	3.8	3.3	2.9	2.6
10.0000	V/(M3/KG)	.00290	.00339	.00398	.00460	.00520	.00577	.00631	.00682	.00731
	H/(KJ/KG)	769.3	861.9	955.1	1046.4	1135.9	1224.2	1311.9	1399.6	1487.6
	S/(KJ/KG K)	1.9724	2.1446	2.3103	2.4658	2.6119	2.7504	2.8829	3.0104	3.1339
	C/(M/SEC)	283.5843	245.9639	234.7335	236.4431	243.4115	252.4502	262.1487	271.8643	281.3135
	KAPPA/(1/MPA)	.0501	.0775	.0957	.1038	.1063	.1064	.1054	.1040	.1027
	BETA/(1000/K)	5.8	6.6	6.2	5.3	4.5	3.9	3.3	2.9	2.6

THERMODYNAMIC PROPERTIES OF PENTANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.01611	.01687	.01762	.01835	.01907	.01977	.02047	.02116	.02184
	H/(KJ/KG)	1609.4	1695.8	1783.5	1872.4	1962.5	2053.8	2146.3	2240.0	2334.9
	S/(KJ/KG K)	3.3714	3.4847	3.5960	3.7054	3.8130	3.9189	4.0231	4.1258	4.2270
	C/(M/SEC)	284.6944	292.6017	300.0660	307.1519	313.9109	320.3847	326.6073	332.6070	338.4072
	KAPPA/(1/MPA)	.2118	.2091	.2069	.2050	.2034	.2021	.2009	.1999	.1991
	BETA/(1000/K)	1.9	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.2
6.0000	V/(M3/KG)	.01328	.01394	.01459	.01522	.01584	.01645	.01705	.01764	.01822
	H/(KJ/KG)	1602.4	1689.4	1777.6	1866.9	1957.4	2049.1	2141.9	2235.9	2331.0
	S/(KJ/KG K)	3.3425	3.4566	3.5686	3.6785	3.7866	3.8929	3.9975	4.1005	4.2020
	C/(M/SEC)	283.8168	292.1532	299.9969	307.4201	314.4803	321.2243	327.6903	333.9103	339.9106
	KAPPA/(1/MPA)	.1768	.1743	.1722	.1705	.1691	.1678	.1668	.1658	.1650
	BETA/(1000/K)	2.0	1.9	1.8	1.6	1.5	1.5	1.4	1.3	1.3
7.0000	V/(M3/KG)	.01128	.01187	.01245	.01301	.01355	.01409	.01462	.01514	.01565
	H/(KJ/KG)	1595.5	1683.1	1771.8	1861.5	1952.5	2044.5	2137.6	2231.9	2327.3
	S/(KJ/KG K)	3.3170	3.4319	3.5445	3.6550	3.7636	3.8703	3.9752	4.0786	4.1803
	C/(M/SEC)	283.9081	292.5455	300.6666	308.3436	315.6357	322.5914	329.2508	335.6477	341.8102
	KAPPA/(1/MPA)	.1510	.1488	.1470	.1454	.1441	.1430	.1420	.1412	.1405
	BETA/(1000/K)	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.4	1.3
8.0000	V/(M3/KG)	.00980	.01033	.01085	.01136	.01185	.01233	.01281	.01327	.01373
	H/(KJ/KG)	1588.7	1677.0	1766.1	1856.4	1947.7	2040.0	2133.5	2228.0	2323.6
	S/(KJ/KG K)	3.2940	3.4097	3.5230	3.6340	3.7430	3.8501	3.9554	4.0591	4.1610
	C/(M/SEC)	285.0313	293.8242	302.1080	309.9466	317.3948	324.4988	331.2980	337.8257	344.1105
	KAPPA/(1/MPA)	.1310	.1291	.1275	.1262	.1251	.1241	.1233	.1225	.1219
	BETA/(1000/K)	2.2	2.0	1.9	1.8	1.6	1.5	1.5	1.4	1.3
9.0000	V/(M3/KG)	.00867	.00916	.00963	.01009	.01054	.01098	.01141	.01183	.01225
	H/(KJ/KG)	1582.3	1671.0	1760.7	1851.4	1943.0	2035.7	2129.5	2224.3	2320.2
	S/(KJ/KG K)	3.2731	3.3895	3.5034	3.6150	3.7244	3.8319	3.9376	4.0415	4.1437
	C/(M/SEC)	287.2008	295.9990	304.3271	312.2319	319.7579	326.9452	333.8293	340.4411	346.8077
	KAPPA/(1/MPA)	.1149	.1133	.1120	.1109	.1100	.1092	.1085	.1078	.1073
	BETA/(1000/K)	2.3	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3
10.0000	V/(M3/KG)	.00778	.00823	.00867	.00909	.00950	.00991	.01030	.01069	.01107
	H/(KJ/KG)	1576.1	1665.4	1755.5	1846.6	1938.6	2031.6	2125.6	2220.7	2316.8
	S/(KJ/KG K)	3.2540	3.3711	3.4855	3.5976	3.7074	3.8153	3.9213	4.0255	4.1279
	C/(M/SEC)	290.3842	299.0455	307.3038	315.1822	322.7099	329.9169	336.8320	343.4820	349.8909
	KAPPA/(1/MPA)	.1014	.1003	.0993	.0984	.0977	.0970	.0964	.0959	.0955
	BETA/(1000/K)	2.4	2.2	2.0	1.8	1.7	1.6	1.5	1.4	1.4


10.0
7.0
5.0
3.0
1.0
0.7
0.5
0.3
0.1
PRESSURE/MPA
200
600
1000
1400
ENTHALPY/(KJ/KG)
.0018
.0022
.003
.005
.007
.010
.014
.020
.030
.050
.070
.100
.140
.200
.20
.40
.60
X=.80
1.6
2.0
2.4
2.8
3.2
T=450
460
500
550
600
650
700

HEXANE

PROPERTIES OF SATURATED HEXANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
345.00000	.11233	.00168	.28032	151.71980	334.72569	486.44549	.49915	.97022	1.46937
350.00000	.13082	.00170	.24263	164.56588	330.45656	495.02245	.53603	.94416	1.48019
355.00000	.15158	.00171	.21093	177.55701	326.08264	503.63965	.57279	.91854	1.49133
360.00000	.17478	.00173	.18413	190.68982	321.60390	512.29372	.60941	.89334	1.50275
365.00000	.20062	.00174	.16136	203.96093	317.02017	520.98110	.64590	.86855	1.51444
370.00000	.22926	.00176	.14193	217.36692	312.33118	529.69810	.68224	.84414	1.52638
375.00000	.26090	.00178	.12526	230.90483	307.53590	538.44073	.71843	.82010	1.53853
380.00000	.29574	.00179	.11091	244.56960	302.63550	547.20511	.75446	.79641	1.55087
385.00000	.33396	.00181	.09849	258.36096	297.62536	555.98632	.79034	.77305	1.56339
390.00000	.37576	.00183	.08771	272.27499	292.50474	564.77973	.82605	.75001	1.57606
395.00000	.42136	.00185	.07831	286.30963	287.27038	573.58001	.86159	.72727	1.58886
400.00000	.47095	.00187	.07008	300.46346	281.91785	582.38131	.89697	.70479	1.60176
405.00000	.52475	.00189	.06286	314.73586	276.44126	591.17712	.93218	.68257	1.61475
410.00000	.58298	.00191	.05649	329.12720	270.83292	599.96012	.96722	.66057	1.62779
415.00000	.64586	.00194	.05086	343.63907	265.08297	608.72204	1.00211	.63875	1.64086
420.00000	.71362	.00196	.04586	358.27450	259.17892	617.45342	1.03685	.61709	1.65394
425.00000	.78651	.00198	.04141	373.03829	253.10507	626.14335	1.07145	.59554	1.66699
430.00000	.86477	.00201	.03743	387.93737	246.84181	634.77918	1.10594	.57405	1.67999
435.00000	.94866	.00204	.03387	402.98126	240.36474	643.34600	1.14033	.55256	1.69289
440.00000	1.03847	.00207	.03066	418.18260	233.64353	651.82613	1.17465	.53101	1.70566
445.00000	1.13448	.00210	.02777	433.55826	226.63997	660.19823	1.20895	.50930	1.71825
450.00000	1.23699	.00213	.02515	449.12841	219.30839	668.43680	1.24326	.48735	1.73061
455.00000	1.34635	.00217	.02277	464.92200	211.58733	676.50933	1.27764	.46503	1.74267
460.00000	1.46289	.00221	.02060	480.97357	203.40224	684.37581	1.31217	.44218	1.75435
465.00000	1.58699	.00226	.01861	497.32872	194.65557	691.98429	1.34693	.41861	1.76554
470.00000	1.71907	.00231	.01677	514.04766	185.21833	699.26599	1.38205	.39408	1.77613
475.00000	1.85955	.00236	.01507	531.21053	174.91630	706.12683	1.41768	.36824	1.78592
480.00000	2.00892	.00243	.01349	548.92744	163.50497	712.43241	1.45403	.34064	1.79467
485.00000	2.16770	.00250	.01199	567.35722	150.62148	717.97871	1.49142	.31056	1.80198
490.00000	2.33644	.00259	.01055	586.74559	135.68389	722.42948	1.53030	.27691	1.80721
495.00000	2.51578	.00272	.00914	607.51680	117.63932	725.15611	1.57151	.23766	1.80917
500.00000	2.70640	.00290	.00769	630.56867	94.12942	724.69809	1.61677	.18826	1.80503
505.00000	2.90902	.00325	.00592	658.98817	56.39844	715.38661	1.67208	.11168	1.78376
507.43000	3.12449	.00429	.00429	691.23756	0.	691.23756	1.73407	0.	1.73407

THERMODYNAMIC PROPERTIES OF HEXANE

TEMPERATURES/(K)

P/(MPA)		345.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000	525.000
.1000	V/(M3/KG)	.31696	.32240	.34914	.37528	.40099	.42638	.45155	.47654	.50139
	H/(KJ/KG)	487.2	496.8	546.4	598.6	653.3	710.5	770.1	832.2	896.5
	S/(KJ/KG K)	1.4822	1.5099	1.6468	1.7814	1.9140	2.0447	2.1737	2.3010	2.4265
	C/(M/SEC)	179.4021	181.0523	188.8729	196.1178	202.9237	209.3812	215.5535	221.4861	227.2127
	KAPPA/(1/MPA)	10.5259	10.4957	10.3759	10.2923	10.2320	10.1871	10.1529	10.1263	10.1052
	BETA/(1000/K)	3.4	3.4	3.0	2.8	2.5	2.4	2.2	2.1	2.0
.1013	V/(M3/KG)	.31260	.31798	.34441	.37023	.39562	.42070	.44555	.47022	.49476
	H/(KJ/KG)	487.1	496.7	546.4	598.5	653.2	710.4	770.1	832.1	896.5
	S/(KJ/KG K)	1.4807	1.5084	1.6454	1.7800	1.9126	2.0434	2.1724	2.2996	2.4252
	C/(M/SEC)	179.2901	180.9458	188.7884	196.0494	202.8673	209.3343	215.5140	221.4524	227.1840
	KAPPA/(1/MPA)	10.3962	10.3658	10.2456	10.1619	10.1014	10.0564	10.0222	9.9955	9.9745
	BETA/(1000/K)	3.5	3.4	3.0	2.8	2.6	2.4	2.2	2.1	2.0
.2000	V/(M3/KG)	.00168	.00170	.16779	.18202	.19575	.20914	.22228	.23523	.24804
	H/(KJ/KG)	151.8	164.6	541.6	594.6	649.9	707.6	767.6	830.0	894.6
	S/(KJ/KG K)	.4989	.5358	1.5704	1.7072	1.8413	1.9732	2.1030	2.2309	2.3569
	C/(M/SEC)	833.0765	812.2344	182.2024	190.7785	198.5638	205.7665	212.5208	218.9177	225.0215
	KAPPA/(1/MPA)	.0031	.0033	5.4187	5.3170	5.2469	5.1964	5.1589	5.1302	5.1079
	BETA/(1000/K)	1.7	1.8	3.5	3.1	2.8	2.5	2.3	2.2	2.1
.3000	V/(M3/KG)	.00168	.00170	.00178	.11739	.12721	.13665	.14581	.15476	.16356
	H/(KJ/KG)	151.8	164.7	230.9	590.3	646.4	704.6	765.0	827.7	892.6
	S/(KJ/KG K)	.4986	.5355	.7183	1.6602	1.7961	1.9292	2.0599	2.1885	2.3150
	C/(M/SEC)	834.3375	813.5409	710.9897	185.0344	193.9596	201.9987	209.3897	216.2852	222.7883
	KAPPA/(1/MPA)	.0031	.0033	.0045	3.6802	3.5974	3.5402	3.4988	3.4678	3.4440
	BETA/(1000/K)	1.7	1.8	2.0	3.4	3.0	2.7	2.5	2.3	2.1
.4000	V/(M3/KG)	.00168	.00170	.00178	.08489	.09283	.10033	.10752	.11449	.12130
	H/(KJ/KG)	151.9	164.7	231.0	585.8	642.7	701.5	762.4	825.4	890.6
	S/(KJ/KG K)	.4983	.5352	.7179	1.6240	1.7619	1.8964	2.0281	2.1573	2.2845
	C/(M/SEC)	835.5947	814.8432	712.5619	178.7952	189.0726	198.0602	206.1520	213.5847	220.5112
	KAPPA/(1/MPA)	.0031	.0033	.0044	2.8839	2.7842	2.7185	2.6726	2.6390	2.6136
	BETA/(1000/K)	1.7	1.8	2.0	3.9	3.3	2.9	2.6	2.4	2.2
.5000	V/(M3/KG)	.00168	.00169	.00177	.00187	.07210	.07848	.08451	.09031	.09593
	H/(KJ/KG)	152.0	164.8	231.0	300.5	638.8	698.3	759.7	823.1	888.5
	S/(KJ/KG K)	.4980	.5349	.7176	.8968	1.7335	1.8695	2.0023	2.1324	2.2601
	C/(M/SEC)	836.8481	816.1413	714.1276	611.9149	183.8532	193.9298	202.7979	210.8115	218.1882
	KAPPA/(1/MPA)	.0031	.0032	.0044	.0063	2.3081	2.2319	2.1805	2.1438	2.1167
	BETA/(1000/K)	1.7	1.8	1.9	2.2	3.7	3.2	2.8	2.5	2.3
.6000	V/(M3/KG)	.00168	.00169	.00177	.00187	.05818	.06385	.06914	.07416	.07900
	H/(KJ/KG)	152.1	164.9	231.1	300.5	634.7	694.9	756.9	820.7	886.4
	S/(KJ/KG K)	.4977	.5346	.7173	.8964	1.7085	1.8463	1.9803	2.1112	2.2395
	C/(M/SEC)	838.0977	817.4354	715.6870	613.8546	178.2362	189.5815	199.3162	207.9606	215.8170
	KAPPA/(1/MPA)	.0031	.0032	.0044	.0063	2.0038	1.9138	1.8559	1.8158	1.7866
	BETA/(1000/K)	1.7	1.7	1.9	2.2	4.1	3.4	3.0	2.7	2.4

THERMODYNAMIC PROPERTIES OF HEXANE

TEMPERATURES/(K)

P/(MPA)		550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000
.1000	V/(M3/KG)	.52613	.55079	.57537	.59991	.62439	.64884	.67325	.69763	.72200
	H/(KJ/KG)	963.1	1031.8	1102.5	1175.3	1249.9	1326.4	1404.7	1484.7	1566.3
	S/(KJ/KG K)	2.5503	2.6725	2.7930	2.9117	3.0289	3.1443	3.2582	3.3704	3.4811
	C/(M/SEC)	232.7595	238.1468	243.3910	248.5055	253.5013	258.3880	263.1735	267.8647	272.4679
	KAPPA/(1/MPA)	10.0883	10.0746	10.0632	10.0538	10.0459	10.0392	10.0334	10.0285	10.0243
	BETA/(1000/K)	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4	1.3
.1013	V/(M3/KG)	.51919	.54353	.56780	.59202	.61619	.64032	.66442	.68849	.71253
	H/(KJ/KG)	963.0	1031.7	1102.5	1175.3	1249.9	1326.4	1404.7	1484.7	1566.3
	S/(KJ/KG K)	2.5490	2.6712	2.7917	2.9105	3.0276	3.1430	3.2569	3.3691	3.4798
	C/(M/SEC)	232.7348	238.1254	243.3725	248.4894	253.4874	258.3759	263.1630	267.8557	272.4601
	KAPPA/(1/MPA)	9.9576	9.9438	9.9325	9.9230	9.9151	9.9084	9.9027	9.8978	9.8935
	BETA/(1000/K)	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4	1.3
.2000	V/(M3/KG)	.26073	.27333	.28586	.29834	.31076	.32315	.33550	.34782	.36012
	H/(KJ/KG)	961.3	1030.2	1101.1	1174.0	1248.8	1325.4	1403.7	1483.8	1565.4
	S/(KJ/KG K)	2.4812	2.6036	2.7243	2.8433	2.9606	3.0762	3.1902	3.3025	3.4133
	C/(M/SEC)	230.8793	236.5265	241.9903	247.2922	252.4497	257.4767	262.3849	267.1843	271.8833
	KAPPA/(1/MPA)	5.0901	5.0757	5.0640	5.0543	5.0462	5.0394	5.0336	5.0286	5.0243
	BETA/(1000/K)	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4
.3000	V/(M3/KG)	.17224	.18083	.18935	.19781	.20621	.21458	.22291	.23122	.23950
	H/(KJ/KG)	959.6	1028.6	1099.7	1172.7	1247.6	1324.3	1402.7	1482.8	1564.6
	S/(KJ/KG K)	2.4397	2.5625	2.6834	2.8026	2.9201	3.0359	3.1500	3.2624	3.3733
	C/(M/SEC)	228.9718	234.8887	240.5788	246.0730	251.3952	256.5648	261.5975	266.5061	271.3016
	KAPPA/(1/MPA)	3.4253	3.4103	3.3982	3.3882	3.3799	3.3729	3.3670	3.3620	3.3576
	BETA/(1000/K)	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4
.4000	V/(M3/KG)	.12799	.13458	.14109	.14754	.15394	.16030	.16662	.17292	.17919
	H/(KJ/KG)	957.8	1027.0	1098.3	1171.4	1246.4	1323.2	1401.7	1481.9	1563.7
	S/(KJ/KG K)	2.4095	2.5327	2.6539	2.7733	2.8910	3.0069	3.1211	3.2337	3.3446
	C/(M/SEC)	227.0360	233.2330	239.1567	244.8478	250.3382	255.6527	260.8112	265.8301	270.7229
	KAPPA/(1/MPA)	2.5939	2.5782	2.5657	2.5554	2.5469	2.5398	2.5338	2.5287	2.5243
	BETA/(1000/K)	2.1	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.4
.5000	V/(M3/KG)	.10142	.10682	.11213	.11738	.12257	.12773	.13285	.13794	.14300
	H/(KJ/KG)	956.0	1025.4	1096.8	1170.1	1245.2	1322.1	1400.7	1481.0	1562.9
	S/(KJ/KG K)	2.3856	2.5090	2.6306	2.7502	2.8680	2.9841	3.0984	3.2111	3.3221
	C/(M/SEC)	225.0712	231.5594	237.7237	243.6168	249.2787	254.7403	260.0264	265.1566	270.1473
	KAPPA/(1/MPA)	2.0959	2.0796	2.0665	2.0560	2.0473	2.0400	2.0339	2.0287	2.0243
	BETA/(1000/K)	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.5	1.4
.6000	V/(M3/KG)	.08371	.08830	.09282	.09727	.10166	.10601	.11033	.11462	.11888
	H/(KJ/KG)	954.2	1023.8	1095.4	1168.8	1244.0	1321.0	1399.7	1480.1	1562.0
	S/(KJ/KG K)	2.3655	2.4893	2.6111	2.7310	2.8490	2.9653	3.0797	3.1925	3.3036
	C/(M/SEC)	223.0764	229.8673	236.2800	242.3801	248.2169	253.8280	259.2431	264.4857	269.5750
	KAPPA/(1/MPA)	1.7646	1.7476	1.7341	1.7232	1.7143	1.7069	1.7007	1.6954	1.6910
	BETA/(1000/K)	2.2	2.1	1.9	1.8	1.7	1.6	1.6	1.5	1.4

THERMODYNAMIC PROPERTIES OF HEXANE

TEMPERATURES/(K)

P/(MPA)		775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	.74634	.77066	.79497	.81926	.84355	.86782	.89208	.91633
	H/(KJ/KG)	1649.5	1734.2	1820.4	1908.1	1997.1	2087.5	2179.2	2272.1
	S/(KJ/KG K)	3.5902	3.6978	3.8039	3.9086	4.0118	4.1136	4.2141	4.3132
	C/(M/SEC)	276.9883	281.4307	285.7995	290.0986	294.3315	298.5016	302.6117	306.6647
	KAPPA/(1/MPA)	10.0206	10.0173	10.0145	10.0120	10.0098	10.0078	10.0061	10.0045
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.1013	V/(M3/KG)	.73656	.76056	.78456	.80854	.83250	.85646	.88041	.90435
	H/(KJ/KG)	1649.5	1734.2	1820.4	1908.1	1997.1	2087.5	2179.2	2272.1
	S/(KJ/KG K)	3.5889	3.6965	3.8026	3.9073	4.0105	4.1124	4.2128	4.3119
	C/(M/SEC)	276.9816	281.4251	285.7948	290.0947	294.3284	298.4991	302.6098	306.6634
	KAPPA/(1/MPA)	9.8898	9.8866	9.8837	9.8812	9.8790	9.8770	9.8753	9.8737
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.2000	V/(M3/KG)	.37240	.38466	.39691	.40914	.42136	.43357	.44577	.45796
	H/(KJ/KG)	1648.7	1733.5	1819.7	1907.4	1996.5	2086.9	2178.6	2271.6
	S/(KJ/KG K)	3.5225	3.6302	3.7363	3.8410	3.9443	4.0462	4.1467	4.2458
	C/(M/SEC)	276.4891	281.0080	285.4456	289.8068	294.0960	298.3173	302.4742	306.5700
	KAPPA/(1/MPA)	5.0205	5.0173	5.0145	5.0119	5.0097	5.0078	5.0060	5.0045
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.3000	V/(M3/KG)	.24776	.25600	.26422	.27244	.28064	.28882	.29700	.30517
	H/(KJ/KG)	1647.9	1732.7	1819.0	1906.8	1995.9	2086.3	2178.1	2271.0
	S/(KJ/KG K)	3.4825	3.5903	3.6965	3.8013	3.9046	4.0065	4.1070	4.2062
	C/(M/SEC)	275.9932	280.5889	285.0953	289.5187	293.8642	298.1366	302.3402	306.4787
	KAPPA/(1/MPA)	3.3539	3.3506	3.3477	3.3452	3.3430	3.3410	3.3393	3.3377
	BETA/(1000/K)	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.4000	V/(M3/KG)	.18544	.19167	.19788	.20408	.21027	.21645	.22262	.22878
	H/(KJ/KG)	1647.1	1732.0	1818.4	1906.1	1995.3	2085.8	2177.5	2270.5
	S/(KJ/KG K)	3.4539	3.5617	3.6680	3.7728	3.8762	3.9782	4.0787	4.1779
	C/(M/SEC)	275.5008	280.1734	284.7489	289.2344	293.6361	297.9596	302.2097	306.3907
	KAPPA/(1/MPA)	2.5205	2.5172	2.5143	2.5118	2.5096	2.5076	2.5059	2.5043
	BETA/(1000/K)	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1
.5000	V/(M3/KG)	.14805	.15307	.15808	.16308	.16806	.17303	.17799	.18295
	H/(KJ/KG)	1646.3	1731.2	1817.7	1905.5	1994.7	2085.2	2177.0	2270.0
	S/(KJ/KG K)	3.4316	3.5394	3.6458	3.7507	3.8541	3.9561	4.0567	4.1559
	C/(M/SEC)	275.0119	279.7617	284.4063	288.9540	293.4119	297.7863	302.0828	306.3062
	KAPPA/(1/MPA)	2.0205	2.0172	2.0143	2.0118	2.0095	2.0075	2.0058	2.0042
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1
.6000	V/(M3/KG)	.12312	.12734	.13155	.13574	.13992	.14408	.14824	.15239
	H/(KJ/KG)	1645.5	1730.5	1817.0	1904.8	1994.1	2084.6	2176.4	2269.5
	S/(KJ/KG K)	3.4131	3.5211	3.6275	3.7324	3.8359	3.9379	4.0385	4.1378
	C/(M/SEC)	274.5267	279.3539	284.0677	288.6775	293.1915	297.6168	301.9594	306.2250
	KAPPA/(1/MPA)	1.6871	1.6838	1.6809	1.6784	1.6761	1.6741	1.6724	1.6708
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1

THERMODYNAMIC PROPERTIES OF HEXANE

TEMPERATURES/(K)

P/(MPA)		345.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000	525.000
.7000	V/(M3/KG)	.00168	.00169	.00177	.00187	.04813	.05335	.05812	.06261	.06690
	H/(KJ/KG)	152.1	164.9	231.1	300.5	630.2	691.4	754.0	818.2	884.3
	S/(KJ/KG K)	.4975	.5343	.7169	.8960	1.6857	1.8256	1.9609	2.0927	2.2216
	C/(M/SEC)	835.6702	815.2804	714.1200	615.7838	172.1323	184.9831	195.6940	205.0267	213.3952
	KAPPA/(1/MPA)	.0031	.0032	.0044	.0062	1.8019	1.6934	1.6275	1.5834	1.5520
	BETA/(1000/K)	1.7	1.7	1.9	2.2	4.6	3.7	3.2	2.8	2.5
.8000	V/(M3/KG)	.00168	.00169	.00177	.00187	.00198	.04541	.04983	.05393	.05781
	H/(KJ/KG)	152.2	165.0	231.2	300.5	373.0	687.7	751.0	815.7	882.1
	S/(KJ/KG K)	.4972	.5340	.7166	.8956	1.0714	1.8064	1.9432	2.0760	2.2057
	C/(M/SEC)	838.3362	817.9830	717.0692	617.7025	511.6921	180.0942	191.9160	202.0033	210.9203
	KAPPA/(1/MPA)	.0030	.0032	.0043	.0062	.0097	1.5358	1.4598	1.4110	1.3771
	BETA/(1000/K)	1.7	1.7	1.9	2.2	2.7	4.1	3.4	2.9	2.6
.9000	V/(M3/KG)	.00168	.00169	.00177	.00186	.00198	.03918	.04335	.04715	.05073
	H/(KJ/KG)	152.3	165.1	231.2	300.6	373.0	683.8	747.8	813.1	879.9
	S/(KJ/KG K)	.4969	.5337	.7162	.8952	1.0708	1.7884	1.9268	2.0607	2.1911
	C/(M/SEC)	841.0412	820.7254	720.0630	618.1110	514.1914	174.8620	187.9639	198.8836	208.3896
	KAPPA/(1/MPA)	.0030	.0032	.0043	.0061	.0096	1.4219	1.3333	1.2789	1.2422
	BETA/(1000/K)	1.7	1.7	1.9	2.2	2.7	4.5	3.7	3.1	2.7
1.0000	V/(M3/KG)	.00168	.00169	.00177	.00186	.00198	.03413	.03813	.04172	.04505
	H/(KJ/KG)	152.3	165.1	231.3	300.6	373.0	679.7	744.6	810.4	877.7
	S/(KJ/KG K)	.4966	.5335	.7159	.8948	1.0703	1.7710	1.9114	2.0465	2.1777
	C/(M/SEC)	843.0586	822.5709	721.8438	621.4925	516.6591	169.2163	183.8159	195.6596	205.8000
	KAPPA/(1/MPA)	.0030	.0032	.0043	.0061	.0095	1.3415	1.2362	1.1752	1.1353
	BETA/(1000/K)	1.7	1.7	1.9	2.2	2.7	5.0	3.9	3.3	2.9
2.0000	V/(M3/KG)	.00167	.00169	.00176	.00185	.00196	.00211	.00235	.01649	.01912
	H/(KJ/KG)	153.0	165.8	231.8	300.8	372.8	448.2	530.6	777.0	851.5
	S/(KJ/KG K)	.4938	.5306	.7126	.8908	1.0652	1.2376	1.4157	1.9269	2.0722
	C/(M/SEC)	855.1854	835.1135	736.8279	639.8404	540.2538	431.8444	298.9680	154.6911	175.8132
	KAPPA/(1/MPA)	.0029	.0031	.0041	.0057	.0085	.0147	.0371	.8309	.7020
	BETA/(1000/K)	1.7	1.7	1.9	2.1	2.5	3.3	5.9	7.2	4.9
3.0000	V/(M3/KG)	.00167	.00168	.00176	.00184	.00195	.00208	.00228	.00273	.00960
	H/(KJ/KG)	153.7	166.5	232.3	301.1	372.7	447.3	527.3	623.5	811.9
	S/(KJ/KG K)	.4910	.5277	.7093	.8869	1.0604	1.2310	1.4039	1.6010	1.9704
	C/(M/SEC)	866.9762	847.2857	751.2277	657.2340	562.0678	461.1927	346.0743	187.4674	134.1430
	KAPPA/(1/MPA)	.0028	.0030	.0039	.0054	.0078	.0125	.0255	.1361	.7515
	BETA/(1000/K)	1.6	1.7	1.8	2.0	2.4	3.0	4.5	14.3	12.7
4.0000	V/(M3/KG)	.00166	.00168	.00175	.00183	.00193	.00206	.00223	.00252	.00381
	H/(KJ/KG)	154.5	167.2	232.9	301.5	372.7	446.7	525.1	613.7	728.5
	S/(KJ/KG K)	.4883	.5250	.7062	.8833	1.0559	1.2250	1.3946	1.5762	1.7995
	C/(M/SEC)	878.4386	859.1075	765.1044	673.7945	582.4121	487.4767	383.6896	261.4772	122.9073
	KAPPA/(1/MPA)	.0027	.0029	.0038	.0051	.0071	.0110	.0197	.0524	.6346
	BETA/(1000/K)	1.6	1.6	1.8	2.0	2.3	2.8	3.8	6.9	35.8

THERMODYNAMIC PROPERTIES OF HEXANE

TEMPERATURES/(K)

P/(MPA)		550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000
.7000	V/(M3/KG)	.07104	.07507	.07902	.08290	.08672	.09050	.09425	.09796	.10165
	H/(KJ/KG)	952.3	1022.2	1093.9	1167.5	1242.8	1319.9	1398.7	1479.1	1561.1
	S/(KJ/KG K)	2.3481	2.4723	2.5944	2.7145	2.8328	2.9491	3.0637	3.1766	3.2878
	C/(M/SEC)	221.0506	228.1566	234.8256	241.1379	247.1530	252.9160	258.4616	263.8176	269.0061
	KAPPA/(1/MPA)	1.5287	1.5109	1.4969	1.4857	1.4765	1.4690	1.4627	1.4574	1.4529
	BETA/(1000/K)	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4
.8000	V/(M3/KG)	.06153	.06514	.06867	.07212	.07552	.07887	.08219	.08547	.08873
	H/(KJ/KG)	950.4	1020.5	1092.4	1166.1	1241.6	1318.8	1397.7	1478.2	1560.3
	S/(KJ/KG K)	2.3327	2.4573	2.5797	2.7000	2.8184	2.9350	3.0497	3.1627	3.2740
	C/(M/SEC)	218.9929	226.4270	233.3604	239.8903	246.0873	252.0043	257.6820	263.1524	268.4407
	KAPPA/(1/MPA)	1.3524	1.3338	1.3192	1.3077	1.2983	1.2906	1.2842	1.2789	1.2743
	BETA/(1000/K)	2.4	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.5
.9000	V/(M3/KG)	.05413	.05742	.06061	.06374	.06680	.06982	.07280	.07575	.07868
	H/(KJ/KG)	948.5	1018.8	1090.9	1164.8	1240.4	1317.7	1396.7	1477.2	1559.4
	S/(KJ/KG K)	2.3187	2.4437	2.5664	2.6870	2.8056	2.9223	3.0372	3.1503	3.2617
	C/(M/SEC)	216.9024	224.6781	231.8846	238.6375	245.0199	251.0934	256.9047	262.4903	267.8791
	KAPPA/(1/MPA)	1.2160	1.1964	1.1813	1.1694	1.1598	1.1520	1.1455	1.1400	1.1354
	BETA/(1000/K)	2.5	2.3	2.1	1.9	1.8	1.7	1.6	1.6	1.5
1.0000	V/(M3/KG)	.04821	.05123	.05417	.05703	.05983	.06258	.06530	.06798	.07064
	H/(KJ/KG)	946.5	1017.1	1089.4	1163.4	1239.1	1316.6	1395.6	1476.3	1558.5
	S/(KJ/KG K)	2.3058	2.4313	2.5543	2.6752	2.7940	2.9109	3.0259	3.1391	3.2506
	C/(M/SEC)	214.7778	222.9099	230.3983	237.3798	243.9512	250.1833	256.1298	261.8316	267.3214
	KAPPA/(1/MPA)	1.1074	1.0868	1.0711	1.0589	1.0490	1.0410	1.0344	1.0289	1.0243
	BETA/(1000/K)	2.6	2.3	2.1	2.0	1.9	1.7	1.7	1.6	1.5
2.0000	V/(M3/KG)	.02132	.02328	.02509	.02680	.02843	.03000	.03153	.03302	.03448
	H/(KJ/KG)	924.8	998.6	1073.3	1149.2	1226.4	1305.1	1385.2	1466.8	1549.8
	S/(KJ/KG K)	2.2087	2.3398	2.4669	2.5908	2.7120	2.8308	2.9473	3.0618	3.1743
	C/(M/SEC)	191.4371	204.1433	215.0105	224.6045	233.2621	241.2010	248.5704	255.4769	261.9993
	KAPPA/(1/MPA)	.6414	.6056	.5819	.5651	.5525	.5429	.5352	.5290	.5239
	BETA/(1000/K)	3.9	3.2	2.8	2.5	2.2	2.1	1.9	1.8	1.7
3.0000	V/(M3/KG)	.01200	.01379	.01532	.01669	.01796	.01915	.02029	.02139	.02245
	H/(KJ/KG)	897.3	976.8	1055.2	1133.7	1212.8	1293.0	1374.4	1457.0	1540.8
	S/(KJ/KG K)	2.1294	2.2708	2.4042	2.5323	2.6566	2.7776	2.8960	3.0119	3.1256
	C/(M/SEC)	163.8940	183.7364	199.1178	211.8870	222.9237	232.7222	241.5897	249.7314	257.2907
	KAPPA/(1/MPA)	.5369	.4651	.4277	.4045	.3887	.3773	.3686	.3619	.3565
	BETA/(1000/K)	6.7	4.7	3.8	3.1	2.7	2.4	2.2	2.0	1.9
4.0000	V/(M3/KG)	.00700	.00893	.01039	.01163	.01273	.01375	.01470	.01560	.01646
	H/(KJ/KG)	858.9	950.7	1034.9	1116.9	1198.5	1280.5	1363.3	1447.0	1531.8
	S/(KJ/KG K)	2.0427	2.2060	2.3493	2.4832	2.6113	2.7351	2.8555	2.9730	3.0880
	C/(M/SEC)	137.6755	164.3935	184.4122	200.3720	213.7437	225.3331	235.6224	244.9227	253.4456
	KAPPA/(1/MPA)	.5442	.4096	.3548	.3251	.3064	.2936	.2842	.2772	.2717
	BETA/(1000/K)	13.5	7.3	5.1	4.0	3.3	2.8	2.5	2.3	2.1

THERMODYNAMIC PROPERTIES OF HEXANE

TEMPERATURES/(K)

P/(MPA)		775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.10532	.10896	.11259	.11621	.11981	.12341	.12699	.13057
	H/(KJ/KG)	1644.7	1729.8	1816.3	1904.2	1993.4	2084.0	2175.9	2269.0
	S/(KJ/KG K)	3.3974	3.5054	3.6119	3.7169	3.8204	3.9225	4.0231	4.1224
	C/(M/SEC)	274.0452	278.9501	283.7332	288.4051	292.9751	297.4510	301.8398	306.1473
	KAPPA/(1/MPA)	1.4490	1.4456	1.4427	1.4402	1.4379	1.4360	1.4342	1.4327
	BETA/(1000/K)	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
.8000	V/(M3/KG)	.09196	.09518	.09838	.10157	.10474	.10790	.11106	.11420
	H/(KJ/KG)	1643.9	1729.0	1815.6	1903.5	1992.8	2083.5	2175.4	2268.5
	S/(KJ/KG K)	3.3837	3.4918	3.5983	3.7033	3.8069	3.9090	4.0097	4.1091
	C/(M/SEC)	273.5677	278.5504	283.4028	288.1369	292.7628	297.2892	301.7238	306.0732
	KAPPA/(1/MPA)	1.2704	1.2670	1.2641	1.2615	1.2593	1.2573	1.2556	1.2540
	BETA/(1000/K)	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1
.9000	V/(M3/KG)	.08158	.08446	.08733	.09018	.09302	.09584	.09866	.10147
	H/(KJ/KG)	1643.1	1728.3	1814.9	1902.9	1992.2	2082.9	2174.8	2268.0
	S/(KJ/KG K)	3.3715	3.4796	3.5862	3.6913	3.7949	3.8971	3.9978	4.0972
	C/(M/SEC)	273.0943	278.1549	283.0767	287.8728	292.5545	297.1313	301.6116	306.0026
	KAPPA/(1/MPA)	1.1315	1.1281	1.1251	1.1226	1.1203	1.1184	1.1166	1.1151
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
1.0000	V/(M3/KG)	.07327	.07589	.07848	.08107	.08364	.08620	.08875	.09129
	H/(KJ/KG)	1642.3	1727.5	1814.2	1902.2	1991.6	2082.3	2174.3	2267.5
	S/(KJ/KG K)	3.3605	3.4687	3.5754	3.6805	3.7841	3.8863	3.9871	4.0865
	C/(M/SEC)	272.6251	277.7638	282.7549	287.6130	292.3503	296.9774	301.5031	305.9355
	KAPPA/(1/MPA)	1.0203	1.0169	1.0140	1.0114	1.0091	1.0072	1.0054	1.0039
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
2.0000	V/(M3/KG)	.03591	.03732	.03871	.04009	.04146	.04281	.04415	.04548
	H/(KJ/KG)	1634.2	1720.0	1807.2	1895.7	1985.5	2076.6	2168.9	2262.4
	S/(KJ/KG K)	3.2851	3.3940	3.5013	3.6070	3.7112	3.8138	3.9150	4.0147
	C/(M/SEC)	268.1977	274.1187	279.7992	285.2691	290.5527	295.6702	300.6384	305.4716
	KAPPA/(1/MPA)	.5197	.5161	.5131	.5105	.5083	.5063	.5046	.5031
	BETA/(1000/K)	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2
3.0000	V/(M3/KG)	.02348	.02449	.02549	.02646	.02742	.02837	.02931	.03024
	H/(KJ/KG)	1626.0	1712.4	1800.2	1889.2	1979.4	2070.9	2163.6	2257.4
	S/(KJ/KG K)	3.2373	3.3471	3.4550	3.5613	3.6660	3.7691	3.8706	3.9707
	C/(M/SEC)	264.3723	271.0547	277.3984	283.4509	289.2502	294.8271	300.2072	305.4116
	KAPPA/(1/MPA)	.3521	.3484	.3454	.3428	.3406	.3387	.3370	.3356
	BETA/(1000/K)	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2
4.0000	V/(M3/KG)	.01730	.01811	.01890	.01967	.02043	.02118	.02191	.02264
	H/(KJ/KG)	1617.8	1704.9	1793.3	1882.8	1973.5	2065.4	2158.4	2252.6
	S/(KJ/KG K)	3.2008	3.3114	3.4201	3.5270	3.6322	3.7357	3.8377	3.9381
	C/(M/SEC)	261.3418	268.7220	275.6702	282.2514	288.5169	294.5078	300.2579	305.7947
	KAPPA/(1/MPA)	.2672	.2636	.2607	.2582	.2561	.2543	.2527	.2513
	BETA/(1000/K)	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.3

THERMODYNAMIC PROPERTIES OF HEXANE

TEMPERATURES/(K)

P/(MPA)		345.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000	525.000
5.0000	V/(M3/KG)	.00166	.00167	.00174	.00182	.00192	.00203	.00219	.00242	.00291
	H/(KJ/KG)	155.2	167.9	233.5	301.9	372.8	446.3	523.6	609.0	697.8
	S/(KJ/KG K)	.4856	.5222	.7031	.8797	1.0516	1.2195	1.3868	1.5618	1.7349
	C/(M/SEC)	889.5979	870.6038	778.5045	689.6200	601.5270	511.4320	415.7224	310.3541	198.6005
	KAPPA/(1/MPA)	.0027	.0028	.0036	.0048	.0066	.0098	.0162	.0335	.1183
	BETA/(1000/K)	1.6	1.6	1.7	1.9	2.2	2.6	3.3	5.0	11.1
6.0000	V/(M3/KG)	.00165	.00167	.00174	.00182	.00191	.00202	.00216	.00235	.00268
	H/(KJ/KG)	156.0	168.7	234.1	302.4	373.0	446.0	522.6	606.0	688.1
	S/(KJ/KG K)	.4830	.5196	.7001	.8763	1.0476	1.2145	1.3800	1.5510	1.7112
	C/(M/SEC)	900.4733	881.7963	791.4692	704.7969	619.5879	533.5431	443.9777	349.0777	254.6537
	KAPPA/(1/MPA)	.0026	.0027	.0035	.0046	.0062	.0089	.0138	.0249	.0586
	BETA/(1000/K)	1.6	1.6	1.7	1.9	2.1	2.4	3.0	4.1	6.7
7.0000	V/(M3/KG)	.00165	.00166	.00173	.00181	.00190	.00200	.00213	.00230	.00256
	H/(KJ/KG)	156.7	169.4	234.8	302.9	373.3	445.9	521.8	603.9	682.8
	S/(KJ/KG K)	.4805	.5170	.6972	.8730	1.0437	1.2098	1.3738	1.5422	1.6960
	C/(M/SEC)	911.0815	892.7033	804.0296	719.3754	636.7514	554.1470	469.4599	381.9120	298.0730
	KAPPA/(1/MPA)	.0025	.0026	.0033	.0043	.0058	.0081	.0121	.0200	.0386
	BETA/(1000/K)	1.5	1.6	1.7	1.8	2.0	2.3	2.7	3.5	5.1
8.0000	V/(M3/KG)	.00165	.00166	.00173	.00180	.00188	.00198	.00210	.00226	.00247
	H/(KJ/KG)	157.5	170.2	235.4	303.4	373.6	445.9	521.3	602.3	679.2
	S/(KJ/KG K)	.4779	.5144	.6944	.8698	1.0400	1.2053	1.3682	1.5346	1.6845
	C/(M/SEC)	921.4385	903.3428	816.2181	733.4208	653.1061	573.4958	492.8102	410.7933	334.2446
	KAPPA/(1/MPA)	.0025	.0026	.0032	.0041	.0055	.0075	.0108	.0167	.0288
	BETA/(1000/K)	1.5	1.5	1.6	1.8	1.9	2.2	2.6	3.2	4.2
9.0000	V/(M3/KG)	.00164	.00165	.00172	.00179	.00187	.00197	.00208	.00222	.00241
	H/(KJ/KG)	158.3	171.0	236.1	303.9	373.9	446.0	520.9	601.2	676.7
	S/(KJ/KG K)	.4755	.5119	.6916	.8667	1.0364	1.2011	1.3631	1.5278	1.6750
	C/(M/SEC)	931.5597	913.7303	828.0615	746.9811	668.7562	591.7614	514.4452	436.7923	365.6651
	KAPPA/(1/MPA)	.0024	.0025	.0031	.0040	.0052	.0069	.0097	.0144	.0230
	BETA/(1000/K)	1.5	1.5	1.6	1.7	1.9	2.1	2.4	2.9	3.6
10.0000	V/(M3/KG)	.00164	.00165	.00171	.00179	.00187	.00196	.00206	.00219	.00236
	H/(KJ/KG)	159.1	171.7	236.8	304.5	374.3	446.1	520.7	600.4	674.8
	S/(KJ/KG K)	.4730	.5094	.6889	.8636	1.0330	1.1971	1.3582	1.5217	1.6669
	C/(M/SEC)	941.4539	923.8803	839.5794	760.0924	683.7692	609.1038	534.6708	460.5721	393.6870
	KAPPA/(1/MPA)	.0023	.0024	.0030	.0038	.0049	.0065	.0089	.0127	.0191
	BETA/(1000/K)	1.5	1.5	1.6	1.7	1.8	2.0	2.3	2.7	3.2

THERMODYNAMIC PROPERTIES OF HEXANE

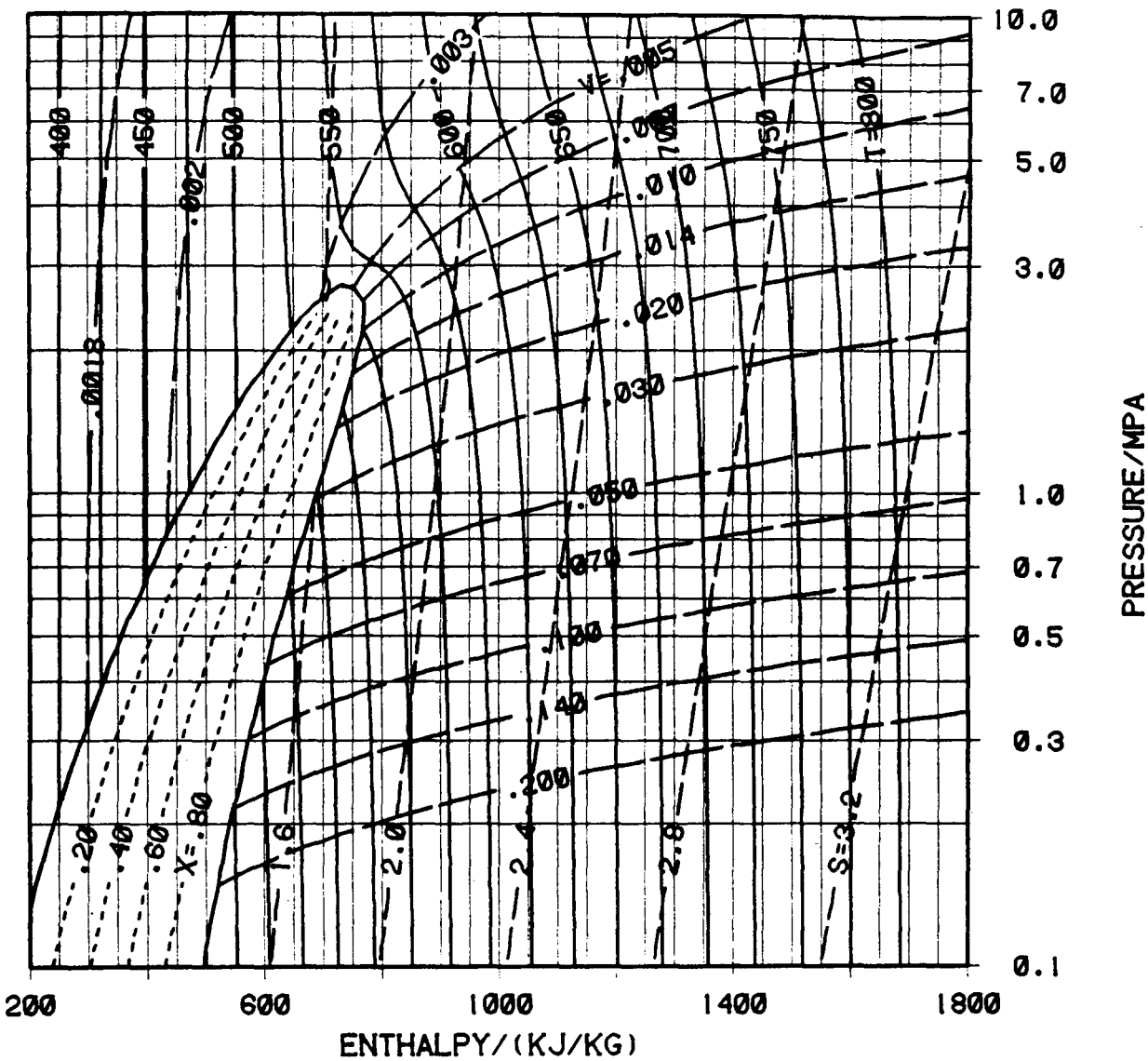
TEMPERATURES/(K)

P/(MPA)		550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000
5.0000	V/(M3/KG)	.00435	.00609	.00749	.00864	.00964	.01054	.01137	.01216	.01290
	H/(KJ/KG)	815.1	920.9	1012.7	1099.1	1183.7	1267.8	1352.1	1437.1	1522.9
	S/(KJ/KG K)	1.9531	2.1413	2.2976	2.4388	2.5715	2.6984	2.8211	2.9403	3.0567
	C/(M/SEC)	142.6046	155.2914	174.7836	192.1116	206.9494	219.8266	231.2077	241.4311	250.7394
	KAPPA/(1/MPA)	.3632	.3480	.3019	.2725	.2537	.2409	.2317	.2248	.2195
	BETA/(1000/K)	17.1	10.3	6.7	4.9	3.9	3.3	2.8	2.5	2.3
6.0000	V/(M3/KG)	.00338	.00453	.00570	.00673	.00764	.00845	.00920	.00990	.01056
	H/(KJ/KG)	788.5	893.8	990.8	1081.4	1168.8	1255.1	1341.0	1427.2	1514.0
	S/(KJ/KG K)	1.8978	2.0851	2.2502	2.3982	2.5354	2.6656	2.7906	2.9116	3.0294
	C/(M/SEC)	178.5442	164.5460	174.8503	189.5402	203.9235	217.0489	228.8939	239.6274	249.4313
	KAPPA/(1/MPA)	.1658	.2413	.2414	.2262	.2125	.2020	.1940	.1879	.1832
	BETA/(1000/K)	11.7	10.7	7.7	5.7	4.5	3.7	3.1	2.7	2.4
7.0000	V/(M3/KG)	.00300	.00373	.00462	.00549	.00629	.00702	.00770	.00833	.00892
	H/(KJ/KG)	774.9	874.3	971.9	1064.9	1154.7	1242.8	1330.2	1417.7	1505.5
	S/(KJ/KG K)	1.8674	2.0440	2.2102	2.3621	2.5030	2.6360	2.7632	2.8859	3.0050
	C/(M/SEC)	222.2646	186.8753	184.8599	193.7316	205.5245	217.5914	229.0819	239.7869	249.7135
	KAPPA/(1/MPA)	.0867	.1520	.1789	.1813	.1761	.1698	.1642	.1596	.1557
	BETA/(1000/K)	7.8	9.2	7.7	6.1	4.9	4.0	3.4	2.9	2.6
8.0000	V/(M3/KG)	.00280	.00330	.00397	.00468	.00536	.00601	.00661	.00718	.00772
	H/(KJ/KG)	767.1	861.2	957.1	1050.7	1141.9	1231.4	1320.1	1408.6	1497.3
	S/(KJ/KG K)	1.8480	2.0153	2.1784	2.3314	2.4744	2.6095	2.7385	2.8628	2.9830
	C/(M/SEC)	262.4215	216.1605	201.7649	203.6789	211.5878	221.5287	231.8886	242.0147	251.6688
	KAPPA/(1/MPA)	.0549	.0971	.1288	.1414	.1438	.1422	.1394	.1365	.1338
	BETA/(1000/K)	5.8	7.3	7.1	6.0	5.0	4.2	3.5	3.1	2.7
9.0000	V/(M3/KG)	.00267	.00305	.00356	.00413	.00471	.00528	.00582	.00633	.00682
	H/(KJ/KG)	762.0	852.5	945.9	1039.0	1130.7	1221.1	1310.7	1400.1	1489.6
	S/(KJ/KG K)	1.8337	1.9945	2.1535	2.3057	2.4495	2.5860	2.7163	2.8418	2.9631
	C/(M/SEC)	297.8282	247.4730	223.1315	217.7808	221.2621	228.4645	237.1359	246.2300	255.2592
	KAPPA/(1/MPA)	.0393	.0661	.0933	.1094	.1164	.1185	.1183	.1171	.1157
	BETA/(1000/K)	4.7	5.9	6.2	5.7	4.9	4.2	3.6	3.2	2.8
10.0000	V/(M3/KG)	.00258	.00288	.00328	.00375	.00424	.00474	.00522	.00568	.00612
	H/(KJ/KG)	758.4	846.3	937.5	1029.6	1121.2	1212.1	1302.3	1392.3	1482.4
	S/(KJ/KG K)	1.8224	1.9787	2.1338	2.2843	2.4281	2.5652	2.6964	2.8228	2.9450
	C/(M/SEC)	329.3005	277.9568	246.9957	234.8264	233.6579	237.8178	244.4697	252.2179	260.3500
	KAPPA/(1/MPA)	.0304	.0483	.0691	.0851	.0943	.0987	.1005	.1008	.1004
	BETA/(1000/K)	4.0	4.9	5.4	5.2	4.7	4.1	3.6	3.2	2.8

THERMODYNAMIC PROPERTIES OF HEXANE

TEMPERATURES/(K)

P/(MPA)		775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.01361	.01430	.01497	.01562	.01626	.01688	.01749	.01810
	H/(KJ/KG)	1609.7	1697.5	1786.4	1876.5	1967.6	2059.9	2153.3	2247.8
	S/(KJ/KG K)	3.1705	3.2821	3.3915	3.4990	3.6047	3.7087	3.8111	3.9119
	C/(M/SEC)	259.3096	267.2734	274.7310	281.7602	288.4223	294.7667	300.8334	306.6553
	KAPPA/(1/MPA)	.2152	.2118	.2090	.2067	.2047	.2030	.2016	.2004
	BETA/(1000/K)	2.1	1.9	1.8	1.6	1.5	1.5	1.4	1.3
6.0000	V/(M3/KG)	.01119	.01179	.01237	.01294	.01349	.01403	.01456	.01508
	H/(KJ/KG)	1601.7	1690.2	1779.8	1870.3	1962.0	2054.7	2148.4	2243.2
	S/(KJ/KG K)	3.1443	3.2567	3.3669	3.4751	3.5813	3.6858	3.7886	3.8897
	C/(M/SEC)	258.4616	266.8446	274.6814	282.0527	289.0238	295.6475	301.9675	308.0197
	KAPPA/(1/MPA)	.1794	.1763	.1738	.1717	.1699	.1684	.1671	.1660
	BETA/(1000/K)	2.2	2.0	1.9	1.7	1.6	1.5	1.4	1.4
7.0000	V/(M3/KG)	.00948	.01002	.01054	.01105	.01154	.01202	.01248	.01294
	H/(KJ/KG)	1593.9	1683.2	1773.3	1864.4	1956.4	2049.5	2143.7	2238.8
	S/(KJ/KG K)	3.1210	3.2343	3.3453	3.4540	3.5608	3.6657	3.7688	3.8703
	C/(M/SEC)	258.9340	267.5336	275.5926	283.1813	290.3599	297.1790	303.6816	309.9038
	KAPPA/(1/MPA)	.1526	.1500	.1479	.1461	.1445	.1432	.1421	.1411
	BETA/(1000/K)	2.3	2.1	1.9	1.8	1.7	1.6	1.5	1.4
8.0000	V/(M3/KG)	.00823	.00872	.00919	.00964	.01009	.01052	.01094	.01135
	H/(KJ/KG)	1586.5	1676.4	1767.1	1858.6	1951.2	2044.6	2139.1	2234.5
	S/(KJ/KG K)	3.1000	3.2142	3.3258	3.4352	3.5424	3.6478	3.7513	3.8531
	C/(M/SEC)	260.7891	269.3861	277.4975	285.1693	292.4468	299.3722	305.9829	312.3121
	KAPPA/(1/MPA)	.1315	.1295	.1278	.1263	.1250	.1240	.1230	.1222
	BETA/(1000/K)	2.4	2.2	2.0	1.9	1.7	1.6	1.5	1.4
9.0000	V/(M3/KG)	.00728	.00773	.00815	.00857	.00897	.00937	.00975	.01012
	H/(KJ/KG)	1579.5	1669.9	1761.1	1853.2	1946.1	2039.9	2134.7	2230.4
	S/(KJ/KG K)	3.0810	3.1959	3.3082	3.4181	3.5258	3.6315	3.7354	3.8375
	C/(M/SEC)	264.0073	272.3903	280.3876	288.0092	295.2775	302.2200	308.8645	315.2378
	KAPPA/(1/MPA)	.1142	.1128	.1116	.1105	.1095	.1087	.1079	.1073
	BETA/(1000/K)	2.5	2.3	2.1	1.9	1.8	1.7	1.6	1.5
10.0000	V/(M3/KG)	.00654	.00695	.00734	.00773	.00809	.00846	.00881	.00915
	H/(KJ/KG)	1572.9	1663.9	1755.5	1848.0	1941.3	2035.5	2130.5	2226.5
	S/(KJ/KG K)	3.0636	3.1792	3.2920	3.4024	3.5106	3.6167	3.7209	3.8233
	C/(M/SEC)	268.4999	276.4844	284.2176	291.6662	298.8240	305.6993	312.3068	318.6640
	KAPPA/(1/MPA)	.0998	.0990	.0982	.0975	.0968	.0962	.0956	.0951
	BETA/(1000/K)	2.5	2.3	2.1	1.9	1.8	1.7	1.6	1.5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0.7
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0.3
0.1
PRESSURE/MPA
200
600
1000
1400
1800
ENTHALPY/(KJ/KG)
400
450
500
550
600
650
700
750
T=300
.0013
.002
.003
v=.005
.010
.014
.020
.030
.050
.070
.100
.140
.200
.20
.40
.60
X=.80
1.6
2.0
2.4
2.8
S=3.2

HEPTANE

PROPERTIES OF SATURATED HEPTANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
375.00000	.11136	.00167	.26395	182.30135	318.69269	500.99403	.47123	.84985	1.32108
380.00000	.12850	.00168	.23032	195.65032	314.63396	510.28428	.50652	.82798	1.33450
385.00000	.14762	.00170	.20173	209.13571	310.48256	519.61827	.54169	.80645	1.34814
390.00000	.16887	.00171	.17734	222.75417	306.23829	528.99246	.57674	.78523	1.36197
395.00000	.19238	.00173	.15642	236.50227	301.90094	538.40320	.61166	.76431	1.37597
400.00000	.21833	.00175	.13842	250.37687	297.46981	547.84668	.64645	.74367	1.39013
405.00000	.24685	.00176	.12285	264.37442	292.94457	557.31898	.68111	.72332	1.40443
410.00000	.27812	.00178	.10934	278.49034	288.32584	566.81618	.71561	.70323	1.41884
415.00000	.31228	.00180	.09758	292.72432	283.60917	576.33349	.74997	.68340	1.43337
420.00000	.34952	.00181	.08729	307.07254	278.79388	585.86642	.78418	.66379	1.44797
425.00000	.39000	.00183	.07827	321.53291	273.87700	595.40991	.81823	.64442	1.46264
430.00000	.43389	.00185	.07032	336.10393	268.85452	604.95845	.85212	.62524	1.47737
435.00000	.48137	.00187	.06331	350.78481	263.72119	614.50599	.88586	.60626	1.49212
440.00000	.53263	.00189	.05709	365.57561	258.47025	624.04586	.91945	.58743	1.50688
445.00000	.58785	.00191	.05157	380.47745	253.09309	633.57054	.95289	.56875	1.52164
450.00000	.64724	.00194	.04664	395.49267	247.57892	643.07159	.98619	.55018	1.53636
455.00000	.71099	.00196	.04224	410.62511	241.91425	652.53936	1.01935	.53168	1.55103
460.00000	.77931	.00199	.03829	425.88039	236.08235	661.96275	1.05240	.51322	1.56563
465.00000	.85243	.00201	.03474	441.26626	230.06259	671.32885	1.08535	.49476	1.58011
470.00000	.93057	.00204	.03153	456.79303	223.82946	680.62249	1.11823	.47623	1.59446
475.00000	1.01399	.00207	.02863	472.47439	217.35118	689.82557	1.15105	.45758	1.60863
480.00000	1.10295	.00210	.02600	488.32678	210.58982	698.91660	1.18386	.43873	1.62259
485.00000	1.19771	.00214	.02360	504.37374	203.49483	707.86857	1.21670	.41958	1.63628
490.00000	1.29857	.00218	.02141	520.64271	196.00595	716.64866	1.24963	.40001	1.64964
495.00000	1.40585	.00222	.01939	537.17020	188.04465	725.21485	1.28271	.37989	1.66260
500.00000	1.51989	.00226	.01754	554.00325	179.50920	733.51245	1.31603	.35902	1.67505
505.00000	1.64104	.00231	.01582	571.20408	170.26405	741.46813	1.34971	.33716	1.68687
510.00000	1.76970	.00237	.01422	588.85633	160.12348	748.97980	1.38390	.31397	1.69786
515.00000	1.90631	.00244	.01271	607.07660	148.82155	755.89815	1.41881	.28897	1.70778
520.00000	2.05131	.00252	.01127	626.03916	135.94905	761.98821	1.45475	.26144	1.71619
525.00000	2.20523	.00262	.00988	646.02273	120.82103	766.84376	1.49224	.23014	1.72238
530.00000	2.36860	.00276	.00848	667.54727	102.09206	769.63933	1.53221	.19263	1.72484
535.00000	2.54204	.00298	.00696	691.89250	76.21401	768.10651	1.57699	.14246	1.71945
540.00000	2.72620	.00373	.00438	725.18820	15.89108	741.07928	1.63782	.02943	1.66724
540.26000	2.92181	.00425	.00425	739.63118	0.	739.63118	1.66302	0.	1.66302

THERMODYNAMIC PROPERTIES OF HEPTANE

TEMPERATURES/(K)

P/(MPA)		375.000	400.000	425.000	450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000
.1000	V/(M3/KG)	.29578	.31892	.34159	.36390	.38593	.40774	.42939	.45090	.47230	.49362	.51486	.53604
	H/(KJ/KG)	501.6	553.7	608.3	665.4	725.0	786.9	851.1	917.4	985.9	1056.5	1129.0	1203.4
	S/(KJ/KG K)	1.3312	1.4656	1.5980	1.7286	1.8573	1.9843	2.1096	2.2331	2.3549	2.4750	2.5933	2.7101
	C/(M/SEC)	171.9998	179.1997	185.8899	192.1792	198.1441	203.8405	209.3100	214.5843	219.6884	224.6419	229.4608	234.1580
	KAPPA/(1/MPA)	10.5462	10.4238	10.3352	10.2692	10.2191	10.1802	10.1496	10.1252	10.1054	10.0892	10.0758	10.0647
	BETA/(1000/K)	3.2	2.9	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.6
.1013	V/(M3/KG)	.29170	.31458	.33697	.35901	.38077	.40232	.42369	.44493	.46606	.48710	.50808	.52899
	H/(KJ/KG)	501.6	553.6	608.3	665.4	724.9	786.8	851.0	917.4	985.9	1056.5	1129.0	1203.4
	S/(KJ/KG K)	1.3300	1.4644	1.5968	1.7274	1.8562	1.9832	2.1084	2.2319	2.3537	2.4738	2.5922	2.7089
	C/(M/SEC)	171.8841	179.1066	185.8137	192.1159	198.0910	203.7956	209.2717	214.5515	219.6601	224.6175	229.4396	234.1396
	KAPPA/(1/MPA)	10.4165	10.2937	10.2048	10.1387	10.0884	10.0495	10.0189	9.9944	9.9746	9.9585	9.9451	9.9339
	BETA/(1000/K)	3.2	2.9	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.6
.2000	V/(M3/KG)	.00167	.15245	.16491	.17694	.18867	.20015	.21145	.22261	.23365	.24460	.25547	.26628
	H/(KJ/KG)	182.4	548.8	604.1	661.8	721.9	784.2	848.7	915.3	984.0	1054.8	1127.5	1202.0
	S/(KJ/KG K)	.4710	1.3991	1.5334	1.6653	1.7950	1.9228	2.0487	2.1727	2.2949	2.4153	2.5340	2.6509
	C/(M/SEC)	788.3030	171.7998	179.9074	187.2607	194.0469	200.3916	206.3822	212.0819	217.5380	222.7862	227.8543	232.7645
	KAPPA/(1/MPA)	.0034	5.4786	5.3676	5.2892	5.2318	5.1885	5.1551	5.1288	5.1078	5.0909	5.0769	5.0654
	BETA/(1000/K)	1.7	3.3	3.0	2.7	2.5	2.3	2.1	2.0	1.9	1.8	1.7	1.6
.3000	V/(M3/KG)	.00167	.00174	.10576	.11447	.12281	.13088	.13876	.14648	.15407	.16158	.16900	.17636
	H/(KJ/KG)	182.4	250.4	599.7	658.1	718.6	781.4	846.2	913.1	982.1	1053.1	1125.9	1200.6
	S/(KJ/KG K)	.4707	.6462	1.4920	1.6255	1.7564	1.8850	2.0116	2.1361	2.2587	2.3795	2.4984	2.6156
	C/(M/SEC)	789.5837	696.2774	173.3952	182.0195	189.7467	196.8121	203.3693	209.5241	215.3517	220.9077	226.2342	231.3635
	KAPPA/(1/MPA)	.0033	.0045	3.7414	3.6462	3.5796	3.5309	3.4943	3.4660	3.4438	3.4259	3.4114	3.3995
	BETA/(1000/K)	1.7	1.9	3.4	3.0	2.7	2.4	2.2	2.1	2.0	1.8	1.7	1.7
.4000	V/(M3/KG)	.00167	.00174	.00183	.08309	.08979	.09619	.10237	.10839	.11427	.12005	.12576	.13139
	H/(KJ/KG)	182.5	250.5	321.5	654.1	715.3	778.5	843.7	910.9	980.1	1051.3	1124.3	1199.1
	S/(KJ/KG K)	.4704	.6459	.8182	1.5950	1.7273	1.8569	1.9842	2.1093	2.2323	2.3534	2.4726	2.5900
	C/(M/SEC)	790.8602	697.8041	603.7980	176.3938	185.2146	193.0881	200.2647	206.9074	213.1279	219.0059	224.6003	229.9552
	KAPPA/(1/MPA)	.0033	.0044	.0062	2.8414	2.7629	2.7078	2.6674	2.6369	2.6132	2.5944	2.5793	2.5669
	BETA/(1000/K)	1.7	1.9	2.1	3.3	2.9	2.6	2.4	2.2	2.0	1.9	1.8	1.7
.5000	V/(M3/KG)	.00167	.00174	.00183	.06413	.06991	.07533	.08051	.08551	.09038	.09513	.09980	.10441
	H/(KJ/KG)	182.5	250.5	321.6	649.9	711.8	775.5	841.1	908.7	978.2	1049.5	1122.7	1197.7
	S/(KJ/KG K)	.4701	.6455	.8178	1.5694	1.7032	1.8339	1.9620	2.0877	2.2112	2.3327	2.4522	2.5698
	C/(M/SEC)	792.1324	699.3244	605.6706	170.3001	180.4151	189.2034	197.0606	204.2283	210.8650	217.0801	222.9523	228.5396
	KAPPA/(1/MPA)	.0033	.0044	.0062	2.3766	2.2823	2.2192	2.1744	2.1413	2.1160	2.0962	2.0805	2.0677
	BETA/(1000/K)	1.7	1.8	2.1	3.7	3.2	2.8	2.5	2.3	2.1	2.0	1.9	1.8
.6000	V/(M3/KG)	.00167	.00174	.00183	.05136	.05657	.06138	.06591	.07024	.07443	.07851	.08250	.08642
	H/(KJ/KG)	182.6	250.5	321.6	645.4	708.1	772.4	838.4	906.4	976.1	1047.7	1121.1	1196.2
	S/(KJ/KG K)	.4699	.6452	.8174	1.5466	1.6822	1.8141	1.9430	2.0694	2.1934	2.3153	2.4351	2.5530
	C/(M/SEC)	790.1098	700.8384	607.5331	163.6210	175.3023	185.1385	193.7484	201.4829	208.5613	215.1297	221.2901	227.1167
	KAPPA/(1/MPA)	.0033	.0044	.0061	2.0881	1.9720	1.8989	1.8488	1.8128	1.7857	1.7649	1.7484	1.7351
	BETA/(1000/K)	1.7	1.8	2.1	4.3	3.5	3.0	2.7	2.4	2.2	2.1	1.9	1.8

THERMODYNAMIC PROPERTIES OF HEPTANE

TEMPERATURES/(K)

P/(MPA)		675.000	700.000	725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	.55718	.57827	.59932	.62035	.64135	.66233	.68329	.70423	.72516	.74608	.76698	.78788
	H/(KJ/KG)	1279.6	1357.6	1437.2	1518.5	1601.4	1685.7	1771.6	1858.8	1947.4	2037.3	2128.5	2221.0
	S/(KJ/KG K)	2.8251	2.9385	3.0503	3.1605	3.2692	3.3763	3.4820	3.5861	3.6889	3.7902	3.8902	3.9888
	C/(M/SEC)	238.7446	243.2295	247.6207	251.9249	256.1480	260.2950	264.3707	268.3790	272.3236	276.2080	280.0350	283.8076
	KAPPA/(1/MPA)	10.0553	10.0473	10.0405	10.0347	10.0296	10.0252	10.0213	10.0179	10.0150	10.0123	10.0100	10.0079
	BETA/(1000/K)	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.1013	V/(M3/KG)	.54985	.57067	.59145	.61221	.63294	.65365	.67433	.69501	.71566	.73631	.75694	.77757
	H/(KJ/KG)	1279.6	1357.6	1437.2	1518.5	1601.4	1685.7	1771.6	1858.8	1947.4	2037.3	2128.5	2221.0
	S/(KJ/KG K)	2.8240	2.9374	3.0492	3.1594	3.2681	3.3752	3.4809	3.5850	3.6878	3.7891	3.8891	3.9876
	C/(M/SEC)	238.7285	243.2156	247.6087	251.9145	256.1389	260.2873	264.3641	268.3734	272.3190	276.2041	280.0320	283.8052
	KAPPA/(1/MPA)	9.9245	9.9166	9.9097	9.9039	9.8988	9.8944	9.8906	9.8872	9.8842	9.8815	9.8792	9.8771
	BETA/(1000/K)	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.2000	V/(M3/KG)	.27705	.28776	.29845	.30910	.31973	.33033	.34092	.35149	.36204	.37258	.38311	.39363
	H/(KJ/KG)	1278.3	1356.4	1436.2	1517.5	1600.4	1684.9	1770.8	1858.0	1946.7	2036.7	2127.9	2220.4
	S/(KJ/KG K)	2.7661	2.8797	2.9916	3.1019	3.2107	3.3179	3.4236	3.5279	3.6307	3.7320	3.8320	3.9307
	C/(M/SEC)	237.5344	242.1786	246.7090	251.1357	255.4672	259.7108	263.8729	267.9589	271.9737	275.9216	279.8066	283.6320
	KAPPA/(1/MPA)	5.0557	5.0476	5.0407	5.0347	5.0296	5.0251	5.0213	5.0178	5.0149	5.0122	5.0098	5.0077
	BETA/(1000/K)	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.3000	V/(M3/KG)	.18367	.19093	.19816	.20535	.21252	.21967	.22680	.23391	.24100	.24809	.25516	.26222
	H/(KJ/KG)	1277.0	1355.2	1435.1	1516.5	1599.5	1684.0	1769.9	1857.3	1946.0	2036.0	2127.3	2219.8
	S/(KJ/KG K)	2.7310	2.8447	2.9568	3.0672	3.1761	3.2834	3.3892	3.4935	3.5963	3.6977	3.7978	3.8964
	C/(M/SEC)	236.3212	241.1276	245.7994	250.3500	254.7910	259.1318	263.3806	267.5445	271.6295	275.6410	279.5838	283.4620
	KAPPA/(1/MPA)	3.3896	3.3812	3.3741	3.3681	3.3629	3.3584	3.3545	3.3511	3.3481	3.3454	3.3431	3.3410
	BETA/(1000/K)	1.6	1.5	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1
.4000	V/(M3/KG)	.13697	.14251	.14801	.15348	.15892	.16434	.16974	.17512	.18049	.18584	.19118	.19652
	H/(KJ/KG)	1275.7	1354.0	1434.0	1515.5	1598.6	1683.1	1769.1	1856.5	1945.3	2035.3	2126.7	2219.2
	S/(KJ/KG K)	2.7057	2.8195	2.9317	3.0423	3.1512	3.2586	3.3645	3.4688	3.5717	3.6732	3.7733	3.8720
	C/(M/SEC)	235.1051	240.0768	244.8920	249.5680	254.1193	258.5579	262.8939	267.1359	271.2912	275.3663	279.3667	283.2975
	KAPPA/(1/MPA)	2.5567	2.5482	2.5410	2.5348	2.5296	2.5250	2.5211	2.5176	2.5146	2.5120	2.5096	2.5075
	BETA/(1000/K)	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
.5000	V/(M3/KG)	.10896	.11346	.11792	.12236	.12676	.13114	.13551	.13985	.14418	.14850	.15280	.15710
	H/(KJ/KG)	1274.4	1352.8	1432.9	1514.5	1597.6	1682.3	1768.3	1855.8	1944.6	2034.7	2126.0	2218.6
	S/(KJ/KG K)	2.6856	2.7997	2.9120	3.0227	3.1317	3.2392	3.3451	3.4496	3.5525	3.6541	3.7542	3.8529
	C/(M/SEC)	233.8862	239.0263	243.9870	248.7898	253.4524	257.9894	262.4129	266.7331	270.9587	275.0973	279.1553	283.1385
	KAPPA/(1/MPA)	2.0572	2.0484	2.0411	2.0349	2.0296	2.0250	2.0210	2.0175	2.0145	2.0118	2.0095	2.0074
	BETA/(1000/K)	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
.6000	V/(M3/KG)	.09028	.09409	.09787	.10161	.10532	.10901	.11268	.11634	.11998	.12360	.12721	.13082
	H/(KJ/KG)	1273.1	1351.6	1431.8	1513.5	1596.7	1681.4	1767.5	1855.0	1943.9	2034.0	2125.4	2218.0
	S/(KJ/KG K)	2.6690	2.7832	2.8957	3.0065	3.1156	3.2232	3.3292	3.4337	3.5367	3.6383	3.7384	3.8372
	C/(M/SEC)	232.6647	237.9763	243.0846	248.0156	252.7905	257.4264	261.9377	266.3362	270.6322	274.8342	278.9496	282.9851
	KAPPA/(1/MPA)	1.7243	1.7154	1.7079	1.7016	1.6962	1.6916	1.6876	1.6841	1.6811	1.6784	1.6760	1.6739
	BETA/(1000/K)	1.7	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1

THERMODYNAMIC PROPERTIES OF HEPTANE

TEMPERATURES/(K)

P/(MPA)		375.000	400.000	425.000	450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000
.7000	V/(M3/KG)	.00167	.00174	.00183	.00194	.04697	.05136	.05545	.05932	.06303	.06663	.07013	.07356
	H/(KJ/KG)	182.7	250.6	321.6	395.5	704.1	769.1	835.7	904.0	974.0	1045.9	1119.5	1194.8
	S/(KJ/KG K)	.4696	.6449	.8170	.9859	1.6631	1.7964	1.9263	2.0534	2.1779	2.3002	2.4203	2.5385
	C/(M/SEC)	792.5786	700.5761	609.3853	512.2335	169.8165	180.8697	190.3180	198.6668	206.2150	213.1539	219.6136	225.6867
	KAPPA/(1/MPA)	.0033	.0044	.0061	.0092	1.7617	1.6756	1.6193	1.5798	1.5508	1.5288	1.5116	1.4979
	BETA/(1000/K)	1.7	1.8	2.1	2.5	3.9	3.3	2.9	2.6	2.3	2.1	2.0	1.8
.8000	V/(M3/KG)	.00167	.00174	.00183	.00193	.03968	.04381	.04758	.05111	.05448	.05771	.06086	.06392
	H/(KJ/KG)	182.7	250.6	321.6	395.5	700.0	765.8	832.9	901.6	971.9	1044.0	1117.8	1193.3
	S/(KJ/KG K)	.4693	.6446	.8166	.9854	1.6452	1.7802	1.9111	2.0390	2.1641	2.2868	2.4072	2.5256
	C/(M/SEC)	795.0790	703.3213	609.9577	514.6053	163.8769	176.3681	186.7578	195.7754	203.8242	211.1522	217.9228	224.2497
	KAPPA/(1/MPA)	.0033	.0044	.0061	.0091	1.6175	1.5142	1.4502	1.4068	1.3756	1.3523	1.3343	1.3201
	BETA/(1000/K)	1.7	1.8	2.1	2.5	4.4	3.6	3.1	2.7	2.4	2.2	2.0	1.9
.9000	V/(M3/KG)	.00167	.00174	.00183	.00193	.03393	.03789	.04143	.04471	.04781	.05077	.05364	.05642
	H/(KJ/KG)	182.8	250.7	321.6	395.4	695.5	762.2	829.9	899.1	969.8	1042.1	1116.1	1191.8
	S/(KJ/KG K)	.4690	.6443	.8163	.9850	1.6280	1.7649	1.8971	2.0257	2.1514	2.2746	2.3954	2.5141
	C/(M/SEC)	797.1794	705.3256	613.0447	516.9467	157.3700	171.5973	183.0545	192.8033	201.3869	209.1239	216.2175	222.8058
	KAPPA/(1/MPA)	.0033	.0043	.0060	.0090	1.5224	1.3954	1.3219	1.2739	1.2404	1.2156	1.1968	1.1821
	BETA/(1000/K)	1.7	1.8	2.1	2.5	5.0	3.9	3.3	2.8	2.5	2.3	2.1	1.9
1.0000	V/(M3/KG)	.00167	.00174	.00183	.00193	.02923	.03311	.03649	.03958	.04247	.04522	.04786	.05042
	H/(KJ/KG)	182.9	250.7	321.7	395.4	690.6	758.5	826.9	896.5	967.6	1040.2	1114.4	1190.3
	S/(KJ/KG K)	.4688	.6439	.8159	.9845	1.6110	1.7503	1.8839	2.0134	2.1398	2.2634	2.3846	2.5036
	C/(M/SEC)	798.4308	706.8147	614.8625	518.6082	150.1272	166.5105	179.1922	189.7447	198.9011	207.0684	214.4978	221.3554
	KAPPA/(1/MPA)	.0033	.0043	.0060	.0089	1.4696	1.3082	1.2227	1.1694	1.1331	1.1068	1.0871	1.0718
	BETA/(1000/K)	1.7	1.8	2.1	2.5	5.8	4.3	3.5	3.0	2.6	2.4	2.2	2.0
2.0000	V/(M3/KG)	.00166	.00173	.00182	.00191	.00204	.00223	.01292	.01590	.01813	.02004	.02176	.02335
	H/(KJ/KG)	183.5	251.2	321.9	395.3	471.5	552.6	784.4	865.4	942.5	1019.1	1096.2	1174.3
	S/(KJ/KG K)	.4660	.6408	.8122	.9799	1.1448	1.3110	1.7603	1.9111	2.0481	2.1786	2.3045	2.4269
	C/(M/SEC)	810.7035	721.3474	632.4771	541.5147	444.2931	331.8397	123.7474	152.4505	170.8362	184.9209	196.5513	206.5755
	KAPPA/(1/MPA)	.0031	.0041	.0056	.0081	.0130	.0267	1.1125	.7933	.6901	.6367	.6036	.5811
	BETA/(1000/K)	1.6	1.8	2.0	2.3	2.9	4.4	11.7	6.2	4.5	3.6	3.0	2.6
3.0000	V/(M3/KG)	.00165	.00173	.00181	.00190	.00202	.00218	.00246	.00572	.00944	.01140	.01295	.01429
	H/(KJ/KG)	184.2	251.7	322.2	395.2	470.8	550.4	638.6	794.7	907.2	993.0	1075.2	1156.6
	S/(KJ/KG K)	.4634	.6378	.8087	.9756	1.1391	1.3022	1.4742	1.7631	1.9636	2.1098	2.2440	2.3717
	C/(M/SEC)	822.5965	735.3018	649.1787	562.1469	471.1792	371.0881	249.1623	91.7117	135.8430	160.3325	177.9093	191.8993
	KAPPA/(1/MPA)	.0030	.0039	.0053	.0074	.0113	.0202	.0550	1.9339	.6593	.5167	.4572	.4238
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.7	3.6	6.8	55.9	9.9	6.0	4.4	3.5
4.0000	V/(M3/KG)	.00165	.00172	.00180	.00189	.00200	.00214	.00236	.00282	.00476	.00695	.00851	.00976
	H/(KJ/KG)	184.8	252.3	322.6	395.3	470.4	548.8	633.8	724.2	852.2	959.8	1050.9	1137.1
	S/(KJ/KG K)	.4607	.6349	.8053	.9715	1.1339	1.2948	1.4606	1.6287	1.8562	2.0396	2.1883	2.3236
	C/(M/SEC)	834.1320	748.7372	665.0809	581.4344	495.4981	403.9678	301.2514	182.9722	118.8664	140.1438	161.8750	179.2815
	KAPPA/(1/MPA)	.0029	.0038	.0050	.0068	.0101	.0165	.0338	.1339	.5960	.4704	.3876	.3451
	BETA/(1000/K)	1.6	1.7	1.9	2.1	2.5	3.2	4.8	11.7	21.7	10.4	6.4	4.7

THERMODYNAMIC PROPERTIES OF HEPTANE

TEMPERATURES/(K)

P/(MPA)		675.000	700.000	725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.07693	.08026	.08354	.08679	.09001	.09321	.09639	.09955	.10269	.10582	.10894	.11205
	H/(KJ/KG)	1271.8	1350.4	1430.6	1512.4	1595.7	1680.5	1766.7	1854.2	1943.1	2033.3	2124.8	2217.4
	S/(KJ/KG K)	2.6547	2.7691	2.8817	2.9926	3.1019	3.2095	3.3156	3.4201	3.5232	3.6248	3.7251	3.8239
	C/(M/SEC)	231.4408	236.9271	242.1850	247.2456	252.1335	256.8689	261.4683	265.9453	270.3116	274.5769	278.7497	282.8372
	KAPPA/(1/MPA)	1.4867	1.4776	1.4700	1.4635	1.4581	1.4534	1.4494	1.4459	1.4429	1.4402	1.4378	1.4357
	BETA/(1000/K)	1.7	1.6	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.8000	V/(M3/KG)	.06693	.06988	.07279	.07567	.07853	.08135	.08416	.08695	.08973	.09249	.09523	.09797
	H/(KJ/KG)	1270.4	1349.2	1429.5	1511.4	1594.8	1679.6	1765.9	1853.5	1942.4	2032.7	2124.1	2216.8
	S/(KJ/KG K)	2.6421	2.7566	2.8694	2.9804	3.0898	3.1975	3.3037	3.4083	3.5114	3.6131	3.7134	3.8122
	C/(M/SEC)	230.2147	235.8788	241.2885	246.4799	251.4818	256.3172	261.0049	265.5605	269.9971	274.3256	278.5555	282.6948
	KAPPA/(1/MPA)	1.3087	1.2993	1.2915	1.2850	1.2795	1.2748	1.2707	1.2672	1.2642	1.2615	1.2591	1.2570
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1
.9000	V/(M3/KG)	.05914	.06181	.06444	.06703	.06960	.07214	.07466	.07716	.07964	.08212	.08458	.08703
	H/(KJ/KG)	1269.1	1348.0	1428.4	1510.4	1593.8	1678.7	1765.1	1852.7	1941.7	2032.0	2123.5	2216.2
	S/(KJ/KG K)	2.6308	2.7455	2.8584	2.9696	3.0790	3.1869	3.2931	3.3978	3.5010	3.6027	3.7030	3.8019
	C/(M/SEC)	228.9866	234.8318	240.3953	245.7189	250.8355	255.7713	260.5476	265.1818	269.6887	274.0803	278.3671	282.5580
	KAPPA/(1/MPA)	1.1703	1.1607	1.1528	1.1462	1.1406	1.1358	1.1318	1.1282	1.1252	1.1225	1.1201	1.1180
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.2	1.1
1.0000	V/(M3/KG)	.05291	.05535	.05775	.06012	.06245	.06476	.06705	.06932	.07158	.07382	.07605	.07827
	H/(KJ/KG)	1267.7	1346.7	1427.3	1509.3	1592.9	1677.9	1764.2	1852.0	1941.0	2031.3	2122.9	2215.7
	S/(KJ/KG K)	2.6205	2.7354	2.8485	2.9597	3.0693	3.1772	3.2835	3.3883	3.4915	3.5933	3.6937	3.7926
	C/(M/SEC)	227.7570	233.7862	239.5055	244.9626	250.1947	255.2313	260.0964	264.8094	269.3864	273.8409	278.1845	282.4269
	KAPPA/(1/MPA)	1.0597	1.0499	1.0418	1.0351	1.0295	1.0247	1.0205	1.0170	1.0139	1.0112	1.0089	1.0068
	BETA/(1000/K)	1.9	1.7	1.6	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1
2.0000	V/(M3/KG)	.02486	.02630	.02768	.02902	.03033	.03161	.03286	.03410	.03532	.03652	.03771	.03890
	H/(KJ/KG)	1253.5	1334.0	1415.7	1498.8	1583.2	1669.0	1756.0	1844.3	1933.9	2024.7	2116.7	2209.8
	S/(KJ/KG K)	2.5465	2.6636	2.7783	2.8910	3.0017	3.1106	3.2177	3.3232	3.4271	3.5294	3.6302	3.7295
	C/(M/SEC)	215.4612	223.4965	230.8718	237.7200	244.1374	250.1960	255.9512	261.4463	266.7157	271.7874	276.6842	281.4252
	KAPPA/(1/MPA)	.5648	.5524	.5428	.5351	.5289	.5237	.5194	.5157	.5126	.5099	.5076	.5055
	BETA/(1000/K)	2.4	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2
3.0000	V/(M3/KG)	.01550	.01662	.01768	.01868	.01965	.02059	.02150	.02239	.02327	.02413	.02497	.02580
	H/(KJ/KG)	1238.2	1320.5	1403.7	1488.0	1573.4	1660.0	1747.8	1836.7	1926.8	2018.1	2110.5	2204.1
	S/(KJ/KG K)	2.4949	2.6146	2.7314	2.8457	2.9578	3.0677	3.1757	3.2819	3.3864	3.4893	3.5906	3.6903
	C/(M/SEC)	203.6616	213.8971	223.0185	231.2904	238.8931	245.9552	252.5715	258.8138	264.7379	270.3880	275.7997	281.0017
	KAPPA/(1/MPA)	.4023	.3873	.3762	.3677	.3610	.3556	.3512	.3475	.3444	.3418	.3395	.3375
	BETA/(1000/K)	3.0	2.6	2.3	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.3
4.0000	V/(M3/KG)	.01084	.01181	.01271	.01355	.01435	.01512	.01586	.01657	.01727	.01796	.01863	.01929
	H/(KJ/KG)	1221.9	1306.4	1391.4	1477.0	1563.5	1651.0	1739.6	1829.2	1919.9	2011.7	2104.5	2198.5
	S/(KJ/KG K)	2.4516	2.5746	2.6938	2.8099	2.9234	3.0345	3.1435	3.2505	3.3556	3.4591	3.5608	3.6610
	C/(M/SEC)	193.6229	205.8476	216.5475	226.1035	234.7722	242.7340	250.1203	257.0293	263.5364	269.7007	275.5691	281.1798
	KAPPA/(1/MPA)	.3198	.3030	.2912	.2823	.2756	.2702	.2658	.2623	.2593	.2568	.2547	.2528
	BETA/(1000/K)	3.8	3.2	2.7	2.4	2.2	2.0	1.8	1.7	1.6	1.5	1.4	1.4

THERMODYNAMIC PROPERTIES OF HEPTANE

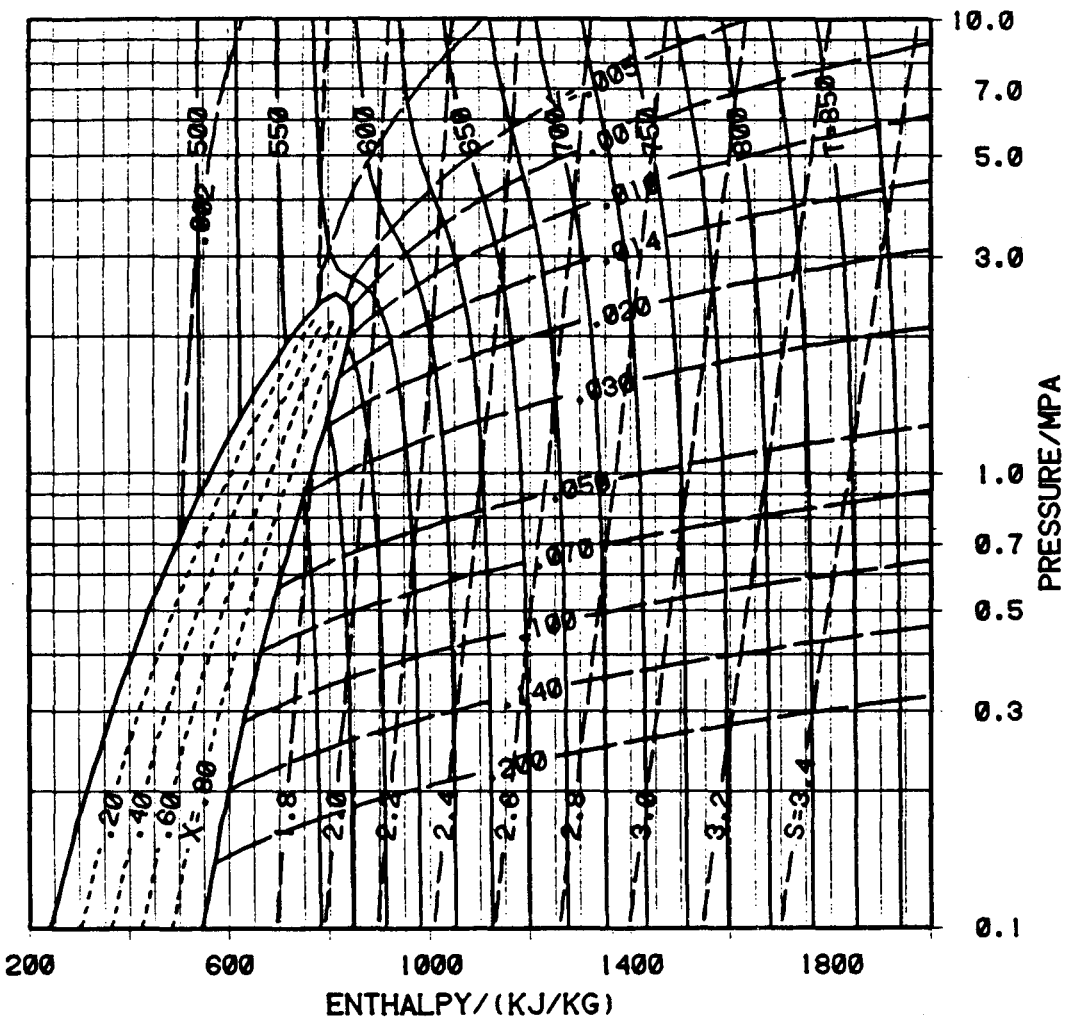
TEMPERATURES/(K)

P/(MPA)		375.000	400.000	425.000	450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000
5.0000	V/(M3/KG)	.00165	.00171	.00179	.00187	.00198	.00211	.00229	.00259	.00328	.00463	.00598	.00712
	H/(KJ/KG)	185.5	252.9	323.0	395.4	470.1	547.8	630.9	714.4	815.6	925.5	1024.9	1116.7
	S/(KJ/KG K)	.4582	.6320	.8020	.9676	1.1291	1.2884	1.4507	1.6059	1.7858	1.9730	2.1353	2.2793
	C/(M/SEC)	845.3351	761.6997	680.2760	599.5886	517.8147	432.6819	341.2646	246.4522	159.8212	143.5482	156.2067	172.3956
	KAPPA/(1/MPA)	.0029	.0036	.0047	.0064	.0091	.0140	.0248	.0585	.2024	.3258	.3137	.2850
	BETA/(1000/K)	1.5	1.7	1.8	2.0	2.3	2.9	3.9	6.4	13.1	12.4	8.3	5.9
6.0000	V/(M3/KG)	.00164	.00171	.00178	.00186	.00196	.00208	.00224	.00247	.00288	.00361	.00458	.00552
	H/(KJ/KG)	186.2	253.4	323.4	395.6	470.0	547.0	628.9	709.3	801.1	901.9	1002.1	1097.3
	S/(KJ/KG K)	.4557	.6292	.7988	.9639	1.1247	1.2827	1.4425	1.5921	1.7554	1.9268	2.0906	2.2399
	C/(M/SEC)	856.2285	774.2302	694.8455	616.7625	538.5153	458.4062	374.7004	292.3167	212.3651	168.8368	165.1853	174.4345
	KAPPA/(1/MPA)	.0028	.0035	.0045	.0060	.0083	.0122	.0198	.0377	.0886	.1796	.2212	.2233
	BETA/(1000/K)	1.5	1.6	1.8	1.9	2.2	2.6	3.3	4.7	7.6	10.0	8.6	6.6
7.0000	V/(M3/KG)	.00164	.00170	.00177	.00185	.00195	.00206	.00220	.00240	.00269	.00315	.00381	.00455
	H/(KJ/KG)	186.9	254.1	323.9	395.9	469.9	546.5	627.5	706.0	793.7	887.9	985.2	1080.9
	S/(KJ/KG K)	.4532	.6265	.7958	.9604	1.1205	1.2775	1.4356	1.5817	1.7376	1.8979	2.0569	2.2070
	C/(M/SEC)	866.8311	786.3595	708.8378	633.1025	557.8764	481.8442	403.8582	329.5279	256.8407	204.0209	184.4507	184.7548
	KAPPA/(1/MPA)	.0027	.0034	.0043	.0056	.0076	.0108	.0165	.0279	.0533	.1019	.1470	.1663
	BETA/(1000/K)	1.5	1.6	1.7	1.9	2.1	2.4	3.0	3.9	5.4	7.3	7.5	6.5
8.0000	V/(M3/KG)	.00163	.00169	.00176	.00184	.00193	.00204	.00217	.00234	.00257	.00291	.00338	.00394
	H/(KJ/KG)	187.7	254.7	324.4	396.2	470.0	546.1	626.4	703.7	789.0	879.3	973.3	1068.0
	S/(KJ/KG K)	.4508	.6238	.7928	.9570	1.1165	1.2726	1.4294	1.5733	1.7249	1.8786	2.0321	2.1806
	C/(M/SEC)	877.1612	798.1198	722.3146	648.6832	576.1085	503.4791	429.9444	361.4112	294.3231	240.1505	209.7911	200.8698
	KAPPA/(1/MPA)	.0026	.0033	.0041	.0053	.0071	.0097	.0142	.0222	.0375	.0651	.0987	.1218
	BETA/(1000/K)	1.5	1.6	1.7	1.8	2.0	2.3	2.7	3.3	4.3	5.6	6.3	5.9
9.0000	V/(M3/KG)	.00163	.00169	.00176	.00183	.00192	.00202	.00214	.00229	.00249	.00275	.00311	.00355
	H/(KJ/KG)	188.4	255.3	324.9	396.6	470.1	545.9	625.7	702.0	785.8	873.6	965.0	1058.1
	S/(KJ/KG K)	.4484	.6212	.7899	.9537	1.1127	1.2681	1.4238	1.5660	1.7149	1.8644	2.0136	2.1596
	C/(M/SEC)	887.2351	809.5376	735.3214	663.6004	593.3602	523.6352	453.7085	389.6105	326.8450	273.7183	237.7252	220.8676
	KAPPA/(1/MPA)	.0026	.0032	.0039	.0050	.0066	.0089	.0125	.0185	.0288	.0461	.0692	.0900
	BETA/(1000/K)	1.4	1.5	1.6	1.8	1.9	2.2	2.5	3.0	3.7	4.5	5.2	5.3
10.0000	V/(M3/KG)	.00162	.00168	.00175	.00182	.00191	.00200	.00211	.00225	.00242	.00264	.00293	.00328
	H/(KJ/KG)	189.2	256.0	325.5	397.0	470.3	545.8	625.1	700.8	783.4	869.6	959.0	1050.6
	S/(KJ/KG K)	.4461	.6187	.7871	.9506	1.1091	1.2639	1.4187	1.5596	1.7065	1.8532	1.9992	2.1428
	C/(M/SEC)	897.0639	820.6325	747.8930	677.9174	609.7678	542.5403	475.6221	415.0705	355.7458	304.2700	265.7592	243.1480
	KAPPA/(1/MPA)	.0025	.0031	.0038	.0048	.0062	.0082	.0112	.0159	.0234	.0352	.0512	.0679
	BETA/(1000/K)	1.4	1.5	1.6	1.7	1.9	2.1	2.3	2.7	3.2	3.8	4.4	4.6

THERMODYNAMIC PROPERTIES OF HEPTANE

TEMPERATURES/(K)

P/(MPA)		675.000	700.000	725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.00811	.00898	.00978	.01051	.01121	.01187	.01250	.01311	.01370	.01428	.01484	.01540
	H/(KJ/KG)	1205.1	1292.1	1379.0	1466.0	1553.7	1642.2	1731.5	1821.8	1913.1	2005.4	2098.7	2193.0
	S/(KJ/KG K)	2.4128	2.5394	2.6613	2.7794	2.8944	3.0067	3.1167	3.2245	3.3303	3.4343	3.5366	3.6372
	C/(M/SEC)	187.3517	200.5534	212.2295	222.6725	232.1258	240.7769	248.7693	256.2133	263.1951	269.7827	276.0304	281.9827
	KAPPA/(1/MPA)	.2633	.2480	.2370	.2287	.2224	.2174	.2133	.2101	.2073	.2050	.2031	.2014
	BETA/(1000/K)	4.5	3.7	3.1	2.7	2.4	2.2	2.0	1.8	1.7	1.6	1.5	1.4
6.0000	V/(M3/KG)	.00639	.00717	.00788	.00854	.00915	.00974	.01029	.01083	.01135	.01185	.01234	.01282
	H/(KJ/KG)	1188.7	1278.2	1366.8	1455.3	1544.1	1633.5	1723.6	1814.6	1906.4	1999.2	2093.0	2187.7
	S/(KJ/KG K)	2.3779	2.5080	2.6324	2.7524	2.8689	2.9825	3.0934	3.2020	3.3085	3.4131	3.5158	3.6169
	C/(M/SEC)	186.7768	199.1844	210.8002	221.4766	231.2741	240.3017	248.6682	256.4689	263.7843	270.6809	277.2136	283.4281
	KAPPA/(1/MPA)	.2145	.2048	.1966	.1901	.1848	.1805	.1771	.1742	.1718	.1698	.1681	.1666
	BETA/(1000/K)	5.1	4.1	3.5	3.0	2.6	2.3	2.1	1.9	1.8	1.7	1.6	1.5
7.0000	V/(M3/KG)	.00527	.00595	.00658	.00717	.00772	.00825	.00875	.00923	.00969	.01014	.01057	.01100
	H/(KJ/KG)	1174.0	1265.1	1355.2	1445.0	1534.9	1625.2	1716.1	1807.7	1900.1	1993.4	2087.5	2182.6
	S/(KJ/KG K)	2.3475	2.4801	2.6066	2.7283	2.8462	2.9609	3.0727	3.1821	3.2893	3.3944	3.4976	3.5990
	C/(M/SEC)	192.2982	202.2393	212.6585	222.8046	232.4204	241.4497	249.9142	257.8621	265.3478	272.4230	279.1347	285.5240
	KAPPA/(1/MPA)	.1700	.1677	.1637	.1596	.1559	.1527	.1499	.1476	.1457	.1440	.1425	.1413
	BETA/(1000/K)	5.3	4.4	3.7	3.2	2.8	2.5	2.2	2.0	1.9	1.7	1.6	1.5
8.0000	V/(M3/KG)	.00453	.00511	.00567	.00619	.00669	.00716	.00761	.00805	.00846	.00887	.00926	.00965
	H/(KJ/KG)	1161.4	1253.5	1344.7	1435.5	1526.3	1617.3	1708.9	1801.1	1894.0	1987.7	2082.3	2177.8
	S/(KJ/KG K)	2.3217	2.4557	2.5837	2.7068	2.8258	2.9414	3.0541	3.1642	3.2720	3.3776	3.4813	3.5831
	C/(M/SEC)	202.7993	209.3315	217.7099	226.6618	235.5963	244.2535	252.5330	260.4103	267.8954	275.0131	281.7931	288.2658
	KAPPA/(1/MPA)	.1325	.1360	.1359	.1344	.1325	.1305	.1286	.1269	.1254	.1241	.1230	.1220
	BETA/(1000/K)	5.2	4.4	3.8	3.3	2.9	2.6	2.3	2.1	1.9	1.8	1.7	1.6
9.0000	V/(M3/KG)	.00403	.00452	.00501	.00547	.00592	.00634	.00675	.00715	.00753	.00790	.00826	.00861
	H/(KJ/KG)	1151.2	1243.6	1335.4	1426.8	1518.3	1610.0	1702.1	1794.8	1888.2	1982.4	2077.4	2173.1
	S/(KJ/KG K)	2.3001	2.4346	2.5634	2.6875	2.8074	2.9239	3.0373	3.1480	3.2563	3.3624	3.4664	3.5686
	C/(M/SEC)	216.9533	219.6528	225.5116	232.8124	240.6737	248.6393	256.4788	264.0817	271.4030	278.4307	285.1706	291.6369
	KAPPA/(1/MPA)	.1031	.1098	.1127	.1134	.1131	.1122	.1112	.1102	.1092	.1083	.1074	.1067
	BETA/(1000/K)	4.9	4.3	3.8	3.3	2.9	2.6	2.4	2.2	2.0	1.8	1.7	1.6
10.0000	V/(M3/KG)	.00368	.00410	.00452	.00493	.00533	.00572	.00609	.00645	.00680	.00714	.00746	.00779
	H/(KJ/KG)	1142.9	1235.2	1327.2	1419.1	1511.1	1603.3	1695.9	1789.0	1882.8	1977.4	2072.7	2168.8
	S/(KJ/KG K)	2.2822	2.4164	2.5456	2.6702	2.7909	2.9079	3.0219	3.1332	3.2419	3.3484	3.4529	3.5554
	C/(M/SEC)	233.7432	232.4510	235.5382	240.9104	247.4288	254.4606	261.6515	268.8060	275.8181	282.6352	289.2344	295.6097
	KAPPA/(1/MPA)	.0808	.0890	.0936	.0959	.0968	.0970	.0968	.0963	.0958	.0952	.0947	.0942
	BETA/(1000/K)	4.5	4.1	3.7	3.3	3.0	2.7	2.4	2.2	2.0	1.9	1.7	1.6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PRESSURE/MPA
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1000
1400
1800
ENTHALPY/(KJ/KG)
500
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600
650
700
750
800
850
.005
.010
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.020
.030
.050
.070
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.140
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3.0
3.2
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OCTANE

PROPERTIES OF SATURATED OCTANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
400.00000	.10553	.00167	.26021	246.04203	303.18116	549.22319	.70569	.75795	1.46364
405.00000	.12100	.00169	.22835	259.71615	299.38152	559.09767	.73960	.73921	1.47881
410.00000	.13819	.00170	.20108	273.51996	295.50051	569.02046	.77340	.72073	1.49413
415.00000	.15719	.00172	.17765	287.45004	291.53786	578.98790	.80709	.70250	1.50959
420.00000	.17816	.00173	.15743	301.50370	287.49280	588.99650	.84067	.68451	1.52517
425.00000	.20120	.00175	.13991	315.67784	283.36465	599.04249	.87412	.66674	1.54086
430.00000	.22646	.00176	.12469	329.96791	279.15423	609.12214	.90744	.64920	1.55664
435.00000	.25406	.00178	.11140	344.37372	274.85735	619.23108	.94064	.63186	1.57250
440.00000	.28414	.00180	.09978	358.89140	270.47385	629.36525	.97370	.61471	1.58841
445.00000	.31685	.00181	.08956	373.51876	266.00131	639.52007	1.00662	.59776	1.60438
450.00000	.35231	.00183	.08056	388.25345	261.43701	649.69046	1.03941	.58097	1.62038
455.00000	.39069	.00185	.07260	403.09451	256.77679	659.87130	1.07205	.56434	1.63639
460.00000	.43213	.00187	.06554	418.04076	252.01607	670.05682	1.10455	.54786	1.65241
465.00000	.47679	.00189	.05927	433.09246	247.14818	680.24064	1.13691	.53150	1.66841
470.00000	.52482	.00191	.05367	448.25015	242.16563	690.41577	1.16914	.51525	1.68438
475.00000	.57639	.00193	.04867	463.51599	237.05834	700.57433	1.20124	.49907	1.70031
480.00000	.63167	.00196	.04417	478.89304	231.81446	710.70749	1.23322	.48295	1.71616
485.00000	.69084	.00198	.04013	494.38619	226.41928	720.80547	1.26508	.46684	1.73193
490.00000	.75409	.00201	.03649	510.00156	220.85474	730.85630	1.29686	.45072	1.74758
495.00000	.82162	.00203	.03319	525.74816	215.09872	740.84688	1.32855	.43454	1.76310
500.00000	.89362	.00206	.03020	541.63714	209.12376	750.76090	1.36019	.41825	1.77844
505.00000	.97031	.00209	.02748	557.68230	202.89764	760.57994	1.39181	.40178	1.79359
510.00000	1.05194	.00213	.02500	573.90303	196.37766	770.28069	1.42343	.38505	1.80848
515.00000	1.13873	.00216	.02273	590.32142	189.51379	779.83521	1.45510	.36799	1.82309
520.00000	1.23095	.00220	.02064	606.96700	182.24096	789.20796	1.48688	.35046	1.83734
525.00000	1.32889	.00224	.01871	623.87656	174.47730	798.35386	1.51883	.33234	1.85116
530.00000	1.43283	.00229	.01693	641.09794	166.11513	807.21307	1.55103	.31342	1.86445
535.00000	1.54311	.00234	.01526	658.69355	157.01092	815.70446	1.58359	.29348	1.87707
540.00000	1.66008	.00240	.01370	676.74710	146.96574	823.71284	1.61666	.27216	1.88882
545.00000	1.78411	.00247	.01222	695.37618	135.68856	831.06474	1.65044	.24897	1.89941
550.00000	1.91561	.00256	.01080	714.75446	122.72430	837.47876	1.68523	.22314	1.90837
555.00000	2.05503	.00266	.00940	735.16530	107.27601	842.44131	1.72152	.19329	1.91481
560.00000	2.20285	.00282	.00796	757.15099	87.66234	844.81333	1.76022	.15654	1.91676
565.00000	2.35961	.00308	.00629	782.16804	58.54580	840.71384	1.80388	.10362	1.90750
568.83000	2.52588	.00425	.00425	817.43800	0.	817.43800	1.86498	0.	1.86498

THERMODYNAMIC PROPERTIES OF OCTANE

P/(MPA)		TEMPERATURES/(K) 400.000	425.000	450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000
.1000	V/(M3/KG)	.27552	.29610	.31619	.33594	.35542	.37470	.39382	.41280	.43168	.45047	.46919	.48785
	H/(KJ/KG)	549.5	604.3	661.4	720.9	782.7	846.8	913.0	981.4	1051.8	1124.2	1198.4	1274.4
	S/(KJ/KG K)	1.4682	1.6008	1.7313	1.8600	1.9868	2.1119	2.2352	2.3567	2.4766	2.5947	2.7111	2.8259
	C/(M/SEC)	164.9645	171.7079	177.9552	183.8192	189.3759	194.6791	199.7683	204.6734	209.4175	214.0192	218.4934	222.8524
	KAPPA/(1/MPA)	10.5975	10.4663	10.3713	10.3003	10.2458	10.2031	10.1692	10.1418	10.1195	10.1011	10.0858	10.0730
	BETA/(1000/K)	3.0	2.7	2.5	2.3	2.2	2.0	1.9	1.8	1.7	1.7	1.6	1.5
.1013	V/(M3/KG)	.27170	.29204	.31190	.33141	.35066	.36970	.38858	.40733	.42597	.44452	.46301	.48143
	H/(KJ/KG)	549.5	604.2	661.3	720.8	782.6	846.7	913.0	981.4	1051.8	1124.1	1198.4	1274.4
	S/(KJ/KG K)	1.4671	1.5997	1.7303	1.8590	1.9858	2.1109	2.2342	2.3557	2.4756	2.5937	2.7101	2.8249
	C/(M/SEC)	164.8407	171.6078	177.8729	183.7506	189.3181	194.6301	199.7265	204.6375	209.3867	213.9926	218.4703	222.8324
	KAPPA/(1/MPA)	10.4681	10.3363	10.2410	10.1698	10.1152	10.0725	10.0385	10.0111	9.9888	9.9704	9.9551	9.9423
	BETA/(1000/K)	3.0	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.7	1.6	1.5
.2000	V/(M3/KG)	.00167	.14085	.15204	.16280	.17326	.18348	.19353	.20344	.21324	.22295	.23257	.24214
	H/(KJ/KG)	246.1	599.1	657.0	717.1	779.4	843.9	910.5	979.1	1049.8	1122.3	1196.7	1272.9
	S/(KJ/KG K)	.7054	1.5414	1.6738	1.8037	1.9316	2.0574	2.1813	2.3033	2.4235	2.5420	2.6587	2.7737
	C/(M/SEC)	760.5024	163.6982	171.4616	178.4627	184.9008	190.9041	196.5601	201.9311	207.0630	211.9909	216.7417	221.3372
	KAPPA/(1/MPA)	.0036	5.5349	5.4122	5.3257	5.2621	5.2139	5.1764	5.1467	5.1229	5.1035	5.0875	5.0742
	BETA/(1000/K)	1.6	3.3	2.9	2.6	2.4	2.2	2.1	1.9	1.8	1.7	1.7	1.6
.3000	V/(M3/KG)	.00167	.00175	.09702	.10490	.11241	.11966	.12672	.13362	.14040	.14708	.15369	.16022
	H/(KJ/KG)	246.2	315.7	652.3	713.1	776.0	840.9	907.9	976.8	1047.7	1120.4	1195.0	1271.3
	S/(KJ/KG K)	.7052	.8738	1.6365	1.7680	1.8970	2.0236	2.1482	2.2708	2.3914	2.5102	2.6272	2.7424
	C/(M/SEC)	761.7476	674.6712	164.2957	172.6958	180.1651	186.9589	193.2384	199.1121	204.6563	209.9268	214.9657	219.8057
	KAPPA/(1/MPA)	.0035	.0047	3.7982	3.6898	3.6144	3.5593	3.5177	3.4854	3.4598	3.4393	3.4225	3.4087
	BETA/(1000/K)	1.6	1.8	3.3	2.9	2.6	2.4	2.2	2.0	1.9	1.8	1.7	1.6
.4000	V/(M3/KG)	.00167	.00175	.00183	.07578	.08188	.08768	.09326	.09867	.10396	.10914	.11423	.11926
	H/(KJ/KG)	246.2	315.8	388.3	708.9	772.4	837.8	905.2	974.4	1045.5	1118.5	1193.3	1269.8
	S/(KJ/KG K)	.7049	.8735	1.0392	1.7404	1.8707	1.9983	2.1236	2.2467	2.3678	2.4869	2.6042	2.7197
	C/(M/SEC)	762.9919	676.1788	587.6240	166.4256	175.1259	182.8229	189.7933	196.2116	202.1950	207.8261	213.1653	218.2581
	KAPPA/(1/MPA)	.0035	.0047	.0065	2.8948	2.8034	2.7397	2.6931	2.6578	2.6303	2.6085	2.5909	2.5766
	BETA/(1000/K)	1.6	1.8	2.1	3.3	2.9	2.6	2.4	2.2	2.0	1.9	1.8	1.7
.5000	V/(M3/KG)	.00167	.00174	.00183	.05814	.06347	.06843	.07315	.07768	.08207	.08635	.09055	.09467
	H/(KJ/KG)	246.3	315.8	388.3	704.3	768.6	834.6	902.4	972.0	1043.4	1116.6	1191.5	1268.2
	S/(KJ/KG K)	.7046	.8732	1.0388	1.7168	1.8487	1.9774	2.1035	2.2272	2.3488	2.4683	2.5859	2.7016
	C/(M/SEC)	764.2311	677.6810	589.4801	159.5199	169.7278	178.4711	186.2130	193.2241	199.6768	205.6880	211.3402	216.6946
	KAPPA/(1/MPA)	.0035	.0046	.0064	2.4441	2.3302	2.2554	2.2028	2.1640	2.1344	2.1112	2.0928	2.0778
	BETA/(1000/K)	1.6	1.8	2.0	3.8	3.2	2.8	2.5	2.3	2.1	2.0	1.8	1.7
.6000	V/(M3/KG)	.00167	.00174	.00183	.00193	.05109	.05554	.05970	.06366	.06747	.07116	.07475	.07828
	H/(KJ/KG)	246.3	315.8	388.3	463.5	764.6	831.2	899.5	969.4	1041.2	1114.6	1189.8	1266.6
	S/(KJ/KG K)	.7043	.8729	1.0385	1.2011	1.8292	1.9593	2.0862	2.2106	2.3327	2.4526	2.5706	2.6866
	C/(M/SEC)	763.2081	677.1614	591.3256	499.2993	163.8965	173.8725	182.4840	190.1437	197.0994	203.5115	209.4905	215.1155
	KAPPA/(1/MPA)	.0035	.0046	.0064	.0095	2.0297	1.9403	1.8802	1.8373	1.8053	1.7807	1.7613	1.7457
	BETA/(1000/K)	1.6	1.8	2.0	2.4	3.6	3.1	2.7	2.4	2.2	2.0	1.9	1.8

THERMODYNAMIC PROPERTIES OF OCTANE

P/(MPA)		TEMPERATURES/(K) 700.000	725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	.50646	.52502	.54354	.56203	.58049	.59892	.61733	.63572	.65409	.67245	.69079
	H/(KJ/KG)	1352.2	1431.6	1512.6	1595.2	1679.3	1764.8	1851.8	1940.1	2029.7	2120.6	2212.7
	S/(KJ/KG K)	2.9390	3.0504	3.1603	3.2686	3.3754	3.4807	3.5845	3.6869	3.7879	3.8875	3.9857
	C/(M/SEC)	227.1065	231.2644	235.3337	239.3207	243.2312	247.0701	250.8419	254.5506	258.1996	261.7923	265.3315
	KAPPA/(1/MPA)	10.0623	10.0531	10.0454	10.0387	10.0330	10.0281	10.0238	10.0201	10.0170	10.0141	10.0117
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.1013	V/(M3/KG)	.49979	.51812	.53640	.55465	.57287	.59106	.60924	.62739	.64552	.66364	.68174
	H/(KJ/KG)	1352.1	1431.6	1512.6	1595.2	1679.3	1764.8	1851.8	1940.1	2029.7	2120.5	2212.6
	S/(KJ/KG K)	2.9380	3.0495	3.1594	3.2677	3.3745	3.4797	3.5836	3.6859	3.7869	3.8865	3.9847
	C/(M/SEC)	227.0892	231.2494	235.3207	239.3095	243.2215	247.0618	250.8348	254.5445	258.1944	261.7879	265.3279
	KAPPA/(1/MPA)	9.9315	9.9224	9.9146	9.9079	9.9022	9.8973	9.8931	9.8894	9.8862	9.8834	9.8809
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.2000	V/(M3/KG)	.25165	.26111	.27054	.27992	.28928	.29862	.30793	.31722	.32649	.33575	.34499
	H/(KJ/KG)	1350.8	1430.3	1511.5	1594.1	1678.3	1763.9	1850.9	1939.3	2029.0	2119.9	2212.1
	S/(KJ/KG K)	2.8870	2.9986	3.1086	3.2171	3.3240	3.4294	3.5333	3.6357	3.7368	3.8364	3.9347
	C/(M/SEC)	225.7947	230.1286	234.3508	238.4713	242.4988	246.4406	250.3032	254.0921	257.8122	261.4681	265.0636
	KAPPA/(1/MPA)	5.0631	5.0537	5.0457	5.0389	5.0331	5.0281	5.0238	5.0201	5.0169	5.0140	5.0116
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.3000	V/(M3/KG)	.16670	.17314	.17953	.18589	.19222	.19852	.20480	.21106	.21730	.22352	.22973
	H/(KJ/KG)	1349.4	1429.0	1510.3	1593.1	1677.3	1763.0	1850.1	1938.5	2028.3	2119.3	2211.5
	S/(KJ/KG K)	2.8559	2.9677	3.0779	3.1865	3.2935	3.3990	3.5029	3.6055	3.7066	3.8063	3.9046
	C/(M/SEC)	224.4723	228.9863	233.3644	237.6208	241.7670	245.8130	249.7673	253.6373	257.4293	261.1489	264.8012
	KAPPA/(1/MPA)	3.3972	3.3876	3.3794	3.3725	3.3666	3.3615	3.3572	3.3534	3.3501	3.3473	3.3448
	BETA/(1000/K)	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1
.4000	V/(M3/KG)	.12423	.12915	.13403	.13887	.14368	.14847	.15323	.15797	.16270	.16741	.17210
	H/(KJ/KG)	1348.0	1427.7	1509.1	1592.0	1676.3	1762.1	1849.3	1937.8	2027.6	2118.6	2210.9
	S/(KJ/KG K)	2.8334	2.9454	3.0557	3.1644	3.2715	3.3771	3.4812	3.5838	3.6850	3.7848	3.8832
	C/(M/SEC)	223.1397	227.8379	232.3751	236.7694	241.0360	245.1875	249.2346	253.1864	257.0509	260.8348	264.5443
	KAPPA/(1/MPA)	2.5647	2.5548	2.5464	2.5394	2.5334	2.5283	2.5238	2.5200	2.5167	2.5139	2.5114
	BETA/(1000/K)	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
.5000	V/(M3/KG)	.09874	.10275	.10672	.11066	.11456	.11844	.12229	.12613	.12994	.13374	.13752
	H/(KJ/KG)	1346.5	1426.5	1507.9	1590.9	1675.4	1761.2	1848.5	1937.0	2026.9	2118.0	2210.3
	S/(KJ/KG K)	2.8156	2.9277	3.0382	3.1471	3.2543	3.3600	3.4641	3.5668	3.6681	3.7679	3.8664
	C/(M/SEC)	221.7972	226.6839	231.3832	235.9177	240.3063	244.5646	248.7054	252.7398	256.6773	260.5261	264.2932
	KAPPA/(1/MPA)	2.0655	2.0553	2.0468	2.0396	2.0335	2.0283	2.0238	2.0200	2.0167	2.0138	2.0113
	BETA/(1000/K)	1.6	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.6000	V/(M3/KG)	.08174	.08515	.08852	.09185	.09515	.09842	.10167	.10490	.10810	.11130	.11447
	H/(KJ/KG)	1345.1	1425.1	1506.7	1589.8	1674.4	1760.3	1847.6	1936.2	2026.2	2117.3	2209.7
	S/(KJ/KG K)	2.8007	2.9131	3.0237	3.1327	3.2400	3.3458	3.4501	3.5528	3.6541	3.7540	3.8525
	C/(M/SEC)	220.4454	225.5249	230.3892	235.0661	239.5784	243.9445	248.1800	252.2977	256.3089	260.2229	264.0479
	KAPPA/(1/MPA)	1.7330	1.7225	1.7138	1.7065	1.7003	1.6950	1.6905	1.6866	1.6832	1.6803	1.6778
	BETA/(1000/K)	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1

THERMODYNAMIC PROPERTIES OF OCTANE

TEMPERATURES/(K)

P/(MPA)		400.000	425.000	450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000
.7000	V/(M3/KG)	.00167	.00174	.00183	.00193	.04215	.04627	.05006	.05362	.05702	.06029	.06347	.06656
	H/(KJ/KG)	246.4	315.9	388.3	463.5	760.3	827.7	896.5	966.9	1038.9	1112.6	1188.0	1265.0
	S/(KJ/KG K)	.7041	.8726	1.0381	1.2007	1.8113	1.9429	2.0709	2.1960	2.3186	2.4390	2.5572	2.6735
	C/(M/SEC)	765.5515	679.7699	591.7096	501.6513	157.5287	168.9886	178.5903	186.9636	194.4598	201.2959	207.6161	213.5213
	KAPPA/(1/MPA)	.0035	.0046	.0063	.0094	1.8329	1.7235	1.6543	1.6066	1.5718	1.5456	1.5251	1.5089
	BETA/(1000/K)	1.6	1.8	2.0	2.4	4.1	3.4	2.9	2.6	2.3	2.1	2.0	1.8
.8000	V/(M3/KG)	.00167	.00174	.00183	.00193	.03533	.03926	.04280	.04607	.04917	.05213	.05499	.05777
	H/(KJ/KG)	246.4	315.9	388.3	463.5	755.6	824.0	893.4	964.2	1036.6	1110.6	1186.2	1263.4
	S/(KJ/KG K)	.7038	.8722	1.0377	1.2002	1.7942	1.9276	2.0568	2.1827	2.3059	2.4267	2.5454	2.6619
	C/(M/SEC)	767.9263	682.1563	594.7031	503.9764	150.4744	163.7689	174.5130	183.6764	191.7553	199.0402	205.7171	211.9122
	KAPPA/(1/MPA)	.0035	.0046	.0063	.0093	1.7085	1.5705	1.4895	1.4360	1.3982	1.3701	1.3486	1.3316
	BETA/(1000/K)	1.6	1.8	2.0	2.4	4.8	3.8	3.2	2.8	2.5	2.2	2.0	1.9
.9000	V/(M3/KG)	.00167	.00174	.00183	.00193	.00206	.03375	.03711	.04018	.04305	.04578	.04840	.05093
	H/(KJ/KG)	246.5	316.0	388.3	463.4	541.6	820.0	890.1	961.5	1034.2	1108.5	1184.3	1261.7
	S/(KJ/KG K)	.7035	.8719	1.0374	1.1997	1.3602	1.9131	2.0437	2.1705	2.2943	2.4156	2.5346	2.6514
	C/(M/SEC)	769.1549	683.6215	596.7968	505.6387	407.4489	158.1474	170.2292	180.2736	188.9829	196.7439	203.7936	210.2889
	KAPPA/(1/MPA)	.0035	.0046	.0063	.0092	.0155	1.4628	1.3663	1.3060	1.2646	1.2345	1.2118	1.1941
	BETA/(1000/K)	1.6	1.8	2.0	2.4	3.1	4.2	3.4	2.9	2.6	2.3	2.1	2.0
1.0000	V/(M3/KG)	.00167	.00174	.00182	.00193	.00206	.02927	.03253	.03545	.03815	.04069	.04312	.04546
	H/(KJ/KG)	246.6	316.0	388.4	463.4	541.5	815.7	886.7	958.6	1031.8	1106.4	1182.5	1260.1
	S/(KJ/KG K)	.7033	.8716	1.0370	1.1993	1.3595	1.8990	2.0312	2.1590	2.2835	2.4053	2.5247	2.6419
	C/(M/SEC)	770.3790	685.0981	598.6043	508.5854	410.5881	152.0328	165.7109	176.7454	186.1394	194.4059	201.8458	208.6517
	KAPPA/(1/MPA)	.0035	.0045	.0062	.0091	.0152	1.3907	1.2735	1.2046	1.1591	1.1268	1.1028	1.0843
	BETA/(1000/K)	1.6	1.8	2.0	2.4	3.1	4.8	3.8	3.2	2.7	2.4	2.2	2.0
2.0000	V/(M3/KG)	.00166	.00173	.00181	.00191	.00203	.00220	.00254	.01328	.01564	.01755	.01922	.02074
	H/(KJ/KG)	247.2	316.5	388.6	463.2	540.6	622.1	713.8	921.8	1003.2	1082.6	1162.2	1242.4
	S/(KJ/KG K)	.7006	.8686	1.0334	1.1949	1.3536	1.5125	1.6832	2.0566	2.1951	2.3249	2.4496	2.5707
	C/(M/SEC)	782.4330	699.5710	616.1962	530.6292	439.9515	337.9697	203.1631	130.9459	152.9907	168.6797	181.1855	191.7301
	KAPPA/(1/MPA)	.0033	.0043	.0058	.0083	.0129	.0245	.0903	.9327	.7510	.6729	.6281	.5989
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.8	3.9	9.3	8.3	5.3	4.0	3.3	2.8
3.0000	V/(M3/KG)	.00166	.00173	.00180	.00189	.00201	.00215	.00239	.00310	.00729	.00951	.01111	.01244
	H/(KJ/KG)	247.8	316.9	388.8	463.2	540.0	620.2	707.1	804.1	957.6	1051.8	1138.1	1222.4
	S/(KJ/KG K)	.6980	.8656	1.0300	1.1908	1.3483	1.5048	1.6664	1.8388	2.1008	2.2548	2.3901	2.5173
	C/(M/SEC)	794.2061	713.5709	633.0025	551.2590	466.3344	374.7112	268.8175	124.7062	112.8290	140.6565	160.0678	175.1446
	KAPPA/(1/MPA)	.0032	.0041	.0055	.0076	.0113	.0190	.0431	.4093	.8307	.5774	.4904	.4454
	BETA/(1000/K)	1.5	1.7	1.9	2.1	2.5	3.3	5.3	26.5	15.7	7.6	5.2	4.0
4.0000	V/(M3/KG)	.00165	.00172	.00179	.00188	.00199	.00212	.00231	.00264	.00366	.00554	.00708	.00833
	H/(KJ/KG)	248.4	317.4	389.2	463.2	539.5	618.8	703.5	786.4	898.9	1013.3	1110.3	1200.4
	S/(KJ/KG K)	.6955	.8628	1.0267	1.1869	1.3434	1.4982	1.6556	1.8031	1.9945	2.1814	2.3336	2.4698
	C/(M/SEC)	805.7114	727.1466	649.1156	570.6924	490.4608	406.2686	314.7536	213.0574	124.3652	127.4953	145.8244	162.8678
	KAPPA/(1/MPA)	.0031	.0039	.0051	.0070	.0100	.0157	.0291	.0794	.4022	.4736	.4075	.3614
	BETA/(1000/K)	1.5	1.6	1.8	2.0	2.3	2.9	4.0	7.5	19.4	12.6	7.7	5.5

THERMODYNAMIC PROPERTIES OF OCTANE

P/(MPA)		TEMPERATURES/(K) 700.000	725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.06960	.07258	.07551	.07841	.08128	.08412	.08694	.08973	.09251	.09527	.09801
	H/(KJ/KG)	1343.6	1423.8	1505.5	1588.7	1673.4	1759.4	1846.8	1935.5	2025.4	2116.7	2209.1
	S/(KJ/KG K)	2.7879	2.9004	3.0112	3.1203	3.2278	3.3337	3.4380	3.5409	3.6422	3.7422	3.8408
	C/(M/SEC)	219.0846	224.3613	229.3937	234.2152	238.8526	243.3278	247.6587	251.8604	255.9457	259.9254	263.8088
	KAPPA/(1/MPA)	1.4958	1.4850	1.4761	1.4686	1.4623	1.4569	1.4524	1.4484	1.4451	1.4421	1.4396
	BETA/(1000/K)	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.2	1.1
.8000	V/(M3/KG)	.06049	.06315	.06576	.06834	.07088	.07340	.07589	.07836	.08081	.08325	.08567
	H/(KJ/KG)	1342.2	1422.5	1504.3	1587.6	1672.4	1758.5	1845.9	1934.7	2024.7	2116.0	2208.5
	S/(KJ/KG K)	2.7765	2.8893	3.0002	3.1095	3.2171	3.3230	3.4275	3.5304	3.6318	3.7319	3.8305
	C/(M/SEC)	217.7156	223.1937	228.3972	233.3653	238.1294	242.7147	247.1419	251.4282	255.5881	259.6338	263.5758
	KAPPA/(1/MPA)	1.3180	1.3070	1.2978	1.2902	1.2838	1.2784	1.2738	1.2698	1.2664	1.2634	1.2609
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1
.9000	V/(M3/KG)	.05340	.05581	.05817	.06050	.06279	.06506	.06730	.06952	.07172	.07390	.07607
	H/(KJ/KG)	1340.7	1421.2	1503.1	1586.5	1671.4	1757.5	1845.1	1933.9	2024.0	2115.3	2207.8
	S/(KJ/KG K)	2.7663	2.8792	2.9904	3.0997	3.2075	3.3136	3.4181	3.5211	3.6226	3.7227	3.8214
	C/(M/SEC)	216.3388	222.0227	227.4002	232.5170	237.4092	242.1056	246.6298	251.0013	255.2362	259.3483	263.3492
	KAPPA/(1/MPA)	1.1800	1.1686	1.1593	1.1515	1.1450	1.1395	1.1348	1.1308	1.1274	1.1244	1.1219
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.1
1.0000	V/(M3/KG)	.04773	.04994	.05210	.05423	.05632	.05839	.06042	.06244	.06444	.06642	.06839
	H/(KJ/KG)	1339.2	1419.8	1501.9	1585.4	1670.3	1756.6	1844.2	1933.1	2023.3	2114.7	2207.2
	S/(KJ/KG K)	2.7569	2.8701	2.9814	3.0909	3.1988	3.3050	3.4096	3.5127	3.6143	3.7144	3.8131
	C/(M/SEC)	214.9549	220.8491	226.4034	231.6709	236.6925	241.5010	246.1229	250.5800	254.8904	259.0691	263.1292
	KAPPA/(1/MPA)	1.0698	1.0580	1.0485	1.0406	1.0340	1.0284	1.0237	1.0197	1.0162	1.0132	1.0106
	BETA/(1000/K)	1.9	1.8	1.6	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1
2.0000	V/(M3/KG)	.02216	.02350	.02478	.02602	.02722	.02838	.02952	.03063	.03172	.03280	.03386
	H/(KJ/KG)	1323.5	1405.8	1489.3	1574.0	1660.0	1747.2	1835.6	1925.3	2016.1	2108.0	2201.1
	S/(KJ/KG K)	2.6888	2.8043	2.9175	3.0286	3.1378	3.2451	3.3507	3.4546	3.5569	3.6577	3.7570
	C/(M/SEC)	200.9299	209.1440	216.6018	223.4595	229.8288	235.7922	241.4130	246.7405	251.8140	256.6654	261.3210
	KAPPA/(1/MPA)	.5782	.5629	.5510	.5417	.5341	.5279	.5228	.5185	.5148	.5117	.5091
	BETA/(1000/K)	2.5	2.2	2.0	1.9	1.7	1.6	1.5	1.4	1.4	1.3	1.2
3.0000	V/(M3/KG)	.01362	.01469	.01569	.01664	.01754	.01841	.01925	.02006	.02086	.02163	.02239
	H/(KJ/KG)	1306.4	1390.9	1476.1	1562.2	1649.4	1737.6	1826.9	1917.3	2008.7	2101.3	2195.0
	S/(KJ/KG K)	2.6396	2.7582	2.8737	2.9867	3.0973	3.2059	3.3125	3.4173	3.5204	3.6219	3.7218
	C/(M/SEC)	187.6050	198.3055	207.7356	216.2028	223.9132	231.0127	237.6079	243.7798	249.5911	255.0915	260.3214
	KAPPA/(1/MPA)	.4176	.3986	.3848	.3743	.3662	.3597	.3543	.3499	.3463	.3432	.3405
	BETA/(1000/K)	3.3	2.8	2.5	2.2	2.0	1.9	1.7	1.6	1.5	1.4	1.3
4.0000	V/(M3/KG)	.00939	.01033	.01119	.01200	.01275	.01347	.01416	.01482	.01546	.01608	.01669
	H/(KJ/KG)	1288.2	1375.3	1462.5	1550.2	1638.6	1727.9	1818.1	1909.3	2001.4	2094.6	2188.8
	S/(KJ/KG K)	2.5975	2.7197	2.8379	2.9529	3.0652	3.1751	3.2828	3.3885	3.4924	3.5945	3.6950
	C/(M/SEC)	177.4316	189.9667	200.9482	210.7284	219.5593	227.6239	235.0579	241.9644	248.4236	254.4986	260.2405
	KAPPA/(1/MPA)	.3321	.3123	.2983	.2878	.2798	.2734	.2682	.2640	.2605	.2576	.2551
	BETA/(1000/K)	4.2	3.5	3.0	2.6	2.3	2.1	1.9	1.8	1.6	1.5	1.4

THERMODYNAMIC PROPERTIES OF OCTANE

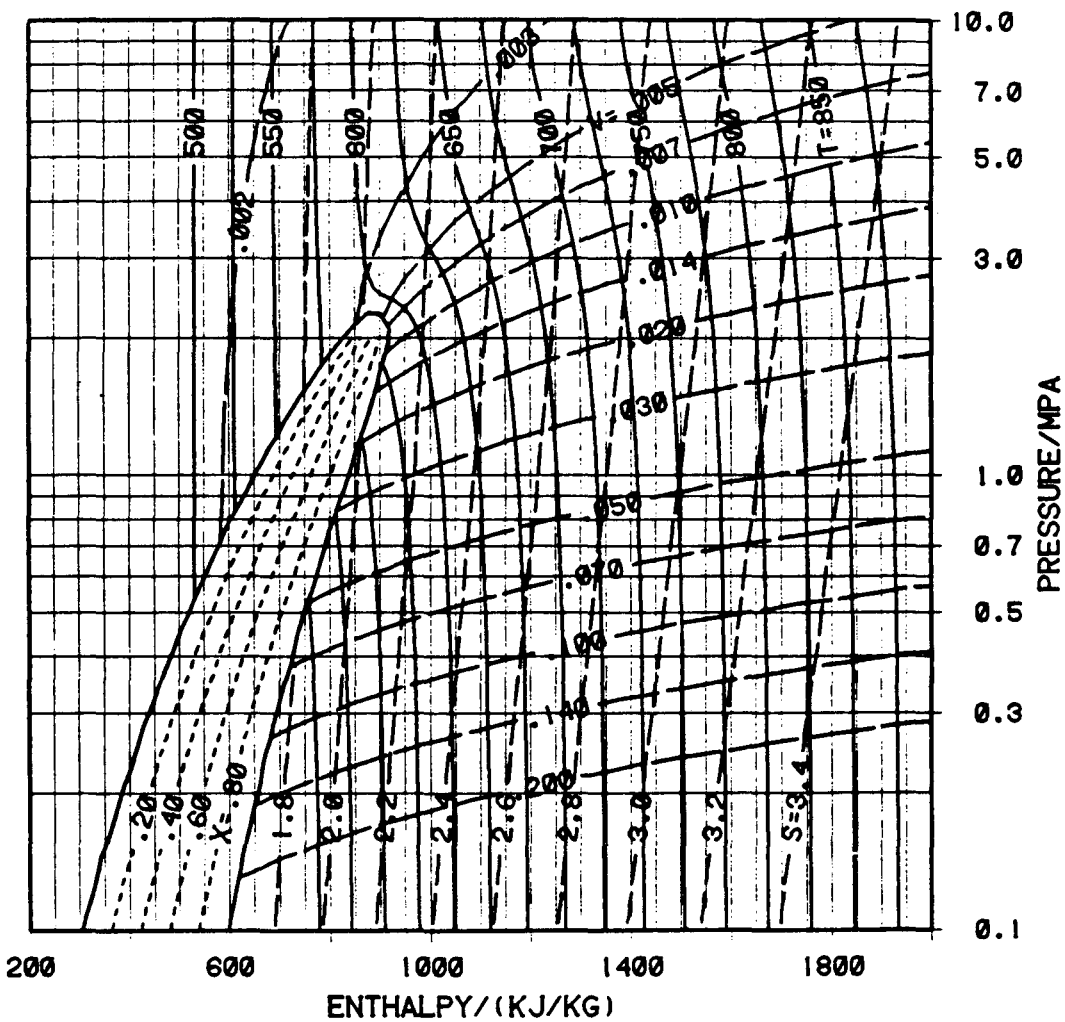
TEMPERATURES/(K)

P/(MPA)		400.000	425.000	450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000
5.0000	V/(M3/KG)	.00165	.00171	.00178	.00187	.00197	.00209	.00225	.00249	.00293	.00385	.00498	.00603
	H/(KJ/KG)	249.1	318.0	389.5	463.3	539.3	617.9	701.2	780.1	876.4	981.9	1083.5	1178.6
	S/(KJ/KG K)	.6930	.8600	1.0236	1.1832	1.3390	1.4924	1.6473	1.7878	1.9517	2.1239	2.2834	2.4269
	C/(M/SEC)	816.9678	740.3307	664.6130	589.1136	512.8030	434.2887	351.9187	266.8596	183.8399	144.7930	148.1251	160.1962
	KAPPA/(1/MPA)	.0030	.0038	.0049	.0065	.0090	.0134	.0222	.0444	.1205	.2596	.2926	.2824
	BETA/(1000/K)	1.5	1.6	1.7	1.9	2.2	2.6	3.4	4.9	8.8	11.6	8.9	6.6
6.0000	V/(M3/KG)	.00164	.00171	.00178	.00186	.00195	.00206	.00220	.00240	.00269	.00320	.00393	.00473
	H/(KJ/KG)	249.8	318.5	389.9	463.5	539.1	617.3	699.5	776.5	867.5	964.1	1063.3	1159.8
	S/(KJ/KG K)	.6905	.8573	1.0205	1.1797	1.3348	1.4872	1.6403	1.7772	1.9321	2.0899	2.2455	2.3912
	C/(M/SEC)	827.9896	753.1588	679.5643	606.6527	533.6915	459.7096	383.8309	308.4926	235.6589	181.7018	164.8850	167.9974
	KAPPA/(1/MPA)	.0029	.0036	.0046	.0061	.0082	.0117	.0180	.0310	.0622	.1289	.1870	.2056
	BETA/(1000/K)	1.5	1.6	1.7	1.8	2.1	2.4	2.9	3.9	5.6	8.0	8.1	6.7
7.0000	V/(M3/KG)	.00164	.00170	.00177	.00185	.00193	.00204	.00217	.00233	.00256	.00290	.00339	.00398
	H/(KJ/KG)	250.4	319.1	390.4	463.8	539.1	616.8	698.4	774.0	862.4	954.4	1049.6	1145.2
	S/(KJ/KG K)	.6881	.8547	1.0176	1.1763	1.3309	1.4824	1.6342	1.7688	1.9193	2.0696	2.2189	2.3631
	C/(M/SEC)	838.7898	765.6537	694.0065	623.4386	553.3643	483.0989	412.1605	343.4206	277.7599	222.8840	191.7788	183.7667
	KAPPA/(1/MPA)	.0028	.0035	.0044	.0057	.0076	.0104	.0152	.0239	.0410	.0739	.1166	.1447
	BETA/(1000/K)	1.4	1.5	1.6	1.8	2.0	2.3	2.7	3.3	4.3	5.7	6.5	6.2
8.0000	V/(M3/KG)	.00163	.00169	.00176	.00184	.00192	.00202	.00214	.00228	.00247	.00273	.00308	.00352
	H/(KJ/KG)	251.1	319.7	390.9	464.1	539.2	616.5	697.5	772.2	859.1	948.5	1040.6	1134.3
	S/(KJ/KG K)	.6858	.8521	1.0147	1.1731	1.3271	1.4780	1.6287	1.7617	1.9095	2.0555	2.2001	2.3415
	C/(M/SEC)	849.3815	777.8396	707.9951	639.5352	572.0092	504.8730	437.8486	373.9776	313.5016	260.7370	223.4555	205.5808
	KAPPA/(1/MPA)	.0028	.0034	.0042	.0054	.0070	.0094	.0132	.0195	.0305	.0493	.0762	.1015
	BETA/(1000/K)	1.4	1.5	1.6	1.7	1.9	2.1	2.4	2.9	3.5	4.4	5.2	5.4
9.0000	V/(M3/KG)	.00163	.00169	.00175	.00183	.00191	.00200	.00211	.00224	.00241	.00262	.00289	.00323
	H/(KJ/KG)	251.8	320.4	391.4	464.4	539.3	616.3	696.9	770.9	856.7	944.5	1034.5	1126.4
	S/(KJ/KG K)	.6835	.8496	1.0120	1.1700	1.3236	1.4739	1.6237	1.7555	1.9015	2.0448	2.1861	2.3248
	C/(M/SEC)	859.7774	789.7384	721.5695	655.0293	589.7542	525.3039	461.4752	401.4041	344.8716	294.5669	255.3255	231.0220
	KAPPA/(1/MPA)	.0027	.0033	.0040	.0051	.0065	.0086	.0117	.0165	.0242	.0363	.0537	.0728
	BETA/(1000/K)	1.4	1.5	1.6	1.7	1.8	2.0	2.3	2.6	3.1	3.7	4.3	4.6
10.0000	V/(M3/KG)	.00162	.00168	.00175	.00182	.00190	.00198	.00209	.00221	.00235	.00253	.00276	.00303
	H/(KJ/KG)	252.6	321.0	391.9	464.8	539.5	616.3	696.5	770.0	854.9	941.6	1030.2	1120.6
	S/(KJ/KG K)	.6812	.8471	1.0093	1.1670	1.3202	1.4699	1.6191	1.7500	1.8946	2.0361	2.1751	2.3116
	C/(M/SEC)	869.9847	801.3684	734.7558	669.9746	606.7229	544.5922	483.4603	426.4499	373.0372	325.0016	285.5427	257.6644
	KAPPA/(1/MPA)	.0026	.0032	.0039	.0048	.0061	.0079	.0105	.0143	.0200	.0285	.0404	.0544
	BETA/(1000/K)	1.4	1.4	1.5	1.6	1.8	1.9	2.1	2.4	2.7	3.2	3.6	3.9

THERMODYNAMIC PROPERTIES OF OCTANE

TEMPERATURES/(K)

P/(MPA)		700.000	725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.00697	.00780	.00856	.00927	.00992	.01055	.01114	.01171	.01225	.01278	.01330
	H/(KJ/KG)	1270.0	1359.7	1448.9	1538.2	1627.9	1718.3	1809.4	1901.4	1994.2	2088.1	2182.8
	S/(KJ/KG K)	2.5599	2.6859	2.8068	2.9239	3.0378	3.1490	3.2579	3.3645	3.4692	3.5720	3.6730
	C/(M/SEC)	173.4390	185.9816	197.4406	207.8484	217.3331	226.0287	234.0528	241.5033	248.4604	254.9901	261.1468
	KAPPA/(1/MPA)	.2661	.2519	.2406	.2317	.2247	.2191	.2146	.2108	.2076	.2050	.2027
	BETA/(1000/K)	5.1	4.1	3.4	2.9	2.6	2.3	2.1	1.9	1.8	1.6	1.5
6.0000	V/(M3/KG)	.00550	.00622	.00689	.00751	.00809	.00864	.00917	.00967	.01015	.01062	.01107
	H/(KJ/KG)	1253.3	1345.1	1436.0	1526.7	1617.6	1709.0	1801.0	1893.7	1987.3	2081.6	2176.9
	S/(KJ/KG K)	2.5273	2.6561	2.7794	2.8984	3.0138	3.1262	3.2361	3.3436	3.4490	3.5525	3.6541
	C/(M/SEC)	176.8999	187.3776	197.9530	208.0826	217.5982	226.4812	234.7691	242.5165	249.7804	256.6136	263.0636
	KAPPA/(1/MPA)	.2066	.2017	.1957	.1899	.1848	.1805	.1769	.1738	.1711	.1689	.1670
	BETA/(1000/K)	5.4	4.5	3.7	3.2	2.8	2.5	2.2	2.0	1.9	1.7	1.6
7.0000	V/(M3/KG)	.00459	.00520	.00577	.00632	.00684	.00733	.00780	.00825	.00868	.00909	.00949
	H/(KJ/KG)	1239.3	1332.2	1424.3	1516.1	1608.0	1700.2	1793.0	1886.4	1980.5	2075.5	2171.2
	S/(KJ/KG K)	2.5001	2.6304	2.7553	2.8757	2.9924	3.1060	3.2167	3.3250	3.4311	3.5352	3.6373
	C/(M/SEC)	186.7272	193.8303	202.4565	211.4909	220.4268	229.0410	237.2475	245.0269	252.3903	259.3627	265.9737
	KAPPA/(1/MPA)	.1564	.1595	.1587	.1564	.1536	.1509	.1483	.1461	.1440	.1423	.1407
	BETA/(1000/K)	5.4	4.6	3.9	3.4	2.9	2.6	2.3	2.1	1.9	1.8	1.7
8.0000	V/(M3/KG)	.00401	.00451	.00501	.00548	.00594	.00638	.00680	.00721	.00759	.00797	.00833
	H/(KJ/KG)	1228.0	1321.2	1413.9	1506.5	1599.1	1692.1	1785.5	1879.5	1974.2	2069.6	2165.8
	S/(KJ/KG K)	2.4779	2.6087	2.7344	2.8558	2.9734	3.0878	3.1994	3.3084	3.4151	3.5197	3.6223
	C/(M/SEC)	201.5758	204.4514	210.4334	217.7826	225.6511	233.6030	241.4147	248.9762	256.2393	263.1893	269.8297
	KAPPA/(1/MPA)	.1174	.1252	.1284	.1290	.1284	.1272	.1258	.1243	.1230	.1217	.1205
	BETA/(1000/K)	5.0	4.4	3.9	3.4	3.0	2.7	2.4	2.2	2.0	1.9	1.7
9.0000	V/(M3/KG)	.00362	.00404	.00446	.00488	.00528	.00567	.00605	.00642	.00678	.00712	.00745
	H/(KJ/KG)	1219.2	1312.2	1405.1	1498.0	1591.2	1684.6	1778.6	1873.1	1968.2	2064.1	2160.7
	S/(KJ/KG K)	2.4598	2.5903	2.7163	2.8382	2.9565	3.0715	3.1837	3.2932	3.4005	3.5055	3.6086
	C/(M/SEC)	220.3656	218.4911	221.3241	226.5623	232.9974	239.9755	247.1309	254.2576	261.2405	268.0197	274.5662
	KAPPA/(1/MPA)	.0884	.0983	.1038	.1066	.1077	.1078	.1074	.1068	.1060	.1052	.1044
	BETA/(1000/K)	4.5	4.2	3.8	3.4	3.0	2.7	2.5	2.2	2.1	1.9	1.8
10.0000	V/(M3/KG)	.00335	.00370	.00406	.00442	.00478	.00514	.00548	.00581	.00614	.00645	.00676
	H/(KJ/KG)	1212.3	1304.8	1397.6	1490.7	1584.1	1677.9	1772.2	1867.1	1962.7	2058.9	2155.9
	S/(KJ/KG K)	2.4450	2.5748	2.7006	2.8227	2.9413	3.0568	3.1694	3.2795	3.3871	3.4926	3.5961
	C/(M/SEC)	241.7858	235.2564	234.6549	237.4687	242.1908	247.9501	254.2367	260.7461	267.2939	273.7706	280.1117
	KAPPA/(1/MPA)	.0675	.0776	.0843	.0884	.0907	.0918	.0923	.0923	.0921	.0918	.0913
	BETA/(1000/K)	4.0	3.9	3.6	3.3	3.0	2.7	2.5	2.3	2.1	1.9	1.8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7.0
5.0
3.0
1.0
0.7
0.5
0.3
0.1
PRESSURE/MPA
200
600
1000
1400
1800
ENTHALPY/(KJ/KG)
500
550
600
650
700
750
800
850
T=850
.002
.003
.005
.007
.010
.014
.020
.030
.050
.070
.100
.140
.200
.20
.40
.60
X=.80
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
S=3.4

NONANE

PROPERTIES OF SATURATED NONANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
425.00000	.10461	.00167	.24759	309.47682	290.52797	600.00479	.91487	.68360	1.59847
430.00000	.11925	.00168	.21838	323.53274	286.86748	610.40022	.94770	.66713	1.61483
435.00000	.13543	.00169	.19321	337.70921	283.13452	620.84373	.98041	.65088	1.63130
440.00000	.15327	.00171	.17144	352.00343	279.32863	631.33206	1.01301	.63484	1.64785
445.00000	.17287	.00172	.15256	366.41261	275.44914	641.86175	1.04550	.61899	1.66449
450.00000	.19435	.00174	.13611	380.93240	271.49711	652.42951	1.07786	.60333	1.68119
455.00000	.21781	.00175	.12174	395.56234	267.46887	663.03121	1.11011	.58784	1.69795
460.00000	.24338	.00177	.10913	410.29875	263.36456	673.66331	1.14222	.57253	1.71475
465.00000	.27118	.00179	.09805	425.13917	259.18246	684.32163	1.17420	.55738	1.73158
470.00000	.30133	.00181	.08827	440.08165	254.92032	695.00197	1.20605	.54238	1.74843
475.00000	.33395	.00182	.07962	455.12448	250.57525	705.69973	1.23776	.52753	1.76528
480.00000	.36918	.00184	.07194	470.26658	246.14342	716.41001	1.26933	.51280	1.78213
485.00000	.40715	.00186	.06511	485.50725	241.62012	727.12737	1.30077	.49819	1.79896
490.00000	.44800	.00188	.05901	500.84682	236.99929	737.84611	1.33208	.48367	1.81576
495.00000	.49187	.00190	.05355	516.28613	232.27358	748.55971	1.36326	.46924	1.83250
500.00000	.53890	.00192	.04865	531.82740	227.43357	759.26097	1.39432	.45487	1.84919
505.00000	.58926	.00195	.04425	547.47355	222.46825	769.94180	1.42526	.44053	1.86580
510.00000	.64310	.00197	.04027	563.22939	217.36363	780.59302	1.45610	.42620	1.88231
515.00000	.70059	.00199	.03668	579.10104	212.10307	791.20411	1.48685	.41185	1.89870
520.00000	.76190	.00202	.03342	595.09685	206.66593	801.76278	1.51752	.39743	1.91496
525.00000	.82722	.00205	.03046	611.22750	201.02707	812.25458	1.54814	.38291	1.93105
530.00000	.89674	.00208	.02776	627.50563	195.15698	822.66261	1.57873	.36822	1.94695
535.00000	.97067	.00211	.02529	643.94962	189.01628	832.96590	1.60932	.35330	1.96262
540.00000	1.04923	.00215	.02303	660.57988	182.55933	843.13921	1.63995	.33807	1.97802
545.00000	1.13265	.00218	.02094	677.42334	175.72773	853.15106	1.67066	.32244	1.99310
550.00000	1.22119	.00222	.01902	694.51404	168.44697	862.96101	1.70152	.30627	2.00779
555.00000	1.31510	.00227	.01723	711.89601	160.62003	872.51604	1.73260	.28941	2.02200
560.00000	1.41469	.00232	.01557	729.62605	152.11854	881.74458	1.76399	.27164	2.03563
565.00000	1.52026	.00238	.01400	747.78036	142.76557	890.54593	1.79582	.25268	2.04851
570.00000	1.63214	.00245	.01252	766.46540	132.30443	898.76983	1.82827	.23211	2.06039
575.00000	1.75070	.00253	.01110	785.83705	120.33918	906.17622	1.86159	.20929	2.07088
580.00000	1.87634	.00263	.00971	806.14791	106.18746	912.33537	1.89620	.18308	2.07928
585.00000	2.00947	.00277	.00828	827.86795	88.46141	916.32936	1.93287	.15122	2.08409
590.00000	2.15057	.00299	.00668	852.18111	63.14043	915.32154	1.97356	.10702	2.08058
594.64000	2.30015	.00423	.00423	891.17544	0.	891.17544	2.03849	0.	2.03849

THERMODYNAMIC PROPERTIES OF NONANE

TEMPERATURES/(K)

P/(MPA)		425.000	450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000
.1000	V/(M3/KG)	.25978	.27831	.29639	.31415	.33165	.34895	.36609	.38310	.40000	.41681	.43355
	H/(KJ/KG)	600.3	657.4	716.9	778.7	842.8	909.0	977.2	1047.5	1119.7	1193.8	1269.6
	S/(KJ/KG K)	1.6019	1.7325	1.8612	1.9880	2.1129	2.2361	2.3575	2.4771	2.5950	2.7112	2.8257
	C/(M/SEC)	159.3846	165.7296	171.6072	177.1196	182.3378	187.3126	192.0820	196.6748	201.1136	205.4165	209.5982
	KAPPA/(1/MPA)	10.6392	10.5032	10.4033	10.3278	10.2693	10.2233	10.1865	10.1567	10.1323	10.1122	10.0954
	BETA/(1000/K)	2.9	2.6	2.4	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5
.1013	V/(M3/KG)	.25617	.27449	.29236	.30990	.32719	.34428	.36121	.37801	.39470	.41130	.42783
	H/(KJ/KG)	600.2	657.4	716.9	778.7	842.7	908.9	977.2	1047.5	1119.7	1193.8	1269.6
	S/(KJ/KG K)	1.6009	1.7316	1.8603	1.9871	2.1120	2.2352	2.3566	2.4762	2.5941	2.7103	2.8248
	C/(M/SEC)	159.2548	165.6240	171.5200	177.0467	182.2763	187.2604	192.0373	196.6364	201.0805	205.3879	209.5734
	KAPPA/(1/MPA)	10.5099	10.3734	10.2732	10.1974	10.1388	10.0927	10.0558	10.0260	10.0016	9.9815	9.9647
	BETA/(1000/K)	2.9	2.6	2.4	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5
.2000	V/(M3/KG)	.00167	.00174	.14201	.15179	.16126	.17051	.17958	.18852	.19733	.20605	.21470
	H/(KJ/KG)	309.5	380.9	712.4	774.8	839.3	905.9	974.5	1045.1	1117.6	1191.8	1267.9
	S/(KJ/KG K)	.9146	1.0778	1.8092	1.9372	2.0631	2.1870	2.3090	2.4291	2.5474	2.6639	2.7787
	C/(M/SEC)	745.1162	660.8516	164.7062	171.4130	177.5611	183.2770	188.6477	193.7356	198.5869	203.2371	207.7134
	KAPPA/(1/MPA)	.0037	.0049	5.4511	5.3577	5.2887	5.2361	5.1951	5.1626	5.1364	5.1150	5.0974
	BETA/(1000/K)	1.6	1.8	2.8	2.5	2.3	2.1	2.0	1.9	1.8	1.7	1.6
.3000	V/(M3/KG)	.00167	.00174	.09023	.09746	.10433	.11094	.11735	.12361	.12974	.13578	.14173
	H/(KJ/KG)	309.6	381.0	707.5	770.6	835.7	902.8	971.8	1042.6	1115.4	1189.9	1266.1
	S/(KJ/KG K)	.9143	1.0775	1.7751	1.9047	2.0317	2.1565	2.2791	2.3997	2.5185	2.6353	2.7504
	C/(M/SEC)	746.2843	662.2885	157.0343	165.2342	172.4841	179.0452	185.0828	190.7083	196.0006	201.0172	205.8016
	KAPPA/(1/MPA)	.0037	.0048	3.8474	3.7280	3.6448	3.5840	3.5380	3.5024	3.4741	3.4513	3.4328
	BETA/(1000/K)	1.6	1.8	3.3	2.9	2.6	2.3	2.2	2.0	1.9	1.8	1.7
.4000	V/(M3/KG)	.00167	.00174	.00182	.07011	.07575	.08108	.08619	.09112	.09593	.10062	.10523
	H/(KJ/KG)	309.6	381.0	455.1	766.2	831.9	899.5	968.9	1040.1	1113.1	1187.8	1264.3
	S/(KJ/KG K)	.9141	1.0772	1.2375	1.8792	2.0076	2.1333	2.2567	2.3779	2.4971	2.6143	2.7297
	C/(M/SEC)	747.4500	664.7208	577.7346	158.4643	167.0517	174.5905	181.3740	187.5865	193.3514	198.7556	203.8625
	KAPPA/(1/MPA)	.0036	.0048	.0066	2.9417	2.8388	2.7674	2.7154	2.6760	2.6454	2.6211	2.6016
	BETA/(1000/K)	1.6	1.8	2.0	3.3	2.9	2.6	2.3	2.1	2.0	1.8	1.7
.5000	V/(M3/KG)	.00166	.00174	.00182	.05351	.05849	.06309	.06744	.07160	.07561	.07952	.08333
	H/(KJ/KG)	309.7	381.0	455.1	761.3	827.9	896.1	965.9	1037.5	1110.8	1185.8	1262.4
	S/(KJ/KG K)	.9138	1.0769	1.2371	1.8572	1.9872	2.1141	2.2383	2.3601	2.4798	2.5974	2.7131
	C/(M/SEC)	745.6857	665.1475	579.5178	150.9274	161.1905	169.8797	177.5058	184.3628	190.6362	196.4510	201.8956
	KAPPA/(1/MPA)	.0036	.0048	.0066	2.5039	2.3722	2.2869	2.2273	2.1836	2.1503	2.1244	2.1038
	BETA/(1000/K)	1.6	1.8	2.0	3.9	3.3	2.8	2.5	2.3	2.1	1.9	1.8
.6000	V/(M3/KG)	.00166	.00174	.00182	.00192	.04686	.05103	.05490	.05856	.06206	.06543	.06872
	H/(KJ/KG)	309.7	381.1	455.1	531.8	823.6	892.5	962.9	1034.9	1108.5	1183.7	1260.6
	S/(KJ/KG K)	.9135	1.0766	1.2368	1.3940	1.9690	2.0972	2.2224	2.3449	2.4651	2.5831	2.6991
	C/(M/SEC)	747.8990	664.9125	581.2918	491.8476	154.7988	164.8713	173.4600	181.0290	187.8513	194.1021	199.9007
	KAPPA/(1/MPA)	.0036	.0048	.0065	.0097	2.0810	1.9765	1.9075	1.8586	1.8223	1.7945	1.7727
	BETA/(1000/K)	1.6	1.8	2.0	2.4	3.7	3.1	2.7	2.4	2.2	2.0	1.9

THERMODYNAMIC PROPERTIES OF NONANE

TEMPERATURES/(K)

P/(MPA)		700.000	725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	.45023	.46685	.48343	.49997	.51647	.53294	.54939	.56581	.58222	.59860	.61497
	H/(KJ/KG)	1347.2	1426.4	1507.3	1589.6	1673.5	1758.8	1845.5	1933.5	2022.9	2113.4	2205.2
	S/(KJ/KG K)	2.9385	3.0497	3.1593	3.2673	3.3738	3.4788	3.5823	3.6844	3.7851	3.8843	3.9822
	C/(M/SEC)	213.6706	217.6439	221.5266	225.3259	229.0482	232.6988	236.2826	239.8039	243.2663	246.6734	250.0283
	KAPPA/(1/MPA)	10.0814	10.0695	10.0595	10.0509	10.0436	10.0373	10.0318	10.0271	10.0230	10.0194	10.0163
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.1013	V/(M3/KG)	.44430	.46071	.47707	.49340	.50969	.52595	.54218	.55839	.57458	.59076	.60691
	H/(KJ/KG)	1347.2	1426.4	1507.3	1589.6	1673.5	1758.8	1845.5	1933.5	2022.8	2113.4	2205.2
	S/(KJ/KG K)	2.9376	3.0488	3.1584	3.2665	3.3730	3.4780	3.5815	3.6835	3.7842	3.8835	3.9814
	C/(M/SEC)	213.6491	217.6252	221.5104	225.3118	229.0359	232.6882	236.2735	239.7960	243.2596	246.6677	250.0234
	KAPPA/(1/MPA)	9.9506	9.9388	9.9287	9.9201	9.9128	9.9065	9.9011	9.8963	9.8922	9.8887	9.8856
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.2000	V/(M3/KG)	.22328	.23180	.24027	.24871	.25711	.26548	.27382	.28214	.29044	.29872	.30699
	H/(KJ/KG)	1345.6	1425.0	1505.9	1588.4	1672.4	1757.8	1844.6	1932.7	2022.1	2112.7	2204.5
	S/(KJ/KG K)	2.8918	3.0032	3.1130	3.2212	3.3278	3.4329	3.5365	3.6386	3.7394	3.8387	3.9367
	C/(M/SEC)	212.0379	216.2280	220.2983	224.2608	228.1255	231.9011	235.5948	239.2131	242.7614	246.2448	249.6673
	KAPPA/(1/MPA)	5.0828	5.0705	5.0601	5.0513	5.0438	5.0374	5.0318	5.0271	5.0229	5.0193	5.0162
	BETA/(1000/K)	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1
.3000	V/(M3/KG)	.14761	.15344	.15922	.16495	.17066	.17633	.18197	.18759	.19318	.19876	.20433
	H/(KJ/KG)	1344.0	1423.5	1504.6	1587.2	1671.3	1756.8	1843.6	1931.8	2021.3	2112.0	2203.9
	S/(KJ/KG K)	2.8637	2.9753	3.0853	3.1936	3.3004	3.4056	3.5093	3.6115	3.7124	3.8118	3.9098
	C/(M/SEC)	210.3875	214.8013	219.0641	223.1934	227.2034	231.1060	234.9113	238.6280	242.2633	245.8237	249.3148
	KAPPA/(1/MPA)	3.4175	3.4048	3.3941	3.3850	3.3774	3.3708	3.3652	3.3603	3.3561	3.3525	3.3493
	BETA/(1000/K)	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
.4000	V/(M3/KG)	.10977	.11426	.11869	.12308	.12743	.13175	.13604	.14031	.14456	.14879	.15300
	H/(KJ/KG)	1342.4	1422.0	1503.3	1586.0	1670.1	1755.7	1842.7	1930.9	2020.5	2111.2	2203.2
	S/(KJ/KG K)	2.8433	2.9551	3.0652	3.1737	3.2806	3.3859	3.4897	3.5921	3.6930	3.7924	3.8905
	C/(M/SEC)	208.7197	213.3640	217.8245	222.1243	226.2823	230.3141	234.2326	238.0488	241.7721	245.4104	248.9708
	KAPPA/(1/MPA)	2.5856	2.5724	2.5614	2.5521	2.5443	2.5376	2.5319	2.5269	2.5227	2.5190	2.5158
	BETA/(1000/K)	1.6	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.5000	V/(M3/KG)	.08706	.09074	.09437	.09795	.10149	.10500	.10849	.11195	.11539	.11881	.12221
	H/(KJ/KG)	1340.7	1420.5	1501.9	1584.7	1669.0	1754.7	1841.7	1930.0	2019.6	2110.5	2202.5
	S/(KJ/KG K)	2.8269	2.9390	3.0493	3.1580	3.2650	3.3704	3.4743	3.5768	3.6777	3.7773	3.8754
	C/(M/SEC)	207.0345	211.9167	216.5799	221.0539	225.3626	229.5256	233.5588	237.4759	241.2881	245.0052	248.6354
	KAPPA/(1/MPA)	2.0871	2.0734	2.0620	2.0525	2.0445	2.0377	2.0319	2.0269	2.0226	2.0188	2.0156
	BETA/(1000/K)	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.6000	V/(M3/KG)	.07192	.07506	.07815	.08119	.08420	.08717	.09012	.09304	.09594	.09882	.10168
	H/(KJ/KG)	1339.0	1419.0	1500.5	1583.5	1667.9	1753.6	1840.8	1929.2	2018.8	2109.7	2201.8
	S/(KJ/KG K)	2.8133	2.9255	3.0360	3.1449	3.2520	3.3576	3.4616	3.5641	3.6652	3.7648	3.8630
	C/(M/SEC)	205.3323	210.4598	215.3309	219.9828	224.4449	228.7409	232.8905	236.9095	240.8116	244.6081	248.3088
	KAPPA/(1/MPA)	1.7552	1.7410	1.7293	1.7195	1.7113	1.7044	1.6985	1.6935	1.6891	1.6853	1.6821
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1

THERMODYNAMIC PROPERTIES OF NONANE

TEMPERATURES/(K)

P/(MPA)		425.000	450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000
5.0000	V/(M3/KG)	.00164	.00170	.00177	.00186	.00195	.00207	.00222	.00243	.00278	.00345	.00437
	H/(KJ/KG)	312.2	383.0	456.1	531.4	608.6	688.3	772.3	851.9	946.1	1047.2	1148.6
	S/(KJ/KG K)	.9024	1.0640	1.2222	1.3766	1.5273	1.6756	1.8249	1.9606	2.1144	2.2730	2.4261
	C/(M/SEC)	797.8198	724.3410	651.3028	578.4164	505.0633	430.3381	353.1669	275.1452	199.5395	152.1474	145.9964
	KAPPA/(1/MPA)	.0031	.0039	.0050	.0066	.0091	.0134	.0214	.0395	.0910	.2010	.2619
	BETA/(1000/K)	1.5	1.6	1.7	1.9	2.1	2.5	3.1	4.3	6.9	9.8	8.7
6.0000	V/(M3/KG)	.00163	.00170	.00177	.00184	.00193	.00204	.00217	.00235	.00260	.00299	.00356
	H/(KJ/KG)	312.9	383.5	456.5	531.5	608.4	687.7	770.8	848.8	939.3	1033.8	1131.2
	S/(KJ/KG K)	.9000	1.0613	1.2192	1.3731	1.5232	1.6707	1.8184	1.9514	2.0992	2.2474	2.3945
	C/(M/SEC)	808.0395	736.3860	665.4950	595.2069	525.1622	454.7992	383.6268	314.0409	247.6341	194.4676	169.5481
	KAPPA/(1/MPA)	.0030	.0038	.0048	.0062	.0083	.0117	.0175	.0286	.0523	.1002	.1559
	BETA/(1000/K)	1.4	1.5	1.7	1.8	2.0	2.3	2.8	3.5	4.7	6.5	7.2
7.0000	V/(M3/KG)	.00163	.00169	.00176	.00183	.00192	.00202	.00214	.00229	.00249	.00277	.00315
	H/(KJ/KG)	313.5	384.0	456.9	531.7	608.4	687.2	769.7	846.6	935.2	1026.4	1120.2
	S/(KJ/KG K)	.8976	1.0588	1.2163	1.3699	1.5195	1.6662	1.8128	1.9439	2.0885	2.2316	2.3732
	C/(M/SEC)	818.0336	748.0944	679.1774	611.2421	544.0561	477.2839	410.7168	346.9872	286.8797	235.3018	201.0387
	KAPPA/(1/MPA)	.0029	.0036	.0045	.0058	.0077	.0105	.0149	.0225	.0363	.0609	.0954
	BETA/(1000/K)	1.4	1.5	1.6	1.7	1.9	2.2	2.5	3.0	3.7	4.7	5.6
8.0000	V/(M3/KG)	.00163	.00168	.00175	.00182	.00190	.00200	.00211	.00224	.00241	.00263	.00291
	H/(KJ/KG)	314.2	384.5	457.3	532.0	608.4	686.9	768.9	845.0	932.4	1021.7	1113.1
	S/(KJ/KG K)	.8953	1.0562	1.2135	1.3667	1.5159	1.6620	1.8077	1.9375	2.0802	2.2202	2.3582
	C/(M/SEC)	827.8153	759.4918	692.4039	626.5905	561.9299	498.1894	435.2911	375.9572	320.4317	271.4906	234.1906
	KAPPA/(1/MPA)	.0029	.0035	.0043	.0055	.0071	.0095	.0130	.0186	.0277	.0425	.0636
	BETA/(1000/K)	1.4	1.5	1.6	1.7	1.8	2.0	2.3	2.7	3.2	3.8	4.4
9.0000	V/(M3/KG)	.00162	.00168	.00174	.00181	.00189	.00198	.00208	.00220	.00235	.00253	.00276
	H/(KJ/KG)	314.8	385.1	457.8	532.3	608.5	686.7	768.3	843.9	930.4	1018.4	1108.2
	S/(KJ/KG K)	.8931	1.0538	1.2108	1.3637	1.5125	1.6580	1.8031	1.9319	2.0731	2.2112	2.3468
	C/(M/SEC)	837.3969	770.6009	705.2139	641.3367	578.9121	517.7854	457.9146	402.0295	350.0297	303.5828	265.8174
	KAPPA/(1/MPA)	.0028	.0034	.0042	.0052	.0066	.0087	.0116	.0159	.0224	.0323	.0460
	BETA/(1000/K)	1.4	1.4	1.5	1.6	1.8	1.9	2.1	2.4	2.8	3.2	3.7
10.0000	V/(M3/KG)	.00162	.00167	.00174	.00180	.00188	.00196	.00206	.00217	.00230	.00246	.00265
	H/(KJ/KG)	315.5	385.7	458.2	532.6	608.7	686.7	767.9	843.0	928.9	1016.1	1104.8
	S/(KJ/KG K)	.8909	1.0514	1.2082	1.3608	1.5092	1.6543	1.7988	1.9268	2.0670	2.2037	2.3376
	C/(M/SEC)	846.7860	781.4363	717.6377	655.5362	595.1282	536.2616	478.9589	425.8780	376.6991	332.4316	295.1428
	KAPPA/(1/MPA)	.0027	.0033	.0040	.0050	.0062	.0080	.0104	.0139	.0188	.0259	.0354
	BETA/(1000/K)	1.4	1.4	1.5	1.6	1.7	1.8	2.0	2.2	2.5	2.8	3.1

THERMODYNAMIC PROPERTIES OF NONANE

TEMPERATURES/(K)

P/(MPA)		700.000	725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.00531	.00618	.00697	.00769	.00836	.00899	.00958	.01013	.01067	.01118	.01168
	H/(KJ/KG)	1245.6	1339.3	1431.2	1522.4	1613.4	1704.7	1796.5	1888.9	1982.2	2076.2	2171.1
	S/(KJ/KG K)	2.5671	2.6987	2.8233	2.9429	3.0585	3.1708	3.2805	3.3877	3.4927	3.5957	3.6969
	C/(M/SEC)	153.6327	164.7210	176.2695	187.2706	197.4622	206.8398	215.4767	223.4618	230.8792	237.8023	244.2940
	KAPPA/(1/MPA)	.2708	.2627	.2512	.2407	.2320	.2248	.2189	.2140	.2100	.2066	.2037
	BETA/(1000/K)	6.9	5.4	4.3	3.6	3.1	2.7	2.4	2.2	2.0	1.8	1.7
6.0000	V/(M3/KG)	.00423	.00492	.00558	.00620	.00679	.00734	.00786	.00835	.00882	.00927	.00971
	H/(KJ/KG)	1228.0	1323.0	1416.5	1509.2	1601.5	1694.0	1786.9	1880.2	1974.2	2068.9	2164.4
	S/(KJ/KG K)	2.5353	2.6685	2.7954	2.9169	3.0343	3.1481	3.2589	3.3672	3.4731	3.5769	3.6787
	C/(M/SEC)	166.4510	171.8031	180.1953	189.5640	198.9975	208.1054	216.7424	224.8753	232.5192	239.7083	246.4823
	KAPPA/(1/MPA)	.1856	.1953	.1957	.1922	.1877	.1832	.1791	.1755	.1724	.1696	.1673
	BETA/(1000/K)	6.5	5.5	4.6	3.9	3.3	2.9	2.6	2.3	2.1	1.9	1.8
7.0000	V/(M3/KG)	.00363	.00416	.00470	.00522	.00573	.00621	.00667	.00711	.00753	.00794	.00833
	H/(KJ/KG)	1215.2	1309.9	1404.0	1497.5	1590.8	1684.2	1777.8	1871.9	1966.6	2061.9	2158.0
	S/(KJ/KG K)	2.5114	2.6444	2.7719	2.8946	3.0131	3.1280	3.2398	3.3489	3.4556	3.5601	3.6625
	C/(M/SEC)	186.8395	185.2338	189.4070	196.1479	203.9741	212.1375	220.2548	228.1371	235.7006	242.9162	249.7835
	KAPPA/(1/MPA)	.1254	.1426	.1503	.1527	.1523	.1507	.1485	.1463	.1442	.1422	.1405
	BETA/(1000/K)	5.7	5.2	4.5	4.0	3.5	3.0	2.7	2.4	2.2	2.0	1.8
8.0000	V/(M3/KG)	.00327	.00368	.00412	.00456	.00499	.00542	.00582	.00622	.00660	.00696	.00732
	H/(KJ/KG)	1206.1	1299.9	1393.8	1487.6	1581.4	1675.4	1769.6	1864.3	1959.5	2055.4	2151.9
	S/(KJ/KG K)	2.4935	2.6252	2.7525	2.8755	2.9946	3.1103	3.2228	3.3326	3.4399	3.5450	3.6479
	C/(M/SEC)	212.2101	203.4547	202.7480	206.2594	211.9253	218.6519	225.8312	233.1193	240.3239	247.3415	254.1206
	KAPPA/(1/MPA)	.0864	.1042	.1152	.1211	.1238	.1245	.1242	.1233	.1221	.1209	.1198
	BETA/(1000/K)	4.7	4.6	4.3	3.9	3.4	3.1	2.8	2.5	2.3	2.1	1.9
9.0000	V/(M3/KG)	.00304	.00336	.00372	.00409	.00446	.00483	.00520	.00555	.00589	.00622	.00655
	H/(KJ/KG)	1199.7	1292.3	1385.6	1479.3	1573.3	1667.6	1762.2	1857.4	1953.0	2049.3	2146.2
	S/(KJ/KG K)	2.4798	2.6099	2.7364	2.8593	2.9786	3.0946	3.2077	3.3180	3.4258	3.5313	3.6347
	C/(M/SEC)	239.5747	225.0171	219.3556	219.2616	222.3838	227.3181	233.2400	239.6553	246.2644	252.8851	259.4105
	KAPPA/(1/MPA)	.0622	.0773	.0888	.0964	.1009	.1033	.1044	.1046	.1044	.1039	.1033
	BETA/(1000/K)	4.0	4.1	3.9	3.7	3.3	3.0	2.8	2.5	2.3	2.1	1.9
10.0000	V/(M3/KG)	.00288	.00314	.00344	.00375	.00407	.00440	.00472	.00504	.00535	.00565	.00594
	H/(KJ/KG)	1195.0	1286.6	1379.2	1472.5	1566.4	1660.8	1755.7	1851.1	1947.1	2043.7	2140.9
	S/(KJ/KG K)	2.4689	2.5975	2.7230	2.8454	2.9647	3.0808	3.1941	3.3047	3.4129	3.5188	3.6225
	C/(M/SEC)	266.8432	248.3014	238.3246	234.6016	234.9584	237.8455	242.2652	247.5845	253.3993	259.4516	265.5760
	KAPPA/(1/MPA)	.0470	.0589	.0693	.0772	.0826	.0861	.0882	.0893	.0898	.0900	.0898
	BETA/(1000/K)	3.4	3.6	3.5	3.4	3.2	2.9	2.7	2.5	2.3	2.1	2.0

THERMODYNAMIC PROPERTIES OF NONANE

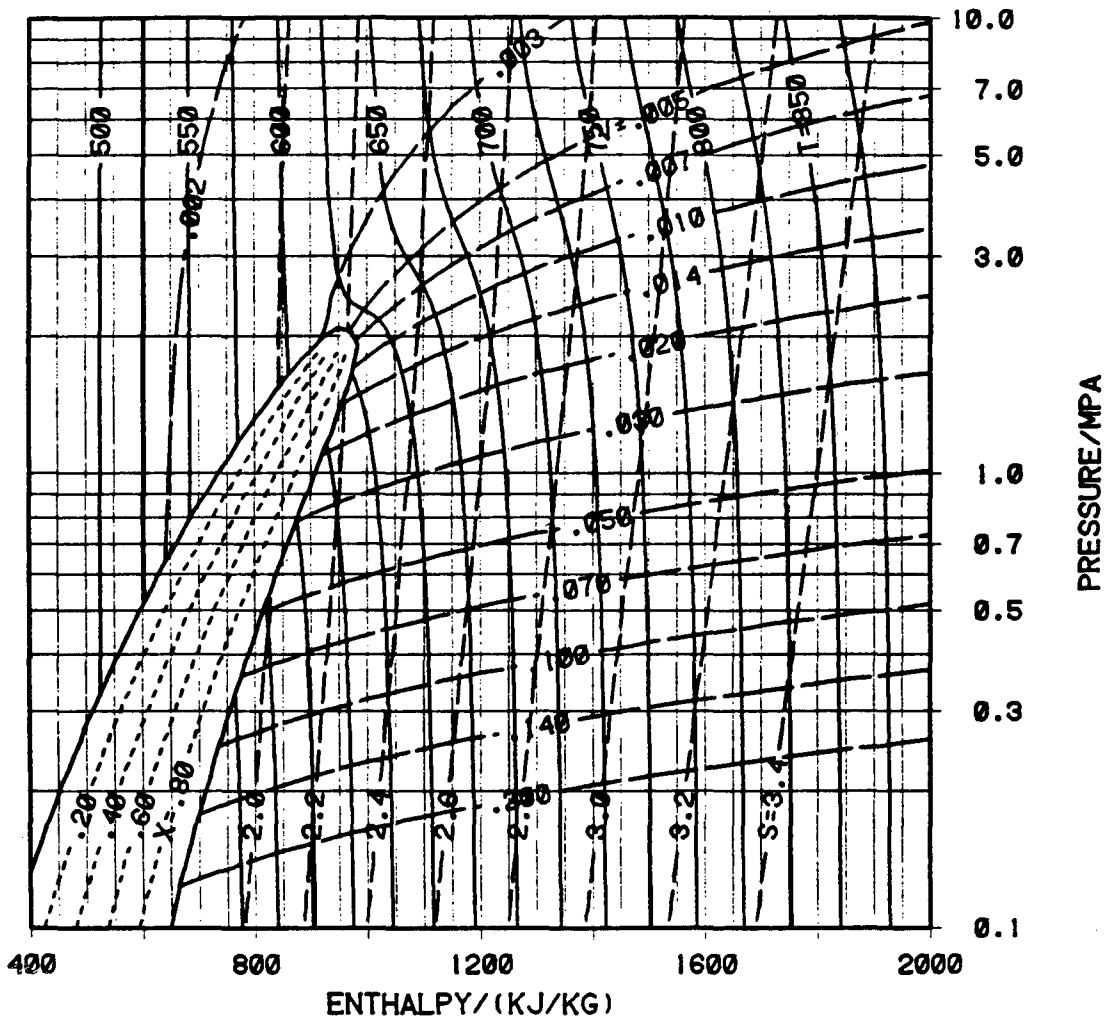
TEMPERATURES/(K)

P/(MPA)		425.000	450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000
.7000	V/(M3/KG)	.00166	.00174	.00182	.00192	.03844	.04235	.04590	.04922	.05235	.05536	.05827
	H/(KJ/KG)	309.8	381.1	455.2	531.8	818.9	888.7	959.7	1032.1	1106.1	1181.6	1258.7
	S/(KJ/KG K)	.9133	1.0763	1.2364	1.3936	1.9520	2.0819	2.2081	2.3314	2.4521	2.5706	2.6870
	C/(M/SEC)	750.1407	667.4297	582.0191	494.1292	147.7287	159.5106	169.2144	177.5758	184.9930	191.7075	197.8777
	KAPPA/(1/MPA)	.0036	.0047	.0065	.0096	1.8977	1.7660	1.6848	1.6297	1.5900	1.5601	1.5370
	BETA/(1000/K)	1.6	1.8	2.0	2.4	4.3	3.5	3.0	2.6	2.3	2.1	2.0
.8000	V/(M3/KG)	.00166	.00173	.00182	.00192	.03198	.03577	.03912	.04219	.04506	.04780	.05043
	H/(KJ/KG)	309.8	381.1	455.2	531.7	813.8	884.6	956.3	1029.3	1103.6	1179.4	1256.8
	S/(KJ/KG K)	.9130	1.0760	1.2360	1.3931	1.9355	2.0674	2.1949	2.3190	2.4404	2.5594	2.6761
	C/(M/SEC)	752.0795	669.3967	584.8007	495.1261	139.7512	153.7253	164.7422	173.9927	182.0571	189.2658	195.8264
	KAPPA/(1/MPA)	.0036	.0047	.0065	.0095	1.7946	1.6213	1.5240	1.4613	1.4175	1.3854	1.3609
	BETA/(1000/K)	1.6	1.8	2.0	2.4	5.1	3.9	3.3	2.8	2.5	2.2	2.1
.9000	V/(M3/KG)	.00166	.00173	.00182	.00192	.00205	.03057	.03380	.03669	.03938	.04191	.04433
	H/(KJ/KG)	309.9	381.2	455.2	531.7	611.1	880.3	952.8	1026.3	1101.1	1177.2	1254.8
	S/(KJ/KG K)	.9127	1.0757	1.2357	1.3927	1.5477	2.0535	2.1825	2.3076	2.4296	2.5491	2.6662
	C/(M/SEC)	753.2293	670.7880	586.5459	498.6239	403.0693	147.4146	160.0098	170.2673	179.0393	186.7759	193.7468
	KAPPA/(1/MPA)	.0036	.0047	.0064	.0094	.0156	1.5252	1.4059	1.3338	1.2853	1.2506	1.2246
	BETA/(1000/K)	1.6	1.8	2.0	2.3	3.0	4.5	3.6	3.0	2.6	2.4	2.1
1.0000	V/(M3/KG)	.00166	.00173	.00181	.00191	.00204	.02633	.02950	.03228	.03482	.03719	.03944
	H/(KJ/KG)	309.9	381.2	455.2	531.7	611.0	875.6	949.1	1023.3	1098.5	1175.0	1252.8
	S/(KJ/KG K)	.9125	1.0754	1.2353	1.3922	1.5471	2.0397	2.1705	2.2967	2.4195	2.5395	2.6571
	C/(M/SEC)	754.3756	672.1893	588.2796	500.8463	406.1218	140.4314	154.9751	166.3855	175.9348	184.2365	191.6389
	KAPPA/(1/MPA)	.0036	.0047	.0064	.0093	.0153	1.4704	1.3195	1.2355	1.1815	1.1438	1.1161
	BETA/(1000/K)	1.6	1.8	2.0	2.3	3.0	5.2	4.0	3.3	2.8	2.5	2.2
2.0000	V/(M3/KG)	.00166	.00172	.00180	.00190	.00202	.00218	.00247	.01124	.01376	.01567	.01729
	H/(KJ/KG)	310.5	381.6	455.3	531.4	610.0	692.4	783.4	980.8	1066.9	1149.2	1231.0
	S/(KJ/KG K)	.9099	1.0724	1.2318	1.3879	1.5414	1.6946	1.8563	2.1932	2.3337	2.4629	2.5864
	C/(M/SEC)	765.6552	685.8998	605.1371	522.1629	434.6490	337.5287	214.8089	112.8543	138.8765	155.9893	169.1883
	KAPPA/(1/MPA)	.0034	.0044	.0060	.0084	.0130	.0239	.0742	1.1184	.8113	.7050	.6486
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.7	3.7	7.6	11.3	6.1	4.4	3.5
3.0000	V/(M3/KG)	.00165	.00172	.00179	.00188	.00199	.00213	.00235	.00284	.00572	.00812	.00975
	H/(KJ/KG)	311.1	382.0	455.5	531.3	609.4	690.6	777.7	868.4	1010.8	1114.2	1204.5
	S/(KJ/KG K)	.9073	1.0695	1.2285	1.3839	1.5362	1.6873	1.8421	1.9967	2.2292	2.3916	2.5278
	C/(M/SEC)	776.6443	699.1326	621.1987	542.0549	460.2076	372.9330	274.5917	151.8813	99.6087	126.3234	146.8236
	KAPPA/(1/MPA)	.0033	.0042	.0056	.0077	.0114	.0188	.0395	.1933	.9372	.6302	.5174
	BETA/(1000/K)	1.5	1.7	1.8	2.1	2.4	3.1	4.8	13.9	22.1	9.3	5.9
4.0000	V/(M3/KG)	.00164	.00171	.00178	.00187	.00197	.00210	.00227	.00255	.00323	.00467	.00610
	H/(KJ/KG)	311.6	382.5	455.8	531.3	608.9	689.3	774.4	857.0	961.1	1073.5	1174.4
	S/(KJ/KG K)	.9048	1.0667	1.2253	1.3801	1.5316	1.6811	1.8325	1.9732	2.1431	2.3195	2.4718
	C/(M/SEC)	787.3604	711.9343	636.5608	560.7439	483.5217	403.3476	317.8361	225.9761	138.5011	123.3080	136.1659
	KAPPA/(1/MPA)	.0032	.0041	.0053	.0071	.0101	.0156	.0275	.0649	.2546	.4295	.4090
	BETA/(1000/K)	1.5	1.6	1.8	2.0	2.3	2.8	3.7	6.1	13.9	13.1	8.6

THERMODYNAMIC PROPERTIES OF NONANE

TEMPERATURES/(K)

P/(MPA)		700.000	725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.06110	.06386	.06656	.06923	.07185	.07444	.07700	.07954	.08205	.08455	.08702
	H/(KJ/KG)	1337.3	1417.5	1499.1	1582.2	1666.7	1752.6	1839.8	1928.3	2018.0	2109.0	2201.1
	S/(KJ/KG K)	2.8014	2.9139	3.0246	3.1336	3.2409	3.3466	3.4507	3.5533	3.6544	3.7541	3.8524
	C/(M/SEC)	203.6134	208.9937	214.0780	218.9114	223.5295	227.9606	232.2278	236.3499	240.3427	244.2194	247.9912
	KAPPA/(1/MPA)	1.5187	1.5039	1.4918	1.4818	1.4734	1.4664	1.4604	1.4553	1.4509	1.4471	1.4438
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.1
.8000	V/(M3/KG)	.05298	.05545	.05788	.06025	.06259	.06489	.06716	.06941	.07163	.07384	.07603
	H/(KJ/KG)	1335.6	1415.9	1497.7	1581.0	1665.6	1751.5	1838.8	1927.4	2017.2	2108.2	2200.4
	S/(KJ/KG K)	2.7908	2.9035	3.0145	3.1236	3.2310	3.3369	3.4411	3.5438	3.6450	3.7448	3.8431
	C/(M/SEC)	201.8780	207.5192	212.8218	217.8404	222.6171	227.1851	231.5713	235.7976	239.8818	243.8392	247.6825
	KAPPA/(1/MPA)	1.3417	1.3264	1.3139	1.3036	1.2951	1.2879	1.2818	1.2766	1.2722	1.2683	1.2650
	BETA/(1000/K)	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1
.9000	V/(M3/KG)	.04666	.04891	.05112	.05327	.05538	.05746	.05951	.06153	.06353	.06552	.06748
	H/(KJ/KG)	1333.9	1414.4	1496.3	1579.7	1664.4	1750.5	1837.9	1926.5	2016.4	2107.5	2199.7
	S/(KJ/KG K)	2.7812	2.8942	3.0053	3.1146	3.2222	3.3282	3.4325	3.5353	3.6366	3.7364	3.8348
	C/(M/SEC)	200.1268	206.0367	211.5630	216.7704	221.7081	226.4149	230.9214	235.2526	239.4291	243.4678	247.3831
	KAPPA/(1/MPA)	1.2044	1.1885	1.1756	1.1651	1.1564	1.1490	1.1429	1.1376	1.1331	1.1293	1.1259
	BETA/(1000/K)	2.0	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2
1.0000	V/(M3/KG)	.04160	.04368	.04571	.04768	.04962	.05152	.05339	.05523	.05706	.05886	.06064
	H/(KJ/KG)	1332.1	1412.8	1494.9	1578.4	1663.2	1749.4	1836.9	1925.6	2015.6	2106.7	2199.1
	S/(KJ/KG K)	2.7724	2.8857	2.9970	3.1065	3.2142	3.3203	3.4247	3.5276	3.6290	3.7289	3.8274
	C/(M/SEC)	198.3603	204.5471	210.3024	215.7020	220.8033	225.6503	230.2783	234.7155	238.9848	243.1053	247.0930
	KAPPA/(1/MPA)	1.0950	1.0784	1.0651	1.0543	1.0454	1.0380	1.0317	1.0264	1.0219	1.0180	1.0146
	BETA/(1000/K)	2.0	1.9	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2
2.0000	V/(M3/KG)	.01875	.02009	.02135	.02255	.02369	.02480	.02587	.02692	.02794	.02893	.02992
	H/(KJ/KG)	1313.2	1396.1	1480.1	1565.1	1651.2	1738.5	1827.0	1916.6	2007.3	2099.1	2192.1
	S/(KJ/KG K)	2.7059	2.8224	2.9362	3.0477	3.1571	3.2645	3.3701	3.4740	3.5763	3.6769	3.7760
	C/(M/SEC)	180.1038	189.5013	197.8083	205.2909	212.1266	218.4404	224.3239	229.8464	235.0615	240.0118	244.7316
	KAPPA/(1/MPA)	.6131	.5886	.5707	.5570	.5463	.5377	.5306	.5248	.5200	.5158	.5123
	BETA/(1000/K)	3.0	2.6	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.4	1.3
3.0000	V/(M3/KG)	.01107	.01221	.01324	.01420	.01509	.01594	.01675	.01753	.01828	.01901	.01972
	H/(KJ/KG)	1291.5	1377.7	1464.1	1551.0	1638.7	1727.3	1816.8	1907.3	1998.9	2091.4	2185.0
	S/(KJ/KG K)	2.6544	2.7755	2.8926	3.0066	3.1179	3.2269	3.3338	3.4388	3.5419	3.6434	3.7432
	C/(M/SEC)	162.6309	175.5490	186.5354	196.1399	204.7055	212.4606	219.5654	226.1365	232.2615	238.0083	243.4301
	KAPPA/(1/MPA)	.4617	.4284	.4061	.3902	.3782	.3689	.3616	.3556	.3506	.3465	.3430
	BETA/(1000/K)	4.4	3.5	3.0	2.6	2.3	2.1	1.9	1.7	1.6	1.5	1.4
4.0000	V/(M3/KG)	.00731	.00834	.00925	.01008	.01084	.01156	.01223	.01288	.01350	.01409	.01467
	H/(KJ/KG)	1267.8	1358.2	1447.5	1536.6	1625.9	1715.9	1806.5	1898.0	1990.4	2083.7	2178.0
	S/(KJ/KG K)	2.6078	2.7347	2.8557	2.9725	3.0860	3.1967	3.3050	3.4111	3.5152	3.6174	3.7180
	C/(M/SEC)	151.7815	166.0656	178.6116	189.6652	199.5144	208.3942	216.4844	223.9224	230.8140	237.2420	243.2721
	KAPPA/(1/MPA)	.3687	.3385	.3172	.3018	.2902	.2813	.2743	.2686	.2639	.2601	.2568
	BETA/(1000/K)	6.1	4.6	3.7	3.1	2.7	2.4	2.2	2.0	1.8	1.7	1.6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5.0
3.0
1.0
0.7
0.5
0.3
0.1
PRESSURE/MPA
400
800
1200
1600
2000
ENTHALPY/(KJ/KG)
500
550
600
650
700
750
800
850
T=
.002
.003
.005
.007
.010
.014
.020
.030
.050
.070
.100
.140
.200
.20
.40
.60
X=.80
2.0
2.2
2.4
2.6
2.8
3.0
3.2
S=3.4

DECANE

PROPERTIES OF SATURATED DECANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
450.00000	.10834	.00169	.22726	376.40420	277.95911	654.36331	1.11252	.61769	1.73020
455.00000	.12273	.00170	.20151	390.88386	274.38478	665.26864	1.14446	.60304	1.74751
460.00000	.13855	.00171	.17918	405.47795	270.74017	676.21811	1.17630	.58857	1.76487
465.00000	.15592	.00173	.15974	420.18363	267.02451	687.20814	1.20803	.57425	1.78228
470.00000	.17493	.00174	.14276	434.99751	263.23769	698.23520	1.23965	.56008	1.79973
475.00000	.19567	.00176	.12789	449.91549	259.38009	709.29558	1.27115	.54606	1.81721
480.00000	.21826	.00177	.11482	464.93709	255.44812	720.38521	1.30252	.53218	1.83471
485.00000	.24279	.00179	.10329	480.05841	251.44176	731.50017	1.33377	.51844	1.85221
490.00000	.26937	.00181	.09311	495.27703	247.35918	742.63621	1.36489	.50481	1.86971
495.00000	.29812	.00183	.08407	510.59094	243.19800	753.78894	1.39588	.49131	1.88719
500.00000	.32914	.00184	.07604	525.99822	238.95531	764.95353	1.42673	.47791	1.90464
505.00000	.36257	.00186	.06888	541.49775	234.62727	776.12501	1.45746	.46461	1.92206
510.00000	.39851	.00188	.06249	557.08885	230.20903	787.29788	1.48804	.45139	1.93943
515.00000	.43709	.00190	.05675	572.77149	225.69465	798.46615	1.51850	.43824	1.95674
520.00000	.47845	.00192	.05160	588.54654	221.07674	809.62328	1.54883	.42515	1.97398
525.00000	.52272	.00195	.04697	604.41592	216.34607	820.76199	1.57904	.41209	1.99113
530.00000	.57003	.00197	.04278	620.38241	211.49177	831.87419	1.60913	.39904	2.00818
535.00000	.62055	.00199	.03899	636.45044	206.50020	842.95065	1.63912	.38598	2.02510
540.00000	.67441	.00202	.03556	652.62592	201.35493	853.98085	1.66901	.37288	2.04189
545.00000	.73179	.00205	.03243	668.91666	196.03581	864.95247	1.69883	.35970	2.05853
550.00000	.79285	.00207	.02958	685.33303	190.51813	875.85116	1.72858	.34640	2.07498
555.00000	.85777	.00211	.02698	701.88698	184.77315	886.66012	1.75830	.33292	2.09122
560.00000	.92675	.00214	.02460	718.59626	178.76219	897.35846	1.78801	.31922	2.10723
565.00000	.99999	.00217	.02240	735.48100	172.44001	907.92101	1.81774	.30520	2.12295
570.00000	1.07771	.00221	.02038	752.56771	165.74849	918.31621	1.84755	.29079	2.13834
575.00000	1.16013	.00226	.01851	769.89022	158.61321	928.50343	1.87749	.27585	2.15334
580.00000	1.24752	.00230	.01677	787.49263	150.93641	938.42904	1.90762	.26024	2.16786
585.00000	1.34013	.00236	.01514	805.43354	142.58629	948.01984	1.93805	.24374	2.18179
590.00000	1.43826	.00242	.01361	823.79300	133.37824	957.17123	1.96890	.22606	2.19497
595.00000	1.54222	.00249	.01215	842.68647	123.03766	965.72414	2.00036	.20679	2.20715
600.00000	1.65235	.00258	.01075	862.29206	111.12348	973.41554	2.03271	.18521	2.21791
605.00000	1.76901	.00269	.00935	882.91691	96.83312	979.75003	2.06643	.16005	2.22648
610.00000	1.89259	.00285	.00790	905.20766	78.35099	983.55865	2.10256	.12844	2.23100
615.00000	2.02354	.00316	.00610	931.31636	48.72879	980.04516	2.14454	.07923	2.22377
617.65000	2.16232	.00425	.00425	959.68772	0.	959.68772	2.18968	0.	2.18968

THERMODYNAMIC PROPERTIES OF DECANE

TEMPERATURES/(K)

P/(MPA)		450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000
.1000	V/(M3/KG)	.24757	.26420	.28052	.29659	.31245	.32815	.34370	.35913	.37445	.38969	.40485
	H/(KJ/KG)	654.8	714.2	775.8	839.8	905.9	974.1	1044.3	1116.4	1190.3	1266.1	1343.5
	S/(KJ/KG K)	1.7356	1.8639	1.9905	2.1152	2.2382	2.3594	2.4789	2.5967	2.7127	2.8270	2.9397
	C/(M/SEC)	155.0151	160.8859	166.3758	171.5527	176.4678	181.1603	185.6610	189.9944	194.1806	198.2359	202.1740
	KAPPA/(1/MPA)	10.6557	10.5288	10.4313	10.3550	10.2944	10.2457	10.2062	10.1739	10.1473	10.1251	10.1067
	BETA/(1000/K)	2.7	2.5	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.6	1.5
.1013	V/(M3/KG)	.24412	.26056	.27669	.29257	.30825	.32375	.33911	.35435	.36948	.38453	.39950
	H/(KJ/KG)	654.8	714.1	775.8	839.7	905.8	974.0	1044.2	1116.3	1190.3	1266.1	1343.5
	S/(KJ/KG K)	1.7347	1.8631	1.9896	2.1144	2.2374	2.3586	2.4781	2.5958	2.7119	2.8262	2.9389
	C/(M/SEC)	154.8833	160.7766	166.2842	171.4754	176.4021	181.1042	185.6129	189.9530	194.1448	198.2050	202.1472
	KAPPA/(1/MPA)	10.5264	10.3990	10.3012	10.2246	10.1639	10.1152	10.0756	10.0432	10.0166	9.9944	9.9760
	BETA/(1000/K)	2.7	2.5	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.6	1.5
.2000	V/(M3/KG)	.00168	.00176	.13400	.14289	.15153	.15998	.16826	.17641	.18445	.19239	.20025
	H/(KJ/KG)	376.4	449.9	771.4	835.8	902.3	970.9	1041.4	1113.8	1188.0	1264.0	1341.7
	S/(KJ/KG K)	1.1123	1.2711	1.9433	2.0691	2.1929	2.3148	2.4348	2.5530	2.6695	2.7842	2.8971
	C/(M/SEC)	735.2252	651.4691	159.1215	165.4957	171.3648	176.8305	181.9662	186.8267	191.4542	195.8815	200.1352
	KAPPA/(1/MPA)	.0038	.0051	5.4844	5.3890	5.3167	5.2605	5.2162	5.1806	5.1518	5.1282	5.1087
	BETA/(1000/K)	1.6	1.8	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.6	1.6
.3000	V/(M3/KG)	.00168	.00176	.08482	.09144	.09775	.10382	.10971	.11546	.12108	.12661	.13205
	H/(KJ/KG)	376.5	449.9	766.5	831.6	898.6	967.6	1038.5	1111.2	1185.7	1261.9	1339.8
	S/(KJ/KG K)	1.1120	1.2708	1.9124	2.0394	2.1641	2.2868	2.4074	2.5262	2.6430	2.7581	2.8713
	C/(M/SEC)	736.1702	652.7159	151.0301	158.9196	165.9315	172.2871	178.1324	183.5687	188.6701	193.4917	198.0763
	KAPPA/(1/MPA)	.0038	.0050	3.8887	3.7649	3.6765	3.6109	3.5606	3.5213	3.4900	3.4648	3.4442
	BETA/(1000/K)	1.6	1.8	3.2	2.8	2.5	2.3	2.1	2.0	1.8	1.7	1.6
.4000	V/(M3/KG)	.00168	.00176	.00184	.06551	.07073	.07566	.08039	.08495	.08938	.09370	.09793
	H/(KJ/KG)	376.5	450.0	526.0	827.0	894.7	964.2	1035.4	1108.5	1183.3	1259.7	1337.8
	S/(KJ/KG K)	1.1117	1.2705	1.4265	2.0159	2.1419	2.2654	2.3868	2.5061	2.6234	2.7388	2.8524
	C/(M/SEC)	737.1116	653.9596	568.3852	151.6829	160.1016	167.4980	174.1435	180.2126	185.8245	191.0646	195.9965
	KAPPA/(1/MPA)	.0038	.0050	.0069	2.9867	2.8754	2.7973	2.7397	2.6960	2.6619	2.6348	2.6130
	BETA/(1000/K)	1.6	1.8	2.0	3.3	2.9	2.5	2.3	2.1	2.0	1.8	1.7
.5000	V/(M3/KG)	.00168	.00176	.00184	.04974	.05439	.05869	.06274	.06661	.07033	.07394	.07746
	H/(KJ/KG)	376.6	450.0	526.0	822.0	890.5	960.5	1032.3	1105.7	1180.8	1257.6	1335.9
	S/(KJ/KG K)	1.1114	1.2702	1.4261	1.9955	2.1230	2.2476	2.3697	2.4896	2.6074	2.7232	2.8372
	C/(M/SEC)	735.2651	655.1978	570.0206	143.5695	153.7843	162.4222	169.9807	176.7494	182.9133	188.5985	193.8953
	KAPPA/(1/MPA)	.0038	.0050	.0069	2.5613	2.4156	2.3205	2.2538	2.2048	2.1675	2.1384	2.1153
	BETA/(1000/K)	1.6	1.8	2.0	3.9	3.3	2.8	2.5	2.3	2.1	1.9	1.8
.6000	V/(M3/KG)	.00168	.00175	.00184	.00194	.04337	.04730	.05094	.05436	.05762	.06076	.06380
	H/(KJ/KG)	376.6	450.0	526.0	604.4	885.9	956.7	1029.0	1102.9	1178.3	1255.3	1333.9
	S/(KJ/KG K)	1.1112	1.2699	1.4257	1.5787	2.1059	2.2318	2.3548	2.4754	2.5938	2.7100	2.8243
	C/(M/SEC)	737.2939	654.9398	571.6471	482.5636	146.8501	157.0070	165.6208	173.1687	179.9319	186.0915	191.7719
	KAPPA/(1/MPA)	.0038	.0050	.0068	.0102	2.1340	2.0151	1.9367	1.8813	1.8403	1.8089	1.7844
	BETA/(1000/K)	1.6	1.8	2.0	2.4	3.8	3.2	2.8	2.5	2.2	2.0	1.9

THERMODYNAMIC PROPERTIES OF DECANE

TEMPERATURES/(K)

P/(MPA)		725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	.41994	.43497	.44996	.46490	.47980	.49467	.50951	.52432	.53911	.55388
	H/(KJ/KG)	1422.7	1503.4	1585.6	1669.3	1754.4	1840.9	1928.8	2017.9	2108.3	2199.9
	S/(KJ/KG K)	3.0507	3.1602	3.2680	3.3743	3.4791	3.5824	3.6843	3.7847	3.8838	3.9814
	C/(M/SEC)	206.0064	209.7427	213.3912	216.9592	220.4528	223.8775	227.2382	230.5391	233.7839	236.9761
	KAPPA/(1/MPA)	10.0913	10.0783	10.0673	10.0580	10.0501	10.0434	10.0377	10.0328	10.0286	10.0250
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.1013	V/(M3/KG)	.41440	.42924	.44403	.45878	.47350	.48817	.50282	.51744	.53204	.54661
	H/(KJ/KG)	1422.6	1503.3	1585.6	1669.3	1754.4	1840.9	1928.8	2017.9	2108.3	2199.9
	S/(KJ/KG K)	3.0499	3.1594	3.2672	3.3735	3.4783	3.5816	3.6835	3.7839	3.8830	3.9807
	C/(M/SEC)	205.9830	209.7223	213.3734	216.9436	220.4391	223.8656	227.2277	230.5298	233.7757	236.9688
	KAPPA/(1/MPA)	9.9605	9.9475	9.9365	9.9272	9.9193	9.9126	9.9069	9.9020	9.8978	9.8942
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.2000	V/(M3/KG)	.20805	.21578	.22347	.23110	.23870	.24627	.25380	.26131	.26879	.27625
	H/(KJ/KG)	1421.0	1501.8	1584.2	1668.0	1753.3	1839.9	1927.9	2017.1	2107.5	2199.2
	S/(KJ/KG K)	3.0084	3.1181	3.2261	3.3326	3.4375	3.5409	3.6429	3.7434	3.8426	3.9403
	C/(M/SEC)	204.2365	208.2029	212.0491	215.7873	219.4278	222.9796	226.4502	229.8464	233.1738	236.4377
	KAPPA/(1/MPA)	5.0926	5.0791	5.0677	5.0582	5.0501	5.0432	5.0374	5.0324	5.0281	5.0245
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1
.3000	V/(M3/KG)	.13741	.14272	.14797	.15317	.15834	.16347	.16857	.17365	.17869	.18372
	H/(KJ/KG)	1419.2	1500.3	1582.8	1666.8	1752.1	1838.9	1926.9	2016.2	2106.8	2198.5
	S/(KJ/KG K)	2.9829	3.0927	3.2010	3.3076	3.4127	3.5163	3.6183	3.7190	3.8182	3.9160
	C/(M/SEC)	202.4573	206.6616	210.7111	214.6237	218.4143	222.0956	225.6782	229.1713	232.5828	235.9195
	KAPPA/(1/MPA)	3.4272	3.4132	3.4015	3.3916	3.3834	3.3763	3.3704	3.3653	3.3610	3.3574
	BETA/(1000/K)	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.4000	V/(M3/KG)	.10209	.10618	.11022	.11421	.11816	.12208	.12596	.12982	.13365	.13746
	H/(KJ/KG)	1417.5	1498.7	1581.4	1665.5	1751.0	1837.8	1926.0	2015.4	2106.0	2197.8
	S/(KJ/KG K)	2.9642	3.0743	3.1827	3.2895	3.3948	3.4985	3.6007	3.7014	3.8007	3.8986
	C/(M/SEC)	200.6686	205.1188	209.3772	213.4684	217.4123	221.2255	224.9221	228.5137	232.0105	235.4212
	KAPPA/(1/MPA)	2.5953	2.5807	2.5686	2.5585	2.5500	2.5428	2.5368	2.5316	2.5273	2.5235
	BETA/(1000/K)	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.5000	V/(M3/KG)	.08089	.08426	.08757	.09084	.09406	.09725	.10040	.10353	.10663	.10972
	H/(KJ/KG)	1415.7	1497.1	1579.9	1664.2	1749.8	1836.8	1925.0	2014.5	2105.2	2197.1
	S/(KJ/KG K)	2.9493	3.0596	3.1682	3.2752	3.3806	3.4844	3.5868	3.6876	3.7870	3.8850
	C/(M/SEC)	198.8702	203.5745	208.0477	212.3217	216.4219	220.3695	224.1818	227.8735	231.4569	234.9427
	KAPPA/(1/MPA)	2.0967	2.0815	2.0690	2.0586	2.0499	2.0426	2.0365	2.0312	2.0268	2.0230
	BETA/(1000/K)	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1
.6000	V/(M3/KG)	.06676	.06964	.07247	.07525	.07799	.08070	.08337	.08601	.08863	.09122
	H/(KJ/KG)	1414.0	1495.5	1578.5	1662.9	1748.6	1835.7	1924.1	2013.7	2104.4	2196.4
	S/(KJ/KG K)	2.9367	3.0473	3.1561	3.2633	3.3688	3.4728	3.5752	3.6762	3.7757	3.8737
	C/(M/SEC)	197.0621	202.0288	206.7227	211.1835	215.4432	219.5274	223.4573	227.2505	230.9217	234.4836
	KAPPA/(1/MPA)	1.7649	1.7490	1.7361	1.7254	1.7165	1.7091	1.7028	1.6975	1.6930	1.6892
	BETA/(1000/K)	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.1

THERMODYNAMIC PROPERTIES OF DECANE

TEMPERATURES/(K)

P/(MPA)		450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000
.7000	V/(M3/KG)	.00168	.00175	.00184	.00194	.03536	.03909	.04246	.04558	.04852	.05133	.05404
	H/(KJ/KG)	376.7	450.0	526.0	604.3	881.0	952.7	1025.6	1099.9	1175.7	1253.0	1331.9
	S/(KJ/KG K)	1.1109	1.2696	1.4253	1.5782	2.0897	2.2172	2.3414	2.4627	2.5816	2.6984	2.8130
	C/(M/SEC)	739.3497	657.3107	572.4657	484.7403	139.1029	151.1818	161.0357	169.4588	176.8753	183.5416	189.6257
	KAPPA/(1/MPA)	.0038	.0049	.0068	.0101	1.9657	1.8112	1.7173	1.6541	1.6088	1.5749	1.5488
	BETA/(1000/K)	1.6	1.8	2.0	2.4	4.5	3.6	3.0	2.7	2.4	2.1	2.0
.8000	V/(M3/KG)	.00168	.00175	.00184	.00194	.00207	.03285	.03605	.03897	.04169	.04426	.04671
	H/(KJ/KG)	376.7	450.1	526.0	604.3	685.3	948.3	1022.0	1096.9	1173.1	1250.7	1329.8
	S/(KJ/KG K)	1.1106	1.2692	1.4250	1.5777	1.7285	2.2035	2.3289	2.4511	2.5707	2.6879	2.8029
	C/(M/SEC)	740.8447	658.8800	574.8602	486.0220	390.9126	144.8493	156.1900	165.6058	173.7382	180.9469	187.4562
	KAPPA/(1/MPA)	.0037	.0049	.0068	.0100	.0168	1.6758	1.5607	1.4877	1.4374	1.4006	1.3729
	BETA/(1000/K)	1.6	1.8	2.0	2.4	3.1	4.1	3.4	2.9	2.5	2.3	2.1
.9000	V/(M3/KG)	.00168	.00175	.00184	.00194	.00207	.02791	.03103	.03380	.03635	.03874	.04101
	H/(KJ/KG)	376.8	450.1	526.0	604.2	685.2	943.6	1018.2	1093.7	1170.4	1248.4	1327.7
	S/(KJ/KG K)	1.1104	1.2689	1.4246	1.5773	1.7279	2.1900	2.3170	2.4402	2.5605	2.6782	2.7937
	C/(M/SEC)	741.7704	660.0849	576.4556	489.0507	393.9965	137.8682	151.0392	161.5938	170.5146	178.3053	185.2630
	KAPPA/(1/MPA)	.0037	.0049	.0067	.0099	.0165	1.5934	1.4480	1.3627	1.3063	1.2664	1.2367
	BETA/(1000/K)	1.6	1.8	2.0	2.4	3.0	4.8	3.8	3.1	2.7	2.4	2.2
1.0000	V/(M3/KG)	.00168	.00175	.00184	.00194	.00207	.02385	.02696	.02964	.03207	.03432	.03644
	H/(KJ/KG)	376.8	450.1	526.0	604.2	685.0	938.4	1014.2	1090.4	1167.5	1245.9	1325.6
	S/(KJ/KG K)	1.1101	1.2686	1.4242	1.5768	1.7273	2.1764	2.3054	2.4298	2.5509	2.6692	2.7851
	C/(M/SEC)	742.6922	661.2967	578.0406	491.1748	396.2115	130.0204	145.5246	157.4038	167.1980	175.6148	183.0456
	KAPPA/(1/MPA)	.0037	.0049	.0067	.0098	.0162	1.5601	1.3688	1.2674	1.2038	1.1602	1.1285
	BETA/(1000/K)	1.6	1.8	2.0	2.3	3.0	5.8	4.2	3.4	2.9	2.5	2.3
2.0000	V/(M3/KG)	.00167	.00174	.00182	.00192	.00204	.00220	.00249	.00945	.01223	.01415	.01575
	H/(KJ/KG)	377.3	450.4	526.0	603.8	683.9	767.4	858.7	1040.9	1132.6	1217.9	1302.0
	S/(KJ/KG K)	1.1074	1.2656	1.4207	1.5725	1.7215	1.8699	2.0252	2.3224	2.4663	2.5950	2.7175
	C/(M/SEC)	751.7313	673.1154	593.3884	511.4541	425.1674	329.9420	211.5700	96.3860	127.1431	145.7336	159.6369
	KAPPA/(1/MPA)	.0036	.0047	.0062	.0089	.0137	.0252	.0758	1.4057	.8738	.7339	.6651
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.7	3.7	7.3	16.4	7.2	4.9	3.8
3.0000	V/(M3/KG)	.00167	.00174	.00181	.00190	.00201	.00215	.00236	.00280	.00471	.00706	.00871
	H/(KJ/KG)	377.8	450.8	526.2	603.6	683.1	765.4	852.8	943.0	1069.2	1178.8	1273.1
	S/(KJ/KG K)	1.1049	1.2627	1.4173	1.5684	1.7163	1.8626	2.0115	2.1587	2.3565	2.5222	2.6594
	C/(M/SEC)	760.4772	684.4475	607.9102	530.1984	450.0720	365.2872	271.4199	161.0198	96.7283	116.2138	136.9853
	KAPPA/(1/MPA)	.0035	.0045	.0059	.0081	.0120	.0196	.0402	.1558	.8284	.6668	.5377
	BETA/(1000/K)	1.5	1.7	1.8	2.1	2.4	3.1	4.6	10.9	23.1	10.9	6.6
4.0000	V/(M3/KG)	.00166	.00173	.00180	.00189	.00199	.00212	.00229	.00255	.00308	.00415	.00541
	H/(KJ/KG)	378.3	451.2	526.4	603.5	682.5	764.0	849.6	933.3	1032.5	1139.2	1241.5
	S/(KJ/KG K)	1.1023	1.2599	1.4141	1.5646	1.7116	1.8564	2.0021	2.1389	2.2944	2.4556	2.6044
	C/(M/SEC)	768.9432	695.3388	621.7076	547.6837	472.5659	395.2452	314.1514	229.9271	151.5986	124.7420	130.7628
	KAPPA/(1/MPA)	.0034	.0043	.0056	.0075	.0106	.0162	.0281	.0608	.1847	.3628	.3959
	BETA/(1000/K)	1.5	1.6	1.8	2.0	2.3	2.7	3.6	5.5	10.3	12.0	9.1

THERMODYNAMIC PROPERTIES OF DECANE

TEMPERATURES/(K)

P/(MPA)		725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.05666	.05920	.06169	.06413	.06652	.06888	.07120	.07350	.07577	.07802
	H/(KJ/KG)	1412.2	1493.9	1577.1	1661.6	1747.5	1834.7	1923.1	2012.8	2103.7	2195.7
	S/(KJ/KG K)	2.9257	3.0365	3.1456	3.2530	3.3587	3.4628	3.5653	3.6664	3.7660	3.8641
	C/(M/SEC)	195.2442	200.4819	205.4023	210.0542	214.4762	218.6993	222.7485	226.6445	230.4047	234.0437
	KAPPA/(1/MPA)	1.5283	1.5118	1.4984	1.4875	1.4784	1.4708	1.4644	1.4590	1.4545	1.4506
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1
.8000	V/(M3/KG)	.04908	.05137	.05360	.05578	.05792	.06001	.06208	.06411	.06613	.06811
	H/(KJ/KG)	1410.3	1492.3	1575.6	1660.3	1746.3	1833.6	1922.1	2011.9	2102.9	2195.0
	S/(KJ/KG K)	2.9159	3.0270	3.1363	3.2438	3.3497	3.4539	3.5566	3.6578	3.7575	3.8557
	C/(M/SEC)	193.4165	198.9341	204.0868	208.9339	213.5212	217.8852	222.0553	226.0555	229.9058	233.6227
	KAPPA/(1/MPA)	1.3513	1.3341	1.3203	1.3090	1.2997	1.2920	1.2855	1.2801	1.2755	1.2716
	BETA/(1000/K)	1.9	1.8	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2
.9000	V/(M3/KG)	.04318	.04528	.04731	.04929	.05122	.05312	.05499	.05682	.05863	.06042
	H/(KJ/KG)	1408.5	1490.6	1574.1	1658.9	1745.1	1832.5	1921.2	2011.0	2102.1	2194.3
	S/(KJ/KG K)	2.9070	3.0184	3.1279	3.2356	3.3417	3.4460	3.5488	3.6501	3.7499	3.8482
	C/(M/SEC)	191.5792	197.3856	202.7766	207.8228	212.5782	217.0852	221.3778	225.4834	229.4246	233.2204
	KAPPA/(1/MPA)	1.2140	1.1961	1.1819	1.1703	1.1608	1.1529	1.1463	1.1408	1.1362	1.1322
	BETA/(1000/K)	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2
1.0000	V/(M3/KG)	.03846	.04040	.04228	.04410	.04587	.04761	.04931	.05099	.05264	.05426
	H/(KJ/KG)	1406.6	1488.9	1572.6	1657.6	1743.9	1831.4	1920.2	2010.2	2101.3	2193.5
	S/(KJ/KG K)	2.8988	3.0105	3.1202	3.2281	3.3343	3.4389	3.5418	3.6432	3.7430	3.8414
	C/(M/SEC)	189.7325	195.8368	201.4719	206.7212	211.6474	216.2994	220.7158	224.9279	228.9610	232.8364
	KAPPA/(1/MPA)	1.1046	1.0860	1.0712	1.0593	1.0496	1.0416	1.0349	1.0293	1.0246	1.0206
	BETA/(1000/K)	2.1	1.9	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2
2.0000	V/(M3/KG)	.01716	.01845	.01964	.02077	.02184	.02286	.02385	.02481	.02573	.02664
	H/(KJ/KG)	1386.3	1471.3	1557.0	1643.8	1731.5	1820.4	1910.2	2001.2	2093.2	2186.3
	S/(KJ/KG K)	2.8358	2.9510	3.0635	3.1736	3.2816	3.3877	3.4919	3.5944	3.6953	3.7945
	C/(M/SEC)	170.9203	180.4976	188.8636	196.3204	203.0673	209.2438	214.9517	220.2677	225.2510	229.9488
	KAPPA/(1/MPA)	.6235	.5954	.5752	.5601	.5483	.5390	.5315	.5253	.5202	.5160
	BETA/(1000/K)	3.1	2.7	2.4	2.1	1.9	1.8	1.6	1.5	1.4	1.3
3.0000	V/(M3/KG)	.01002	.01114	.01214	.01305	.01389	.01468	.01544	.01616	.01685	.01752
	H/(KJ/KG)	1363.1	1451.7	1540.2	1629.1	1718.6	1808.9	1900.0	1992.1	2085.0	2178.9
	S/(KJ/KG K)	2.7856	2.9059	3.0220	3.1348	3.2450	3.3528	3.4585	3.5622	3.6640	3.7642
	C/(M/SEC)	153.3497	166.6477	177.8519	187.5518	196.1207	203.8086	210.7902	217.1933	223.1139	228.6260
	KAPPA/(1/MPA)	.4728	.4346	.4096	.3919	.3788	.3687	.3608	.3545	.3493	.3450
	BETA/(1000/K)	4.8	3.8	3.1	2.7	2.4	2.1	1.9	1.7	1.6	1.5
4.0000	V/(M3/KG)	.00657	.00757	.00846	.00925	.00998	.01066	.01129	.01189	.01246	.01301
	H/(KJ/KG)	1337.9	1431.1	1522.8	1614.1	1705.5	1797.3	1889.7	1982.8	2076.8	2171.5
	S/(KJ/KG K)	2.7398	2.8661	2.9864	3.1023	3.2148	3.3245	3.4316	3.5366	3.6395	3.7405
	C/(M/SEC)	144.1753	157.9963	170.5273	181.6402	191.5223	200.3841	208.4040	215.7241	222.4561	228.6885
	KAPPA/(1/MPA)	.3702	.3411	.3188	.3022	.2898	.2802	.2727	.2666	.2617	.2576
	BETA/(1000/K)	6.5	5.0	3.9	3.3	2.8	2.5	2.2	2.0	1.8	1.7

THERMODYNAMIC PROPERTIES OF DECANE

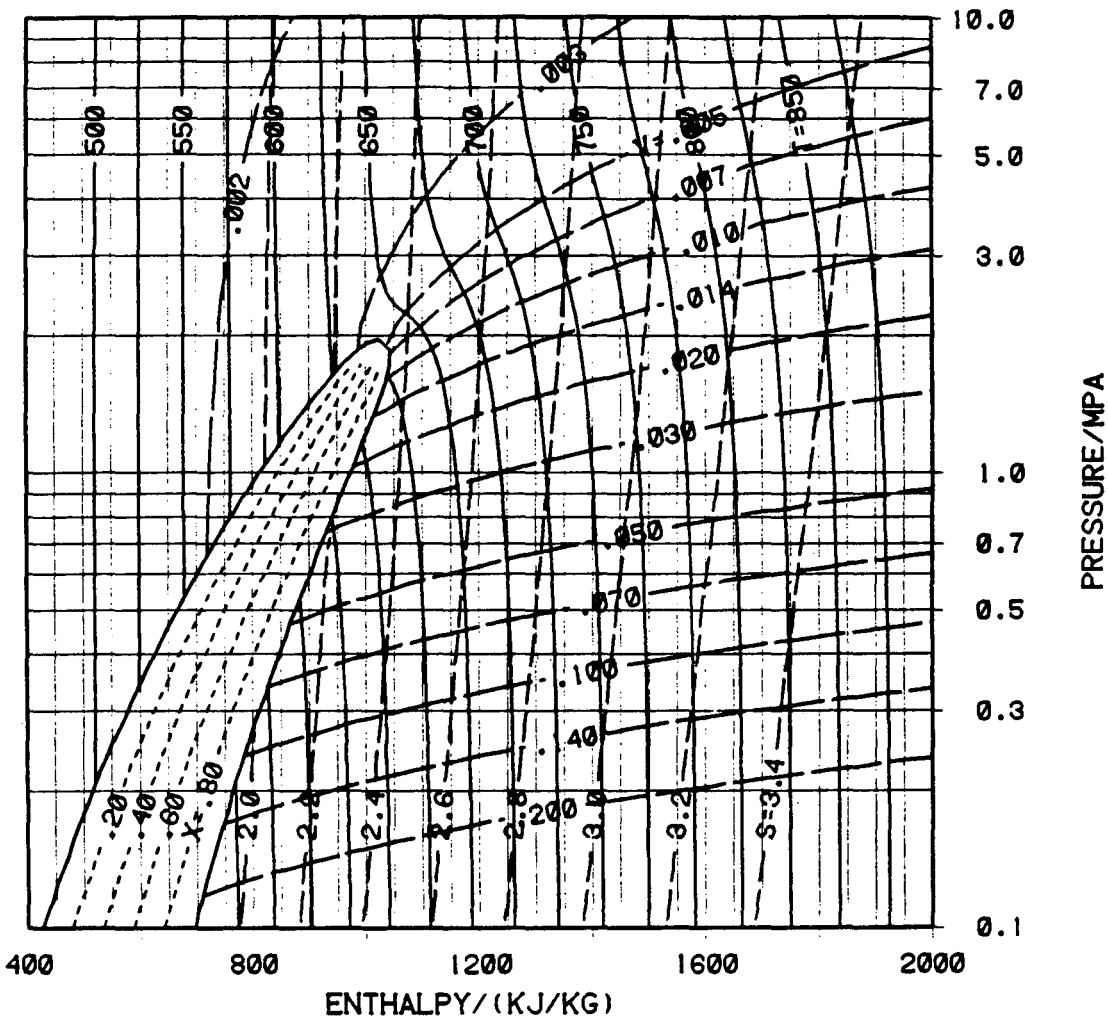
TEMPERATURES/(K)

P/(MPA)		450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000
5.0000	V/(M3/KG)	.00166	.00172	.00179	.00187	.00197	.00208	.00223	.00243	.00274	.00325	.00399
	H/(KJ/KG)	378.9	451.6	526.6	603.5	682.1	762.9	847.4	928.6	1021.1	1118.4	1217.8
	S/(KJ/KG K)	1.0999	1.2571	1.4110	1.5610	1.7073	1.8510	1.9948	2.1274	2.2726	2.4194	2.5640
	C/(M/SEC)	777.1472	705.8264	634.8615	564.0996	493.1746	421.5634	348.7555	276.9611	209.5465	162.7987	148.3294
	KAPPA/(1/MPA)	.0033	.0041	.0053	.0070	.0096	.0139	.0218	.0383	.0779	.1571	.2266
	BETA/(1000/K)	1.5	1.6	1.7	1.9	2.1	2.5	3.0	4.0	5.8	7.9	8.0
6.0000	V/(M3/KG)	.00165	.00171	.00178	.00186	.00195	.00206	.00219	.00235	.00258	.00290	.00336
	H/(KJ/KG)	379.5	452.1	526.9	603.6	681.9	762.2	845.9	925.6	1015.4	1108.1	1203.4
	S/(KJ/KG K)	1.0975	1.2545	1.4080	1.5576	1.7033	1.8461	1.9886	2.1189	2.2597	2.3996	2.5382
	C/(M/SEC)	785.1036	715.9414	647.4443	579.5912	512.2581	445.2170	378.3834	314.3285	254.6816	206.3215	178.2644
	KAPPA/(1/MPA)	.0032	.0040	.0051	.0066	.0088	.0122	.0179	.0282	.0477	.0830	.1286
	BETA/(1000/K)	1.4	1.5	1.6	1.8	2.0	2.3	2.6	3.2	4.2	5.3	6.1
7.0000	V/(M3/KG)	.00165	.00171	.00177	.00185	.00193	.00203	.00215	.00229	.00248	.00272	.00303
	H/(KJ/KG)	380.1	452.5	527.2	603.7	681.8	761.7	844.8	923.6	1011.8	1102.1	1194.6
	S/(KJ/KG K)	1.0951	1.2519	1.4051	1.5543	1.6996	1.8417	1.9831	2.1119	2.2503	2.3866	2.5211
	C/(M/SEC)	792.8265	725.7096	659.4994	594.2911	530.0745	466.8063	404.5772	345.9763	291.7596	245.4867	212.2530
	KAPPA/(1/MPA)	.0031	.0039	.0048	.0062	.0081	.0109	.0153	.0224	.0342	.0534	.0799
	BETA/(1000/K)	1.4	1.5	1.6	1.7	1.9	2.1	2.4	2.8	3.4	4.1	4.7
8.0000	V/(M3/KG)	.00164	.00170	.00177	.00184	.00192	.00201	.00212	.00225	.00240	.00260	.00284
	H/(KJ/KG)	380.7	453.0	527.6	603.9	681.7	761.4	844.0	922.1	1009.3	1098.2	1188.9
	S/(KJ/KG K)	1.0928	1.2493	1.4023	1.5512	1.6960	1.8376	1.9782	2.1059	2.2427	2.3768	2.5088
	C/(M/SEC)	800.3283	735.1576	671.0818	608.2741	546.8212	486.7505	428.2200	373.7486	323.5749	279.7577	245.2635
	KAPPA/(1/MPA)	.0031	.0037	.0046	.0058	.0075	.0099	.0134	.0186	.0266	.0386	.0550
	BETA/(1000/K)	1.4	1.5	1.6	1.7	1.8	2.0	2.2	2.5	2.9	3.3	3.8
9.0000	V/(M3/KG)	.00164	.00169	.00176	.00183	.00191	.00199	.00209	.00221	.00235	.00251	.00271
	H/(KJ/KG)	381.3	453.6	528.0	604.2	681.8	761.1	843.4	921.0	1007.5	1095.4	1184.9
	S/(KJ/KG K)	1.0906	1.2469	1.3996	1.5482	1.6927	1.8337	1.9738	2.1006	2.2363	2.3690	2.4992
	C/(M/SEC)	807.6194	744.3052	682.2319	621.6290	562.6370	505.3356	449.8645	398.6908	351.6756	310.1001	275.7963
	KAPPA/(1/MPA)	.0030	.0036	.0044	.0055	.0070	.0090	.0119	.0160	.0218	.0300	.0409
	BETA/(1000/K)	1.4	1.4	1.5	1.6	1.7	1.9	2.0	2.3	2.5	2.9	3.2
10.0000	V/(M3/KG)	.00163	.00169	.00175	.00182	.00189	.00198	.00207	.00218	.00230	.00244	.00261
	H/(KJ/KG)	381.9	454.1	528.5	604.5	681.9	761.1	843.0	920.2	1006.2	1093.4	1182.1
	S/(KJ/KG K)	1.0883	1.2445	1.3970	1.5453	1.6894	1.8301	1.9696	2.0958	2.2307	2.3623	2.4913
	C/(M/SEC)	814.7156	753.1697	692.9808	634.4149	577.6458	522.7638	469.9030	421.4424	376.9915	337.3736	303.7723
	KAPPA/(1/MPA)	.0029	.0035	.0043	.0053	.0066	.0084	.0107	.0140	.0185	.0245	.0322
	BETA/(1000/K)	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.1	2.3	2.5	2.8

THERMODYNAMIC PROPERTIES OF DECANE

TEMPERATURES/(K)

P/(MPA)		725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.00481	.00562	.00637	.00707	.00771	.00830	.00886	.00938	.00988	.01035
	H/(KJ/KG)	1315.7	1411.6	1505.9	1599.4	1692.6	1785.9	1879.5	1973.8	2068.6	2164.1
	S/(KJ/KG K)	2.7015	2.8315	2.9552	3.0739	3.1886	3.3000	3.4086	3.5148	3.6187	3.7206
	C/(M/SEC)	150.5955	159.0656	169.5291	180.1250	190.1698	199.4795	208.0550	215.9571	223.2602	230.0363
	KAPPA/(1/MPA)	.2546	.2567	.2489	.2393	.2305	.2230	.2168	.2116	.2074	.2038
	BETA/(1000/K)	6.9	5.6	4.5	3.8	3.2	2.8	2.4	2.2	2.0	1.8
6.0000	V/(M3/KG)	.00391	.00452	.00512	.00571	.00627	.00679	.00728	.00775	.00819	.00861
	H/(KJ/KG)	1299.7	1395.7	1491.1	1585.9	1680.5	1775.0	1869.8	1965.0	2060.7	2157.0
	S/(KJ/KG K)	2.6734	2.8036	2.9287	3.0491	3.1655	3.2784	3.3883	3.4956	3.6004	3.7032
	C/(M/SEC)	169.0019	169.9816	175.8531	183.9130	192.7078	201.5069	209.9815	218.0059	225.5501	232.6271
	KAPPA/(1/MPA)	.1638	.1823	.1886	.1882	.1849	.1808	.1767	.1730	.1697	.1668
	BETA/(1000/K)	6.0	5.4	4.7	4.0	3.4	3.0	2.6	2.3	2.1	1.9
7.0000	V/(M3/KG)	.00343	.00388	.00435	.00484	.00531	.00576	.00620	.00662	.00701	.00739
	H/(KJ/KG)	1288.8	1383.8	1479.1	1574.4	1669.7	1765.1	1860.7	1956.7	2053.1	2150.1
	S/(KJ/KG K)	2.6533	2.7821	2.9071	3.0281	3.1455	3.2594	3.3703	3.4784	3.5841	3.6876
	C/(M/SEC)	194.1537	187.7229	188.2716	192.7020	199.1753	206.5846	214.2876	221.9342	229.3470	236.4452
	KAPPA/(1/MPA)	.1071	.1278	.1403	.1462	.1479	.1474	.1457	.1436	.1415	.1394
	BETA/(1000/K)	5.0	4.8	4.4	4.0	3.5	3.1	2.7	2.5	2.2	2.0
8.0000	V/(M3/KG)	.00313	.00348	.00386	.00425	.00465	.00505	.00543	.00580	.00616	.00650
	H/(KJ/KG)	1281.3	1375.1	1469.7	1564.9	1660.4	1756.3	1852.5	1949.1	2046.1	2143.7
	S/(KJ/KG K)	2.6385	2.7656	2.8897	3.0106	3.1282	3.2427	3.3542	3.4630	3.5694	3.6735
	C/(M/SEC)	222.1401	209.6606	205.0402	205.5106	209.1052	214.5210	220.9057	227.7208	234.6401	241.4745
	KAPPA/(1/MPA)	.0738	.0912	.1045	.1132	.1181	.1203	.1208	.1203	.1194	.1182
	BETA/(1000/K)	4.1	4.2	4.0	3.8	3.4	3.1	2.8	2.5	2.3	2.1
9.0000	V/(M3/KG)	.00294	.00322	.00352	.00385	.00418	.00452	.00486	.00519	.00551	.00583
	H/(KJ/KG)	1276.1	1368.7	1462.5	1557.2	1652.6	1748.6	1845.1	1942.1	2039.6	2137.6
	S/(KJ/KG K)	2.6271	2.7527	2.8757	2.9960	3.1134	3.2281	3.3400	3.4493	3.5561	3.6606
	C/(M/SEC)	250.2653	233.6317	224.6324	221.2910	221.8390	224.9392	229.6353	235.2628	241.3757	247.6833
	KAPPA/(1/MPA)	.0539	.0673	.0791	.0882	.0946	.0985	.1006	.1014	.1015	.1012
	BETA/(1000/K)	3.5	3.6	3.6	3.5	3.3	3.0	2.8	2.5	2.3	2.1
10.0000	V/(M3/KG)	.00281	.00303	.00328	.00356	.00384	.00414	.00443	.00473	.00502	.00530
	H/(KJ/KG)	1272.2	1363.9	1456.9	1551.1	1646.2	1742.1	1838.7	1935.9	2033.7	2132.1
	S/(KJ/KG K)	2.6178	2.7421	2.8641	2.9837	3.1008	3.2153	3.3273	3.4369	3.5440	3.6489
	C/(M/SEC)	277.2080	258.0447	245.7353	239.0760	236.6983	237.3917	240.1988	244.3968	249.4598	255.0183
	KAPPA/(1/MPA)	.0416	.0516	.0613	.0697	.0763	.0810	.0840	.0859	.0869	.0872
	BETA/(1000/K)	3.0	3.1	3.2	3.2	3.0	2.9	2.7	2.5	2.3	2.1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7.0
5.0
3.0
1.0
0.7
0.5
0.3
0.1
PRESSURE/MPA
400
800
1200
1600
2000
ENTHALPY/(KJ/KG)
500
550
600
650
700
750
.002
.003
.005
.007
.010
.014
.020
.030
.050
.070
.100
.40
.20
.40
.60
x=.80
2.0
2.4
2.6
2.8
3.0
3.2
S=3.4

UNDECANE

PROPERTIES OF SATURATED UNDECANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
470.00000	.10452	.00166	.22416	430.76146	269.24345	700.00492	1.26644	.57286	1.83930
475.00000	.11803	.00168	.19930	445.53806	265.80625	711.34431	1.29767	.55959	1.85726
480.00000	.13287	.00169	.17766	460.42539	262.30060	722.72599	1.32879	.54646	1.87525
485.00000	.14912	.00171	.15876	475.42030	258.72598	734.14629	1.35981	.53346	1.89327
490.00000	.16686	.00172	.14219	490.51825	255.08324	745.60149	1.39072	.52058	1.91130
495.00000	.18621	.00174	.12763	505.71848	251.36897	757.08745	1.42152	.50782	1.92933
500.00000	.20723	.00175	.11480	521.01675	247.58347	768.60022	1.45219	.49517	1.94736
505.00000	.23004	.00177	.10345	536.41020	243.72543	780.13563	1.48275	.48262	1.96537
510.00000	.25473	.00178	.09340	551.89613	239.79319	791.68933	1.51318	.47018	1.98336
515.00000	.28140	.00180	.08446	567.47218	235.78458	803.25676	1.54347	.45783	2.00131
520.00000	.31015	.00182	.07649	583.13627	231.69683	814.83310	1.57364	.44557	2.01921
525.00000	.34110	.00184	.06938	598.88685	227.52644	826.41329	1.60368	.43338	2.03706
530.00000	.37436	.00186	.06301	614.72289	223.26901	837.99190	1.63358	.42126	2.05485
535.00000	.41003	.00188	.05728	630.64392	218.91908	849.56300	1.66336	.40919	2.07255
540.00000	.44825	.00190	.05214	646.65033	214.46991	861.12025	1.69300	.39717	2.09017
545.00000	.48913	.00192	.04749	662.74339	209.91323	872.65662	1.72252	.38516	2.10769
550.00000	.53280	.00194	.04330	678.92540	205.23888	884.16428	1.75193	.37316	2.12509
555.00000	.57940	.00196	.03949	695.19998	200.43450	895.63449	1.78122	.36114	2.14236
560.00000	.62908	.00199	.03604	711.57223	195.48506	907.05729	1.81041	.34908	2.15949
565.00000	.68198	.00202	.03289	728.04883	190.37241	918.42124	1.83951	.33694	2.17645
570.00000	.73825	.00204	.03002	744.63910	185.07384	929.71294	1.86855	.32469	2.19324
575.00000	.79808	.00207	.02740	761.35362	179.56325	940.91688	1.89753	.31228	2.20981
580.00000	.86162	.00211	.02499	778.20840	173.80536	952.01376	1.92648	.29966	2.22615
585.00000	.92907	.00214	.02278	795.22135	167.75932	962.98067	1.95544	.28677	2.24221
590.00000	1.00063	.00218	.02074	812.41623	161.37257	973.78880	1.98445	.27351	2.25796
595.00000	1.07652	.00222	.01885	829.82341	154.57790	984.40131	2.01355	.25979	2.27334
600.00000	1.15695	.00226	.01709	847.48243	147.28752	994.76995	2.04280	.24548	2.28828
605.00000	1.24218	.00231	.01545	865.44508	139.38410	1004.82918	2.07229	.23039	2.30268
610.00000	1.33247	.00237	.01390	883.78206	130.70412	1014.48618	2.10212	.21427	2.31639
615.00000	1.42811	.00244	.01243	902.59385	121.00750	1023.60135	2.13246	.19676	2.32922
620.00000	1.52940	.00252	.01102	922.03202	109.91596	1031.94798	2.16353	.17728	2.34082
625.00000	1.63668	.00262	.00963	942.35134	96.75865	1039.10999	2.19573	.15481	2.35055
630.00000	1.75030	.00276	.00820	964.05667	80.09889	1044.15556	2.22983	.12714	2.35697
635.00000	1.87066	.00301	.00652	988.59482	55.21156	1043.80638	2.26808	.08695	2.35502
638.73000	1.99818	.00420	.00420	1021.68670	0.	1021.68670	2.31929	0.	2.31929

THERMODYNAMIC PROPERTIES OF UNDECANE

TEMPERATURES/(K)

P/(MPA)		470.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000
.1000	V/(M3/KG)	.23502	.23804	.25304	.26784	.28248	.29697	.31131	.32554	.33965	.35367	.36760
	H/(KJ/KG)	700.2	712.2	773.7	837.4	903.4	971.4	1041.5	1113.5	1187.4	1263.0	1340.4
	S/(KJ/KG K)	1.8420	1.8674	1.9934	2.1178	2.2405	2.3615	2.4808	2.5984	2.7143	2.8284	2.9410
	C/(M/SEC)	150.5789	151.6995	157.1047	162.2138	167.0661	171.6940	176.1245	180.3802	184.4801	188.4407	192.2759
	KAPPA/(1/MPA)	10.6717	10.6457	10.5321	10.4409	10.3670	10.3068	10.2573	10.2165	10.1827	10.1546	10.1312
	BETA/(1000/K)	2.6	2.5	2.4	2.2	2.1	1.9	1.8	1.7	1.7	1.6	1.5
.1013	V/(M3/KG)	.23174	.23473	.24955	.26419	.27865	.29296	.30714	.32119	.33513	.34898	.36273
	H/(KJ/KG)	700.2	712.2	773.6	837.4	903.3	971.4	1041.5	1113.5	1187.3	1263.0	1340.4
	S/(KJ/KG K)	1.8412	1.8666	1.9926	2.1170	2.2398	2.3608	2.4800	2.5976	2.7135	2.8277	2.9402
	C/(M/SEC)	150.4458	151.5709	156.9960	162.1216	166.9876	171.6270	176.0671	180.3309	184.4377	188.4042	192.2443
	KAPPA/(1/MPA)	10.5425	10.5164	10.4023	10.3107	10.2367	10.1763	10.1267	10.0859	10.0520	10.0239	10.0005
	BETA/(1000/K)	2.6	2.5	2.4	2.2	2.1	1.9	1.8	1.7	1.7	1.6	1.5
.2000	V/(M3/KG)	.00166	.00168	.11948	.12781	.13592	.14383	.15158	.15920	.16669	.17408	.18138
	H/(KJ/KG)	430.8	445.6	769.0	833.1	899.5	967.9	1038.3	1110.6	1184.7	1260.6	1338.2
	S/(KJ/KG K)	1.2662	1.2974	1.9498	2.0750	2.1984	2.3201	2.4399	2.5580	2.6743	2.7888	2.9017
	C/(M/SEC)	748.4528	731.4765	148.3805	154.9158	160.9171	166.4842	171.6908	176.5931	181.2353	185.6525	189.8736
	KAPPA/(1/MPA)	.0037	.0039	5.6167	5.4954	5.4028	5.3305	5.2732	5.2272	5.1900	5.1595	5.1345
	BETA/(1000/K)	1.6	1.6	2.8	2.6	2.4	2.2	2.0	1.9	1.8	1.7	1.6
.3000	V/(M3/KG)	.00166	.00168	.00175	.08081	.08685	.09264	.09824	.10369	.10899	.11419	.11928
	H/(KJ/KG)	430.8	445.6	521.0	828.5	895.3	964.2	1034.9	1107.6	1182.0	1258.2	1336.0
	S/(KJ/KG K)	1.2659	1.2972	1.4519	2.0468	2.1712	2.2936	2.4141	2.5327	2.6495	2.7645	2.8777
	C/(M/SEC)	749.0696	732.1538	646.5720	146.7745	154.2362	160.9327	167.0352	172.6615	177.8967	182.8047	187.4348
	KAPPA/(1/MPA)	.0037	.0039	.0051	3.9018	3.7810	3.6922	3.6249	3.5726	3.5313	3.4981	3.4713
	BETA/(1000/K)	1.6	1.6	1.8	3.1	2.7	2.5	2.2	2.1	1.9	1.8	1.7
.4000	V/(M3/KG)	.00166	.00168	.00175	.00184	.06211	.06692	.07149	.07588	.08011	.08422	.08822
	H/(KJ/KG)	430.9	445.6	521.0	598.9	890.8	960.2	1031.4	1104.5	1179.3	1255.7	1333.8
	S/(KJ/KG K)	1.2656	1.2969	1.4516	1.6035	2.1497	2.2731	2.3943	2.5136	2.6309	2.7463	2.8599
	C/(M/SEC)	749.6841	732.8289	647.5854	559.8664	146.8733	154.9680	162.1227	168.5680	174.4559	179.8931	184.9578
	KAPPA/(1/MPA)	.0036	.0038	.0051	.0072	3.0062	2.8937	2.8130	2.7529	2.7067	2.6705	2.6417
	BETA/(1000/K)	1.6	1.6	1.8	2.1	3.2	2.8	2.5	2.3	2.1	1.9	1.8
.5000	V/(M3/KG)	.00166	.00167	.00175	.00183	.04706	.05136	.05536	.05914	.06275	.06621	.06957
	H/(KJ/KG)	430.9	445.7	521.1	598.9	885.9	956.0	1027.8	1101.2	1176.4	1253.2	1331.5
	S/(KJ/KG K)	1.2654	1.2966	1.4513	1.6031	2.1309	2.2556	2.3777	2.4977	2.6156	2.7315	2.8455
	C/(M/SEC)	747.1293	730.4458	648.5942	561.3088	138.5954	148.4914	156.9087	164.2917	170.9029	176.9132	182.4405
	KAPPA/(1/MPA)	.0036	.0038	.0051	.0071	2.5863	2.4373	2.3385	2.2683	2.2163	2.1766	2.1456
	BETA/(1000/K)	1.6	1.6	1.8	2.1	3.8	3.2	2.8	2.5	2.3	2.1	1.9
.6000	V/(M3/KG)	.00166	.00167	.00175	.00183	.00194	.04086	.04453	.04794	.05114	.05420	.05712
	H/(KJ/KG)	431.0	445.7	521.1	598.8	678.9	951.4	1023.9	1097.9	1173.4	1250.6	1329.2
	S/(KJ/KG K)	1.2651	1.2963	1.4509	1.6027	1.7516	2.2397	2.3630	2.4838	2.6023	2.7188	2.8332
	C/(M/SEC)	748.9018	732.2788	647.9286	562.7435	471.6461	141.3592	151.3348	159.8073	167.2267	173.8600	179.8809
	KAPPA/(1/MPA)	.0036	.0038	.0051	.0071	.0107	2.1609	2.0359	1.9528	1.8938	1.8500	1.8164
	BETA/(1000/K)	1.6	1.6	1.8	2.1	2.5	3.8	3.2	2.7	2.4	2.2	2.0

THERMODYNAMIC PROPERTIES OF UNDECANE

TEMPERATURES/(K)

P/(MPA)		725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	.38146	.39524	.40896	.42262	.43624	.44981	.46334	.47684	.49030	.50374
	H/(KJ/KG)	1419.4	1500.0	1582.1	1665.7	1750.7	1837.0	1924.7	2013.7	2103.9	2195.4
	S/(KJ/KG K)	3.0519	3.1611	3.2688	3.3750	3.4796	3.5827	3.6844	3.7847	3.8835	3.9811
	C/(M/SEC)	195.9977	199.6165	203.1413	206.5800	209.9397	213.2263	216.4454	219.6017	222.6996	225.7429
	KAPPA/(1/MPA)	10.1117	10.0954	10.0817	10.0703	10.0608	10.0529	10.0463	10.0409	10.0363	10.0327
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.1013	V/(M3/KG)	.37641	.39002	.40357	.41706	.43050	.44390	.45726	.47058	.48387	.49713
	H/(KJ/KG)	1419.4	1500.0	1582.1	1665.6	1750.7	1837.0	1924.7	2013.7	2103.9	2195.4
	S/(KJ/KG K)	3.0511	3.1604	3.2681	3.3742	3.4789	3.5820	3.6837	3.7840	3.8828	3.9804
	C/(M/SEC)	195.9703	199.5927	203.1206	206.5619	209.9238	213.2123	216.4329	219.5905	222.6895	225.7336
	KAPPA/(1/MPA)	9.9810	9.9646	9.9510	9.9396	9.9301	9.9221	9.9155	9.9101	9.9056	9.9019
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
.2000	V/(M3/KG)	.18859	.19573	.20281	.20983	.21680	.22372	.23060	.23745	.24427	.25105
	H/(KJ/KG)	1417.5	1498.2	1580.5	1664.3	1749.4	1836.0	1923.8	2012.9	2103.2	2194.7
	S/(KJ/KG K)	3.0129	3.1224	3.2304	3.3367	3.4415	3.5448	3.6467	3.7471	3.8461	3.9437
	C/(M/SEC)	193.9221	197.8179	201.5775	205.2153	208.7432	212.1717	215.5100	218.7658	221.9461	225.0569
	KAPPA/(1/MPA)	5.1139	5.0968	5.0826	5.0708	5.0609	5.0528	5.0460	5.0404	5.0358	5.0320
	BETA/(1000/K)	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
.3000	V/(M3/KG)	.12429	.12922	.13409	.13890	.14365	.14836	.15303	.15767	.16227	.16684
	H/(KJ/KG)	1415.5	1496.5	1579.0	1662.9	1748.2	1834.8	1922.8	2012.0	2102.5	2194.1
	S/(KJ/KG K)	2.9892	3.0990	3.2072	3.3138	3.4188	3.5222	3.6242	3.7248	3.8239	3.9216
	C/(M/SEC)	191.8263	196.0105	200.0135	203.8565	207.5576	211.1321	214.5929	217.9512	221.2166	224.3976
	KAPPA/(1/MPA)	3.4494	3.4315	3.4167	3.4045	3.3944	3.3860	3.3790	3.3733	3.3686	3.3647
	BETA/(1000/K)	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.4000	V/(M3/KG)	.09213	.09596	.09973	.10343	.10708	.11069	.11425	.11778	.12128	.12474
	H/(KJ/KG)	1413.5	1494.7	1577.4	1661.5	1746.9	1833.7	1921.8	2011.2	2101.7	2193.5
	S/(KJ/KG K)	2.9717	3.0818	3.1903	3.2971	3.4023	3.5059	3.6081	3.7087	3.8080	3.9058
	C/(M/SEC)	189.7094	194.1942	198.4490	202.5037	206.3830	210.1074	213.6941	217.1578	220.5110	223.7646
	KAPPA/(1/MPA)	2.6185	2.5996	2.5842	2.5716	2.5611	2.5525	2.5454	2.5395	2.5347	2.5307
	BETA/(1000/K)	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1	1.1
.5000	V/(M3/KG)	.07283	.07600	.07911	.08215	.08514	.08809	.09099	.09386	.09669	.09949
	H/(KJ/KG)	1411.5	1492.9	1575.8	1660.0	1745.7	1832.6	1920.8	2010.3	2101.0	2192.8
	S/(KJ/KG K)	2.9577	3.0681	3.1768	3.2838	3.3892	3.4930	3.5953	3.6961	3.7955	3.8934
	C/(M/SEC)	187.5708	192.3686	196.8841	201.1570	205.2194	209.0976	212.8135	216.3854	219.8290	223.1575
	KAPPA/(1/MPA)	2.1210	2.1012	2.0851	2.0720	2.0612	2.0524	2.0451	2.0390	2.0341	2.0300
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1
.6000	V/(M3/KG)	.05995	.06269	.06536	.06797	.07052	.07302	.07549	.07791	.08030	.08266
	H/(KJ/KG)	1409.4	1491.1	1574.1	1658.6	1744.4	1831.5	1919.8	2009.4	2100.2	2192.1
	S/(KJ/KG K)	2.9457	3.0564	3.1654	3.2726	3.3782	3.4822	3.5847	3.6857	3.7851	3.8832
	C/(M/SEC)	185.4096	190.5337	195.3190	199.8165	204.0669	208.1027	211.9509	215.6339	219.1703	222.5760
	KAPPA/(1/MPA)	1.7902	1.7694	1.7527	1.7391	1.7280	1.7189	1.7114	1.7053	1.7002	1.6960
	BETA/(1000/K)	1.9	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1

THERMODYNAMIC PROPERTIES OF UNDECANE

TEMPERATURES/(K)

P/(MPA)		470.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000
.7000	V/(M3/KG)	.00166	.00167	.00175	.00183	.00194	.03321	.03672	.03989	.04283	.04559	.04822
	H/(KJ/KG)	431.0	445.8	521.1	598.8	678.8	946.4	1019.7	1094.3	1170.4	1247.9	1326.9
	S/(KJ/KG K)	1.2648	1.2961	1.4506	1.6023	1.7511	2.2246	2.3494	2.4712	2.5904	2.7074	2.8223
	C/(M/SEC)	750.7025	734.1408	650.1401	563.2587	473.6874	133.3501	145.3220	155.0836	163.4141	170.7281	177.2767
	KAPPA/(1/MPA)	.0036	.0038	.0050	.0070	.0106	2.0007	1.8359	1.7355	1.6677	1.6191	1.5828
	BETA/(1000/K)	1.6	1.6	1.8	2.0	2.4	4.5	3.6	3.0	2.7	2.4	2.1
.8000	V/(M3/KG)	.00166	.00167	.00175	.00183	.00193	.00207	.03078	.03381	.03656	.03913	.04154
	H/(KJ/KG)	431.0	445.8	521.1	598.8	678.7	761.4	1015.3	1090.6	1167.2	1245.1	1324.5
	S/(KJ/KG K)	1.2646	1.2958	1.4503	1.6019	1.7507	1.8975	2.3363	2.4594	2.5795	2.6971	2.8125
	C/(M/SEC)	752.1210	735.5053	651.5960	565.5789	474.7444	377.8184	138.7593	150.0813	159.4501	167.5118	174.6260
	KAPPA/(1/MPA)	.0036	.0038	.0050	.0070	.0105	.0181	1.7061	1.5815	1.5027	1.4484	1.4089
	BETA/(1000/K)	1.6	1.6	1.8	2.0	2.4	3.2	4.2	3.4	2.9	2.5	2.3
.9000	V/(M3/KG)	.00166	.00167	.00174	.00183	.00193	.00207	.02606	.02903	.03167	.03408	.03633
	H/(KJ/KG)	431.1	445.8	521.1	598.8	678.7	761.2	1010.4	1086.7	1163.9	1242.3	1322.0
	S/(KJ/KG K)	1.2643	1.2955	1.4500	1.6016	1.7502	1.8969	2.3235	2.4481	2.5692	2.6875	2.8034
	C/(M/SEC)	752.7252	736.1685	652.5884	566.9884	477.7020	380.8351	131.4821	144.7496	155.3170	164.2045	171.9266
	KAPPA/(1/MPA)	.0036	.0038	.0050	.0069	.0104	.0178	1.6322	1.4722	1.3793	1.3182	1.2751
	BETA/(1000/K)	1.6	1.6	1.8	2.0	2.4	3.1	4.9	3.8	3.2	2.7	2.4
1.0000	V/(M3/KG)	.00166	.00167	.00174	.00183	.00193	.00207	.02216	.02516	.02772	.03003	.03216
	H/(KJ/KG)	431.1	445.9	521.2	598.8	678.6	761.0	1005.0	1082.5	1160.5	1239.4	1319.5
	S/(KJ/KG K)	1.2641	1.2953	1.4497	1.6012	1.7497	1.8962	2.3105	2.4371	2.5593	2.6784	2.7949
	C/(M/SEC)	753.3269	736.8296	653.5667	568.3876	479.6847	383.0103	123.2274	139.0217	150.9937	160.7993	169.1762
	KAPPA/(1/MPA)	.0036	.0038	.0050	.0069	.0103	.0174	1.6130	1.3976	1.2859	1.2167	1.1694
	BETA/(1000/K)	1.6	1.6	1.8	2.0	2.4	3.1	6.0	4.4	3.5	2.9	2.6
2.0000	V/(M3/KG)	.00165	.00167	.00174	.00182	.00191	.00203	.00220	.00251	.00835	.01120	.01309
	H/(KJ/KG)	431.6	446.3	521.4	598.7	678.1	759.6	844.5	937.6	1107.1	1202.7	1290.2
	S/(KJ/KG K)	1.2615	1.2926	1.4466	1.5976	1.7453	1.8903	2.0348	2.1866	2.4520	2.5964	2.7238
	C/(M/SEC)	759.2246	743.3048	663.2166	581.9504	498.6198	411.2422	315.2697	196.2217	87.3855	119.6572	138.6688
	KAPPA/(1/MPA)	.0035	.0037	.0048	.0065	.0093	.0147	.0276	.0899	1.5963	.9097	.7510
	BETA/(1000/K)	1.6	1.6	1.7	1.9	2.2	2.7	3.8	8.0	20.2	7.8	5.1
3.0000	V/(M3/KG)	.00165	.00166	.00173	.00180	.00190	.00201	.00215	.00236	.00281	.00440	.00644
	H/(KJ/KG)	432.0	446.7	521.6	598.8	677.7	758.6	842.2	930.9	1020.7	1141.2	1250.1
	S/(KJ/KG K)	1.2589	1.2900	1.4437	1.5942	1.7412	1.8850	2.0273	2.1721	2.3129	2.4947	2.6532
	C/(M/SEC)	764.9299	749.5647	672.4712	594.7990	516.1253	435.4527	350.7766	258.3062	152.8269	98.0608	111.7105
	KAPPA/(1/MPA)	.0034	.0036	.0046	.0061	.0085	.0127	.0212	.0442	.1693	.6994	.6568
	BETA/(1000/K)	1.5	1.5	1.7	1.8	2.1	2.5	3.1	4.7	10.8	19.7	11.2
4.0000	V/(M3/KG)	.00164	.00165	.00172	.00179	.00188	.00198	.00211	.00228	.00254	.00304	.00394
	H/(KJ/KG)	432.5	447.2	521.9	598.8	677.5	757.9	840.6	927.4	1010.7	1110.2	1214.3
	S/(KJ/KG K)	1.2565	1.2875	1.4409	1.5909	1.7373	1.8803	2.0210	2.1627	2.2934	2.4436	2.5950
	C/(M/SEC)	770.4403	755.6100	681.3705	607.0152	532.4548	457.2689	380.6343	301.5813	221.0826	151.0364	125.6547
	KAPPA/(1/MPA)	.0033	.0035	.0045	.0058	.0079	.0113	.0174	.0301	.0643	.1752	.3249
	BETA/(1000/K)	1.5	1.5	1.6	1.8	2.0	2.3	2.7	3.6	5.4	9.2	10.6

THERMODYNAMIC PROPERTIES OF UNDECANE

TEMPERATURES/(K)

P/(MPA)		725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.05075	.05318	.05554	.05784	.06008	.06227	.06441	.06652	.06860	.07065
	H/(KJ/KG)	1407.3	1489.2	1572.5	1657.1	1743.1	1830.3	1918.8	2008.6	2099.5	2191.5
	S/(KJ/KG K)	2.9352	3.0463	3.1555	3.2630	3.3688	3.4730	3.5756	3.6767	3.7763	3.8745
	C/(M/SEC)	183.2252	188.6893	193.7536	198.4823	202.9255	207.1227	211.1064	214.9030	218.5346	222.0198
	KAPPA/(1/MPA)	1.5548	1.5329	1.5155	1.5014	1.4900	1.4806	1.4730	1.4667	1.4615	1.4573
	BETA/(1000/K)	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2
.8000	V/(M3/KG)	.04384	.04605	.04818	.05024	.05224	.05420	.05611	.05799	.05983	.06164
	H/(KJ/KG)	1405.2	1487.3	1570.8	1655.6	1741.8	1829.2	1917.8	2007.7	2098.7	2190.8
	S/(KJ/KG K)	2.9258	3.0372	3.1467	3.2544	3.3604	3.4648	3.5676	3.6688	3.7685	3.8668
	C/(M/SEC)	181.0170	186.8354	192.1882	197.1547	201.7953	206.1577	210.2798	214.1926	217.9217	221.4885
	KAPPA/(1/MPA)	1.3791	1.3560	1.3378	1.3233	1.3115	1.3019	1.2941	1.2877	1.2824	1.2781
	BETA/(1000/K)	2.1	1.9	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2
.9000	V/(M3/KG)	.03847	.04050	.04245	.04433	.04615	.04793	.04966	.05135	.05301	.05464
	H/(KJ/KG)	1403.0	1485.4	1569.1	1654.2	1740.5	1828.0	1916.8	2006.8	2097.9	2190.1
	S/(KJ/KG K)	2.9172	3.0289	3.1387	3.2467	3.3529	3.4574	3.5604	3.6618	3.7616	3.8600
	C/(M/SEC)	178.7845	184.9721	190.6230	195.8337	200.6766	205.2076	209.4710	213.5025	217.3312	220.9816
	KAPPA/(1/MPA)	1.2432	1.2189	1.1999	1.1848	1.1727	1.1629	1.1549	1.1483	1.1429	1.1385
	BETA/(1000/K)	2.2	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2
1.0000	V/(M3/KG)	.03416	.03605	.03786	.03960	.04128	.04291	.04450	.04605	.04756	.04904
	H/(KJ/KG)	1400.8	1483.5	1567.4	1652.7	1739.1	1826.9	1915.8	2005.9	2097.1	2189.5
	S/(KJ/KG K)	2.9091	3.0212	3.1313	3.2395	3.3460	3.4507	3.5538	3.6554	3.7553	3.8538
	C/(M/SEC)	176.5272	183.0996	189.0585	194.5199	199.5696	204.2726	208.6800	212.8325	216.7630	220.4989
	KAPPA/(1/MPA)	1.1352	1.1096	1.0897	1.0741	1.0617	1.0516	1.0434	1.0367	1.0313	1.0268
	BETA/(1000/K)	2.3	2.1	1.9	1.7	1.6	1.5	1.4	1.3	1.3	1.2
2.0000	V/(M3/KG)	.01464	.01600	.01722	.01835	.01940	.02040	.02134	.02225	.02311	.02395
	H/(KJ/KG)	1376.4	1462.6	1549.3	1636.9	1725.3	1814.7	1905.1	1996.5	2089.0	2182.4
	S/(KJ/KG K)	2.8448	2.9617	3.0755	3.1866	3.2955	3.4022	3.5071	3.6101	3.7114	3.8110
	C/(M/SEC)	152.7387	164.0703	173.6192	181.8984	189.2195	195.7880	201.7478	207.2044	212.2375	216.9092
	KAPPA/(1/MPA)	.6752	.6299	.5997	.5780	.5619	.5495	.5397	.5319	.5256	.5205
	BETA/(1000/K)	3.9	3.2	2.7	2.4	2.1	1.9	1.7	1.6	1.5	1.4
3.0000	V/(M3/KG)	.00802	.00928	.01036	.01131	.01217	.01296	.01370	.01440	.01506	.01569
	H/(KJ/KG)	1346.5	1438.6	1529.3	1619.8	1710.6	1801.9	1893.9	1986.7	2080.4	2174.9
	S/(KJ/KG K)	2.7886	2.9135	3.0324	3.1473	3.2591	3.3681	3.4748	3.5794	3.6820	3.7829
	C/(M/SEC)	130.7949	146.7715	159.9481	171.0784	180.6928	189.1461	196.6822	203.4750	209.6530	215.3137
	KAPPA/(1/MPA)	.5435	.4780	.4382	.4117	.3930	.3791	.3685	.3601	.3535	.3480
	BETA/(1000/K)	6.9	5.0	3.9	3.2	2.7	2.4	2.1	1.9	1.7	1.6
4.0000	V/(M3/KG)	.00503	.00608	.00703	.00787	.00863	.00932	.00995	.01054	.01110	.01163
	H/(KJ/KG)	1315.8	1413.4	1508.4	1602.1	1695.4	1788.7	1882.4	1976.7	2071.6	2167.2
	S/(KJ/KG K)	2.7374	2.8698	2.9944	3.1135	3.2283	3.3397	3.4484	3.5546	3.6586	3.7605
	C/(M/SEC)	128.5847	139.6172	152.3372	164.4057	175.3064	185.0619	193.8146	201.7132	208.8867	215.4414
	KAPPA/(1/MPA)	.3738	.3637	.3400	.3187	.3020	.2891	.2790	.2710	.2646	.2594
	BETA/(1000/K)	8.7	6.6	5.1	4.0	3.3	2.8	2.5	2.2	1.9	1.8

THERMODYNAMIC PROPERTIES OF UNDECANE

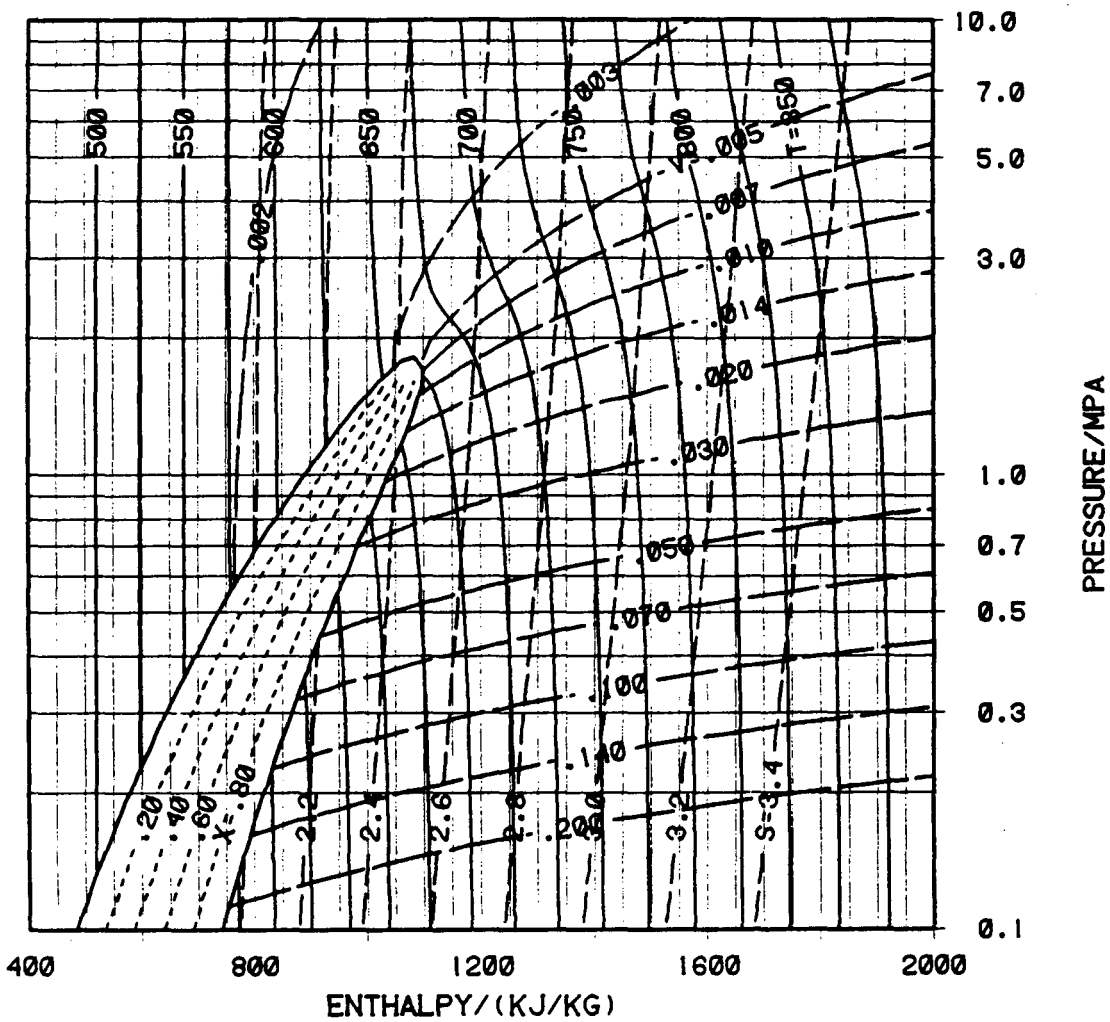
TEMPERATURES/(K)

P/(MPA)		470.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000
5.0000	V/(M3/KG)	.00164	.00165	.00171	.00178	.00187	.00196	.00208	.00222	.00242	.00271	.00316
	H/(KJ/KG)	433.0	447.6	522.3	599.0	677.4	757.4	839.4	925.0	1005.9	1099.8	1196.4
	S/(KJ/KG K)	1.2540	1.2850	1.4381	1.5878	1.7337	1.8760	2.0156	2.1553	2.2822	2.4239	2.5645
	C/(M/SEC)	775.7644	761.4520	689.9381	618.6661	547.7822	477.2207	406.7394	336.3234	267.9101	206.6330	164.4342
	KAPPA/(1/MPA)	.0033	.0034	.0043	.0055	.0074	.0102	.0148	.0231	.0400	.0770	.1442
	BETA/(1000/K)	1.5	1.5	1.6	1.7	1.9	2.1	2.5	3.0	3.9	5.3	6.9
6.0000	V/(M3/KG)	.00163	.00164	.00170	.00177	.00185	.00194	.00205	.00217	.00234	.00255	.00284
	H/(KJ/KG)	433.5	448.1	522.6	599.2	677.4	757.1	838.6	923.4	1002.9	1094.4	1187.3
	S/(KJ/KG K)	1.2517	1.2826	1.4354	1.5848	1.7303	1.8720	2.0108	2.1492	2.2740	2.4120	2.5473
	C/(M/SEC)	780.9101	767.0997	698.1968	629.8107	562.2424	495.6685	430.1235	365.9397	305.1048	250.7318	207.2081
	KAPPA/(1/MPA)	.0032	.0033	.0042	.0053	.0069	.0093	.0129	.0189	.0292	.0477	.0785
	BETA/(1000/K)	1.4	1.4	1.5	1.7	1.8	2.0	2.2	2.6	3.1	3.9	4.8
7.0000	V/(M3/KG)	.00162	.00164	.00170	.00176	.00184	.00192	.00202	.00214	.00228	.00245	.00267
	H/(KJ/KG)	434.1	448.7	523.0	599.5	677.4	756.8	838.0	922.2	1000.9	1091.0	1182.0
	S/(KJ/KG K)	1.2494	1.2802	1.4329	1.5819	1.7271	1.8682	2.0064	2.1439	2.2673	2.4033	2.5357
	C/(M/SEC)	785.8828	772.5601	706.1649	640.4868	575.9565	512.8692	451.4191	392.0391	336.5845	287.2124	245.5823
	KAPPA/(1/MPA)	.0032	.0033	.0040	.0051	.0065	.0085	.0115	.0160	.0231	.0343	.0513
	BETA/(1000/K)	1.4	1.4	1.5	1.6	1.7	1.9	2.1	2.4	2.7	3.2	3.7
8.0000	V/(M3/KG)	.00162	.00163	.00169	.00176	.00183	.00191	.00200	.00211	.00223	.00238	.00255
	H/(KJ/KG)	434.6	449.2	523.5	599.8	677.6	756.7	837.6	921.4	999.4	1088.6	1178.4
	S/(KJ/KG K)	1.2471	1.2779	1.4303	1.5792	1.7240	1.8647	2.0023	2.1391	2.2615	2.3962	2.5269
	C/(M/SEC)	790.6884	777.8400	713.8610	650.7393	588.9952	529.0191	471.0548	415.5418	364.1941	318.6243	279.2495
	KAPPA/(1/MPA)	.0031	.0032	.0039	.0049	.0062	.0079	.0104	.0140	.0192	.0267	.0375
	BETA/(1000/K)	1.4	1.4	1.5	1.6	1.7	1.8	2.0	2.2	2.4	2.7	3.1
9.0000	V/(M3/KG)	.00161	.00163	.00168	.00175	.00182	.00189	.00198	.00208	.00219	.00232	.00247
	H/(KJ/KG)	435.2	449.8	523.9	600.1	677.7	756.7	837.3	920.7	998.3	1086.9	1175.9
	S/(KJ/KG K)	1.2449	1.2757	1.4279	1.5765	1.7210	1.8614	1.9985	2.1348	2.2565	2.3902	2.5197
	C/(M/SEC)	795.3339	782.9473	721.3004	660.6023	601.4400	544.2547	489.3246	437.0394	388.9757	346.4194	309.1338
	KAPPA/(1/MPA)	.0030	.0032	.0038	.0047	.0058	.0074	.0095	.0124	.0164	.0219	.0293
	BETA/(1000/K)	1.4	1.4	1.4	1.5	1.6	1.7	1.8	2.0	2.2	2.4	2.7
10.0000	V/(M3/KG)	.00161	.00162	.00168	.00174	.00181	.00188	.00196	.00205	.00216	.00227	.00241
	H/(KJ/KG)	435.8	450.3	524.4	600.5	678.0	756.8	837.1	920.3	997.5	1085.6	1174.1
	S/(KJ/KG K)	1.2427	1.2735	1.4255	1.5739	1.7181	1.8582	1.9950	2.1308	2.2519	2.3849	2.5135
	C/(M/SEC)	799.8180	787.8829	728.4954	670.1027	613.3459	558.6994	506.4347	456.9196	411.5722	371.4963	336.0521
	KAPPA/(1/MPA)	.0030	.0031	.0037	.0045	.0056	.0069	.0088	.0112	.0144	.0186	.0240
	BETA/(1000/K)	1.3	1.4	1.4	1.5	1.6	1.6	1.8	1.9	2.0	2.2	2.4

THERMODYNAMIC PROPERTIES OF UNDECANE

TEMPERATURES/(K)

P/(MPA)		725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.00379	.00450	.00524	.00594	.00660	.00720	.00776	.00829	.00878	.00924
	H/(KJ/KG)	1294.6	1392.4	1489.3	1585.3	1680.6	1775.8	1871.0	1966.6	2062.7	2159.4
	S/(KJ/KG K)	2.7023	2.8349	2.9620	3.0839	3.2012	3.3149	3.4253	3.5331	3.6383	3.7414
	C/(M/SEC)	149.0371	148.9319	155.4572	164.7488	174.7436	184.4958	193.6562	202.1378	209.9566	217.1646
	KAPPA/(1/MPA)	.2072	.2402	.2489	.2450	.2369	.2284	.2209	.2144	.2090	.2044
	BETA/(1000/K)	7.3	6.5	5.5	4.6	3.8	3.2	2.8	2.4	2.2	1.9
6.0000	V/(M3/KG)	.00324	.00372	.00425	.00480	.00535	.00587	.00637	.00683	.00727	.00768
	H/(KJ/KG)	1282.1	1377.9	1474.3	1570.9	1667.3	1763.7	1860.2	1957.0	2054.1	2151.7
	S/(KJ/KG K)	2.6802	2.8102	2.9366	3.0592	3.1779	3.2931	3.4049	3.5140	3.6204	3.7245
	C/(M/SEC)	180.5886	169.7846	168.7056	172.9404	179.9470	188.1548	196.6588	204.9958	212.9564	220.4621
	KAPPA/(1/MPA)	.1176	.1511	.1722	.1818	.1836	.1814	.1777	.1736	.1697	.1662
	BETA/(1000/K)	5.5	5.5	5.2	4.6	4.0	3.5	3.0	2.6	2.3	2.1
7.0000	V/(M3/KG)	.00295	.00329	.00368	.00411	.00455	.00500	.00543	.00584	.00623	.00660
	H/(KJ/KG)	1274.4	1368.3	1463.5	1559.5	1656.1	1753.1	1850.3	1947.9	2045.9	2144.3
	S/(KJ/KG K)	2.6654	2.7927	2.9175	3.0395	3.1584	3.2742	3.3869	3.4969	3.6043	3.7092
	C/(M/SEC)	215.0602	196.8547	188.7713	187.5147	190.5401	196.0961	202.9825	210.4258	217.9670	225.3545
	KAPPA/(1/MPA)	.0739	.0981	.1185	.1325	.1402	.1433	.1435	.1421	.1400	.1377
	BETA/(1000/K)	4.2	4.5	4.5	4.3	3.9	3.5	3.1	2.8	2.5	2.2
8.0000	V/(M3/KG)	.00277	.00303	.00333	.00367	.00403	.00440	.00477	.00513	.00548	.00582
	H/(KJ/KG)	1269.4	1361.8	1455.7	1550.8	1647.0	1744.0	1841.6	1939.7	2038.3	2137.3
	S/(KJ/KG K)	2.6545	2.7798	2.9029	3.0238	3.1422	3.2580	3.3712	3.4817	3.5897	3.6953
	C/(M/SEC)	247.9789	225.9497	212.6936	206.4926	205.4046	207.8067	212.4428	218.3860	224.9931	231.8484
	KAPPA/(1/MPA)	.0516	.0678	.0838	.0972	.1069	.1128	.1158	.1167	.1164	.1155
	BETA/(1000/K)	3.4	3.7	3.8	3.8	3.6	3.4	3.1	2.8	2.5	2.3
9.0000	V/(M3/KG)	.00265	.00286	.00310	.00337	.00367	.00398	.00430	.00462	.00493	.00523
	H/(KJ/KG)	1265.9	1357.2	1450.0	1544.2	1639.8	1736.5	1834.1	1932.4	2031.3	2130.8
	S/(KJ/KG K)	2.6460	2.7698	2.8915	3.0112	3.1288	3.2443	3.3574	3.4682	3.5766	3.6827
	C/(M/SEC)	278.2462	254.5425	238.0563	228.0283	223.2579	222.4901	224.6020	228.6599	233.9362	239.9016
	KAPPA/(1/MPA)	.0388	.0500	.0618	.0729	.0822	.0891	.0937	.0962	.0973	.0975
	BETA/(1000/K)	2.9	3.2	3.3	3.4	3.3	3.2	3.0	2.7	2.5	2.3
10.0000	V/(M3/KG)	.00256	.00274	.00294	.00316	.00341	.00367	.00395	.00423	.00451	.00478
	H/(KJ/KG)	1263.3	1353.8	1445.8	1539.2	1634.2	1730.4	1827.8	1926.1	2025.2	2124.9
	S/(KJ/KG K)	2.6388	2.7615	2.8821	3.0008	3.1177	3.2326	3.3455	3.4563	3.5649	3.6713
	C/(M/SEC)	305.9422	281.6564	263.3238	250.6258	242.8927	239.2728	238.8850	240.8999	244.6008	249.4083
	KAPPA/(1/MPA)	.0308	.0388	.0475	.0564	.0644	.0711	.0762	.0797	.0818	.0828
	BETA/(1000/K)	2.6	2.8	2.9	3.0	3.0	2.9	2.8	2.7	2.5	2.3


10.0
7.0
5.0
3.0
1.0
0.7
0.5
0.3
0.1
PRESSURE/MPA
400
800
1200
1600
2000
ENTHALPY/(KJ/KG)
500
550
600
650
700
750
800
T=850
.002
.003
.005
.007
.010
.014
.020
.030
.050
.070
.100
.140
.200
.20
.40
.60
X=.80
2.2
2.4
2.6
2.8
3.0
3.2
S=3.4

DODECANE

PROPERTIES OF SATURATED DODECANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
490.00000	.10532	.00169	.21274	489.57915	257.81419	747.39334	1.41827	.52615	1.94442
495.00000	.11838	.00170	.18993	504.61535	254.51150	759.12685	1.44876	.51416	1.96292
500.00000	.13266	.00172	.16996	519.75869	251.13966	770.89835	1.47915	.50228	1.98143
505.00000	.14826	.00173	.15242	535.00563	247.69832	782.70395	1.50944	.49049	1.99993
510.00000	.16524	.00174	.13698	550.35175	244.18795	794.53969	1.53962	.47880	2.01842
515.00000	.18369	.00176	.12335	565.79597	240.60519	806.40116	1.56969	.46719	2.03688
520.00000	.20369	.00178	.11128	581.33397	236.95023	818.28420	1.59965	.45567	2.05532
525.00000	.22533	.00179	.10056	596.96269	233.22173	830.18442	1.62948	.44423	2.07372
530.00000	.24870	.00181	.09102	612.67924	229.41799	842.09723	1.65920	.43286	2.09206
535.00000	.27388	.00183	.08251	628.48098	225.53686	854.01784	1.68879	.42156	2.11035
540.00000	.30098	.00184	.07490	644.36565	221.57560	865.94125	1.71825	.41033	2.12857
545.00000	.33009	.00186	.06807	660.33141	217.53078	877.86218	1.74758	.39914	2.14672
550.00000	.36130	.00188	.06194	676.37689	213.39811	889.77500	1.77678	.38800	2.16477
555.00000	.39473	.00190	.05641	692.50137	209.17230	901.67367	1.80585	.37689	2.18274
560.00000	.43048	.00192	.05142	708.70488	204.84678	913.55165	1.83479	.36580	2.20059
565.00000	.46867	.00194	.04691	724.98823	200.41357	925.40180	1.86361	.35471	2.21832
570.00000	.50940	.00197	.04282	741.35333	195.86288	937.21621	1.89230	.34362	2.23592
575.00000	.55281	.00199	.03911	757.80325	191.18277	948.98603	1.92089	.33249	2.25338
580.00000	.59903	.00202	.03573	774.34246	186.35882	960.70128	1.94937	.32131	2.27067
585.00000	.64818	.00204	.03264	790.97713	181.37336	972.35048	1.97775	.31004	2.28779
590.00000	.70041	.00207	.02981	807.71585	176.20436	983.92021	2.00606	.29865	2.30471
595.00000	.75588	.00210	.02723	824.56796	170.82710	995.39506	2.03431	.28710	2.32141
600.00000	.81474	.00213	.02485	841.54857	165.20715	1006.75573	2.06252	.27535	2.33786
605.00000	.87717	.00217	.02266	858.67436	159.30497	1017.97933	2.09072	.26331	2.35403
610.00000	.94334	.00221	.02063	875.96749	153.06950	1029.03699	2.11895	.25093	2.36988
615.00000	1.01344	.00225	.01875	893.45648	146.43529	1039.89177	2.14725	.23811	2.38535
620.00000	1.08770	.00229	.01700	911.17830	139.31666	1050.49496	2.17567	.22470	2.40038
625.00000	1.16632	.00235	.01536	929.18170	131.59828	1060.77998	2.20430	.21056	2.41486
630.00000	1.24954	.00240	.01382	947.53314	123.11865	1070.65179	2.23323	.19543	2.42866
635.00000	1.33763	.00247	.01235	966.32766	113.63788	1079.96553	2.26261	.17896	2.44156
640.00000	1.43086	.00255	.01093	985.70897	102.77297	1088.48194	2.29264	.16058	2.45322
645.00000	1.52954	.00266	.00952	1005.91966	89.83094	1095.75059	2.32370	.13927	2.46297
650.00000	1.63397	.00281	.00805	1027.44818	73.26293	1100.71111	2.35650	.11271	2.46921
655.00000	1.74453	.00308	.00624	1051.76048	47.17662	1098.93710	2.39326	.07203	2.46529
658.26000	1.86158	.00425	.00425	1079.98204	0.	1079.98204	2.43556	0.	2.43556

THERMODYNAMIC PROPERTIES OF DODECANE

TEMPERATURES/(K)

P/(MPA)		490.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000
.1000	V/(M3/KG)	.22487	.23027	.24379	.25726	.27066	.28398	.29720	.31032	.32335	.33629
	H/(KJ/KG)	747.6	772.2	835.5	901.0	968.8	1038.6	1110.4	1184.1	1259.6	1336.8
	S/(KJ/KG K)	1.9472	1.9970	2.1204	2.2423	2.3628	2.4816	2.5988	2.7144	2.8284	2.9407
	C/(M/SEC)	146.9765	148.9993	153.9279	158.6667	163.2173	167.5880	171.7899	175.8357	179.7377	183.5079
	KAPPA/(1/MPA)	10.6699	10.6280	10.5328	10.4506	10.3806	10.3212	10.2710	10.2288	10.1932	10.1634
	BETA/(1000/K)	2.4	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5
.1013	V/(M3/KG)	.22173	.22707	.24043	.25374	.26699	.28014	.29320	.30617	.31904	.33182
	H/(KJ/KG)	747.6	772.2	835.4	901.0	968.7	1038.5	1110.3	1184.0	1259.5	1336.8
	S/(KJ/KG K)	1.9465	1.9963	2.1197	2.2416	2.3621	2.4809	2.5981	2.7137	2.8277	2.9401
	C/(M/SEC)	146.8447	148.8747	153.8201	158.5737	163.1372	167.5190	171.7306	175.7847	179.6939	183.4701
	KAPPA/(1/MPA)	10.5406	10.4986	10.4029	10.3205	10.2502	10.1907	10.1405	10.0981	10.0626	10.0328
	BETA/(1000/K)	2.4	2.4	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5
.2000	V/(M3/KG)	.00169	.00172	.11512	.12263	.13004	.13733	.14450	.15156	.15852	.16537
	H/(KJ/KG)	489.6	519.8	831.3	897.0	965.0	1035.0	1107.1	1181.0	1256.8	1334.3
	S/(KJ/KG K)	1.4180	1.4790	2.0810	2.2033	2.3241	2.4434	2.5610	2.6770	2.7914	2.9041
	C/(M/SEC)	743.2026	708.9717	145.2791	151.3001	156.9367	162.2275	167.2097	171.9176	176.3818	180.6291
	KAPPA/(1/MPA)	.0038	.0042	5.6161	5.5066	5.4183	5.3467	5.2883	5.2405	5.2012	5.1688
	BETA/(1000/K)	1.6	1.7	2.6	2.4	2.3	2.1	2.0	1.8	1.7	1.6
.3000	V/(M3/KG)	.00169	.00171	.00179	.07744	.08295	.08830	.09351	.09858	.10353	.10837
	H/(KJ/KG)	489.6	519.8	597.0	892.7	960.9	1031.3	1103.7	1177.9	1254.0	1331.7
	S/(KJ/KG K)	1.4177	1.4787	1.6292	2.1778	2.2991	2.4189	2.5371	2.6535	2.7683	2.8814
	C/(M/SEC)	743.6460	709.5493	623.0170	143.0772	150.1040	156.5082	162.3956	167.8473	172.9276	177.6881
	KAPPA/(1/MPA)	.0038	.0042	.0057	3.9154	3.7995	3.7108	3.6418	3.5871	3.5433	3.5079
	BETA/(1000/K)	1.6	1.7	1.9	2.9	2.6	2.4	2.2	2.0	1.9	1.8
.4000	V/(M3/KG)	.00169	.00171	.00179	.00188	.05920	.06366	.06792	.07203	.07600	.07985
	H/(KJ/KG)	489.7	519.8	597.0	676.4	956.6	1027.4	1100.1	1174.7	1251.1	1329.1
	S/(KJ/KG K)	1.4175	1.4784	1.6289	1.7766	2.2794	2.3999	2.5186	2.6357	2.7509	2.8645
	C/(M/SEC)	744.0878	710.1249	623.9707	535.3355	142.5571	150.3522	157.3094	163.6060	169.3660	174.6806
	KAPPA/(1/MPA)	.0038	.0042	.0056	.0080	3.0289	2.9155	2.8320	2.7687	2.7196	2.6809
	BETA/(1000/K)	1.6	1.7	1.9	2.1	3.1	2.7	2.5	2.2	2.1	1.9
.5000	V/(M3/KG)	.00169	.00171	.00179	.00188	.04474	.04874	.05249	.05605	.05945	.06271
	H/(KJ/KG)	489.7	519.9	597.0	676.3	951.8	1023.1	1096.3	1171.3	1248.1	1326.4
	S/(KJ/KG K)	1.4172	1.4781	1.6286	1.7762	2.2620	2.3835	2.5031	2.6207	2.7365	2.8505
	C/(M/SEC)	741.5252	707.9075	624.9205	536.7707	134.0408	143.6498	151.9018	159.1710	165.6865	171.6018
	KAPPA/(1/MPA)	.0037	.0042	.0056	.0080	2.6161	2.4637	2.3603	2.2859	2.2303	2.1876
	BETA/(1000/K)	1.6	1.7	1.8	2.1	3.7	3.2	2.8	2.5	2.2	2.0
.6000	V/(M3/KG)	.00168	.00171	.00179	.00188	.00199	.03866	.04212	.04535	.04838	.05127
	H/(KJ/KG)	489.8	519.9	597.0	676.3	757.8	1018.5	1092.4	1167.8	1245.0	1323.7
	S/(KJ/KG K)	1.4169	1.4778	1.6282	1.7758	1.9206	2.3686	2.4892	2.6076	2.7240	2.8385
	C/(M/SEC)	743.1655	709.6805	624.4216	538.1978	446.2644	136.2391	146.1076	154.5145	161.8771	168.4466
	KAPPA/(1/MPA)	.0037	.0042	.0056	.0079	.0123	2.1940	2.0614	1.9725	1.9090	1.8617
	BETA/(1000/K)	1.6	1.7	1.8	2.1	2.6	3.7	3.2	2.8	2.4	2.2

THERMODYNAMIC PROPERTIES OF DODECANE

TEMPERATURES/(K)

P/(MPA)		725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	.34914	.36191	.37461	.38724	.39981	.41233	.42479	.43720	.44958	.46191
	H/(KJ/KG)	1415.7	1496.2	1578.2	1661.7	1746.6	1832.9	1920.4	2009.3	2099.3	2190.6
	S/(KJ/KG K)	3.0515	3.1606	3.2682	3.3742	3.4787	3.5817	3.6833	3.7834	3.8821	3.9794
	C/(M/SEC)	187.1572	190.6959	194.1332	197.4774	200.7359	203.9156	207.0224	210.0618	213.0386	215.9573
	KAPPA/(1/MPA)	10.1385	10.1176	10.1002	10.0858	10.0738	10.0640	10.0560	10.0495	10.0443	10.0403
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1
.1013	V/(M3/KG)	.34451	.35712	.36966	.38213	.39454	.40690	.41920	.43146	.44367	.45585
	H/(KJ/KG)	1415.7	1496.2	1578.2	1661.7	1746.6	1832.9	1920.4	2009.3	2099.3	2190.5
	S/(KJ/KG K)	3.0508	3.1600	3.2675	3.3736	3.4781	3.5811	3.6826	3.7827	3.8814	3.9787
	C/(M/SEC)	187.1247	190.6678	194.1088	197.4562	200.7174	203.8992	207.0079	210.0487	213.0267	215.9462
	KAPPA/(1/MPA)	10.0078	9.9869	9.9694	9.9550	9.9430	9.9332	9.9252	9.9187	9.9135	9.9095
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1
.2000	V/(M3/KG)	.17214	.17882	.18542	.19196	.19843	.20485	.21121	.21753	.22380	.23004
	H/(KJ/KG)	1413.4	1494.2	1576.4	1660.1	1745.2	1831.6	1919.4	2008.4	2098.6	2189.9
	S/(KJ/KG K)	3.0152	3.1246	3.2325	3.3388	3.4435	3.5468	3.6485	3.7488	3.8476	3.9451
	C/(M/SEC)	184.6830	188.5641	192.2904	195.8774	199.3389	202.6869	205.9319	209.0833	212.1493	215.1372
	KAPPA/(1/MPA)	5.1421	5.1200	5.1017	5.0866	5.0742	5.0641	5.0558	5.0491	5.0438	5.0396
	BETA/(1000/K)	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.2	1.1	1.1
.3000	V/(M3/KG)	.11312	.11778	.12236	.12686	.13131	.13569	.14002	.14431	.14855	.15276
	H/(KJ/KG)	1411.1	1492.1	1574.6	1658.5	1743.8	1830.4	1918.3	2007.5	2097.8	2189.3
	S/(KJ/KG K)	2.9929	3.1027	3.2108	3.3174	3.4224	3.5258	3.6277	3.7282	3.8272	3.9248
	C/(M/SEC)	182.1711	186.4115	190.4386	194.2772	197.9483	201.4701	204.8581	208.1257	211.2848	214.3456
	KAPPA/(1/MPA)	3.4792	3.4558	3.4366	3.4209	3.4080	3.3975	3.3890	3.3821	3.3766	3.3722
	BETA/(1000/K)	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.4000	V/(M3/KG)	.08359	.08725	.09082	.09431	.09775	.10112	.10444	.10771	.11094	.11413
	H/(KJ/KG)	1408.8	1490.0	1572.7	1656.8	1742.3	1829.1	1917.2	2006.5	2097.0	2188.7
	S/(KJ/KG K)	2.9763	3.0864	3.1949	3.3017	3.4069	3.5106	3.6127	3.7134	3.8126	3.9103
	C/(M/SEC)	179.6194	184.2371	188.5776	192.6768	196.5644	200.2653	203.8008	207.1888	210.4448	213.5822
	KAPPA/(1/MPA)	2.6499	2.6250	2.6049	2.5885	2.5751	2.5643	2.5555	2.5484	2.5427	2.5382
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1
.5000	V/(M3/KG)	.06587	.06892	.07189	.07478	.07761	.08038	.08309	.08575	.08837	.09096
	H/(KJ/KG)	1406.4	1487.9	1570.8	1655.2	1740.9	1827.9	1916.1	2005.6	2096.3	2188.0
	S/(KJ/KG K)	2.9628	3.0733	3.1820	3.2892	3.3946	3.4985	3.6009	3.7017	3.8010	3.8989
	C/(M/SEC)	177.0260	182.0402	186.7071	191.0761	195.1870	199.0726	202.7601	206.2724	209.6291	212.8467
	KAPPA/(1/MPA)	2.1542	2.1277	2.1065	2.0894	2.0756	2.0644	2.0553	2.0480	2.0421	2.0375
	BETA/(1000/K)	1.9	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1
.6000	V/(M3/KG)	.05404	.05670	.05927	.06176	.06419	.06655	.06886	.07112	.07334	.07552
	H/(KJ/KG)	1404.0	1485.7	1568.9	1653.5	1739.4	1826.6	1915.0	2004.7	2095.5	2187.4
	S/(KJ/KG K)	2.9512	3.0621	3.1712	3.2786	3.3843	3.4884	3.5910	3.6920	3.7915	3.8895
	C/(M/SEC)	174.3887	179.8202	184.8270	189.4752	193.8163	197.8918	201.7359	205.3765	208.8375	212.1388
	KAPPA/(1/MPA)	1.8255	1.7972	1.7749	1.7570	1.7427	1.7311	1.7218	1.7142	1.7082	1.7034
	BETA/(1000/K)	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1

THERMODYNAMIC PROPERTIES OF DODECANE

TEMPERATURES/(K)

P/(MPA)		490.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000
.7000	V/(M3/KG)	.00168	.00171	.00179	.00188	.00199	.03130	.03464	.03765	.04045	.04308
	H/(KJ/KG)	489.8	519.9	597.0	676.3	757.7	1013.5	1088.1	1164.2	1241.8	1320.9
	S/(KJ/KG K)	1.4167	1.4775	1.6279	1.7754	1.9201	2.3544	2.4763	2.5956	2.7127	2.8278
	C/(M/SEC)	744.8349	711.4844	626.6127	538.8897	448.3704	127.8636	139.8371	149.6020	157.9238	165.2092
	KAPPA/(1/MPA)	.0037	.0041	.0056	.0079	.0121	2.0449	1.8666	1.7578	1.6843	1.6316
	BETA/(1000/K)	1.6	1.6	1.8	2.1	2.5	4.5	3.6	3.1	2.7	2.4
.8000	V/(M3/KG)	.00168	.00171	.00179	.00188	.00199	.02559	.02893	.03184	.03447	.03692
	H/(KJ/KG)	489.8	520.0	597.0	676.2	757.6	1007.7	1083.5	1160.3	1238.4	1318.0
	S/(KJ/KG K)	1.4164	1.4772	1.6276	1.7750	1.9196	2.3400	2.4638	2.5843	2.7023	2.8180
	C/(M/SEC)	745.8388	712.4070	627.7466	541.0195	449.6454	118.0727	132.9622	144.3897	153.8105	161.8839
	KAPPA/(1/MPA)	.0037	.0041	.0055	.0078	.0120	2.0021	1.7442	1.6071	1.5210	1.4618
	BETA/(1000/K)	1.6	1.6	1.8	2.1	2.5	5.7	4.3	3.5	2.9	2.6
.9000	V/(M3/KG)	.00168	.00171	.00179	.00187	.00198	.00213	.02439	.02726	.02980	.03212
	H/(KJ/KG)	489.9	520.0	597.0	676.2	757.5	841.4	1078.4	1156.2	1235.0	1315.0
	S/(KJ/KG K)	1.4161	1.4770	1.6273	1.7746	1.9191	2.0619	2.4515	2.5735	2.6924	2.8088
	C/(M/SEC)	746.2726	712.9725	628.6725	542.4192	452.5330	354.7457	125.2875	138.8208	149.5183	158.4641
	KAPPA/(1/MPA)	.0037	.0041	.0055	.0078	.0118	.0211	1.6818	1.5022	1.3995	1.3326
	BETA/(1000/K)	1.6	1.6	1.8	2.1	2.5	3.3	5.1	3.9	3.2	2.8
1.0000	V/(M3/KG)	.00168	.00171	.00178	.00187	.00198	.00213	.02062	.02355	.02603	.02826
	H/(KJ/KG)	489.9	520.0	597.0	676.2	757.4	841.2	1072.7	1151.8	1231.4	1311.9
	S/(KJ/KG K)	1.4159	1.4767	1.6269	1.7743	1.9186	2.0612	2.4388	2.5628	2.6829	2.8001
	C/(M/SEC)	746.7048	713.5360	629.6029	543.8104	454.5825	357.2947	116.4890	132.8189	145.0248	154.9430
	KAPPA/(1/MPA)	.0037	.0041	.0055	.0077	.0117	.0206	1.6829	1.4334	1.3085	1.2321
	BETA/(1000/K)	1.6	1.6	1.8	2.1	2.5	3.3	6.3	4.5	3.6	3.0
2.0000	V/(M3/KG)	.00168	.00170	.00177	.00186	.00196	.00209	.00227	.00262	.00738	.01029
	H/(KJ/KG)	490.3	520.3	597.1	676.0	756.7	839.4	925.5	1020.1	1173.3	1273.0
	S/(KJ/KG K)	1.4132	1.4739	1.6238	1.7705	1.9140	2.0548	2.1954	2.3436	2.5746	2.7197
	C/(M/SEC)	750.9405	719.0555	638.6875	557.2866	474.0984	387.1629	291.8326	173.3625	81.1522	113.0502
	KAPPA/(1/MPA)	.0036	.0040	.0053	.0072	.0105	.0169	.0331	.1238	1.7214	.9439
	BETA/(1000/K)	1.5	1.6	1.7	2.0	2.3	2.8	4.0	9.4	23.8	8.4
3.0000	V/(M3/KG)	.00167	.00170	.00177	.00185	.00194	.00205	.00221	.00243	.00290	.00425
	H/(KJ/KG)	490.7	520.7	597.3	675.9	756.2	838.2	922.7	1012.0	1100.8	1215.7
	S/(KJ/KG K)	1.4107	1.4713	1.6207	1.7670	1.9097	2.0493	2.1874	2.3273	2.4612	2.6283
	C/(M/SEC)	755.0151	724.3865	647.4075	570.0420	492.0738	412.6414	330.0053	241.6990	144.2668	100.6148
	KAPPA/(1/MPA)	.0036	.0039	.0051	.0068	.0096	.0144	.0244	.0517	.1900	.5950
	BETA/(1000/K)	1.5	1.6	1.7	1.9	2.1	2.5	3.2	4.8	10.6	16.3
4.0000	V/(M3/KG)	.00166	.00169	.00176	.00183	.00192	.00203	.00216	.00233	.00259	.00305
	H/(KJ/KG)	491.2	521.1	597.5	675.9	755.8	837.3	920.9	1008.0	1090.4	1189.5
	S/(KJ/KG K)	1.4082	1.4687	1.6178	1.7636	1.9057	2.0444	2.1809	2.3176	2.4417	2.5859
	C/(M/SEC)	758.9420	729.5289	655.7927	582.1623	508.7896	435.4295	361.5627	287.3748	212.6515	151.8565
	KAPPA/(1/MPA)	.0035	.0038	.0049	.0064	.0088	.0126	.0195	.0337	.0693	.1666
	BETA/(1000/K)	1.5	1.5	1.6	1.8	2.0	2.3	2.8	3.6	5.2	8.0

THERMODYNAMIC PROPERTIES OF DODECANE

TEMPERATURES/(K)

P/(MPA)		725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.04558	.04796	.05025	.05246	.05460	.05668	.05870	.06067	.06260	.06449
	H/(KJ/KG)	1401.5	1483.5	1567.0	1651.8	1737.9	1825.3	1913.9	2003.7	2094.7	2186.7
	S/(KJ/KG K)	2.9409	3.0522	3.1616	3.2693	3.3753	3.4797	3.5824	3.6836	3.7833	3.8815
	C/(M/SEC)	171.7055	177.5762	182.9373	187.8742	192.4524	196.7232	200.7281	204.5009	208.0697	211.4582
	KAPPA/(1/MPA)	1.5923	1.5621	1.5386	1.5199	1.5051	1.4931	1.4835	1.4758	1.4696	1.4647
	BETA/(1000/K)	2.1	1.9	1.8	1.7	1.5	1.4	1.4	1.3	1.2	1.2
.8000	V/(M3/KG)	.03922	.04140	.04348	.04548	.04741	.04927	.05108	.05284	.05455	.05623
	H/(KJ/KG)	1398.9	1481.3	1565.0	1650.1	1736.4	1824.0	1912.8	2002.8	2093.8	2186.0
	S/(KJ/KG K)	2.9316	3.0433	3.1531	3.2611	3.3674	3.4719	3.5749	3.6763	3.7761	3.8744
	C/(M/SEC)	168.9742	175.3080	181.0381	186.2735	191.0956	195.5668	199.7368	203.6455	207.3256	210.8045
	KAPPA/(1/MPA)	1.4189	1.3867	1.3618	1.3424	1.3269	1.3146	1.3047	1.2968	1.2904	1.2854
	BETA/(1000/K)	2.3	2.1	1.9	1.7	1.6	1.5	1.4	1.3	1.2	1.2
.9000	V/(M3/KG)	.03427	.03630	.03822	.04005	.04182	.04352	.04516	.04675	.04830	.04981
	H/(KJ/KG)	1396.4	1479.0	1563.0	1648.3	1734.9	1822.7	1911.7	2001.8	2093.0	2185.4
	S/(KJ/KG K)	2.9230	3.0351	3.1453	3.2536	3.3601	3.4649	3.5681	3.6697	3.7697	3.8682
	C/(M/SEC)	166.1931	173.0151	179.1295	184.6733	189.7460	194.4229	198.7621	202.8102	206.6050	210.1774
	KAPPA/(1/MPA)	1.2856	1.2511	1.2248	1.2045	1.1885	1.1758	1.1656	1.1575	1.1510	1.1458
	BETA/(1000/K)	2.4	2.2	2.0	1.8	1.7	1.5	1.4	1.3	1.3	1.2
1.0000	V/(M3/KG)	.03030	.03221	.03400	.03571	.03734	.03891	.04042	.04188	.04330	.04467
	H/(KJ/KG)	1393.7	1476.7	1561.0	1646.6	1733.4	1821.4	1910.5	2000.8	2092.2	2184.7
	S/(KJ/KG K)	2.9149	3.0275	3.1380	3.2467	3.3535	3.4585	3.5619	3.6637	3.7638	3.8625
	C/(M/SEC)	163.3601	170.6974	177.2119	183.0739	188.4042	193.2916	197.8040	201.9950	205.9075	209.5766
	KAPPA/(1/MPA)	1.1805	1.1434	1.1157	1.0945	1.0779	1.0648	1.0543	1.0460	1.0393	1.0340
	BETA/(1000/K)	2.6	2.3	2.1	1.9	1.7	1.6	1.5	1.4	1.3	1.2
2.0000	V/(M3/KG)	.01216	.01367	.01498	.01616	.01724	.01823	.01916	.02004	.02087	.02167
	H/(KJ/KG)	1362.9	1451.1	1539.3	1627.9	1717.2	1807.4	1898.5	1990.5	2083.5	2177.3
	S/(KJ/KG K)	2.8459	2.9655	3.0811	3.1937	3.3036	3.4113	3.5169	3.6206	3.7225	3.8226
	C/(M/SEC)	132.2645	146.4500	157.8233	167.3538	175.5631	182.7683	189.1793	194.9435	200.1692	204.9386
	KAPPA/(1/MPA)	.7685	.6861	.6374	.6050	.5820	.5649	.5518	.5416	.5335	.5270
	BETA/(1000/K)	5.4	4.1	3.3	2.8	2.4	2.1	1.9	1.7	1.6	1.4
3.0000	V/(M3/KG)	.00597	.00743	.00864	.00967	.01058	.01140	.01216	.01285	.01350	.01411
	H/(KJ/KG)	1322.4	1420.4	1514.6	1607.3	1699.8	1792.5	1885.7	1979.5	2074.0	2169.3
	S/(KJ/KG K)	2.7782	2.9111	3.0345	3.1524	3.2662	3.3769	3.4849	3.5906	3.6942	3.7958
	C/(M/SEC)	109.6865	126.0368	141.0888	153.9024	164.8448	174.3206	182.6375	190.0204	196.6350	202.6067
	KAPPA/(1/MPA)	.6217	.5415	.4812	.4416	.4145	.3950	.3805	.3693	.3605	.3535
	BETA/(1000/K)	10.8	7.1	5.1	4.0	3.3	2.8	2.4	2.1	1.9	1.7
4.0000	V/(M3/KG)	.00382	.00475	.00569	.00656	.00736	.00808	.00873	.00933	.00989	.01041
	H/(KJ/KG)	1291.1	1391.5	1489.7	1586.3	1681.9	1777.2	1872.5	1968.1	2064.2	2160.8
	S/(KJ/KG K)	2.7286	2.8646	2.9935	3.1162	3.2339	3.3476	3.4581	3.5658	3.6711	3.7742
	C/(M/SEC)	127.9952	128.3681	136.7963	147.9021	159.1367	169.6035	179.1088	187.6890	195.4418	202.4705
	KAPPA/(1/MPA)	.2909	.3459	.3510	.3355	.3173	.3015	.2886	.2783	.2700	.2633
	BETA/(1000/K)	9.2	8.0	6.4	5.1	4.1	3.4	2.9	2.5	2.2	1.9

THERMODYNAMIC PROPERTIES OF DODECANE

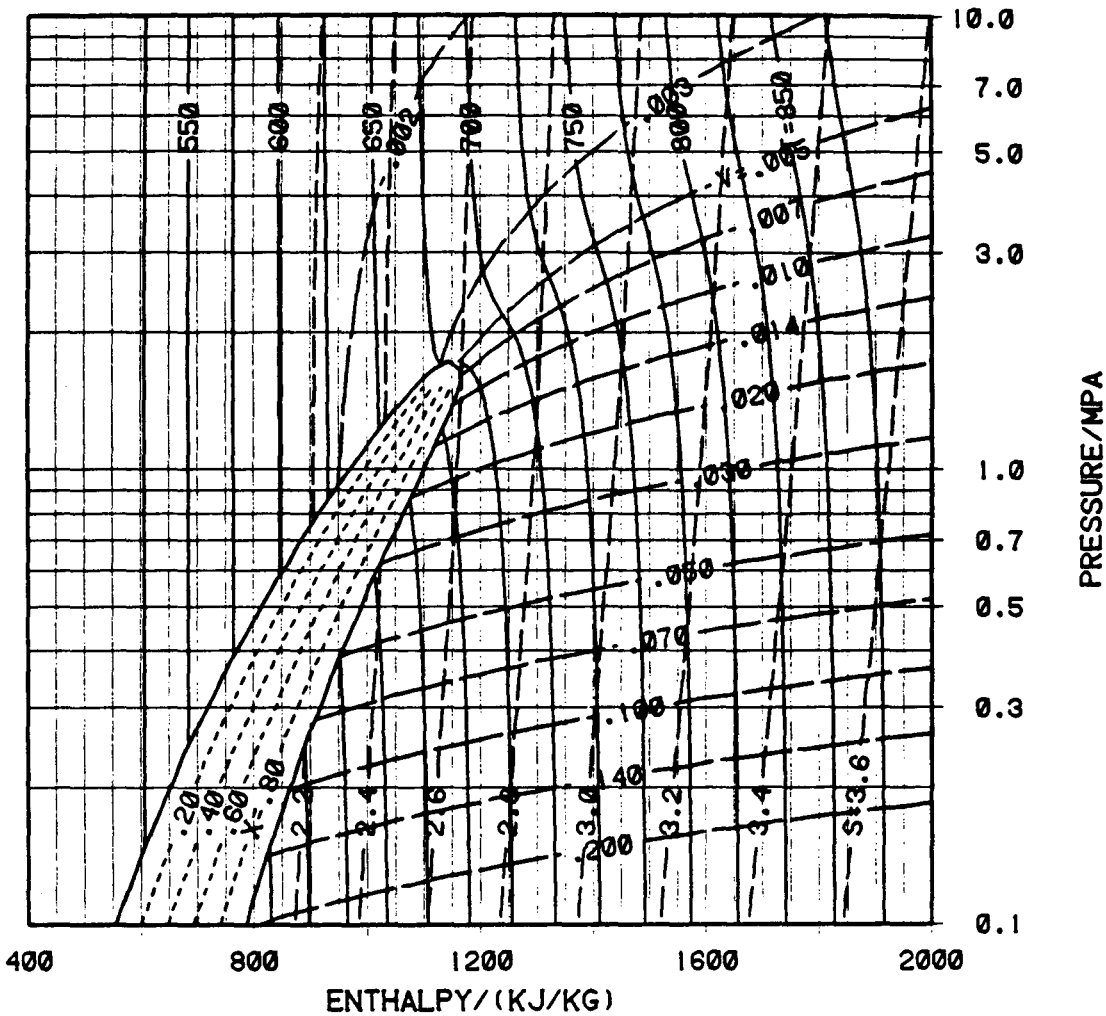
TEMPERATURES/(K)

P/(MPA)		490.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000
5.0000	V/(M3/KG)	.00166	.00168	.00175	.00182	.00191	.00200	.00212	.00227	.00246	.00273
	H/(KJ/KG)	491.6	521.5	597.8	676.0	755.6	836.6	919.6	1005.5	1085.6	1180.0
	S/(KJ/KG K)	1.4058	1.4661	1.6150	1.7604	1.9020	2.0400	2.1754	2.3102	2.4309	2.5682
	C/(M/SEC)	762.7183	734.4907	663.8664	593.7172	524.4471	456.1687	388.9043	323.6000	260.2146	206.0817
	KAPPA/(1/MPA)	.0034	.0037	.0047	.0061	.0081	.0113	.0163	.0253	.0423	.0760
	BETA/(1000/K)	1.4	1.5	1.6	1.7	1.9	2.1	2.4	2.9	3.7	4.8
6.0000	V/(M3/KG)	.00165	.00168	.00174	.00181	.00189	.00198	.00209	.00221	.00237	.00257
	H/(KJ/KG)	492.1	522.0	598.1	676.1	755.5	836.2	918.6	1003.8	1082.6	1175.0
	S/(KJ/KG K)	1.4034	1.4637	1.6123	1.7574	1.8985	2.0359	2.1705	2.3041	2.4229	2.5573
	C/(M/SEC)	766.3469	739.2775	671.6494	604.7686	539.2000	475.2821	413.2650	354.3015	298.0843	249.8808
	KAPPA/(1/MPA)	.0034	.0037	.0046	.0058	.0076	.0102	.0141	.0204	.0306	.0475
	BETA/(1000/K)	1.4	1.5	1.5	1.7	1.8	2.0	2.2	2.5	3.0	3.6
7.0000	V/(M3/KG)	.00165	.00167	.00173	.00180	.00188	.00196	.00206	.00217	.00231	.00247
	H/(KJ/KG)	492.7	522.4	598.5	676.3	755.5	835.9	917.9	1002.6	1080.6	1171.8
	S/(KJ/KG K)	1.4011	1.4613	1.6096	1.7544	1.8952	2.0321	2.1661	2.2988	2.4164	2.5491
	C/(M/SEC)	769.8298	743.8942	679.1583	615.3523	553.1723	493.0621	435.3825	381.2815	330.1734	286.4311
	KAPPA/(1/MPA)	.0033	.0036	.0044	.0056	.0071	.0093	.0125	.0171	.0240	.0342
	BETA/(1000/K)	1.4	1.4	1.5	1.6	1.7	1.9	2.0	2.3	2.6	2.9
8.0000	V/(M3/KG)	.00164	.00166	.00173	.00179	.00186	.00195	.00204	.00214	.00226	.00240
	H/(KJ/KG)	493.2	522.9	598.8	676.5	755.5	835.7	917.5	1001.7	1079.1	1169.6
	S/(KJ/KG K)	1.3988	1.4589	1.6071	1.7516	1.8921	2.0286	2.1620	2.2942	2.4109	2.5425
	C/(M/SEC)	773.1691	748.3454	686.4097	625.5159	566.4482	509.7226	455.7211	405.5489	358.3464	318.0574
	KAPPA/(1/MPA)	.0033	.0035	.0043	.0053	.0067	.0086	.0112	.0148	.0198	.0267
	BETA/(1000/K)	1.4	1.4	1.5	1.5	1.6	1.8	1.9	2.1	2.3	2.5
9.0000	V/(M3/KG)	.00164	.00166	.00172	.00178	.00185	.00193	.00201	.00211	.00222	.00234
	H/(KJ/KG)	493.7	523.5	599.3	676.8	755.7	835.7	917.2	1001.1	1078.1	1168.0
	S/(KJ/KG K)	1.3966	1.4566	1.6046	1.7489	1.8891	2.0253	2.1583	2.2899	2.4060	2.5369
	C/(M/SEC)	776.3681	752.6358	693.4178	635.2940	579.1147	525.4385	474.6274	427.7218	383.6587	346.1515
	KAPPA/(1/MPA)	.0032	.0034	.0042	.0051	.0064	.0080	.0102	.0131	.0169	.0219
	BETA/(1000/K)	1.3	1.4	1.4	1.5	1.6	1.7	1.8	1.9	2.1	2.3
10.0000	V/(M3/KG)	.00163	.00165	.00171	.00177	.00184	.00191	.00199	.00208	.00218	.00230
	H/(KJ/KG)	494.3	524.0	599.7	677.1	755.9	835.7	917.0	1000.6	1077.3	1166.8
	S/(KJ/KG K)	1.3944	1.4544	1.6021	1.7462	1.8862	2.0221	2.1548	2.2860	2.4016	2.5318
	C/(M/SEC)	779.4221	756.7666	700.1920	644.7137	591.2304	540.3216	492.3275	448.2255	406.7631	371.5634
	KAPPA/(1/MPA)	.0032	.0034	.0041	.0049	.0060	.0075	.0093	.0117	.0147	.0185
	BETA/(1000/K)	1.3	1.3	1.4	1.5	1.5	1.6	1.7	1.8	1.9	2.1

THERMODYNAMIC PROPERTIES OF DODECANE

TEMPERATURES/(K)

P/(MPA)		725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.00313	.00366	.00428	.00494	.00558	.00619	.00676	.00729	.00779	.00824
	H/(KJ/KG)	1275.9	1373.0	1470.5	1568.1	1665.4	1762.5	1859.6	1956.8	2054.3	2152.2
	S/(KJ/KG K)	2.7028	2.8344	2.9624	3.0863	3.2061	3.3221	3.4346	3.5441	3.6510	3.7554
	C/(M/SEC)	168.3813	152.0850	149.6147	153.9532	161.6435	170.6424	179.8178	188.6455	196.9251	204.6068
	KAPPA/(1/MPA)	.1316	.1871	.2221	.2367	.2378	.2325	.2253	.2181	.2117	.2061
	BETA/(1000/K)	6.0	6.4	6.0	5.3	4.5	3.8	3.3	2.8	2.4	2.2
6.0000	V/(M3/KG)	.00284	.00318	.00359	.00406	.00455	.00505	.00554	.00600	.00644	.00685
	H/(KJ/KG)	1268.0	1362.2	1457.8	1554.4	1651.8	1749.6	1847.7	1946.1	2044.7	2143.7
	S/(KJ/KG K)	2.6878	2.8156	2.9409	3.0636	3.1835	3.3003	3.4141	3.5249	3.6330	3.7386
	C/(M/SEC)	211.3663	186.2207	173.9399	170.6480	172.8923	178.3932	185.5895	193.4639	201.4256	209.1661
	KAPPA/(1/MPA)	.0735	.1060	.1364	.1585	.1710	.1756	.1754	.1728	.1692	.1655
	BETA/(1000/K)	4.2	4.8	4.9	4.8	4.4	3.9	3.4	3.0	2.6	2.3
7.0000	V/(M3/KG)	.00267	.00292	.00322	.00356	.00394	.00434	.00475	.00515	.00553	.00590
	H/(KJ/KG)	1263.2	1355.7	1449.5	1544.8	1641.4	1739.0	1837.5	1936.4	2035.8	2135.6
	S/(KJ/KG K)	2.6775	2.8028	2.9258	3.0468	3.1657	3.2824	3.3965	3.5080	3.6169	3.7234
	C/(M/SEC)	249.7044	221.9478	203.8353	194.1918	190.9489	192.1815	196.3499	202.2654	209.0769	216.2300
	KAPPA/(1/MPA)	.0488	.0675	.0880	.1068	.1213	.1306	.1353	.1367	.1362	.1346
	BETA/(1000/K)	3.3	3.7	4.0	4.1	4.0	3.7	3.4	3.1	2.7	2.4
8.0000	V/(M3/KG)	.00257	.00276	.00299	.00326	.00355	.00388	.00421	.00456	.00489	.00522
	H/(KJ/KG)	1260.1	1351.3	1443.8	1537.9	1633.6	1730.7	1828.9	1928.0	2027.8	2128.2
	S/(KJ/KG K)	2.6695	2.7932	2.9145	3.0340	3.1518	3.2677	3.3816	3.4933	3.6027	3.7098
	C/(M/SEC)	283.4021	255.4170	234.6643	220.9106	213.2302	210.4128	211.2503	214.6517	219.7062	225.7171
	KAPPA/(1/MPA)	.0360	.0477	.0612	.0750	.0875	.0974	.1042	.1081	.1099	.1101
	BETA/(1000/K)	2.8	3.1	3.3	3.5	3.5	3.4	3.2	3.0	2.7	2.5
9.0000	V/(M3/KG)	.00248	.00265	.00284	.00305	.00330	.00356	.00384	.00414	.00443	.00473
	H/(KJ/KG)	1257.8	1348.2	1439.8	1532.9	1627.7	1724.1	1821.9	1920.9	2020.8	2121.5
	S/(KJ/KG K)	2.6629	2.7855	2.9056	3.0239	3.1405	3.2556	3.3691	3.4806	3.5901	3.6975
	C/(M/SEC)	313.4069	285.9926	264.2557	248.1899	237.4251	231.3188	229.0805	229.8678	232.8672	237.3669
	KAPPA/(1/MPA)	.0283	.0363	.0455	.0554	.0652	.0740	.0810	.0859	.0890	.0907
	BETA/(1000/K)	2.5	2.7	2.9	3.0	3.1	3.1	3.0	2.9	2.7	2.5
10.0000	V/(M3/KG)	.00242	.00256	.00273	.00291	.00311	.00334	.00358	.00383	.00409	.00435
	H/(KJ/KG)	1256.1	1345.9	1436.8	1529.2	1623.2	1719.0	1816.3	1914.9	2014.8	2115.5
	S/(KJ/KG K)	2.6572	2.7789	2.8982	3.0155	3.1312	3.2455	3.3583	3.4695	3.5789	3.6864
	C/(M/SEC)	340.5177	313.9293	291.9864	274.7150	261.9693	253.4346	248.6488	247.0380	247.9626	250.7877
	KAPPA/(1/MPA)	.0233	.0290	.0356	.0429	.0505	.0577	.0640	.0690	.0727	.0751
	BETA/(1000/K)	2.2	2.4	2.5	2.7	2.7	2.8	2.8	2.7	2.6	2.4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5.0
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PRESSURE/MPA
400
800
1200
1600
2000
ENTHALPY/(KJ/KG)
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2.2
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2.8
3.0
3.2
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S=3.6

TRIDECANE

THERMODYNAMIC PROPERTIES OF TRIDECANE

TEMPERATURES/(K)

P/(MPA)		510.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
.1000	V/(M3/KG)	.19723	.20482	.21704	.22889	.24049	.25191	.26321	.27440	.28550	.29653
	H/(KJ/KG)	792.1	831.0	897.3	965.4	1035.4	1107.2	1180.8	1256.2	1333.3	1412.0
	S/(KJ/KG K)	2.0476	2.1228	2.2461	2.3672	2.4864	2.6036	2.7191	2.8329	2.9450	3.0554
	C/(M/SEC)	136.8005	139.9673	144.8303	149.3154	153.5239	157.5179	161.3376	165.0101	168.5544	171.9850
	KAPPA/(1/MPA)	10.8047	10.6985	10.5646	10.4658	10.3896	10.3288	10.2792	10.2379	10.2033	10.1739
	BETA/(1000/K)	2.6	2.4	2.2	2.0	1.9	1.8	1.7	1.6	1.6	1.5
.1013	V/(M3/KG)	.19444	.20195	.21404	.22576	.23722	.24851	.25967	.27072	.28169	.29259
	H/(KJ/KG)	792.0	830.9	897.2	965.3	1035.3	1107.2	1180.8	1256.2	1333.2	1411.9
	S/(KJ/KG K)	2.0469	2.1221	2.2455	2.3666	2.4858	2.6030	2.7185	2.8323	2.9444	3.0549
	C/(M/SEC)	136.6553	139.8389	144.7235	149.2250	153.4465	157.4513	161.2799	164.9599	168.5108	171.9471
	KAPPA/(1/MPA)	10.6762	10.5693	10.4349	10.3357	10.2593	10.1983	10.1486	10.1073	10.0726	10.0432
	BETA/(1000/K)	2.6	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.6	1.5
.2000	V/(M3/KG)	.00152	.00156	.10212	.10894	.11545	.12174	.12788	.13390	.13983	.14568
	H/(KJ/KG)	561.3	606.7	892.3	961.2	1031.7	1104.0	1177.9	1253.5	1330.8	1409.7
	S/(KJ/KG K)	1.5926	1.6805	2.2104	2.3329	2.4530	2.5709	2.6869	2.8010	2.9135	3.0242
	C/(M/SEC)	791.2110	729.9650	136.2710	142.1848	147.4890	152.3590	156.8996	161.1774	165.2369	169.1098
	KAPPA/(1/MPA)	.0031	.0037	5.6554	5.5223	5.4260	5.3528	5.2951	5.2485	5.2102	5.1783
	BETA/(1000/K)	1.6	1.7	2.8	2.4	2.2	2.0	1.9	1.8	1.7	1.6
.3000	V/(M3/KG)	.00152	.00156	.00163	.06868	.07359	.07824	.08270	.08703	.09125	.09538
	H/(KJ/KG)	561.3	606.7	684.5	956.6	1027.8	1100.5	1174.8	1250.7	1328.3	1407.4
	S/(KJ/KG K)	1.5924	1.6802	1.8249	2.3099	2.4311	2.5499	2.6664	2.7810	2.8938	3.0048
	C/(M/SEC)	790.5711	729.6177	628.8358	134.2799	140.9830	146.9087	152.2826	157.2384	161.8611	166.2085
	KAPPA/(1/MPA)	.0031	.0037	.0052	3.9318	3.8053	3.7149	3.6468	3.5937	3.5511	3.5164
	BETA/(1000/K)	1.6	1.7	1.9	3.0	2.6	2.3	2.1	2.0	1.8	1.7
.4000	V/(M3/KG)	.00152	.00156	.00163	.00172	.05250	.05639	.06005	.06355	.06693	.07022
	H/(KJ/KG)	561.3	606.8	684.5	764.6	1023.6	1096.9	1171.6	1247.9	1325.7	1405.0
	S/(KJ/KG K)	1.5921	1.6799	1.8246	1.9670	2.4137	2.5334	2.6507	2.7658	2.8790	2.9903
	C/(M/SEC)	789.9272	729.2656	629.0028	528.9439	133.8635	141.0998	147.4537	153.1768	158.4192	163.2772
	KAPPA/(1/MPA)	.0031	.0037	.0052	.0077	3.0320	2.9169	2.8351	2.7737	2.7261	2.6882
	BETA/(1000/K)	1.6	1.7	1.9	2.2	3.1	2.7	2.4	2.2	2.0	1.8
.5000	V/(M3/KG)	.00152	.00156	.00163	.00172	.03967	.04317	.04640	.04943	.05233	.05511
	H/(KJ/KG)	561.3	606.8	684.5	764.6	1018.9	1093.0	1168.2	1244.9	1323.0	1402.6
	S/(KJ/KG K)	1.5919	1.6797	1.8243	1.9666	2.3984	2.5193	2.6374	2.7531	2.8667	2.9784
	C/(M/SEC)	789.2793	728.9095	629.1646	529.7284	125.9075	134.8382	142.3704	148.9729	154.9016	160.3115
	KAPPA/(1/MPA)	.0031	.0037	.0052	.0076	2.6147	2.4614	2.3608	2.2891	2.2354	2.1937
	BETA/(1000/K)	1.6	1.7	1.9	2.2	3.7	3.1	2.7	2.4	2.2	2.0
.6000	V/(M3/KG)	.00152	.00156	.00163	.00172	.00182	.03426	.03724	.03998	.04257	.04503
	H/(KJ/KG)	561.4	606.8	684.5	764.5	846.9	1088.8	1164.7	1241.8	1320.3	1400.2
	S/(KJ/KG K)	1.5916	1.6794	1.8240	1.9662	2.1065	2.5064	2.6255	2.7419	2.8560	2.9682
	C/(M/SEC)	784.4078	725.1289	629.3213	530.5039	429.5615	127.9861	136.9765	144.6020	151.2973	157.3062
	KAPPA/(1/MPA)	.0031	.0037	.0052	.0076	.0123	2.1865	2.0587	1.9735	1.9124	1.8664
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.7	3.7	3.1	2.7	2.4	2.1

THERMODYNAMIC PROPERTIES OF TRIDECANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	.30750	.31841	.32927	.34007	.35084	.36156	.37224	.38288	.39349
	H/(KJ/KG)	1492.2	1574.0	1657.3	1741.9	1828.0	1915.3	2004.0	2093.8	2184.9
	S/(KJ/KG K)	3.1643	3.2715	3.3773	3.4815	3.5842	3.6855	3.7854	3.8839	3.9810
	C/(M/SEC)	175.3131	178.5475	181.6959	184.7647	187.7597	190.6859	193.5478	196.3496	199.0950
	KAPPA/(1/MPA)	10.1490	10.1277	10.1095	10.0939	10.0807	10.0695	10.0599	10.0519	10.0452
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1
.1013	V/(M3/KG)	.30342	.31419	.32491	.33558	.34621	.35680	.36734	.37785	.38832
	H/(KJ/KG)	1492.2	1574.0	1657.2	1741.9	1828.0	1915.3	2004.0	2093.8	2184.9
	S/(KJ/KG K)	3.1637	3.2710	3.3767	3.4809	3.5836	3.6849	3.7848	3.8833	3.9804
	C/(M/SEC)	175.2800	178.5188	181.6709	184.7430	187.7408	190.6694	193.5333	196.3369	199.0837
	KAPPA/(1/MPA)	10.0183	9.9969	9.9787	9.9632	9.9499	9.9387	9.9291	9.9211	9.9145
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1
.2000	V/(M3/KG)	.15146	.15717	.16284	.16845	.17401	.17953	.18501	.19046	.19587
	H/(KJ/KG)	1490.1	1572.1	1655.5	1740.3	1826.5	1914.0	2002.8	2092.8	2184.0
	S/(KJ/KG K)	3.1333	3.2408	3.3467	3.4511	3.5540	3.6555	3.7555	3.8541	3.9514
	C/(M/SEC)	172.8196	176.3844	179.8189	183.1353	186.3439	189.4536	192.4723	195.4071	198.2641
	KAPPA/(1/MPA)	5.1516	5.1291	5.1101	5.0940	5.0804	5.0689	5.0592	5.0511	5.0443
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.3000	V/(M3/KG)	.09944	.10343	.10736	.11125	.11508	.11887	.12262	.12633	.13001
	H/(KJ/KG)	1488.0	1570.2	1653.8	1738.7	1825.1	1912.7	2001.6	2091.8	2183.1
	S/(KJ/KG K)	3.1142	3.2219	3.3281	3.4327	3.5358	3.6374	3.7376	3.8364	3.9337
	C/(M/SEC)	170.3216	174.2312	177.9613	181.5314	184.9574	188.2529	191.4296	194.4979	197.4667
	KAPPA/(1/MPA)	3.4878	3.4640	3.4441	3.4274	3.4134	3.4016	3.3917	3.3835	3.3767
	BETA/(1000/K)	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.1
.4000	V/(M3/KG)	.07342	.07656	.07963	.08265	.08562	.08855	.09143	.09428	.09709
	H/(KJ/KG)	1485.9	1568.2	1652.0	1737.1	1823.6	1911.4	2000.5	2090.7	2182.2
	S/(KJ/KG K)	3.1000	3.2080	3.3143	3.4191	3.5224	3.6242	3.7246	3.8235	3.9210
	C/(M/SEC)	167.8172	172.0869	176.1224	179.9523	183.5995	187.0830	190.4190	193.6214	196.7021
	KAPPA/(1/MPA)	2.6574	2.6322	2.6114	2.5941	2.5797	2.5677	2.5576	2.5493	2.5425
	BETA/(1000/K)	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2
.5000	V/(M3/KG)	.05781	.06044	.06300	.06550	.06796	.07036	.07273	.07505	.07734
	H/(KJ/KG)	1483.7	1566.2	1650.2	1735.5	1822.2	1910.1	1999.3	2089.7	2181.3
	S/(KJ/KG K)	3.0884	3.1966	3.3032	3.4083	3.5117	3.6137	3.7142	3.8133	3.9110
	C/(M/SEC)	165.3041	169.9502	174.3015	178.3975	182.2697	185.9434	189.4397	192.7765	195.9693
	KAPPA/(1/MPA)	2.1606	2.1339	2.1121	2.0942	2.0793	2.0671	2.0569	2.0485	2.0415
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2
.6000	V/(M3/KG)	.04740	.04969	.05191	.05407	.05618	.05825	.06027	.06225	.06419
	H/(KJ/KG)	1481.5	1564.2	1648.4	1733.9	1820.7	1908.8	1998.1	2088.7	2180.4
	S/(KJ/KG K)	3.0785	3.1870	3.2938	3.3991	3.5028	3.6049	3.7056	3.8048	3.9026
	C/(M/SEC)	162.7800	167.8199	172.4976	176.8662	180.9672	184.8331	188.4908	191.9626	195.2675
	KAPPA/(1/MPA)	1.8307	1.8023	1.7795	1.7609	1.7457	1.7331	1.7228	1.7143	1.7073
	BETA/(1000/K)	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2

THERMODYNAMIC PROPERTIES OF TRIDECANE

TEMPERATURES/(K)

P/(MPA)		510.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
.7000	V/(M3/KG)	.00152	.00156	.00163	.00171	.00182	.02777	.03063	.03320	.03558	.03782
	H/(KJ/KG)	561.4	606.8	684.5	764.5	846.8	1084.1	1160.9	1238.5	1317.4	1397.6
	S/(KJ/KG K)	1.5914	1.6791	1.8236	1.9658	2.1060	2.4941	2.6144	2.7317	2.8464	2.9590
	C/(M/SEC)	785.2071	726.1846	628.0795	529.6110	431.1901	120.3281	131.1950	140.0336	147.5934	154.2558
	KAPPA/(1/MPA)	.0031	.0037	.0051	.0075	.0122	2.0289	1.8595	1.7562	1.6859	1.6349
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.7	4.4	3.5	3.0	2.6	2.3
.8000	V/(M3/KG)	.00152	.00156	.00163	.00171	.00182	.02276	.02561	.02808	.03032	.03241
	H/(KJ/KG)	561.4	606.8	684.5	764.4	846.7	1078.9	1156.8	1235.1	1314.5	1395.0
	S/(KJ/KG K)	1.5911	1.6789	1.8233	1.9655	2.1055	2.4817	2.6038	2.7221	2.8375	2.9506
	C/(M/SEC)	786.0280	727.2651	629.6191	531.7656	432.7926	111.4951	124.9169	135.2286	143.7747	151.1536
	KAPPA/(1/MPA)	.0031	.0037	.0051	.0075	.0121	1.9704	1.7310	1.6024	1.5206	1.4636
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.7	5.5	4.1	3.3	2.8	2.5
.9000	V/(M3/KG)	.00152	.00156	.00163	.00171	.00182	.00196	.02163	.02406	.02622	.02819
	H/(KJ/KG)	561.4	606.8	684.5	764.4	846.6	931.8	1152.3	1231.5	1311.4	1392.4
	S/(KJ/KG K)	1.5909	1.6786	1.8230	1.9651	2.1050	2.2441	2.5933	2.7129	2.8291	2.9428
	C/(M/SEC)	786.6470	727.4442	629.7603	532.7719	434.2370	328.9666	117.9784	130.1363	139.8227	147.9929
	KAPPA/(1/MPA)	.0031	.0037	.0051	.0075	.0119	.0229	1.6595	1.4936	1.3968	1.3327
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.7	3.7	4.9	3.8	3.1	2.7
1.0000	V/(M3/KG)	.00152	.00156	.00163	.00171	.00182	.00196	.01834	.02081	.02291	.02480
	H/(KJ/KG)	561.5	606.9	684.5	764.3	846.5	931.5	1147.3	1227.7	1308.2	1389.6
	S/(KJ/KG K)	1.5906	1.6784	1.8227	1.9647	2.1045	2.2434	2.5826	2.7039	2.8211	2.9353
	C/(M/SEC)	785.9785	727.0675	629.8962	533.5118	435.9378	331.9680	110.1158	124.6893	135.7161	144.7657
	KAPPA/(1/MPA)	.0031	.0037	.0051	.0074	.0118	.0223	1.6450	1.4198	1.3032	1.2304
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.6	3.6	6.0	4.3	3.5	2.9
2.0000	V/(M3/KG)	.00151	.00155	.00162	.00170	.00180	.00192	.00210	.00252	.00679	.00916
	H/(KJ/KG)	561.8	607.1	684.4	764.0	845.6	929.5	1017.1	1114.3	1259.1	1355.5
	S/(KJ/KG K)	1.5882	1.6758	1.8197	1.9611	2.1000	2.2370	2.3745	2.5211	2.7318	2.8672
	C/(M/SEC)	779.0497	723.0621	630.9675	540.4185	450.4905	358.7182	259.2610	166.5866	78.0176	107.0467
	KAPPA/(1/MPA)	.0031	.0037	.0050	.0071	.0107	.0182	.0391	.2187	1.5532	.9146
	BETA/(1000/K)	1.6	1.6	1.8	2.0	2.4	3.0	4.5	13.8	20.0	8.0
3.0000	V/(M3/KG)	.00151	.00154	.00161	.00169	.00178	.00189	.00204	.00227	.00275	.00390
	H/(KJ/KG)	562.1	607.3	684.5	763.7	844.9	928.0	1013.9	1103.9	1199.2	1305.9
	S/(KJ/KG K)	1.5859	1.6732	1.8169	1.9578	2.0959	2.2316	2.3663	2.5022	2.6407	2.7905
	C/(M/SEC)	771.6399	718.5943	631.5071	546.4947	463.3378	380.9963	297.5035	242.6069	125.0523	95.6816
	KAPPA/(1/MPA)	.0031	.0037	.0049	.0068	.0099	.0155	.0276	.0627	.2336	.5674
	BETA/(1000/K)	1.5	1.6	1.8	1.9	2.2	2.7	3.5	5.3	11.2	14.6
4.0000	V/(M3/KG)	.00150	.00154	.00160	.00168	.00176	.00186	.00199	.00216	.00241	.00283
	H/(KJ/KG)	562.4	607.5	684.6	763.6	844.3	926.9	1011.7	1099.5	1188.4	1283.7
	S/(KJ/KG K)	1.5836	1.6708	1.8141	1.9546	2.0921	2.2268	2.3599	2.4925	2.6216	2.7554
	C/(M/SEC)	763.6878	713.6184	631.4968	551.7857	474.7542	400.1235	327.3270	287.8350	191.1299	142.7175
	KAPPA/(1/MPA)	.0032	.0037	.0048	.0065	.0092	.0136	.0217	.0385	.0786	.1688
	BETA/(1000/K)	1.5	1.6	1.7	1.9	2.1	2.4	2.9	3.8	5.3	7.5

THERMODYNAMIC PROPERTIES OF TRIDECANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.03996	.04201	.04400	.04591	.04778	.04960	.05137	.05310	.05480
	H/(KJ/KG)	1479.2	1562.2	1646.6	1732.2	1819.2	1907.5	1997.0	2087.6	2179.5
	S/(KJ/KG K)	3.0696	3.1785	3.2856	3.3911	3.4949	3.5973	3.6981	3.7975	3.8954
	C/(M/SEC)	160.2423	165.6946	170.7098	175.3577	179.6912	183.7514	187.5715	191.1787	194.5957
	KAPPA/(1/MPA)	1.5962	1.5661	1.5422	1.5229	1.5072	1.4944	1.4839	1.4753	1.4683
	BETA/(1000/K)	2.1	1.9	1.8	1.6	1.5	1.4	1.4	1.3	1.2
.8000	V/(M3/KG)	.03438	.03626	.03806	.03980	.04148	.04311	.04470	.04625	.04776
	H/(KJ/KG)	1476.9	1560.1	1644.7	1730.6	1817.7	1906.2	1995.8	2086.6	2178.6
	S/(KJ/KG K)	3.0616	3.1708	3.2782	3.3839	3.4879	3.5905	3.6915	3.7910	3.8891
	C/(M/SEC)	157.6879	163.5729	168.9372	173.8711	178.4409	182.6974	186.6809	190.4238	193.9530
	KAPPA/(1/MPA)	1.4216	1.3895	1.3644	1.3444	1.3283	1.3153	1.3046	1.2959	1.2888
	BETA/(1000/K)	2.2	2.0	1.9	1.7	1.6	1.5	1.4	1.3	1.3
.9000	V/(M3/KG)	.03003	.03178	.03344	.03504	.03658	.03807	.03952	.04092	.04229
	H/(KJ/KG)	1474.6	1558.1	1642.8	1728.9	1816.3	1904.8	1994.6	2085.6	2177.7
	S/(KJ/KG K)	3.0542	3.1637	3.2714	3.3773	3.4816	3.5843	3.6855	3.7852	3.8834
	C/(M/SEC)	155.1142	161.4534	167.1790	172.4056	177.2155	181.6703	185.8181	189.6970	193.3384
	KAPPA/(1/MPA)	1.2869	1.2527	1.2264	1.2057	1.1891	1.1758	1.1650	1.1562	1.1491
	BETA/(1000/K)	2.4	2.1	2.0	1.8	1.7	1.5	1.4	1.4	1.3
1.0000	V/(M3/KG)	.02655	.02820	.02975	.03124	.03267	.03405	.03538	.03667	.03792
	H/(KJ/KG)	1472.2	1555.9	1641.0	1727.2	1814.8	1903.5	1993.5	2084.5	2176.8
	S/(KJ/KG K)	3.0473	3.1571	3.2651	3.3713	3.4758	3.5787	3.6800	3.7799	3.8782
	C/(M/SEC)	152.5178	159.3344	165.4341	170.9605	176.0142	180.6693	184.9821	188.9974	192.7510
	KAPPA/(1/MPA)	1.1804	1.1439	1.1162	1.0947	1.0777	1.0641	1.0532	1.0443	1.0371
	BETA/(1000/K)	2.5	2.3	2.0	1.9	1.7	1.6	1.5	1.4	1.3
2.0000	V/(M3/KG)	.01074	.01204	.01317	.01419	.01513	.01601	.01683	.01761	.01834
	H/(KJ/KG)	1444.7	1532.8	1621.0	1709.8	1799.4	1890.0	1981.6	2074.2	2167.8
	S/(KJ/KG K)	2.9882	3.1037	3.2156	3.3250	3.4320	3.5371	3.6403	3.7417	3.8415
	C/(M/SEC)	124.8314	138.0117	148.6060	157.5023	165.1762	171.9163	177.9123	183.2973	188.1685
	KAPPA/(1/MPA)	.7522	.6744	.6280	.5971	.5751	.5589	.5465	.5369	.5294
	BETA/(1000/K)	5.2	4.0	3.3	2.8	2.4	2.1	1.9	1.7	1.6
3.0000	V/(M3/KG)	.00536	.00664	.00769	.00858	.00937	.01009	.01074	.01135	.01191
	H/(KJ/KG)	1408.8	1505.4	1598.8	1691.2	1783.5	1876.3	1969.7	2063.9	2158.9
	S/(KJ/KG K)	2.9301	3.0567	3.1753	3.2890	3.3993	3.5069	3.6122	3.7154	3.8167
	C/(M/SEC)	103.6414	119.6806	134.1629	146.2666	156.4682	165.2121	172.8167	179.5068	185.4447
	KAPPA/(1/MPA)	.6114	.5285	.4685	.4304	.4049	.3870	.3738	.3639	.3564
	BETA/(1000/K)	10.5	6.9	5.0	3.9	3.2	2.7	2.3	2.1	1.8
4.0000	V/(M3/KG)	.00347	.00427	.00511	.00588	.00658	.00720	.00776	.00828	.00876
	H/(KJ/KG)	1381.0	1479.0	1576.3	1672.2	1767.5	1862.6	1957.9	2053.7	2150.2
	S/(KJ/KG K)	2.8873	3.0159	3.1394	3.2575	3.3713	3.4815	3.5889	3.6940	3.7968
	C/(M/SEC)	123.0607	121.9956	129.9006	140.7366	151.4653	161.2128	169.8716	177.5356	184.3331
	KAPPA/(1/MPA)	.2775	.3395	.3455	.3285	.3101	.2949	.2832	.2741	.2671
	BETA/(1000/K)	8.5	7.9	6.4	5.0	4.0	3.3	2.8	2.4	2.1

THERMODYNAMIC PROPERTIES OF TRIDECANE

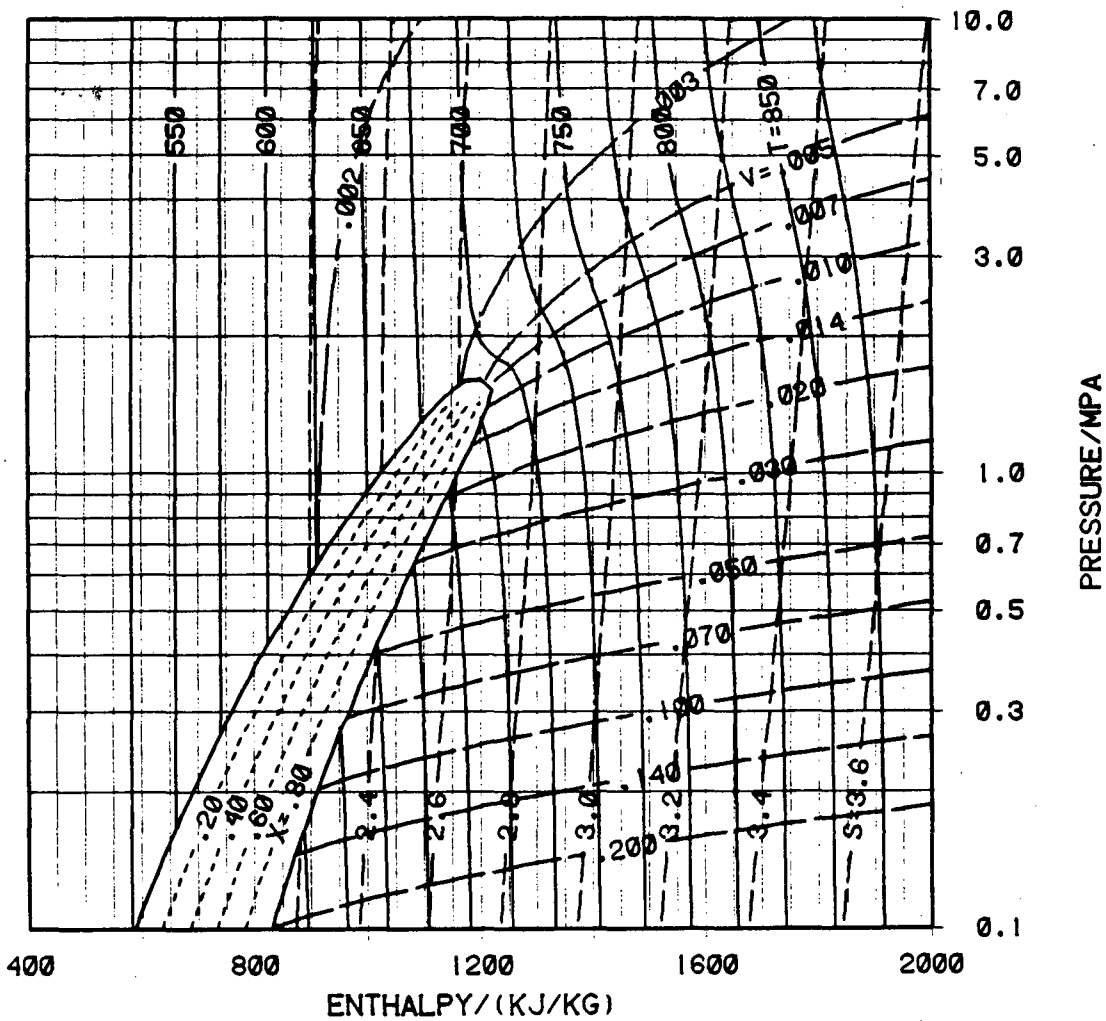
TEMPERATURES/(K)

P/(MPA)		510.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
5.0000	V/(M3/KG)	.00150	.00153	.00160	.00166	.00174	.00184	.00195	.00209	.00227	.00252
	H/(KJ/KG)	562.8	607.8	684.7	763.5	844.0	926.1	1010.2	1096.8	1183.5	1275.1
	S/(KJ/KG K)	1.5814	1.6684	1.8114	1.9515	2.0885	2.2226	2.3546	2.4853	2.6113	2.7398
	C/(M/SEC)	755.1214	708.0803	630.9127	556.3221	484.9243	416.8602	352.0879	322.1492	236.5798	191.8589
	KAPPA/(1/MPA)	.0032	.0037	.0048	.0063	.0087	.0122	.0181	.0283	.0467	.0795
	BETA/(1000/K)	1.5	1.5	1.6	1.8	2.0	2.2	2.5	3.0	3.7	4.7
6.0000	V/(M3/KG)	.00149	.00153	.00159	.00165	.00173	.00182	.00192	.00204	.00218	.00237
	H/(KJ/KG)	563.2	608.1	684.9	763.5	843.7	925.5	1009.1	1095.0	1180.5	1270.4
	S/(KJ/KG K)	1.5792	1.6661	1.8089	1.9486	2.0852	2.2187	2.3499	2.4795	2.6038	2.7300
	C/(M/SEC)	745.8616	701.9202	629.7238	560.1229	493.9825	431.6877	373.3645	350.3670	271.9650	231.9003
	KAPPA/(1/MPA)	.0032	.0037	.0047	.0061	.0082	.0112	.0157	.0226	.0334	.0500
	BETA/(1000/K)	1.4	1.5	1.6	1.7	1.9	2.0	2.3	2.6	3.0	3.5
7.0000	V/(M3/KG)	.00149	.00152	.00158	.00164	.00172	.00180	.00189	.00200	.00212	.00227
	H/(KJ/KG)	563.6	608.5	685.1	763.6	843.6	925.1	1008.3	1093.6	1178.5	1267.3
	S/(KJ/KG K)	1.5771	1.6638	1.8064	1.9459	2.0821	2.2151	2.3458	2.4746	2.5978	2.7226
	C/(M/SEC)	735.8014	695.0488	627.8907	563.1944	502.0367	444.9289	392.0468	374.5664	301.3607	265.1785
	KAPPA/(1/MPA)	.0033	.0037	.0047	.0060	.0078	.0103	.0139	.0189	.0262	.0363
	BETA/(1000/K)	1.4	1.5	1.5	1.6	1.8	1.9	2.1	2.3	2.6	2.9
8.0000	V/(M3/KG)	.00148	.00152	.00157	.00163	.00170	.00178	.00186	.00196	.00207	.00220
	H/(KJ/KG)	564.0	608.9	685.3	763.7	843.5	924.8	1007.8	1092.7	1177.0	1265.2
	S/(KJ/KG K)	1.5750	1.6617	1.8040	1.9432	2.0792	2.2118	2.3420	2.4702	2.5927	2.7165
	C/(M/SEC)	724.8312	687.3851	625.3629	565.5343	509.1504	456.8167	408.6818	395.8551	326.7057	293.7489
	KAPPA/(1/MPA)	.0033	.0037	.0047	.0059	.0075	.0096	.0125	.0164	.0216	.0284
	BETA/(1000/K)	1.4	1.4	1.5	1.6	1.7	1.8	1.9	2.1	2.3	2.5
9.0000	V/(M3/KG)	.00148	.00151	.00157	.00163	.00169	.00176	.00184	.00193	.00203	.00215
	H/(KJ/KG)	564.4	609.2	685.6	763.8	843.5	924.6	1007.3	1091.9	1175.9	1263.6
	S/(KJ/KG K)	1.5729	1.6595	1.8016	1.9407	2.0764	2.2087	2.3385	2.4663	2.5882	2.7113
	C/(M/SEC)	712.7611	678.8103	622.0820	567.1289	515.3807	467.5096	423.6512	414.9121	349.0960	318.8946
	KAPPA/(1/MPA)	.0034	.0038	.0046	.0057	.0072	.0090	.0114	.0145	.0185	.0234
	BETA/(1000/K)	1.4	1.4	1.5	1.5	1.6	1.7	1.8	2.0	2.1	2.3
10.0000	V/(M3/KG)	.00147	.00151	.00156	.00162	.00168	.00175	.00182	.00190	.00200	.00210
	H/(KJ/KG)	564.9	609.7	686.0	764.1	843.6	924.5	1007.1	1091.4	1175.0	1262.3
	S/(KJ/KG K)	1.5709	1.6574	1.7994	1.9383	2.0737	2.2058	2.3353	2.4626	2.5841	2.7067
	C/(M/SEC)	699.4083	669.1807	617.9668	567.9536	520.7604	477.1366	437.2077	432.1824	369.2056	341.4274
	KAPPA/(1/MPA)	.0035	.0039	.0046	.0057	.0069	.0086	.0106	.0131	.0162	.0199
	BETA/(1000/K)	1.3	1.4	1.4	1.5	1.6	1.6	1.7	1.8	2.0	2.1

THERMODYNAMIC PROPERTIES OF TRIDECANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.00287	.00332	.00386	.00444	.00501	.00555	.00604	.00649	.00691
	H/(KJ/KG)	1367.8	1462.4	1558.6	1655.5	1752.6	1849.5	1946.6	2043.9	2141.7
	S/(KJ/KG K)	2.8656	2.9896	3.1118	3.2311	3.3470	3.4594	3.5687	3.6754	3.7797
	C/(M/SEC)	161.6138	146.6640	142.9102	146.3238	153.4579	161.8354	170.1922	178.0274	185.1904
	KAPPA/(1/MPA)	.1278	.1792	.2169	.2333	.2343	.2289	.2222	.2159	.2104
	BETA/(1000/K)	5.6	6.0	5.9	5.2	4.4	3.7	3.1	2.7	2.3
6.0000	V/(M3/KG)	.00261	.00290	.00326	.00367	.00410	.00454	.00496	.00535	.00572
	H/(KJ/KG)	1360.8	1452.9	1547.1	1643.0	1740.2	1838.0	1936.2	2034.7	2133.7
	S/(KJ/KG K)	2.8526	2.9734	3.0930	3.2111	3.3271	3.4405	3.5511	3.6591	3.7647
	C/(M/SEC)	200.7254	179.5583	167.6460	163.2512	164.3897	168.9685	175.2248	182.0216	188.7522
	KAPPA/(1/MPA)	.0735	.1023	.1313	.1545	.1682	.1735	.1738	.1717	.1690
	BETA/(1000/K)	4.1	4.5	4.7	4.6	4.3	3.8	3.3	2.8	2.5
7.0000	V/(M3/KG)	.00245	.00267	.00293	.00323	.00356	.00391	.00425	.00459	.00491
	H/(KJ/KG)	1356.5	1447.1	1539.7	1634.4	1730.8	1828.6	1927.2	2026.5	2126.3
	S/(KJ/KG K)	2.8435	2.9623	3.0799	3.1964	3.3116	3.4249	3.5361	3.6449	3.7514
	C/(M/SEC)	235.3719	212.5168	196.5396	186.8684	182.6363	182.6775	185.6368	190.2771	195.6957
	KAPPA/(1/MPA)	.0497	.0664	.0850	.1032	.1181	.1282	.1336	.1357	.1359
	BETA/(1000/K)	3.3	3.6	3.8	3.9	3.8	3.6	3.2	2.9	2.5
8.0000	V/(M3/KG)	.00235	.00253	.00273	.00296	.00322	.00350	.00378	.00407	.00435
	H/(KJ/KG)	1353.5	1443.1	1534.6	1628.3	1723.9	1821.2	1919.9	2019.5	2119.8
	S/(KJ/KG K)	2.8363	2.9538	3.0700	3.1853	3.2995	3.4123	3.5235	3.6326	3.7396
	C/(M/SEC)	265.7383	242.9297	225.3396	212.7698	204.8781	201.1211	200.7039	202.6864	206.1863
	KAPPA/(1/MPA)	.0371	.0477	.0598	.0726	.0847	.0947	.1019	.1064	.1088
	BETA/(1000/K)	2.8	3.0	3.2	3.3	3.3	3.2	3.0	2.8	2.5
9.0000	V/(M3/KG)	.00228	.00242	.00259	.00278	.00299	.00322	.00346	.00370	.00395
	H/(KJ/KG)	1351.3	1440.2	1531.0	1623.8	1718.7	1815.6	1914.0	2013.6	2114.2
	S/(KJ/KG K)	2.8303	2.9469	3.0621	3.1764	3.2898	3.4020	3.5129	3.6221	3.7294
	C/(M/SEC)	292.6699	270.5431	252.5206	238.5314	228.4443	222.0216	218.8462	218.3159	219.7414
	KAPPA/(1/MPA)	.0295	.0367	.0450	.0540	.0631	.0715	.0784	.0836	.0872
	BETA/(1000/K)	2.4	2.6	2.8	2.9	2.9	2.9	2.8	2.6	2.4
10.0000	V/(M3/KG)	.00222	.00235	.00249	.00265	.00283	.00302	.00323	.00344	.00365
	H/(KJ/KG)	1349.6	1438.0	1528.2	1620.4	1714.8	1811.2	1909.3	2008.8	2109.5
	S/(KJ/KG K)	2.8251	2.9410	3.0555	3.1690	3.2817	3.3934	3.5040	3.6130	3.7204
	C/(M/SEC)	316.8939	295.6727	277.7737	263.1810	251.8589	243.7104	238.5271	235.9482	235.4900
	KAPPA/(1/MPA)	.0244	.0296	.0356	.0422	.0490	.0556	.0616	.0665	.0703
	BETA/(1000/K)	2.2	2.4	2.5	2.6	2.6	2.6	2.6	2.5	2.3



TETRADECANE

PROPERTIES OF SATURATED TETRADECANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
530.00000	.10822	.00164	.18662	597.84805	240.16061	838.00866	1.68072	.45313	2.13386
535.00000	.12103	.00165	.16738	613.31338	237.17757	850.49095	1.70973	.44332	2.15305
540.00000	.13500	.00167	.15044	628.89497	234.15072	863.04569	1.73867	.43361	2.17228
545.00000	.15020	.00168	.13549	644.59214	231.07741	875.66955	1.76756	.42400	2.19156
550.00000	.16671	.00169	.12226	660.40445	227.95428	888.35873	1.79639	.41446	2.21085
555.00000	.18460	.00171	.11052	676.33123	224.77782	901.10905	1.82516	.40501	2.23017
560.00000	.20396	.00173	.10007	692.37161	221.54432	913.91593	1.85387	.39561	2.24949
565.00000	.22486	.00174	.09075	708.52457	218.24984	926.77440	1.88253	.38628	2.26881
570.00000	.24739	.00176	.08241	724.78894	214.89012	939.67906	1.91112	.37700	2.28812
575.00000	.27163	.00178	.07494	741.16350	211.46057	952.62408	1.93964	.36776	2.30740
580.00000	.29768	.00179	.06823	757.64701	207.95616	965.60316	1.96811	.35855	2.32665
585.00000	.32564	.00181	.06218	774.23831	204.37123	978.60954	1.99650	.34935	2.34585
590.00000	.35559	.00183	.05673	790.93640	200.69950	991.63590	2.02483	.34017	2.36500
595.00000	.38764	.00185	.05180	807.74054	196.93382	1004.67435	2.05309	.33098	2.38407
600.00000	.42189	.00187	.04733	824.65037	193.06598	1017.71635	2.08129	.32178	2.40306
605.00000	.45847	.00190	.04327	841.66609	189.08649	1030.75259	2.10941	.31254	2.42195
610.00000	.49748	.00192	.03957	858.78860	184.98428	1043.77289	2.13748	.30325	2.44073
615.00000	.53905	.00194	.03621	876.01974	180.74630	1056.76603	2.16548	.29390	2.45938
620.00000	.58330	.00197	.03313	893.36254	176.35702	1069.71956	2.19342	.28445	2.47787
625.00000	.63038	.00200	.03031	910.82159	171.79784	1082.61943	2.22132	.27488	2.49620
630.00000	.68043	.00203	.02773	928.40381	167.04579	1095.44959	2.24918	.26515	2.51433
635.00000	.73360	.00206	.02535	946.11719	162.07468	1108.19187	2.27701	.25524	2.53225
640.00000	.79005	.00209	.02316	963.97569	156.84839	1120.82408	2.30484	.24508	2.54992
645.00000	.84997	.00213	.02114	981.99551	151.32471	1133.32023	2.33269	.23461	2.56730
650.00000	.91353	.00217	.01926	1000.19962	145.44831	1145.64793	2.36060	.22377	2.58436
655.00000	.98094	.00221	.01752	1018.61945	139.14650	1157.76596	2.38860	.21244	2.60104
660.00000	1.05240	.00226	.01589	1037.29875	132.32104	1169.61978	2.41677	.20049	2.61725
665.00000	1.12816	.00232	.01435	1056.29961	124.83435	1181.13396	2.44518	.18772	2.63291
670.00000	1.20845	.00238	.01290	1075.71454	116.48313	1192.19767	2.47399	.17386	2.64784
675.00000	1.29354	.00246	.01150	1095.69141	106.94234	1202.63375	2.50339	.15843	2.66182
680.00000	1.38373	.00256	.01013	1116.49426	95.62866	1212.12292	2.53376	.14063	2.67439
685.00000	1.47932	.00270	.00873	1138.70374	81.25411	1219.95785	2.56593	.11862	2.68455
690.00000	1.58064	.00298	.00709	1164.49939	59.14631	1223.64570	2.60303	.08572	2.68875
691.87000	1.68808	.00412	.00412	1192.84905	0.	1192.84905	2.64344	0.	2.64344

THERMODYNAMIC PROPERTIES OF TETRADECANE

TEMPERATURES/(K)

P/(MPA)		530.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
.1000	V/(M3/KG)	.20361	.21509	.22815	.24038	.25214	.26366	.27502	.28630	.29753
	H/(KJ/KG)	839.0	894.3	964.1	1035.0	1107.3	1181.1	1256.5	1333.5	1412.2
	S/(KJ/KG K)	2.1387	2.2413	2.3653	2.4859	2.6040	2.7198	2.8336	2.9457	3.0560
	C/(M/SEC)	138.3866	143.2601	148.4151	152.9521	157.1173	161.0435	164.8030	168.4352	171.9611
	KAPPA/(1/MPA)	10.9787	10.7554	10.5840	10.4743	10.3973	10.3386	10.2909	10.2506	10.2155
	BETA/(1000/K)	3.0	2.5	2.2	2.0	1.8	1.7	1.6	1.6	1.5
.1013	V/(M3/KG)	.20069	.21207	.22499	.23708	.24871	.26009	.27132	.28247	.29355
	H/(KJ/KG)	838.8	894.2	964.0	1034.9	1107.2	1181.0	1256.5	1333.5	1412.1
	S/(KJ/KG K)	2.1379	2.2405	2.3646	2.4853	2.6033	2.7192	2.8330	2.9451	3.0555
	C/(M/SEC)	138.2134	143.1214	148.3036	152.8586	157.0369	160.9734	164.7417	168.3814	171.9141
	KAPPA/(1/MPA)	10.8514	10.6265	10.4542	10.3442	10.2669	10.2081	10.1604	10.1199	10.0848
	BETA/(1000/K)	3.0	2.6	2.2	2.0	1.8	1.7	1.6	1.6	1.5
.2000	V/(M3/KG)	.00164	.00169	.10715	.11434	.12097	.12731	.13348	.13954	.14555
	H/(KJ/KG)	597.9	660.4	957.7	1030.2	1103.3	1177.7	1253.4	1330.6	1409.4
	S/(KJ/KG K)	1.6805	1.7963	2.3274	2.4507	2.5702	2.6868	2.8011	2.9135	3.0241
	C/(M/SEC)	974.8980	859.9950	139.5380	145.6372	150.8953	155.6617	160.1146	164.3461	168.4035
	KAPPA/(1/MPA)	.0025	.0032	5.6744	5.5263	5.4298	5.3599	5.3052	5.2601	5.2217
	BETA/(1000/K)	1.7	1.8	2.8	2.4	2.1	2.0	1.8	1.7	1.6
.3000	V/(M3/KG)	.00164	.00169	.00178	.07208	.07710	.08177	.08624	.09059	.09487
	H/(KJ/KG)	597.9	660.4	741.2	1024.9	1099.2	1174.1	1250.2	1327.7	1406.6
	S/(KJ/KG K)	1.6802	1.7960	1.9395	2.4269	2.5481	2.6657	2.7806	2.8933	3.0041
	C/(M/SEC)	972.5065	858.2208	721.4708	137.6690	144.3001	150.0597	155.2986	160.1892	164.8178
	KAPPA/(1/MPA)	.0025	.0032	.0047	3.9290	3.8036	3.7186	3.6549	3.6040	3.5617
	BETA/(1000/K)	1.7	1.8	2.0	2.9	2.5	2.2	2.0	1.9	1.8
.4000	V/(M3/KG)	.00164	.00169	.00178	.05070	.05503	.05892	.06258	.06609	.06952
	H/(KJ/KG)	597.9	660.4	741.1	1019.1	1094.7	1170.4	1246.9	1324.6	1403.8
	S/(KJ/KG K)	1.6799	1.7957	1.9392	2.4071	2.5306	2.6493	2.7648	2.8779	2.9890
	C/(M/SEC)	970.1083	856.4412	720.4514	128.7626	137.2107	144.1801	150.3263	155.9501	161.1969
	KAPPA/(1/MPA)	.0025	.0032	.0047	3.1946	3.0226	2.9160	2.8406	2.7826	2.7358
	BETA/(1000/K)	1.7	1.8	2.0	3.7	3.0	2.5	2.3	2.1	2.0
.5000	V/(M3/KG)	.00164	.00169	.00177	.00187	.04165	.04513	.04833	.05137	.05430
	H/(KJ/KG)	597.9	660.4	741.1	824.6	1089.8	1166.4	1243.4	1321.5	1400.8
	S/(KJ/KG K)	1.6797	1.7954	1.9388	2.0809	2.5151	2.6353	2.7515	2.8651	2.9765
	C/(M/SEC)	967.7030	854.6562	719.4272	589.8243	129.4381	137.9413	145.1597	151.6105	157.5322
	KAPPA/(1/MPA)	.0025	.0032	.0047	.0072	2.5934	2.4544	2.3631	2.2962	2.2439
	BETA/(1000/K)	1.6	1.8	2.0	2.4	3.6	2.9	2.6	2.3	2.1
.6000	V/(M3/KG)	.00164	.00169	.00177	.00187	.03255	.03586	.03879	.04152	.04414
	H/(KJ/KG)	597.9	660.4	741.1	824.5	1084.4	1162.1	1239.8	1318.2	1397.8
	S/(KJ/KG K)	1.6794	1.7951	1.9385	2.0805	2.5006	2.6225	2.7397	2.8538	2.9656
	C/(M/SEC)	965.2904	852.8654	718.3979	589.6349	120.6614	131.2238	139.7475	147.1473	153.8132
	KAPPA/(1/MPA)	.0025	.0033	.0047	.0072	2.3631	2.1708	2.0570	1.9785	1.9197
	BETA/(1000/K)	1.6	1.8	2.0	2.3	4.4	3.4	2.9	2.6	2.3

THERMODYNAMIC PROPERTIES OF TETRADECANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	.30871	.31984	.33094	.34199	.35299	.36394	.37483	.38567	.39644
	H/(KJ/KG)	1492.4	1574.1	1657.4	1742.0	1828.1	1915.4	2004.1	2094.0	2185.2
	S/(KJ/KG K)	3.1648	3.2720	3.3777	3.4819	3.5846	3.6860	3.7859	3.8844	3.9816
	C/(M/SEC)	175.3918	178.7336	181.9900	185.1634	188.2561	191.2702	194.2080	197.0720	199.8650
	KAPPA/(1/MPA)	10.1846	10.1573	10.1332	10.1122	10.0939	10.0782	10.0650	10.0540	10.0452
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
.1013	V/(M3/KG)	.30459	.31559	.32655	.33747	.34833	.35914	.36990	.38060	.39123
	H/(KJ/KG)	1492.4	1574.1	1657.3	1742.0	1828.0	1915.4	2004.1	2094.0	2185.2
	S/(KJ/KG K)	3.1642	3.2714	3.3771	3.4813	3.5841	3.6854	3.7853	3.8839	3.9811
	C/(M/SEC)	175.3510	178.6983	181.9597	185.1376	188.2343	191.2518	194.1925	197.0589	199.8538
	KAPPA/(1/MPA)	10.0539	10.0266	10.0025	9.9814	9.9631	9.9474	9.9342	9.9232	9.9144
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1
.2000	V/(M3/KG)	.15150	.15741	.16327	.16908	.17485	.18055	.18620	.19180	.19733
	H/(KJ/KG)	1489.8	1571.6	1655.0	1739.8	1826.0	1913.6	2002.5	2092.6	2184.0
	S/(KJ/KG K)	3.1330	3.2404	3.3462	3.4506	3.5536	3.6551	3.7553	3.8541	3.9515
	C/(M/SEC)	172.3109	176.0808	179.7200	183.2327	186.6227	189.8933	193.0484	196.0921	199.0288
	KAPPA/(1/MPA)	5.1884	5.1595	5.1344	5.1126	5.0939	5.0780	5.0647	5.0537	5.0449
	BETA/(1000/K)	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1
.3000	V/(M3/KG)	.09910	.10327	.10739	.11146	.11548	.11944	.12334	.12718	.13096
	H/(KJ/KG)	1487.1	1569.1	1652.6	1737.6	1824.0	1911.8	2000.9	2091.2	2182.8
	S/(KJ/KG K)	3.1132	3.2208	3.3268	3.4314	3.5346	3.6364	3.7368	3.8358	3.9335
	C/(M/SEC)	169.2280	173.4425	177.4737	181.3298	185.0173	188.5422	191.9107	195.1292	198.2045
	KAPPA/(1/MPA)	3.5259	3.4952	3.4688	3.4463	3.4272	3.4110	3.3977	3.3868	3.3781
	BETA/(1000/K)	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.1
.4000	V/(M3/KG)	.07289	.07620	.07945	.08265	.08580	.08888	.09191	.09488	.09779
	H/(KJ/KG)	1484.4	1566.6	1650.3	1735.4	1822.0	1910.0	1999.3	2089.9	2181.6
	S/(KJ/KG K)	3.0983	3.2061	3.3124	3.4172	3.5206	3.6226	3.7232	3.8225	3.9204
	C/(M/SEC)	166.1399	170.8171	175.2506	179.4544	183.4399	187.2169	190.7950	194.1837	197.3923
	KAPPA/(1/MPA)	2.6969	2.6643	2.6367	2.6134	2.5938	2.5774	2.5640	2.5531	2.5445
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.2	1.2
.5000	V/(M3/KG)	.05716	.05996	.06270	.06538	.06800	.07056	.07306	.07550	.07788
	H/(KJ/KG)	1481.7	1564.0	1647.9	1733.2	1820.0	1908.2	1997.7	2088.5	2180.5
	S/(KJ/KG K)	3.0861	3.1941	3.3006	3.4056	3.5092	3.6115	3.7123	3.8118	3.9100
	C/(M/SEC)	163.0424	168.2029	173.0496	177.6061	181.8902	185.9173	189.7013	193.2556	196.5928
	KAPPA/(1/MPA)	2.2017	2.1668	2.1379	2.1138	2.0937	2.0772	2.0636	2.0528	2.0442
	BETA/(1000/K)	2.0	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.2
.6000	V/(M3/KG)	.04667	.04913	.05153	.05386	.05614	.05835	.06050	.06259	.06462
	H/(KJ/KG)	1478.9	1561.4	1645.5	1731.0	1818.0	1906.4	1996.1	2087.1	2179.4
	S/(KJ/KG K)	3.0755	3.1837	3.2905	3.3957	3.4996	3.6021	3.7032	3.8029	3.9013
	C/(M/SEC)	159.9310	165.5979	170.8701	175.7844	180.3680	184.6432	188.6297	192.3452	195.8063
	KAPPA/(1/MPA)	1.8735	1.8363	1.8058	1.7808	1.7603	1.7435	1.7299	1.7191	1.7106
	BETA/(1000/K)	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2

THERMODYNAMIC PROPERTIES OF TETRADECANE

TEMPERATURES/(K)

P/(MPA)		530.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
.7000	V/(M3/KG)	.00163	.00169	.00177	.00187	.00200	.02913	.03192	.03447	.03687
	H/(KJ/KG)	598.0	660.4	741.0	824.4	910.7	1157.5	1235.9	1314.8	1394.8
	S/(KJ/KG K)	1.6791	1.7948	1.9381	2.0801	2.2209	2.6105	2.7288	2.8436	2.9558
	C/(M/SEC)	950.8209	842.9268	711.9377	589.4383	463.7247	123.8429	134.0196	142.5313	150.0271
	KAPPA/(1/MPA)	.0025	.0033	.0047	.0072	.0123	2.0003	1.8527	1.7588	1.6919
	BETA/(1000/K)	1.6	1.8	2.0	2.3	2.9	4.1	3.3	2.9	2.5
.8000	V/(M3/KG)	.00163	.00169	.00177	.00187	.00199	.02396	.02672	.02915	.03141
	H/(KJ/KG)	598.0	660.4	741.0	824.4	910.5	1152.4	1231.9	1311.3	1391.6
	S/(KJ/KG K)	1.6789	1.7945	1.9378	2.0796	2.2203	2.5985	2.7185	2.8340	2.9467
	C/(M/SEC)	951.4176	843.9093	713.4415	586.7109	464.6261	115.4901	127.8764	137.7244	146.1586
	KAPPA/(1/MPA)	.0025	.0033	.0047	.0072	.0122	1.9198	1.7172	1.6021	1.5250
	BETA/(1000/K)	1.6	1.8	2.0	2.3	2.9	5.0	3.8	3.2	2.8
.9000	V/(M3/KG)	.00163	.00169	.00177	.00187	.00199	.01978	.02260	.02498	.02714
	H/(KJ/KG)	598.0	660.4	741.0	824.3	910.4	1146.5	1227.5	1307.6	1388.3
	S/(KJ/KG K)	1.6786	1.7942	1.9374	2.0792	2.2198	2.5861	2.7083	2.8249	2.9382
	C/(M/SEC)	952.0435	844.9423	715.0067	588.9581	463.6361	105.5860	121.1712	132.6782	142.1898
	KAPPA/(1/MPA)	.0025	.0033	.0047	.0071	.0121	1.9401	1.6358	1.4897	1.3994
	BETA/(1000/K)	1.6	1.8	2.0	2.3	2.9	6.5	4.5	3.6	3.1
1.0000	V/(M3/KG)	.00163	.00169	.00177	.00187	.00199	.00216	.01923	.02161	.02371
	H/(KJ/KG)	598.0	660.4	741.0	824.2	910.2	999.9	1222.6	1303.7	1384.9
	S/(KJ/KG K)	1.6783	1.7939	1.9371	2.0788	2.2192	2.3598	2.6980	2.8160	2.9300
	C/(M/SEC)	952.7263	845.6415	714.2275	588.8050	466.3719	339.1835	113.6741	127.3281	138.0992
	KAPPA/(1/MPA)	.0025	.0033	.0047	.0071	.0120	.0252	1.6055	1.4115	1.3038
	BETA/(1000/K)	1.6	1.8	2.0	2.3	2.8	4.1	5.4	4.1	3.4
2.0000	V/(M3/KG)	.00163	.00168	.00176	.00185	.00197	.00211	.00235	.00313	.00729
	H/(KJ/KG)	598.3	660.5	740.8	823.6	908.9	996.9	1089.7	1196.4	1335.7
	S/(KJ/KG K)	1.6757	1.7910	1.9336	2.0746	2.2138	2.3519	2.4920	2.6471	2.8430
	C/(M/SEC)	930.7977	827.1377	703.3756	586.1962	474.0980	363.3690	245.6515	89.5463	84.8206
	KAPPA/(1/MPA)	.0026	.0033	.0047	.0069	.0111	.0203	.0508	.7727	1.3606
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.6	3.4	5.4	33.4	16.5
3.0000	V/(M3/KG)	.00163	.00168	.00175	.00184	.00194	.00208	.00225	.00254	.00315
	H/(KJ/KG)	598.5	660.6	740.6	823.1	907.8	994.7	1085.0	1176.3	1279.1
	S/(KJ/KG K)	1.6731	1.7881	1.9304	2.0707	2.2090	2.3454	2.4817	2.6144	2.7588
	C/(M/SEC)	905.0163	807.7901	691.7810	582.7368	480.2438	382.6771	287.6133	192.9824	118.3303
	KAPPA/(1/MPA)	.0027	.0034	.0047	.0068	.0104	.0173	.0333	.0839	.2986
	BETA/(1000/K)	1.6	1.7	1.8	2.1	2.4	2.9	3.8	6.1	11.6
4.0000	V/(M3/KG)	.00162	.00167	.00175	.00183	.00193	.00204	.00219	.00239	.00268
	H/(KJ/KG)	598.8	660.8	740.6	822.7	907.0	993.2	1082.1	1170.5	1266.0
	S/(KJ/KG K)	1.6706	1.7853	1.9272	2.0671	2.2046	2.3398	2.4741	2.6026	2.7368
	C/(M/SEC)	877.9536	787.3608	679.2598	578.3029	484.8836	398.4790	318.4252	244.9182	185.3878
	KAPPA/(1/MPA)	.0028	.0035	.0048	.0067	.0099	.0153	.0254	.0463	.0925
	BETA/(1000/K)	1.5	1.6	1.8	1.0	2.2	2.5	3.1	3.9	5.3

THERMODYNAMIC PROPERTIES OF TETRADECANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.03917	.04140	.04355	.04564	.04767	.04963	.05153	.05337	.05514
	H/(KJ/KG)	1476.0	1558.8	1643.0	1728.8	1816.0	1904.6	1994.5	2085.8	2178.2
	S/(KJ/KG K)	3.0660	3.1745	3.2815	3.3870	3.4912	3.5939	3.6952	3.7952	3.8939
	C/(M/SEC)	156.8000	162.9995	168.7108	173.9888	178.8729	183.3946	187.5802	191.4528	195.0333
	KAPPA/(1/MPA)	1.6411	1.6011	1.5691	1.5432	1.5221	1.5051	1.4914	1.4806	1.4722
	BETA/(1000/K)	2.3	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3
.8000	V/(M3/KG)	.03355	.03560	.03757	.03948	.04132	.04310	.04481	.04646	.04804
	H/(KJ/KG)	1473.1	1556.1	1640.6	1726.5	1814.0	1902.8	1993.0	2084.4	2177.1
	S/(KJ/KG K)	3.0573	3.1661	3.2734	3.3792	3.4836	3.5866	3.6882	3.7884	3.8873
	C/(M/SEC)	153.6433	160.4053	166.5707	172.2188	177.4048	182.1714	186.5528	190.5786	194.2743
	KAPPA/(1/MPA)	1.4687	1.4257	1.3919	1.3650	1.3435	1.3262	1.3125	1.3017	1.2934
	BETA/(1000/K)	2.5	2.3	2.1	1.9	1.7	1.6	1.5	1.4	1.3
.9000	V/(M3/KG)	.02916	.03109	.03293	.03469	.03639	.03802	.03958	.04108	.04252
	H/(KJ/KG)	1470.2	1553.4	1638.1	1724.3	1811.9	1901.0	1991.4	2083.1	2176.0
	S/(KJ/KG K)	3.0492	3.1584	3.2659	3.3720	3.4766	3.5799	3.6818	3.7823	3.8814
	C/(M/SEC)	150.4539	157.8125	164.4487	170.4738	175.9634	180.9733	185.5477	189.7227	193.5295
	KAPPA/(1/MPA)	1.3367	1.2902	1.2545	1.2266	1.2045	1.1870	1.1731	1.1624	1.1541
	BETA/(1000/K)	2.7	2.4	2.2	2.0	1.8	1.7	1.5	1.4	1.3
1.0000	V/(M3/KG)	.02565	.02748	.02921	.03086	.03245	.03396	.03540	.03679	.03810
	H/(KJ/KG)	1467.2	1550.7	1635.6	1722.1	1809.9	1899.2	1989.8	2081.8	2175.0
	S/(KJ/KG K)	3.0415	3.1511	3.2589	3.3653	3.4702	3.5737	3.6759	3.7766	3.8760
	C/(M/SEC)	147.2241	155.2183	162.3436	168.7535	174.5485	179.8005	184.5648	188.8855	192.7995
	KAPPA/(1/MPA)	1.2332	1.1827	1.1449	1.1159	1.0932	1.0755	1.0616	1.0508	1.0427
	BETA/(1000/K)	2.9	2.6	2.3	2.1	1.9	1.7	1.6	1.5	1.4
2.0000	V/(M3/KG)	.00955	.01117	.01252	.01371	.01479	.01578	.01669	.01752	.01829
	H/(KJ/KG)	1430.7	1520.3	1609.3	1699.0	1789.7	1881.6	1974.8	2069.1	2164.7
	S/(KJ/KG K)	2.9718	3.0893	3.2024	3.3127	3.4211	3.5276	3.6326	3.7360	3.8379
	C/(M/SEC)	111.3753	128.8995	142.1682	152.8906	161.8456	169.4560	175.9795	181.5862	186.3951
	KAPPA/(1/MPA)	.8847	.7380	.6649	.6207	.5914	.5710	.5563	.5458	.5383
	BETA/(1000/K)	7.6	5.2	4.0	3.3	2.8	2.4	2.1	1.8	1.6
3.0000	V/(M3/KG)	.00433	.00576	.00703	.00810	.00902	.00983	.01055	.01120	.01177
	H/(KJ/KG)	1382.1	1483.1	1580.0	1674.8	1769.4	1864.5	1960.4	2057.4	2155.4
	S/(KJ/KG K)	2.8985	3.0309	3.1539	3.2707	3.3836	3.4939	3.6020	3.7082	3.8128
	C/(M/SEC)	102.1745	111.2195	126.6844	140.6506	152.2458	161.8311	169.7876	176.3963	181.8546
	KAPPA/(1/MPA)	.5441	.5703	.5024	.4514	.4187	.3971	.3824	.3724	.3656
	BETA/(1000/K)	12.8	9.6	6.6	4.9	3.8	3.1	2.6	2.2	1.8
4.0000	V/(M3/KG)	.00312	.00378	.00461	.00547	.00626	.00696	.00757	.00811	.00858
	H/(KJ/KG)	1359.1	1454.3	1552.4	1651.2	1749.6	1848.1	1946.9	2046.5	2146.9
	S/(KJ/KG K)	2.8630	2.9878	3.1124	3.2340	3.3516	3.4657	3.5770	3.6862	3.7933
	C/(M/SEC)	144.6139	128.1979	128.5298	137.2035	147.8956	157.8808	166.4840	173.6657	179.5323
	KAPPA/(1/MPA)	.1803	.2795	.3325	.3330	.3166	.3009	.2889	.2804	.2746
	BETA/(1000/K)	7.0	8.1	7.5	6.1	4.7	3.8	3.0	2.5	2.0

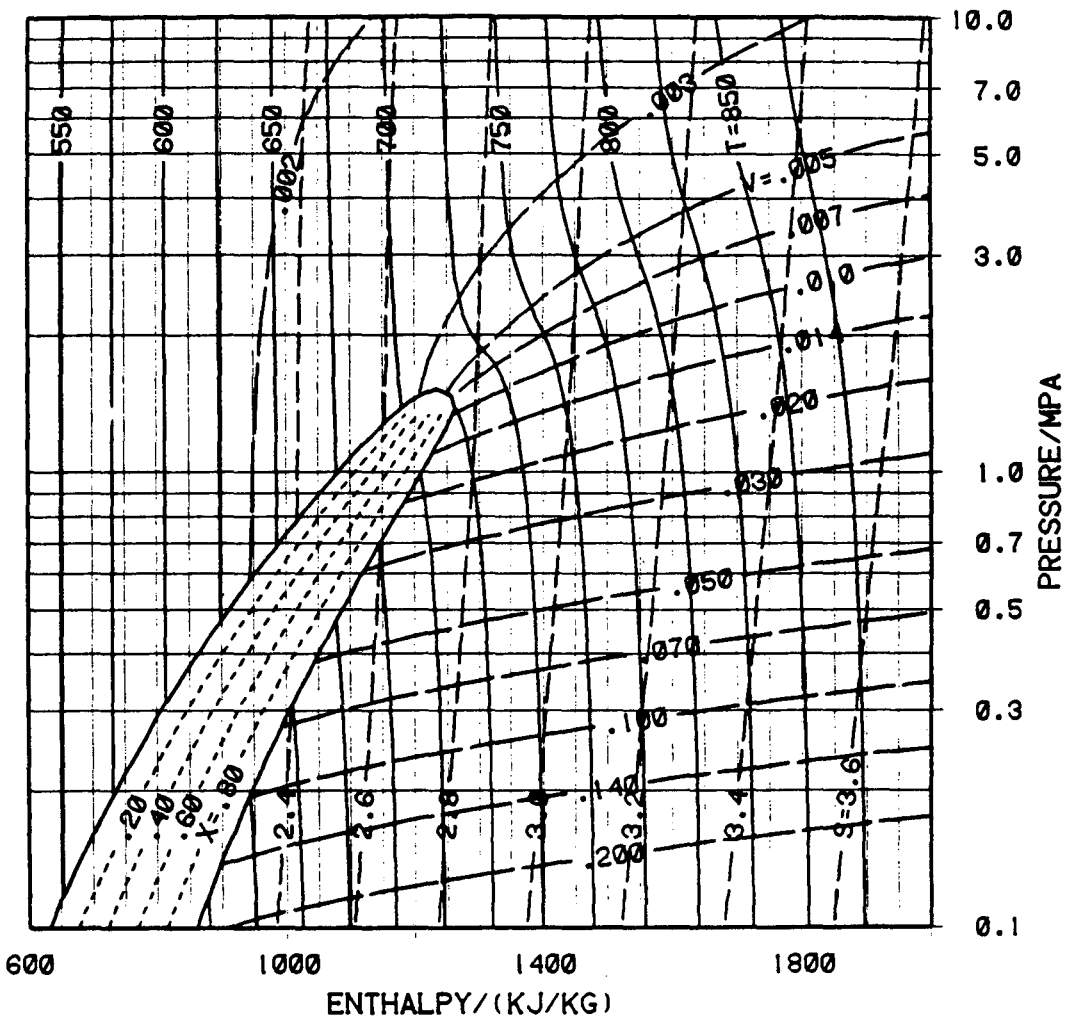
THERMODYNAMIC PROPERTIES OF TETRADECANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.00276	.00312	.00359	.00416	.00477	.00534	.00587	.00633	.00673
	H/(KJ/KG)	1349.9	1440.3	1534.4	1632.2	1732.2	1833.0	1934.4	2036.4	2139.2
	S/(KJ/KG K)	2.8468	2.9654	3.0848	3.2053	3.3246	3.4415	3.5558	3.6675	3.7772
	C/(M/SEC)	195.2232	167.8889	152.7946	148.9820	152.8170	159.8748	167.4179	174.3004	180.1424
	KAPPA/(1/MPA)	.0839	.1290	.1797	.2163	.2295	.2288	.2239	.2188	.2149
	BETA/(1000/K)	4.4	5.3	5.9	5.8	5.0	4.1	3.4	2.7	2.2
6.0000	V/(M3/KG)	.00259	.00283	.00314	.00351	.00394	.00439	.00482	.00521	.00556
	H/(KJ/KG)	1344.9	1433.0	1524.2	1619.7	1718.8	1820.4	1923.4	2027.3	2132.2
	S/(KJ/KG K)	2.8366	2.9521	3.0679	3.1854	3.3038	3.4216	3.5377	3.6516	3.7634
	C/(M/SEC)	237.6867	210.0673	189.1629	175.8561	170.4167	171.0869	175.0472	180.1119	185.0917
	KAPPA/(1/MPA)	.0521	.0733	.1004	.1296	.1528	.1653	.1697	.1699	.1689
	BETA/(1000/K)	3.4	3.9	4.3	4.6	4.5	4.0	3.4	2.8	2.3
7.0000	V/(M3/KG)	.00248	.00267	.00290	.00317	.00348	.00382	.00417	.00449	.00479
	H/(KJ/KG)	1341.6	1428.4	1517.9	1611.6	1709.5	1810.8	1914.4	2019.6	2126.0
	S/(KJ/KG K)	2.8288	2.9426	3.0563	3.1716	3.2885	3.4059	3.5227	3.6380	3.7515
	C/(M/SEC)	273.2091	247.6477	226.0557	209.0777	197.6554	192.0011	190.9823	192.7891	195.8692
	KAPPA/(1/MPA)	.0375	.0493	.0643	.0819	.0998	.1144	.1237	.1285	.1304
	BETA/(1000/K)	2.8	3.1	3.5	3.7	3.8	3.6	3.2	2.8	2.3
8.0000	V/(M3/KG)	.00240	.00256	.00274	.00296	.00321	.00347	.00375	.00402	.00427
	H/(KJ/KG)	1339.2	1425.1	1513.6	1606.1	1702.9	1803.6	1907.3	2013.2	2120.8
	S/(KJ/KG K)	2.8224	2.9350	3.0474	3.1612	3.2768	3.3936	3.5105	3.6265	3.7412
	C/(M/SEC)	303.8025	280.6675	259.9473	242.1523	228.1372	218.5951	213.4624	211.8460	212.5234
	KAPPA/(1/MPA)	.0292	.0367	.0459	.0568	.0687	.0801	.0893	.0955	.0992
	BETA/(1000/K)	2.5	2.7	2.9	3.1	3.2	3.2	2.9	2.6	2.2
9.0000	V/(M3/KG)	.00233	.00248	.00264	.00282	.00302	.00324	.00347	.00370	.00392
	H/(KJ/KG)	1337.4	1422.6	1510.3	1602.0	1698.1	1798.3	1901.9	2008.1	2116.4
	S/(KJ/KG K)	2.8167	2.9286	3.0400	3.1528	3.2675	3.3836	3.5004	3.6168	3.7324
	C/(M/SEC)	330.8043	310.0645	290.6506	273.1054	258.2206	246.7549	239.0510	234.8299	233.3510
	KAPPA/(1/MPA)	.0240	.0291	.0352	.0425	.0505	.0587	.0660	.0717	.0757
	BETA/(1000/K)	2.3	2.4	2.6	2.7	2.8	2.8	2.7	2.4	2.1
10.0000	V/(M3/KG)	.00228	.00241	.00255	.00272	.00289	.00308	.00328	.00347	.00366
	H/(KJ/KG)	1335.9	1420.6	1507.8	1598.8	1694.3	1794.1	1897.6	2004.0	2112.9
	S/(KJ/KG K)	2.8117	2.9228	3.0335	3.1456	3.2596	3.3753	3.4919	3.6085	3.7246
	C/(M/SEC)	355.0776	336.6276	318.6190	301.7120	286.7151	274.3999	265.2579	259.3342	256.2459
	KAPPA/(1/MPA)	.0204	.0240	.0284	.0335	.0392	.0451	.0507	.0554	.0589
	BETA/(1000/K)	2.1	2.2	2.4	2.5	2.5	2.5	2.4	2.2	2.0

THERMODYNAMIC PROPERTIES OF TETRADECANE

P/(MPA)		TEMPERATURES/(K) 530.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
5.0000	V/(M3/KG)	.00162	.00167	.00174	.00182	.00191	.00201	.00214	.00230	.00250
	H/(KJ/KG)	599.1	661.0	740.6	822.5	906.3	992.0	1080.1	1167.1	1260.5
	S/(KJ/KG K)	1.6681	1.7826	1.9242	2.0636	2.2005	2.3349	2.4679	2.5945	2.7255
	C/(M/SEC)	849.2190	765.5361	665.5611	572.7386	488.0402	411.5159	342.9296	282.2207	233.9902
	KAPPA/(1/MPA)	.0029	.0036	.0048	.0067	.0095	.0139	.0210	.0328	.0524
	BETA/(1000/K)	1.5	1.6	1.7	1.9	2.0	2.3	2.6	3.1	3.7
6.0000	V/(M3/KG)	.00161	.00166	.00173	.00180	.00189	.00199	.00210	.00223	.00239
	H/(KJ/KG)	599.4	661.2	740.6	822.3	905.9	991.2	1078.7	1164.9	1257.1
	S/(KJ/KG K)	1.6657	1.7800	1.9213	2.0603	2.1968	2.3306	2.4627	2.5881	2.7175
	C/(M/SEC)	818.2596	741.8946	650.3938	565.8430	489.6785	422.2183	363.1653	311.8563	271.6515
	KAPPA/(1/MPA)	.0030	.0037	.0049	.0067	.0092	.0128	.0181	.0257	.0367
	BETA/(1000/K)	1.5	1.6	1.6	1.8	1.9	2.1	2.3	2.6	3.0
7.0000	V/(M3/KG)	.00161	.00165	.00172	.00179	.00187	.00196	.00206	.00218	.00232
	H/(KJ/KG)	599.8	661.5	740.8	822.3	905.6	990.6	1077.7	1163.4	1254.8
	S/(KJ/KG K)	1.6633	1.7775	1.9185	2.0572	2.1933	2.3266	2.4581	2.5827	2.7111
	C/(M/SEC)	784.3647	715.8700	633.3417	557.3480	489.7076	430.8359	380.1995	336.5711	302.7153
	KAPPA/(1/MPA)	.0032	.0039	.0051	.0067	.0089	.0120	.0160	.0214	.0284
	BETA/(1000/K)	1.5	1.5	1.6	1.7	1.8	1.9	2.1	2.3	2.5
8.0000	V/(M3/KG)	.00160	.00165	.00171	.00178	.00186	.00194	.00203	.00214	.00226
	H/(KJ/KG)	600.2	661.8	740.9	822.3	905.4	990.1	1077.0	1162.2	1253.1
	S/(KJ/KG K)	1.6610	1.7750	1.9158	2.0543	2.1900	2.3229	2.4540	2.5780	2.7056
	C/(M/SEC)	746.3906	686.6176	613.8238	546.8804	487.9676	437.5009	394.6578	357.7632	329.3388
	KAPPA/(1/MPA)	.0034	.0041	.0053	.0068	.0088	.0113	.0145	.0184	.0233
	BETA/(1000/K)	1.4	1.5	1.5	1.6	1.7	1.8	1.9	2.1	2.3
9.0000	V/(M3/KG)	.00160	.00164	.00170	.00177	.00184	.00192	.00200	.00210	.00221
	H/(KJ/KG)	600.6	662.1	741.2	822.4	905.3	989.9	1076.4	1161.3	1251.8
	S/(KJ/KG K)	1.6588	1.7726	1.9132	2.0515	2.1869	2.3195	2.4502	2.5737	2.7007
	C/(M/SEC)	702.4835	652.8131	590.9684	533.9124	484.2057	442.2467	406.9300	376.2511	352.7282
	KAPPA/(1/MPA)	.0038	.0044	.0055	.0070	.0087	.0109	.0134	.0163	.0198
	BETA/(1000/K)	1.4	1.4	1.5	1.5	1.6	1.7	1.8	2.0	2.1
10.0000	V/(M3/KG)	.00159	.00163	.00169	.00176	.00182	.00190	.00198	.00207	.00217
	H/(KJ/KG)	601.0	662.5	741.4	822.5	905.4	989.7	1076.0	1160.6	1250.7
	S/(KJ/KG K)	1.6566	1.7703	1.9107	2.0488	2.1840	2.3163	2.4466	2.5697	2.6963
	C/(M/SEC)	649.1919	612.1445	563.3592	517.6103	478.0354	445.0250	417.2605	392.5569	373.6345
	KAPPA/(1/MPA)	.0043	.0049	.0060	.0073	.0088	.0105	.0125	.0147	.0173
	BETA/(1000/K)	1.4	1.4	1.4	1.5	1.6	1.6	1.7	1.8	2.0



PENTADECANE

PROPERTIES OF SATURATED PENTADECANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
545.00000	.10543	.00165	.18081	637.42278	227.99943	865.42222	1.77033	.41835	2.18868
550.00000	.11763	.00167	.16265	652.76306	225.37182	878.13489	1.79831	.40977	2.20808
555.00000	.13091	.00168	.14662	668.23162	222.71500	890.94661	1.82627	.40129	2.22756
560.00000	.14534	.00169	.13242	683.82942	220.02421	903.85363	1.85421	.39290	2.24711
565.00000	.16098	.00171	.11983	699.55726	217.29428	916.85154	1.88212	.38459	2.26671
570.00000	.17792	.00172	.10862	715.41544	214.51995	929.93539	1.91001	.37635	2.28636
575.00000	.19622	.00174	.09862	731.40382	211.69584	943.09966	1.93788	.36817	2.30605
580.00000	.21595	.00176	.08967	747.52185	208.81644	956.33829	1.96573	.36003	2.32576
585.00000	.23719	.00177	.08165	763.76865	205.87605	969.64470	1.99356	.35192	2.34549
590.00000	.26003	.00179	.07444	780.14301	202.86874	983.01175	2.02136	.34385	2.36521
595.00000	.28455	.00181	.06795	796.64354	199.78826	996.43179	2.04914	.33578	2.38492
600.00000	.31084	.00183	.06208	813.26868	196.62794	1009.89663	2.07688	.32771	2.40460
605.00000	.33897	.00185	.05678	830.01691	193.38059	1023.39750	2.10459	.31964	2.42423
610.00000	.36906	.00187	.05196	846.88674	190.03833	1036.92507	2.13227	.31154	2.44381
615.00000	.40120	.00189	.04759	863.87699	186.59233	1050.46932	2.15991	.30340	2.46331
620.00000	.43548	.00191	.04361	880.98690	183.03266	1064.01957	2.18751	.29521	2.48273
625.00000	.47203	.00194	.03998	898.21632	179.34795	1077.56427	2.21508	.28696	2.50204
630.00000	.51095	.00196	.03666	915.56599	175.52497	1091.09096	2.24261	.27861	2.52122
635.00000	.55236	.00199	.03362	933.03781	171.54820	1104.58601	2.27010	.27015	2.54026
640.00000	.59640	.00201	.03083	950.63526	167.39914	1118.03440	2.29757	.26156	2.55913
645.00000	.64319	.00204	.02826	968.36384	163.05549	1131.41934	2.32501	.25280	2.57781
650.00000	.69287	.00207	.02589	986.23194	158.48979	1144.72173	2.35245	.24383	2.59628
655.00000	.74561	.00211	.02371	1004.25022	153.66962	1157.91984	2.37990	.23461	2.61451
660.00000	.80155	.00214	.02168	1022.43618	148.55112	1170.98730	2.40737	.22508	2.63245
665.00000	.86088	.00218	.01980	1040.81167	143.08108	1183.89275	2.43492	.21516	2.65008
670.00000	.92377	.00223	.01804	1059.40783	137.18885	1196.59668	2.46257	.20476	2.66733
675.00000	.99043	.00228	.01640	1078.26862	130.77905	1209.04768	2.49039	.19375	2.68414
680.00000	1.06107	.00233	.01485	1097.45690	123.71870	1221.17560	2.51847	.18194	2.70041
685.00000	1.13591	.00240	.01337	1117.06688	115.81199	1232.87887	2.54695	.16907	2.71601
690.00000	1.21520	.00247	.01195	1137.24893	106.74878	1243.99771	2.57602	.15471	2.73073
695.00000	1.29921	.00257	.01056	1158.27151	95.97760	1254.24911	2.60607	.13810	2.74417
700.00000	1.38823	.00271	.00913	1180.72497	82.29485	1263.01983	2.63792	.11756	2.75549
705.00000	1.48256	.00299	.00748	1206.80189	61.45243	1268.25432	2.67466	.08717	2.76183
706.76000	1.58253	.00416	.00416	1236.74846	0.	1236.74846	2.71651	0.	2.71651

THERMODYNAMIC PROPERTIES OF PENTADECANE

TEMPERATURES/(K)

P/(MPA)		545.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
.1000	V/(M3/KG)	.19191	.19522	.20978	.22232	.23383	.24482	.25554	.26615	.27672
	H/(KJ/KG)	866.4	881.0	953.1	1024.9	1097.3	1170.7	1245.4	1321.5	1399.2
	S/(KJ/KG K)	2.1923	2.2190	2.3473	2.4695	2.5876	2.7027	2.8155	2.9263	3.0353
	C/(M/SEC)	133.4458	134.9919	141.3974	146.4369	150.7585	154.6891	158.3979	161.9703	165.4463
	KAPPA/(1/MPA)	11.2221	11.1145	10.7641	10.5807	10.4720	10.3990	10.3440	10.2983	10.2582
	BETA/(1000/K)	3.5	3.3	2.5	2.1	1.9	1.8	1.7	1.6	1.5
.1013	V/(M3/KG)	.18910	.19238	.20683	.21925	.23063	.24149	.25208	.26257	.27301
	H/(KJ/KG)	866.2	880.8	953.0	1024.8	1097.2	1170.6	1245.3	1321.5	1399.2
	S/(KJ/KG K)	2.1914	2.2181	2.3466	2.4688	2.5870	2.7022	2.8150	2.9257	3.0348
	C/(M/SEC)	133.2426	134.8041	141.2608	146.3282	150.6670	154.6096	158.3278	161.9084	165.3919
	KAPPA/(1/MPA)	11.0967	10.9881	10.6351	10.4509	10.3417	10.2686	10.2135	10.1677	10.1275
	BETA/(1000/K)	3.6	3.3	2.6	2.2	1.9	1.8	1.7	1.6	1.5
.2000	V/(M3/KG)	.00165	.00167	.00174	.10450	.11129	.11746	.12334	.12908	.13477
	H/(KJ/KG)	637.4	652.8	731.4	1018.2	1092.5	1166.9	1242.1	1318.5	1396.3
	S/(KJ/KG K)	1.7701	1.7981	1.9379	2.4333	2.5546	2.6714	2.7849	2.8959	3.0051
	C/(M/SEC)	1062.8620	1028.4016	864.6602	137.8846	143.6700	148.5807	153.0426	157.2582	161.3181
	KAPPA/(1/MPA)	.0023	.0024	.0034	5.6597	5.5160	5.4268	5.3628	5.3114	5.2672
	BETA/(1000/K)	1.7	1.7	1.9	2.8	2.3	2.0	1.9	1.8	1.7
.3000	V/(M3/KG)	.00165	.00166	.00174	.06487	.07027	.07491	.07921	.08336	.08744
	H/(KJ/KG)	637.5	652.8	731.4	1010.8	1087.5	1163.0	1238.8	1315.4	1393.2
	S/(KJ/KG K)	1.7698	1.7978	1.9375	2.4072	2.5324	2.6510	2.7653	2.8768	2.9861
	C/(M/SEC)	1059.2584	1025.0074	862.2309	128.3828	136.1138	142.2102	147.5312	152.4540	157.1409
	KAPPA/(1/MPA)	.0023	.0024	.0034	4.1080	3.9066	3.7942	3.7183	3.6597	3.6106
	BETA/(1000/K)	1.7	1.7	1.9	3.7	2.8	2.4	2.1	2.0	1.9
.4000	V/(M3/KG)	.00165	.00166	.00174	.00183	.04958	.05354	.05709	.06046	.06375
	H/(KJ/KG)	637.5	652.8	731.4	813.2	1081.9	1158.9	1235.3	1312.2	1390.2
	S/(KJ/KG K)	1.7695	1.7975	1.9372	2.0765	2.5142	2.6349	2.7502	2.8621	2.9716
	C/(M/SEC)	1055.6456	1021.6046	859.8069	710.0288	127.8818	135.4847	141.8158	147.5319	152.9009
	KAPPA/(1/MPA)	.0023	.0024	.0034	.0051	3.1521	3.0038	2.9115	2.8436	2.7886
	BETA/(1000/K)	1.6	1.7	1.9	2.1	3.5	2.8	2.4	2.2	2.1
.5000	V/(M3/KG)	.00165	.00166	.00174	.00183	.00194	.04062	.04376	.04669	.04952
	H/(KJ/KG)	637.5	652.8	731.4	813.2	898.2	1154.5	1231.6	1308.9	1387.0
	S/(KJ/KG K)	1.7693	1.7972	1.9369	2.0761	2.2149	2.6209	2.7374	2.8498	2.9595
	C/(M/SEC)	1052.0232	1018.1927	857.3768	708.5289	568.0567	128.2592	135.8279	142.4569	148.5801
	KAPPA/(1/MPA)	.0023	.0024	.0034	.0051	.0082	2.5606	2.4443	2.3640	2.3014
	BETA/(1000/K)	1.6	1.7	1.9	2.1	2.5	3.3	2.7	2.5	2.3
.6000	V/(M3/KG)	.00165	.00166	.00174	.00183	.00193	.03189	.03481	.03747	.04001
	H/(KJ/KG)	637.5	652.8	731.4	813.1	898.1	1149.7	1227.8	1305.5	1383.8
	S/(KJ/KG K)	1.7690	1.7970	1.9366	2.0758	2.2145	2.6080	2.7259	2.8389	2.9489
	C/(M/SEC)	1048.4696	1014.8412	854.9402	707.0243	567.5703	120.2932	129.4665	137.1812	144.1556
	KAPPA/(1/MPA)	.0023	.0024	.0034	.0051	.0082	2.3069	2.1528	2.0552	1.9829
	BETA/(1000/K)	1.6	1.7	1.8	2.1	2.5	4.0	3.2	2.8	2.5

THERMODYNAMIC PROPERTIES OF PENTADECANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	.28726	.29780	.30830	.31877	.32920	.33956	.34984	.36005	.37016
	H/(KJ/KG)	1478.4	1559.2	1641.4	1725.0	1810.1	1896.5	1984.2	2073.2	2163.4
	S/(KJ/KG K)	3.1427	3.2486	3.3530	3.4560	3.5576	3.6578	3.7566	3.8541	3.9503
	C/(M/SEC)	168.8418	172.1607	175.4013	178.5601	181.6338	184.6197	187.5163	190.3233	193.0412
	KAPPA/(1/MPA)	10.2218	10.1887	10.1588	10.1320	10.1085	10.0884	10.0717	10.0582	10.0480
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.1013	V/(M3/KG)	.28342	.29383	.30421	.31455	.32485	.33508	.34524	.35531	.36530
	H/(KJ/KG)	1478.4	1559.1	1641.3	1725.0	1810.1	1896.5	1984.2	2073.2	2163.4
	S/(KJ/KG K)	3.1422	3.2481	3.3525	3.4554	3.5570	3.6572	3.7561	3.8536	3.9498
	C/(M/SEC)	168.7944	172.1199	175.3665	178.5309	181.6095	184.5996	187.4998	190.3095	193.0296
	KAPPA/(1/MPA)	10.0911	10.0580	10.0280	10.0013	9.9778	9.9577	9.9409	9.9275	9.9172
	BETA/(1000/K)	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.2000	V/(M3/KG)	.14044	.14609	.15171	.15729	.16281	.16828	.17367	.17897	.18419
	H/(KJ/KG)	1475.5	1556.3	1638.6	1722.4	1807.7	1894.3	1982.3	2071.6	2162.2
	S/(KJ/KG K)	3.1126	3.2185	3.3231	3.4262	3.5280	3.6285	3.7277	3.8255	3.9221
	C/(M/SEC)	165.2564	169.0803	172.7851	176.3629	179.8060	183.1089	186.2680	189.2824	192.1528
	KAPPA/(1/MPA)	5.2279	5.1926	5.1612	5.1334	5.1094	5.0891	5.0723	5.0590	5.0489
	BETA/(1000/K)	1.6	1.5	1.5	1.4	1.4	1.3	1.2	1.2	1.1
.3000	V/(M3/KG)	.09149	.09551	.09951	.10346	.10736	.11119	.11494	.11861	.12219
	H/(KJ/KG)	1472.6	1553.4	1635.9	1719.8	1805.3	1892.2	1980.5	2070.1	2161.0
	S/(KJ/KG K)	3.0936	3.1997	3.3043	3.4077	3.5097	3.6105	3.7100	3.8082	3.9051
	C/(M/SEC)	161.6518	166.0000	170.1798	174.1803	177.9912	181.6054	185.0189	188.2312	191.2440
	KAPPA/(1/MPA)	3.5678	3.5301	3.4970	3.4682	3.4436	3.4230	3.4062	3.3930	3.3832
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2
.4000	V/(M3/KG)	.06700	.07022	.07341	.07655	.07963	.08264	.08558	.08842	.09118
	H/(KJ/KG)	1469.6	1550.5	1633.1	1717.2	1802.9	1890.0	1978.6	2068.5	2159.8
	S/(KJ/KG K)	3.0792	3.1854	3.2902	3.3938	3.4961	3.5971	3.6969	3.7955	3.8928
	C/(M/SEC)	158.0209	162.9166	167.5844	172.0125	176.1902	180.1106	183.7710	187.1722	190.3181
	KAPPA/(1/MPA)	2.7417	2.7013	2.6663	2.6364	2.6111	2.5902	2.5734	2.5603	2.5506
	BETA/(1000/K)	1.9	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.2
.5000	V/(M3/KG)	.05230	.05505	.05775	.06041	.06300	.06552	.06796	.07031	.07257
	H/(KJ/KG)	1466.5	1547.6	1630.3	1714.6	1800.5	1887.9	1976.8	2067.0	2158.6
	S/(KJ/KG K)	3.0673	3.1736	3.2786	3.3824	3.4849	3.5863	3.6864	3.7853	3.8830
	C/(M/SEC)	154.3550	159.8266	164.9978	169.8598	174.4041	178.6263	182.5264	186.1083	189.3784
	KAPPA/(1/MPA)	2.2497	2.2061	2.1690	2.1379	2.1119	2.0907	2.0739	2.0608	2.0514
	BETA/(1000/K)	2.1	2.0	1.9	1.7	1.6	1.5	1.4	1.3	1.2
.6000	V/(M3/KG)	.04249	.04492	.04731	.04965	.05191	.05411	.05622	.05824	.06017
	H/(KJ/KG)	1463.5	1544.6	1627.5	1712.0	1798.1	1885.8	1974.9	2065.5	2157.5
	S/(KJ/KG K)	3.0569	3.1634	3.2685	3.3725	3.4754	3.5770	3.6775	3.7768	3.8749
	C/(M/SEC)	150.6436	156.7254	162.4187	167.7224	172.6340	177.1540	181.2874	185.0420	188.4281
	KAPPA/(1/MPA)	1.9253	1.8779	1.8386	1.8061	1.7794	1.7579	1.7409	1.7280	1.7187
	BETA/(1000/K)	2.3	2.1	2.0	1.9	1.7	1.6	1.5	1.4	1.3

THERMODYNAMIC PROPERTIES OF PENTADECANE

TEMPERATURES/(K)

P/(MPA)		545.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
.7000	V/(M3/KG)	.00165	.00166	.00174	.00182	.00193	.00207	.02835	.03085	.03320
	H/(KJ/KG)	637.5	652.8	731.3	813.1	898.0	986.2	1223.7	1301.9	1380.5
	S/(KJ/KG K)	1.7687	1.7967	1.9363	2.0754	2.2140	2.3524	2.7152	2.8290	2.9393
	C/(M/SEC)	1044.8266	1011.4101	852.4968	705.5147	567.0772	431.4035	122.5776	131.6396	139.5984
	KAPPA/(1/MPA)	.0023	.0025	.0035	.0051	.0082	.0151	1.9704	1.8473	1.7622
	BETA/(1000/K)	1.6	1.7	1.8	2.1	2.5	3.3	3.7	3.1	2.8
.8000	V/(M3/KG)	.00165	.00166	.00174	.00182	.00193	.00207	.02341	.02584	.02807
	H/(KJ/KG)	637.5	652.9	731.3	813.0	897.9	986.0	1219.2	1298.1	1377.1
	S/(KJ/KG K)	1.7684	1.7964	1.9359	2.0750	2.2135	2.3517	2.7048	2.8196	2.9304
	C/(M/SEC)	1025.1318	993.8610	842.8956	700.0660	566.5774	432.2866	114.9127	125.7401	134.8713
	KAPPA/(1/MPA)	.0023	.0025	.0035	.0051	.0082	.0150	1.8708	1.7072	1.6044
	BETA/(1000/K)	1.6	1.7	1.8	2.1	2.5	3.2	4.4	3.6	3.1
.9000	V/(M3/KG)	.00165	.00166	.00174	.00182	.00193	.00207	.01945	.02189	.02405
	H/(KJ/KG)	637.6	652.9	731.3	813.0	897.7	985.8	1214.3	1294.1	1373.5
	S/(KJ/KG K)	1.7682	1.7961	1.9356	2.0746	2.2130	2.3511	2.6943	2.8105	2.9219
	C/(M/SEC)	1025.6321	994.4523	843.9514	701.6674	565.3953	433.1471	106.0328	119.3500	129.9268
	KAPPA/(1/MPA)	.0023	.0025	.0035	.0051	.0081	.0148	1.8540	1.6191	1.4906
	BETA/(1000/K)	1.6	1.7	1.8	2.1	2.5	3.2	5.5	4.1	3.5
1.0000	V/(M3/KG)	.00165	.00166	.00174	.00182	.00193	.00206	.00228	.01866	.02081
	H/(KJ/KG)	637.6	652.9	731.3	812.9	897.6	985.5	1078.2	1289.8	1369.8
	S/(KJ/KG K)	1.7679	1.7959	1.9353	2.0742	2.2125	2.3504	2.4903	2.8014	2.9136
	C/(M/SEC)	1026.1869	995.1006	845.0775	700.9530	565.5566	433.8553	294.8380	112.2682	124.7038
	KAPPA/(1/MPA)	.0023	.0025	.0035	.0051	.0081	.0147	.0362	1.5785	1.4106
	BETA/(1000/K)	1.6	1.7	1.8	2.1	2.4	3.1	5.0	4.9	3.9
2.0000	V/(M3/KG)	.00164	.00166	.00173	.00181	.00191	.00204	.00221	.00250	.00396
	H/(KJ/KG)	637.8	653.0	731.3	812.5	896.7	983.6	1073.9	1170.9	1290.0
	S/(KJ/KG K)	1.7652	1.7931	1.9322	2.0706	2.2080	2.3443	2.4806	2.6216	2.7886
	C/(M/SEC)	996.9387	966.2436	820.1402	685.3021	559.9780	441.3139	324.5420	199.3996	75.5625
	KAPPA/(1/MPA)	.0024	.0026	.0036	.0052	.0079	.0134	.0267	.0835	1.2229
	BETA/(1000/K)	1.6	1.6	1.8	2.0	2.3	2.8	3.8	7.0	31.1
3.0000	V/(M3/KG)	.00164	.00165	.00172	.00180	.00190	.00201	.00215	.00235	.00268
	H/(KJ/KG)	638.0	653.2	731.2	812.2	896.0	982.2	1071.1	1164.4	1259.2
	S/(KJ/KG K)	1.7626	1.7905	1.9291	2.0670	2.2038	2.3390	2.4731	2.6088	2.7419
	C/(M/SEC)	958.7181	930.1526	794.0727	668.7584	553.4324	446.7558	346.9260	252.5612	167.0062
	KAPPA/(1/MPA)	.0025	.0027	.0037	.0052	.0078	.0124	.0217	.0443	.1181
	BETA/(1000/K)	1.6	1.6	1.7	1.9	2.2	2.5	3.1	4.2	6.6
4.0000	V/(M3/KG)	.00164	.00165	.00172	.00179	.00188	.00199	.00211	.00227	.00248
	H/(KJ/KG)	638.2	653.4	731.3	812.0	895.4	981.1	1069.1	1160.9	1252.5
	S/(KJ/KG K)	1.7601	1.7879	1.9262	2.0637	2.1998	2.3342	2.4671	2.6005	2.7291
	C/(M/SEC)	918.6722	892.2889	766.5041	650.9348	545.6513	450.3496	364.5557	288.4866	224.9813
	KAPPA/(1/MPA)	.0026	.0028	.0038	.0053	.0077	.0117	.0187	.0315	.0563
	BETA/(1000/K)	1.5	1.6	1.7	1.8	2.0	2.3	2.6	3.2	3.9

THERMODYNAMIC PROPERTIES OF PENTADECANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.03547	.03769	.03986	.04196	.04400	.04595	.04783	.04961	.05130
	H/(KJ/KG)	1460.3	1541.6	1624.6	1709.3	1795.7	1883.6	1973.1	2064.1	2156.3
	S/(KJ/KG K)	3.0475	3.1542	3.2596	3.3638	3.4669	3.5689	3.6698	3.7694	3.8679
	C/(M/SEC)	146.8742	153.6086	159.8461	165.6011	170.8813	175.6959	180.0564	183.9764	187.4704
	KAPPA/(1/MPA)	1.6973	1.6455	1.6036	1.5695	1.5421	1.5202	1.5031	1.4903	1.4812
	BETA/(1000/K)	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	1.3
.8000	V/(M3/KG)	.03020	.03226	.03426	.03620	.03806	.03984	.04154	.04314	.04465
	H/(KJ/KG)	1457.1	1538.6	1621.8	1706.7	1793.3	1881.5	1971.3	2062.6	2155.2
	S/(KJ/KG K)	3.0389	3.1457	3.2514	3.3559	3.4593	3.5616	3.6628	3.7628	3.8617
	C/(M/SEC)	143.0322	150.4708	157.2790	163.4965	169.1477	174.2539	178.8359	182.9143	186.5087
	KAPPA/(1/MPA)	1.5301	1.4731	1.4282	1.3925	1.3642	1.3420	1.3248	1.3121	1.3031
	BETA/(1000/K)	2.8	2.5	2.3	2.1	1.9	1.7	1.6	1.4	1.3
.9000	V/(M3/KG)	.02608	.02804	.02991	.03172	.03345	.03509	.03665	.03811	.03948
	H/(KJ/KG)	1453.8	1535.5	1618.9	1704.0	1790.9	1879.4	1969.5	2061.2	2154.2
	S/(KJ/KG K)	3.0307	3.1379	3.2438	3.3486	3.4523	3.5550	3.6565	3.7569	3.8561
	C/(M/SEC)	139.1002	147.3070	154.7168	161.4097	167.4349	172.8302	177.6284	181.8585	185.5463
	KAPPA/(1/MPA)	1.4043	1.3411	1.2928	1.2552	1.2260	1.2034	1.1861	1.1734	1.1647
	BETA/(1000/K)	3.0	2.7	2.5	2.2	2.0	1.8	1.6	1.5	1.3
1.0000	V/(M3/KG)	.02278	.02465	.02643	.02814	.02976	.03129	.03274	.03409	.03534
	H/(KJ/KG)	1450.4	1532.3	1616.0	1701.4	1788.5	1877.3	1967.8	2059.7	2153.1
	S/(KJ/KG K)	3.0229	3.1304	3.2366	3.3417	3.4458	3.5488	3.6507	3.7515	3.8511
	C/(M/SEC)	135.0588	144.1115	152.1590	159.3421	165.7450	171.4274	176.4366	180.8120	184.5863
	KAPPA/(1/MPA)	1.3083	1.2374	1.1852	1.1457	1.1155	1.0925	1.0751	1.0625	1.0539
	BETA/(1000/K)	3.4	3.0	2.6	2.4	2.1	1.9	1.7	1.5	1.4
2.0000	V/(M3/KG)	.00713	.00919	.01075	.01207	.01324	.01427	.01520	.01602	.01674
	H/(KJ/KG)	1403.1	1495.2	1584.2	1673.7	1764.5	1856.9	1950.9	2046.4	2143.5
	S/(KJ/KG K)	2.9420	3.0629	3.1760	3.2861	3.3945	3.5016	3.6075	3.7122	3.8158
	C/(M/SEC)	87.0992	110.6425	127.4808	140.3879	150.7104	159.1107	165.9567	171.4692	175.7850
	KAPPA/(1/MPA)	1.2224	.8639	.7288	.6588	.6165	.5892	.5710	.5593	.5523
	BETA/(1000/K)	14.3	7.5	5.3	4.1	3.3	2.8	2.3	1.9	1.6
3.0000	V/(M3/KG)	.00334	.00443	.00572	.00690	.00790	.00876	.00950	.01012	.01064
	H/(KJ/KG)	1354.6	1450.5	1548.0	1644.5	1740.5	1837.3	1935.3	2034.7	2135.6
	S/(KJ/KG K)	2.8713	2.9970	3.1209	3.2396	3.3543	3.4665	3.5769	3.6858	3.7935
	C/(M/SEC)	113.0300	105.7042	115.0956	128.9247	141.3428	151.4458	159.4207	165.5303	169.9622
	KAPPA/(1/MPA)	.3369	.5089	.5240	.4740	.4339	.4078	.3913	.3813	.3760
	BETA/(1000/K)	10.7	11.3	8.9	6.3	4.7	3.6	2.9	2.3	1.8
4.0000	V/(M3/KG)	.00277	.00320	.00384	.00464	.00545	.00616	.00678	.00729	.00770
	H/(KJ/KG)	1341.1	1428.3	1520.4	1618.1	1718.2	1819.1	1921.1	2024.3	2129.1
	S/(KJ/KG K)	2.8493	2.9636	3.0806	3.2008	3.3203	3.4374	3.5522	3.6654	3.7772
	C/(M/SEC)	175.6743	142.5057	128.9813	130.9925	139.6594	149.0493	157.0984	163.3410	167.7377
	KAPPA/(1/MPA)	.1051	.1883	.2791	.3194	.3159	.3023	.2909	.2834	.2795
	BETA/(1000/K)	5.1	6.6	7.7	7.1	5.6	4.3	3.3	2.5	1.9

THERMODYNAMIC PROPERTIES OF PENTADECANE

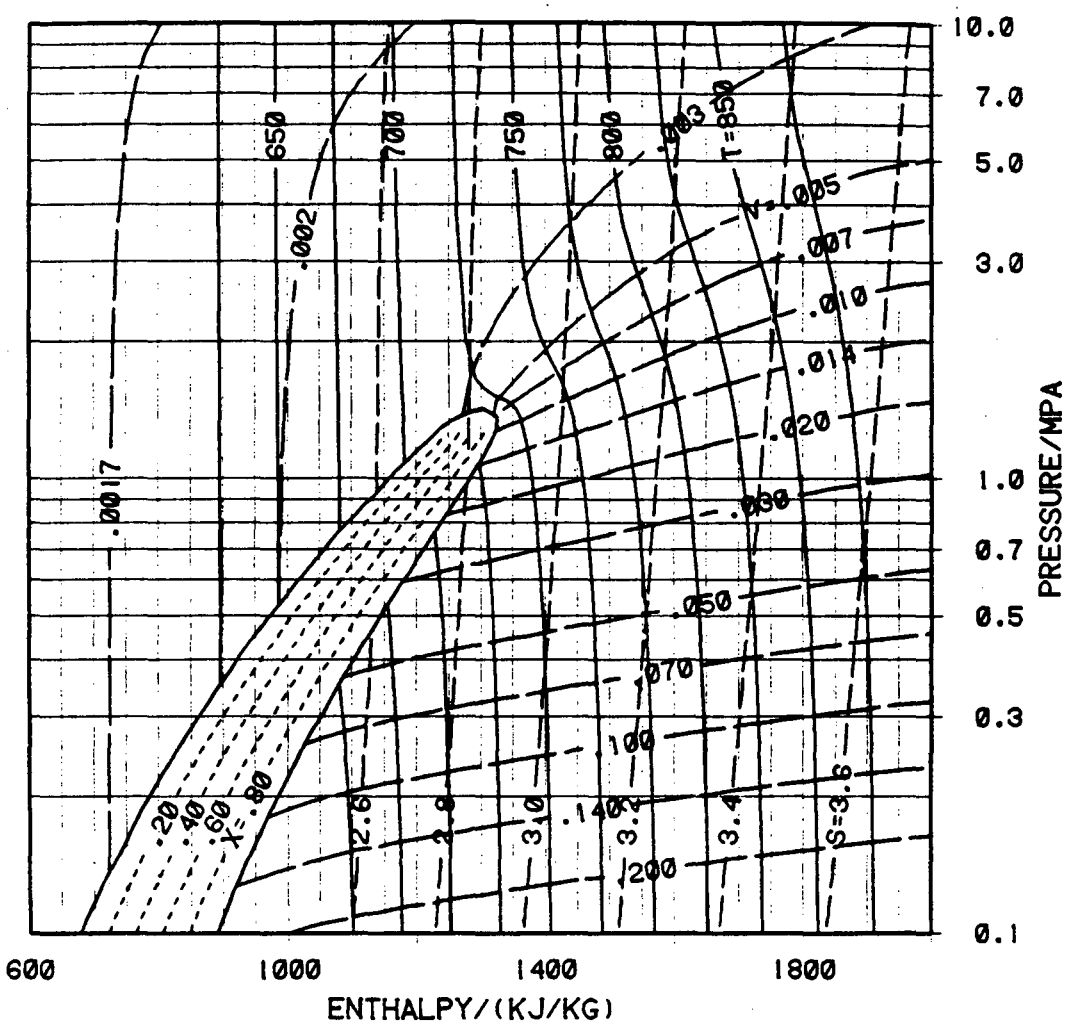
TEMPERATURES/(K)

P/(MPA)		545.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000
5.0000	V/(M3/KG)	.00163	.00164	.00171	.00178	.00187	.00196	.00207	.00221	.00237
	H/(KJ/KG)	638.5	653.7	731.4	811.9	895.0	980.3	1067.7	1158.6	1249.0
	S/(KJ/KG K)	1.7576	1.7853	1.9234	2.0605	2.1961	2.3299	2.4619	2.5941	2.7209
	C/(M/SEC)	875.9476	851.8381	736.8311	631.3605	536.2964	452.0403	378.6186	316.1228	265.9403
	KAPPA/(1/MPA)	.0028	.0030	.0040	.0055	.0078	.0112	.0166	.0249	.0377
	BETA/(1000/K)	1.5	1.5	1.6	1.8	1.9	2.1	2.3	2.6	3.0
6.0000	V/(M3/KG)	.00163	.00164	.00170	.00177	.00185	.00194	.00204	.00216	.00229
	H/(KJ/KG)	638.8	654.0	731.5	811.8	894.7	979.6	1066.7	1157.1	1246.7
	S/(KJ/KG K)	1.7552	1.7828	1.9206	2.0574	2.1927	2.3260	2.4573	2.5888	2.7146
	C/(M/SEC)	829.5035	807.8092	704.1556	609.3554	524.9075	451.6713	389.7296	338.5495	298.3544
	KAPPA/(1/MPA)	.0030	.0032	.0042	.0057	.0078	.0109	.0152	.0210	.0286
	BETA/(1000/K)	1.5	1.5	1.6	1.7	1.8	1.9	2.1	2.3	2.5
7.0000	V/(M3/KG)	.00162	.00163	.00170	.00176	.00184	.00192	.00201	.00212	.00223
	H/(KJ/KG)	639.2	654.3	731.7	811.9	894.5	979.2	1066.0	1156.0	1245.1
	S/(KJ/KG K)	1.7528	1.7804	1.9180	2.0545	2.1895	2.3224	2.4533	2.5842	2.7092
	C/(M/SEC)	777.4267	758.3709	667.1616	583.9557	510.8177	448.9587	398.2028	357.2386	325.4712
	KAPPA/(1/MPA)	.0033	.0035	.0045	.0060	.0080	.0107	.0141	.0183	.0233
	BETA/(1000/K)	1.4	1.5	1.5	1.6	1.7	1.8	1.9	2.1	2.2
8.0000	V/(M3/KG)	.00162	.00163	.00169	.00175	.00182	.00190	.00199	.00208	.00218
	H/(KJ/KG)	639.5	654.6	731.9	812.0	894.5	979.0	1065.5	1155.1	1243.9
	S/(KJ/KG K)	1.7505	1.7781	1.9154	2.0517	2.1864	2.3190	2.4496	2.5800	2.7045
	C/(M/SEC)	716.4582	700.4423	623.5157	553.4641	492.9814	443.4288	404.1494	373.0130	348.9136
	KAPPA/(1/MPA)	.0037	.0039	.0050	.0065	.0084	.0107	.0134	.0164	.0198
	BETA/(1000/K)	1.4	1.4	1.5	1.5	1.6	1.7	1.8	1.9	2.1
9.0000	V/(M3/KG)	.00161	.00162	.00168	.00174	.00181	.00188	.00196	.00205	.00214
	H/(KJ/KG)	639.9	655.0	732.2	812.1	894.5	978.8	1065.1	1154.5	1242.9
	S/(KJ/KG K)	1.7482	1.7758	1.9130	2.0491	2.1836	2.3159	2.4461	2.5762	2.7002
	C/(M/SEC)	639.5925	627.4587	568.5650	514.7678	469.5811	434.2895	407.5158	386.3635	369.6227
	KAPPA/(1/MPA)	.0045	.0047	.0058	.0073	.0090	.0109	.0129	.0150	.0173
	BETA/(1000/K)	1.4	1.4	1.4	1.5	1.5	1.6	1.7	1.8	1.9
10.0000	V/(M3/KG)	.00160	.00161	.00167	.00173	.00179	.00186	.00193	.00202	.00211
	H/(KJ/KG)	640.3	655.4	732.5	812.3	894.6	978.8	1064.9	1154.0	1242.1
	S/(KJ/KG K)	1.7461	1.7736	1.9106	2.0466	2.1809	2.3130	2.4429	2.5726	2.6962
	C/(M/SEC)	525.5093	519.9173	490.0079	460.6328	436.9330	420.1310	408.0637	397.6018	388.2016
	KAPPA/(1/MPA)	.0063	.0065	.0075	.0088	.0101	.0114	.0126	.0139	.0155
	BETA/(1000/K)	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.7	1.8

THERMODYNAMIC PROPERTIES OF PENTADECANE

TEMPERATURES/(K)

P/(MPA)		750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.00256	.00282	.00316	.00363	.00418	.00475	.00525	.00568	.00602
	H/(KJ/KG)	1335.6	1419.2	1506.3	1600.1	1700.0	1803.3	1908.5	2015.2	2123.6
	S/(KJ/KG K)	2.8383	2.9480	3.0587	3.1741	3.2933	3.4131	3.5317	3.6486	3.7642
	C/(M/SEC)	226.4127	193.6871	168.1565	152.8383	149.3578	153.2664	159.3000	164.8761	169.0859
	KAPPA/(1/MPA)	.0570	.0864	.1299	.1805	.2137	.2229	.2213	.2179	.2155
	BETA/(1000/K)	3.5	4.2	5.1	5.7	5.5	4.6	3.6	2.7	1.9
6.0000	V/(M3/KG)	.00245	.00264	.00287	.00317	.00353	.00394	.00434	.00469	.00498
	H/(KJ/KG)	1332.2	1414.3	1499.0	1589.8	1687.5	1790.9	1897.9	2007.3	2118.9
	S/(KJ/KG K)	2.8306	2.9382	3.0458	3.1575	3.2742	3.3940	3.5146	3.6345	3.7535
	C/(M/SEC)	266.5817	238.3519	212.8514	191.2279	176.4407	170.1583	170.1640	172.8978	176.0414
	KAPPA/(1/MPA)	.0388	.0527	.0723	.0988	.1282	.1504	.1611	.1644	.1648
	BETA/(1000/K)	2.8	3.2	3.7	4.2	4.4	4.2	3.5	2.7	2.0
7.0000	V/(M3/KG)	.00237	.00252	.00271	.00293	.00319	.00349	.00380	.00408	.00432
	H/(KJ/KG)	1329.9	1411.0	1494.5	1583.6	1679.6	1782.2	1889.7	2000.9	2114.8
	S/(KJ/KG K)	2.8243	2.9307	3.0366	3.1463	3.2609	3.3798	3.5010	3.6228	3.7444
	C/(M/SEC)	300.1762	276.3347	253.1483	231.2651	212.6360	199.5600	192.7878	190.8684	191.6462
	KAPPA/(1/MPA)	.0295	.0374	.0480	.0620	.0791	.0965	.1099	.1177	.1210
	BETA/(1000/K)	2.4	2.7	3.0	3.3	3.5	3.5	3.2	2.6	2.0
8.0000	V/(M3/KG)	.00230	.00244	.00260	.00278	.00299	.00322	.00346	.00370	.00390
	H/(KJ/KG)	1328.2	1408.6	1491.2	1579.3	1674.3	1776.1	1883.7	1995.8	2111.5
	S/(KJ/KG K)	2.8189	2.9244	3.0292	3.1376	3.2510	3.3690	3.4903	3.6132	3.7366
	C/(M/SEC)	329.3744	309.4917	288.8000	268.0774	248.9304	233.3153	222.6327	216.9337	215.1708
	KAPPA/(1/MPA)	.0239	.0289	.0354	.0437	.0540	.0651	.0753	.0827	.0869
	BETA/(1000/K)	2.2	2.4	2.6	2.8	3.0	3.0	2.8	2.4	1.9
9.0000	V/(M3/KG)	.00225	.00238	.00252	.00268	.00286	.00305	.00325	.00344	.00362
	H/(KJ/KG)	1326.8	1406.7	1488.6	1576.0	1670.3	1771.6	1879.2	1991.9	2108.8
	S/(KJ/KG K)	2.8140	2.9188	3.0228	3.1303	3.2429	3.3604	3.4816	3.6051	3.7298
	C/(M/SEC)	355.4223	339.1494	320.7840	301.4435	282.7534	266.4880	254.1091	246.2564	242.6743
	KAPPA/(1/MPA)	.0201	.0235	.0279	.0334	.0400	.0473	.0543	.0600	.0637
	BETA/(1000/K)	2.1	2.2	2.4	2.5	2.6	2.6	2.5	2.2	1.8
10.0000	V/(M3/KG)	.00221	.00233	.00246	.00260	.00276	.00293	.00310	.00327	.00342
	H/(KJ/KG)	1325.7	1405.1	1486.6	1573.4	1667.2	1768.2	1875.7	1988.8	2106.6
	S/(KJ/KG K)	2.8095	2.9137	3.0171	3.1240	3.2359	3.3530	3.4742	3.5982	3.7238
	C/(M/SEC)	379.1053	366.1784	349.9326	331.9109	313.9130	297.6771	284.6513	275.6974	270.9862
	KAPPA/(1/MPA)	.0174	.0199	.0229	.0268	.0314	.0364	.0414	.0456	.0485
	BETA/(1000/K)	2.0	2.1	2.2	2.3	2.4	2.4	2.2	2.0	1.7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7.0
5.0
3.0
1.0
0.7
0.5
0.3
0.1
PRESSURE/MPA
600
1000
1400
1800
ENTHALPY/(KJ/KG)
650
700
750
800
T=850
.002
.003
.005
.007
.010
.014
.020
.030
.050
.070
.100
.140
.200
.0017
.20
.40
.60
X=.80
2.6
2.8
3.0
3.2
3.4
S=3.6

HEXADECANE

PROPERTIES OF SATURATED HEXADECANE

TEMPERATURE	PRESSURE	VOLUME/(M3/KG)		ENTHALPY/(KJ/KG)			ENTROPY/(KJ/KG K)		
K	MPA	VF	VG	HF	HFG	HG	SF	SFG	SG
560.00000	.10297	.00166	.16927	682.58327	210.32465	892.90792	1.87351	.37558	2.24909
565.00000	.11467	.00168	.15302	697.85311	208.60326	906.45637	1.90062	.36921	2.26983
570.00000	.12739	.00169	.13864	713.31252	206.88045	920.19296	1.92783	.36295	2.29077
575.00000	.14119	.00171	.12586	728.96605	205.14289	934.10895	1.95513	.35677	2.31190
580.00000	.15615	.00172	.11447	744.81714	203.37729	948.19443	1.98253	.35065	2.33318
585.00000	.17231	.00174	.10429	760.86781	201.57064	962.43845	2.01004	.34457	2.35460
590.00000	.18977	.00175	.09517	777.11880	199.71031	976.82912	2.03765	.33849	2.37614
595.00000	.20857	.00177	.08697	793.56963	197.78410	991.35373	2.06536	.33241	2.39777
600.00000	.22881	.00179	.07958	810.21870	195.78018	1005.99887	2.09316	.32630	2.41946
605.00000	.25055	.00180	.07290	827.06346	193.68704	1020.75050	2.12105	.32014	2.44120
610.00000	.27387	.00182	.06685	844.10058	191.49343	1035.59401	2.14903	.31392	2.46295
615.00000	.29885	.00184	.06136	861.32606	189.18823	1050.51429	2.17708	.30762	2.48470
620.00000	.32559	.00186	.05635	878.73548	186.76025	1065.49573	2.20519	.30123	2.50642
625.00000	.35416	.00188	.05179	896.32418	184.19807	1080.52225	2.23336	.29472	2.52808
630.00000	.38467	.00190	.04762	914.08746	181.48977	1095.57723	2.26157	.28808	2.54965
635.00000	.41721	.00193	.04380	932.02087	178.62262	1110.64349	2.28983	.28130	2.57112
640.00000	.45188	.00195	.04029	950.12050	175.58270	1125.70320	2.31812	.27435	2.59246
645.00000	.48880	.00198	.03706	968.38323	172.35451	1140.73774	2.34643	.26722	2.61364
650.00000	.52808	.00200	.03409	986.80726	168.92024	1155.72750	2.37476	.25988	2.63464
655.00000	.56983	.00203	.03134	1005.39246	165.25918	1170.65164	2.40311	.25230	2.65542
660.00000	.61419	.00206	.02880	1024.14105	161.34669	1185.48775	2.43149	.24446	2.67596
665.00000	.66129	.00209	.02644	1043.05847	157.15276	1200.21123	2.45990	.23632	2.69622
670.00000	.71129	.00212	.02425	1062.15341	152.64151	1214.79492	2.48835	.22782	2.71617
675.00000	.76432	.00216	.02221	1081.44205	147.76520	1229.20724	2.51686	.21891	2.73577
680.00000	.82056	.00220	.02029	1100.94629	142.46531	1243.41160	2.54547	.20951	2.75498
685.00000	.88018	.00225	.01850	1120.69925	136.66393	1257.36318	2.57422	.19951	2.77372
690.00000	.94338	.00230	.01681	1140.74998	130.25489	1271.00487	2.60317	.18878	2.79195
695.00000	1.01035	.00235	.01520	1161.17170	123.08808	1284.25979	2.63244	.17711	2.80954
700.00000	1.08132	.00242	.01366	1182.07835	114.93854	1297.01689	2.66217	.16420	2.82636
705.00000	1.15651	.00250	.01216	1203.65869	105.44109	1309.09978	2.69262	.14956	2.84218
710.00000	1.23619	.00261	.01067	1226.26979	93.91475	1320.18454	2.72429	.13227	2.85657
715.00000	1.32062	.00276	.00910	1250.76506	78.74768	1329.51274	2.75835	.11014	2.86849
720.00000	1.41010	.00319	.00711	1274.18817	59.57451	1333.76268	2.79066	.08275	2.87340
720.54000	1.50496	.00419	.00419	1302.61621	0.	1302.61621	2.82957	0.	2.82957

THERMODYNAMIC PROPERTIES OF HEXADECANE

TEMPERATURES/(K)

P/(MPA)		560.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000
.1000	V/(M3/KG)	.17537	.18859	.20484	.21747	.22842	.23862	.24855	.25845	.26840
	H/(KJ/KG)	894.1	945.2	1024.9	1101.6	1177.5	1253.7	1330.7	1409.0	1488.8
	S/(KJ/KG K)	2.2521	2.3423	2.4780	2.6032	2.7223	2.8372	2.9493	3.0592	3.1674
	C/(M/SEC)	125.6454	132.2643	139.6757	144.8459	148.9702	152.6184	156.0697	159.4497	162.8004
	KAPPA/(1/MPA)	12.0423	11.3262	10.7945	10.5679	10.4569	10.3927	10.3461	10.3050	10.2650
	BETA/(1000/K)	5.8	4.1	2.7	2.1	1.8	1.7	1.6	1.5	1.5
.1013	V/(M3/KG)	.17261	.18580	.20195	.21446	.22529	.23537	.24519	.25496	.26479
	H/(KJ/KG)	893.6	944.9	1024.8	1101.6	1177.5	1253.6	1330.7	1409.0	1488.8
	S/(KJ/KG K)	2.2508	2.3413	2.4772	2.6026	2.7217	2.8367	2.9488	3.0587	3.1669
	C/(M/SEC)	125.3469	132.0563	139.5393	144.7420	148.8828	152.5408	155.9998	159.3871	162.7454
	KAPPA/(1/MPA)	11.9292	11.2021	10.6657	10.4379	10.3266	10.2622	10.2156	10.1744	10.1343
	BETA/(1000/K)	5.9	4.1	2.7	2.1	1.8	1.7	1.6	1.5	1.5
.2000	V/(M3/KG)	.00166	.00171	.09377	.10240	.10893	.11459	.11995	.12526	.13062
	H/(KJ/KG)	682.6	729.0	1010.7	1094.1	1173.0	1250.5	1327.9	1406.1	1485.7
	S/(KJ/KG K)	1.8732	1.9550	2.4314	2.5676	2.6915	2.8084	2.9210	3.0308	3.1387
	C/(M/SEC)	1263.2061	1121.2630	128.6235	136.7453	142.2588	146.7002	150.7466	154.6892	158.6217
	KAPPA/(1/MPA)	.0019	.0023	5.9872	5.6367	5.4914	5.4151	5.3630	5.3182	5.2749
	BETA/(1000/K)	1.7	1.8	4.5	2.8	2.2	1.9	1.8	1.7	1.7
.3000	V/(M3/KG)	.00166	.00171	.00179	.06376	.06899	.07319	.07704	.08083	.08468
	H/(KJ/KG)	682.6	729.0	810.2	1085.6	1168.3	1247.2	1325.0	1403.2	1482.5
	S/(KJ/KG K)	1.8730	1.9547	2.0929	2.5412	2.6709	2.7900	2.9032	3.0130	3.1206
	C/(M/SEC)	1257.0312	1116.1728	911.0582	127.9147	135.2518	140.6180	145.3062	149.8388	154.3782
	KAPPA/(1/MPA)	.0019	.0023	.0034	4.0699	3.8688	3.7754	3.7160	3.6665	3.6194
	BETA/(1000/K)	1.7	1.8	2.0	3.9	2.6	2.2	2.0	1.9	1.8
.4000	V/(M3/KG)	.00166	.00171	.00179	.00188	.04891	.05243	.05555	.05859	.06168
	H/(KJ/KG)	682.6	729.0	810.2	896.3	1163.1	1243.7	1322.0	1400.2	1479.3
	S/(KJ/KG K)	1.8727	1.9544	2.0926	2.2332	2.6541	2.7758	2.8897	2.9994	3.1067
	C/(M/SEC)	1250.8531	1111.0774	907.4385	728.7575	127.7879	134.2990	139.7069	144.8726	150.0547
	KAPPA/(1/MPA)	.0019	.0023	.0034	.0053	3.0950	2.9755	2.9059	2.8504	2.7986
	BETA/(1000/K)	1.7	1.8	2.0	2.3	3.2	2.5	2.2	2.1	2.0
.5000	V/(M3/KG)	.00166	.00170	.00179	.00188	.03672	.03992	.04261	.04521	.04786
	H/(KJ/KG)	682.6	729.0	810.1	896.2	1157.4	1240.1	1319.0	1397.2	1476.1
	S/(KJ/KG K)	1.8724	1.9541	2.0922	2.2327	2.6388	2.7637	2.8785	2.9881	3.0952
	C/(M/SEC)	1244.8316	1105.9761	903.8146	726.3751	119.5760	127.6275	133.8882	139.7558	145.6322
	KAPPA/(1/MPA)	.0019	.0023	.0034	.0053	2.6818	2.5189	2.4344	2.3707	2.3129
	BETA/(1000/K)	1.7	1.8	2.0	2.3	4.1	2.8	2.4	2.3	2.2
.6000	V/(M3/KG)	.00166	.00170	.00178	.00188	.00200	.03149	.03394	.03626	.03862
	H/(KJ/KG)	682.6	729.0	810.1	896.1	986.7	1236.3	1315.9	1394.1	1472.8
	S/(KJ/KG K)	1.8721	1.9538	2.0919	2.2323	2.3744	2.7528	2.8686	2.9783	3.0851
	C/(M/SEC)	1238.6441	1100.9758	900.1857	723.9915	562.7745	120.4130	127.7606	134.4416	141.0876
	KAPPA/(1/MPA)	.0019	.0024	.0034	.0053	.0090	2.2452	2.1370	2.0617	1.9961
	BETA/(1000/K)	1.7	1.7	1.9	2.2	2.8	3.3	2.8	2.6	2.5

THERMODYNAMIC PROPERTIES OF HEXADECANE

TEMPERATURES/(K)

P/(MPA)		775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.1000	V/(M3/KG)	.27841	.28846	.29851	.30852	.31842	.32819	.33778	.34718
	H/(KJ/KG)	1570.1	1653.0	1737.4	1823.4	1910.8	1999.6	2089.8	2181.3
	S/(KJ/KG K)	3.2740	3.3792	3.4832	3.5858	3.6872	3.7873	3.8861	3.9837
	C/(M/SEC)	166.1219	169.3950	172.5951	175.6981	178.6836	181.5362	184.2445	186.8014
	KAPPA/(1/MPA)	10.2253	10.1871	10.1516	10.1202	10.0939	10.0735	10.0594	10.0519
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.1013	V/(M3/KG)	.27469	.28462	.29455	.30443	.31422	.32386	.33334	.34262
	H/(KJ/KG)	1570.0	1652.9	1737.4	1823.3	1910.8	1999.6	2089.8	2181.3
	S/(KJ/KG K)	3.2735	3.3787	3.4826	3.5853	3.6867	3.7868	3.8856	3.9833
	C/(M/SEC)	166.0746	169.3555	172.5628	175.6722	178.6631	181.5196	184.2305	186.7883
	KAPPA/(1/MPA)	10.0946	10.0564	10.0209	9.9895	9.9632	9.9428	9.9287	9.9212
	BETA/(1000/K)	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
.2000	V/(M3/KG)	.13605	.14152	.14699	.15239	.15770	.16287	.16787	.17267
	H/(KJ/KG)	1566.8	1649.6	1734.1	1820.3	1908.2	1997.6	2088.5	2180.8
	S/(KJ/KG K)	3.2451	3.3503	3.4543	3.5572	3.6591	3.7598	3.8594	3.9579
	C/(M/SEC)	162.5403	166.4005	170.1480	173.7328	177.1142	180.2621	183.1555	185.7804
	KAPPA/(1/MPA)	5.2326	5.1921	5.1551	5.1228	5.0962	5.0758	5.0620	5.0548
	BETA/(1000/K)	1.6	1.5	1.5	1.4	1.3	1.2	1.2	1.1
.3000	V/(M3/KG)	.08858	.09253	.09647	.10034	.10412	.10775	.11121	.11447
	H/(KJ/KG)	1563.5	1646.2	1730.9	1817.3	1905.6	1995.6	2087.2	2180.2
	S/(KJ/KG K)	3.2267	3.3318	3.4360	3.5393	3.6416	3.7430	3.8433	3.9426
	C/(M/SEC)	158.9166	163.3800	167.6819	171.7464	175.5150	178.9459	182.0108	184.6910
	KAPPA/(1/MPA)	3.5738	3.5308	3.4921	3.4588	3.4317	3.4113	3.3977	3.3908
	BETA/(1000/K)	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1
.4000	V/(M3/KG)	.06483	.06802	.07120	.07431	.07732	.08018	.08286	.08535
	H/(KJ/KG)	1560.1	1642.8	1727.6	1814.3	1903.0	1993.6	2085.8	2179.7
	S/(KJ/KG K)	3.2127	3.3177	3.4220	3.5256	3.6284	3.7305	3.8316	3.9317
	C/(M/SEC)	155.2433	160.3310	165.1974	169.7418	173.8907	177.5939	180.8182	183.5420
	KAPPA/(1/MPA)	2.7492	2.7033	2.6626	2.6281	2.6005	2.5800	2.5665	2.5600
	BETA/(1000/K)	2.0	1.9	1.8	1.7	1.5	1.4	1.2	1.1
.5000	V/(M3/KG)	.05056	.05330	.05603	.05868	.06123	.06362	.06584	.06786
	H/(KJ/KG)	1556.7	1639.4	1724.3	1811.4	1900.5	1991.6	2084.6	2179.2
	S/(KJ/KG K)	3.2009	3.3059	3.4104	3.5143	3.6177	3.7203	3.8222	3.9232
	C/(M/SEC)	151.5117	157.2511	162.6958	167.7227	172.2466	176.2125	179.5855	182.3419
	KAPPA/(1/MPA)	2.2588	2.2094	2.1665	2.1307	2.1026	2.0819	2.0686	2.0624
	BETA/(1000/K)	2.2	2.1	1.9	1.8	1.6	1.5	1.3	1.1
.6000	V/(M3/KG)	.04104	.04349	.04591	.04826	.05050	.05258	.05449	.05619
	H/(KJ/KG)	1553.3	1636.0	1721.0	1808.4	1898.0	1989.7	2083.3	2178.8
	S/(KJ/KG K)	3.1906	3.2956	3.4002	3.5045	3.6084	3.7118	3.8144	3.9162
	C/(M/SEC)	147.7124	154.1387	160.1793	165.6932	170.5884	174.8088	178.3205	181.0995
	KAPPA/(1/MPA)	1.9361	1.8827	1.8372	1.8000	1.7712	1.7503	1.7371	1.7312
	BETA/(1000/K)	2.4	2.2	2.1	1.9	1.7	1.5	1.3	1.1

THERMODYNAMIC PROPERTIES OF HEXADECANE

TEMPERATURES/(K)

P/(MPA)		560.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000
.7000	V/(M3/KG)	.00166	.00170	.00178	.00188	.00200	.02537	.02769	.02984	.03200
	H/(KJ/KG)	682.7	729.0	810.1	896.1	986.5	1232.2	1312.7	1390.9	1469.5
	S/(KJ/KG K)	1.8719	1.9535	2.0915	2.2319	2.3738	2.7424	2.8596	2.9694	3.0759
	C/(M/SEC)	1232.4835	1095.8761	896.6040	721.6061	561.6348	112.3249	121.1896	128.8666	136.3920
	KAPPA/(1/MPA)	.0019	.0024	.0034	.0053	.0090	2.0955	1.9463	1.8536	1.7772
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.7	4.1	3.1	2.9	2.7
.8000	V/(M3/KG)	.00166	.00170	.00178	.00188	.00200	.00216	.02294	.02497	.02701
	H/(KJ/KG)	682.7	729.0	810.0	896.0	986.4	1081.3	1309.3	1387.6	1466.1
	S/(KJ/KG K)	1.8716	1.9532	2.0912	2.2315	2.3733	2.5166	2.8511	2.9611	3.0674
	C/(M/SEC)	1226.3547	1090.8013	879.2876	711.7175	560.4948	407.2977	113.9639	122.9428	131.5100
	KAPPA/(1/MPA)	.0019	.0024	.0034	.0053	.0089	.0182	1.8336	1.7129	1.6215
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.7	3.7	3.6	3.2	3.1
.9000	V/(M3/KG)	.00166	.00170	.00178	.00188	.00200	.00216	.01915	.02115	.02310
	H/(KJ/KG)	682.7	729.0	810.0	895.9	986.2	1081.0	1305.5	1384.2	1462.5
	S/(KJ/KG K)	1.8713	1.9529	2.0908	2.2311	2.3727	2.5158	2.8428	2.9532	3.0594
	C/(M/SEC)	1184.7523	1063.8884	880.4231	713.2633	556.6124	407.8199	105.7275	116.5465	126.3982
	KAPPA/(1/MPA)	.0019	.0024	.0035	.0053	.0089	.0180	1.7934	1.6238	1.5101
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.7	3.7	4.4	3.7	3.4
1.0000	V/(M3/KG)	.00166	.00170	.00178	.00188	.00199	.00215	.01598	.01802	.01995
	H/(KJ/KG)	682.7	729.0	810.0	895.8	986.1	1080.7	1301.2	1380.5	1458.8
	S/(KJ/KG K)	1.8710	1.9526	2.0905	2.2306	2.3722	2.5150	2.8341	2.9454	3.0516
	C/(M/SEC)	1185.7154	1064.9087	881.6542	714.4334	558.2054	408.3308	95.8026	109.4958	121.0031
	KAPPA/(1/MPA)	.0020	.0024	.0035	.0053	.0089	.0178	1.8490	1.5809	1.4329
	BETA/(1000/K)	1.6	1.7	1.9	2.2	2.7	3.6	5.6	4.3	3.9
2.0000	V/(M3/KG)	.00166	.00170	.00178	.00187	.00198	.00212	.00232	.00275	.00461
	H/(KJ/KG)	682.8	729.0	809.7	895.2	984.8	1078.0	1175.9	1277.2	1396.5
	S/(KJ/KG K)	1.8683	1.9496	2.0871	2.2266	2.3671	2.5079	2.6502	2.7925	2.9544
	C/(M/SEC)	1152.8756	1029.6589	849.1006	690.2688	546.5614	412.7050	282.2724	138.7953	80.9858
	KAPPA/(1/MPA)	.0020	.0025	.0036	.0054	.0088	.0160	.0372	.1966	1.0160
	BETA/(1000/K)	1.6	1.7	1.9	2.1	2.5	3.1	4.5	11.8	18.9
3.0000	V/(M3/KG)	.00165	.00169	.00177	.00186	.00196	.00208	.00225	.00248	.00286
	H/(KJ/KG)	683.0	729.0	809.5	894.6	983.7	1076.0	1172.0	1266.7	1365.6
	S/(KJ/KG K)	1.8657	1.9468	2.0838	2.2228	2.3624	2.5018	2.6414	2.7744	2.9086
	C/(M/SEC)	1090.9921	977.7018	811.4241	665.1973	534.1660	415.5566	307.8931	210.6373	139.5919
	KAPPA/(1/MPA)	.0022	.0026	.0037	.0055	.0087	.0148	.0282	.0642	.1788
	BETA/(1000/K)	1.6	1.7	1.8	2.0	2.3	2.7	3.4	4.6	7.2
4.0000	V/(M3/KG)	.00165	.00169	.00176	.00185	.00194	.00205	.00219	.00236	.00257
	H/(KJ/KG)	683.2	729.1	809.4	894.2	982.8	1074.5	1169.5	1262.5	1358.0
	S/(KJ/KG K)	1.8631	1.9440	2.0807	2.2191	2.3581	2.4965	2.6347	2.7653	2.8949
	C/(M/SEC)	1027.2427	923.7057	771.8028	638.5218	520.4284	416.6090	327.6278	254.2345	204.3101
	KAPPA/(1/MPA)	.0023	.0028	.0040	.0058	.0088	.0140	.0233	.0403	.0698
	BETA/(1000/K)	1.6	1.6	1.8	1.9	2.1	2.4	2.7	3.2	3.8

THERMODYNAMIC PROPERTIES OF HEXADECANE

TEMPERATURES/(K)

P/(MPA)		775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
.7000	V/(M3/KG)	.03422	.03646	.03868	.04081	.04283	.04469	.04637	.04785
	H/(KJ/KG)	1549.8	1632.5	1717.7	1805.4	1895.4	1987.7	2082.1	2178.4
	S/(KJ/KG K)	3.1813	3.2862	3.3911	3.4958	3.6002	3.7042	3.8076	3.9103
	C/(M/SEC)	143.8351	150.9926	157.6511	163.6585	168.9221	173.3898	177.0311	179.8233
	KAPPA/(1/MPA)	1.7099	1.6517	1.6032	1.5644	1.5348	1.5138	1.5007	1.4951
	BETA/(1000/K)	2.6	2.5	2.3	2.0	1.8	1.6	1.4	1.1
.8000	V/(M3/KG)	.02909	.03119	.03325	.03523	.03708	.03877	.04028	.04159
	H/(KJ/KG)	1546.3	1628.9	1714.3	1802.4	1892.9	1985.8	2080.9	2178.0
	S/(KJ/KG K)	3.1726	3.2776	3.3827	3.4878	3.5928	3.6975	3.8017	3.9052
	C/(M/SEC)	139.8687	147.8125	155.1152	161.6242	167.2545	171.9628	175.7253	178.5217
	KAPPA/(1/MPA)	1.5448	1.4807	1.4289	1.3883	1.3579	1.3366	1.3236	1.3183
	BETA/(1000/K)	2.9	2.7	2.4	2.2	1.9	1.7	1.4	1.2
.9000	V/(M3/KG)	.02509	.02708	.02903	.03088	.03260	.03416	.03554	.03671
	H/(KJ/KG)	1542.6	1625.4	1710.9	1799.4	1890.4	1983.9	2079.7	2177.6
	S/(KJ/KG K)	3.1644	3.2695	3.3748	3.4804	3.5860	3.6913	3.7963	3.9007
	C/(M/SEC)	135.8020	144.5995	152.5768	159.5971	165.5927	170.5354	174.4111	177.2034
	KAPPA/(1/MPA)	1.4211	1.3500	1.2942	1.2517	1.2205	1.1989	1.1860	1.1809
	BETA/(1000/K)	3.2	2.9	2.6	2.3	2.0	1.7	1.4	1.2
1.0000	V/(M3/KG)	.02187	.02379	.02564	.02740	.02902	.03048	.03175	.03281
	H/(KJ/KG)	1538.9	1621.7	1707.5	1796.3	1887.9	1982.0	2078.5	2177.2
	S/(KJ/KG K)	3.1566	3.2618	3.3674	3.4734	3.5796	3.6856	3.7914	3.8967
	C/(M/SEC)	131.6243	141.3568	150.0430	157.5847	163.9443	169.1152	173.0966	175.8768
	KAPPA/(1/MPA)	1.3273	1.2476	1.1874	1.1428	1.1106	1.0888	1.0759	1.0712
	BETA/(1000/K)	3.5	3.2	2.8	2.5	2.1	1.8	1.5	1.2
2.0000	V/(M3/KG)	.00689	.00884	.01044	.01181	.01298	.01394	.01470	.01524
	H/(KJ/KG)	1490.2	1580.1	1671.3	1765.6	1863.2	1964.0	2068.0	2175.2
	S/(KJ/KG K)	3.0773	3.1914	3.3038	3.4163	3.5295	3.6431	3.7570	3.8714
	C/(M/SEC)	91.3508	111.4095	127.7862	140.4042	149.9825	156.9713	161.5985	163.9191
	KAPPA/(1/MPA)	1.0618	.8351	.7139	.6470	.6077	.5847	.5732	.5715
	BETA/(1000/K)	12.7	7.9	5.7	4.3	3.3	2.5	1.8	1.1
3.0000	V/(M3/KG)	.00355	.00456	.00578	.00692	.00787	.00864	.00920	.00955
	H/(KJ/KG)	1449.6	1537.3	1633.9	1735.2	1839.8	1947.7	2059.4	2175.3
	S/(KJ/KG K)	3.0188	3.1302	3.2490	3.3700	3.4912	3.6129	3.7352	3.8588
	C/(M/SEC)	110.0394	111.0356	121.3476	133.6014	143.9064	151.4066	156.0344	157.7416
	KAPPA/(1/MPA)	.3689	.4725	.4764	.4405	.4113	.3936	.3853	.3854
	BETA/(1000/K)	9.6	10.2	8.4	6.1	4.4	3.1	2.0	1.0
4.0000	V/(M3/KG)	.00286	.00329	.00395	.00477	.00554	.00617	.00662	.00687
	H/(KJ/KG)	1435.9	1514.8	1605.8	1709.0	1819.0	1933.5	2052.4	2176.6
	S/(KJ/KG K)	2.9971	3.0973	3.2092	3.3324	3.4599	3.5889	3.7192	3.8518
	C/(M/SEC)	166.2802	139.3656	129.1018	133.8766	142.6013	149.9416	154.5701	156.1356
	KAPPA/(1/MPA)	.1201	.2028	.2884	.3111	.3008	.2891	.2828	.2825
	BETA/(1000/K)	4.8	6.5	7.9	6.9	5.1	3.5	2.1	.8

THERMODYNAMIC PROPERTIES OF HEXADECANE

TEMPERATURES/(K)

P/(MPA)		560.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000
5.0000	V/(M3/KG)	.00165	.00168	.00176	.00184	.00192	.00203	.00214	.00228	.00243
	H/(KJ/KG)	683.4	729.3	809.3	893.9	982.2	1073.5	1167.9	1260.1	1354.5
	S/(KJ/KG K)	1.8606	1.9413	2.0776	2.2156	2.3541	2.4919	2.6292	2.7587	2.8869
	C/(M/SEC)	960.2968	866.3817	729.1238	609.2446	504.5916	415.5086	343.1657	287.0527	251.6334
	KAPPA/(1/MPA)	.0025	.0030	.0042	.0061	.0089	.0134	.0203	.0300	.0429
	BETA/(1000/K)	1.5	1.6	1.7	1.8	2.0	2.1	2.3	2.5	2.8
6.0000	V/(M3/KG)	.00164	.00168	.00175	.00182	.00191	.00200	.00210	.00222	.00235
	H/(KJ/KG)	683.7	729.4	809.3	893.7	981.7	1072.7	1166.7	1258.5	1352.3
	S/(KJ/KG K)	1.8581	1.9386	2.0747	2.2124	2.3505	2.4878	2.6246	2.7535	2.8807
	C/(M/SEC)	887.6491	803.4187	681.4152	575.8522	485.5536	411.7413	355.3035	313.7486	289.7798
	KAPPA/(1/MPA)	.0028	.0033	.0046	.0065	.0093	.0132	.0183	.0243	.0311
	BETA/(1000/K)	1.5	1.6	1.6	1.7	1.8	1.9	2.1	2.2	2.4
7.0000	V/(M3/KG)	.00164	.00167	.00174	.00181	.00189	.00197	.00207	.00217	.00228
	H/(KJ/KG)	684.0	729.6	809.4	893.6	981.4	1072.2	1166.0	1257.4	1350.6
	S/(KJ/KG K)	1.8556	1.9361	2.0719	2.2093	2.3471	2.4841	2.6205	2.7489	2.8755
	C/(M/SEC)	805.1708	730.8330	625.2571	535.6332	461.4838	404.4828	364.4072	336.3795	322.4476
	KAPPA/(1/MPA)	.0032	.0038	.0052	.0072	.0099	.0132	.0169	.0206	.0245
	BETA/(1000/K)	1.5	1.5	1.6	1.7	1.7	1.8	1.9	2.0	2.2
8.0000	V/(M3/KG)	.00163	.00167	.00173	.00180	.00187	.00195	.00203	.00213	.00223
	H/(KJ/KG)	684.3	729.9	809.5	893.6	981.3	1071.9	1165.4	1256.5	1349.3
	S/(KJ/KG K)	1.8533	1.9336	2.0692	2.2064	2.3440	2.4807	2.6168	2.7448	2.8707
	C/(M/SEC)	703.7515	639.6650	552.9321	482.7275	428.7712	392.2850	370.5769	356.0700	351.5096
	KAPPA/(1/MPA)	.0039	.0047	.0064	.0085	.0110	.0136	.0159	.0180	.0203
	BETA/(1000/K)	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.9	2.0
9.0000	V/(M3/KG)	.00162	.00166	.00172	.00178	.00185	.00192	.00200	.00209	.00219
	H/(KJ/KG)	684.7	730.2	809.7	893.7	981.2	1071.7	1165.0	1255.8	1348.2
	S/(KJ/KG K)	1.8511	1.9313	2.0666	2.2037	2.3411	2.4776	2.6133	2.7409	2.8663
	C/(M/SEC)	552.9438	498.5094	437.4821	398.3982	377.8172	372.2108	373.6711	373.5213	378.0498
	KAPPA/(1/MPA)	.0059	.0073	.0096	.0119	.0137	.0148	.0154	.0161	.0173
	BETA/(1000/K)	1.3	1.4	1.4	1.5	1.5	1.6	1.7	1.8	2.0
10.0000	V/(M3/KG)	.00162	.00165	.00170	.00176	.00181	.00189	.00197	.00206	.00216
	H/(KJ/KG)	685.0	730.5	809.9	893.8	981.2	1071.5	1164.6	1255.2	1347.3
	S/(KJ/KG K)	1.8488	1.9289	2.0641	2.2010	2.3383	2.4745	2.6100	2.7371	2.8621
	C/(M/SEC)	402.1361	357.3538	322.0320	314.0689	250.2280	336.5575	373.2656	389.2149	402.7650
	KAPPA/(1/MPA)	.0078	.0098	.0128	.0153	.0299	.0176	.0152	.0147	.0152
	BETA/(1000/K)	1.3	1.3	1.3	1.4	1.7	1.6	1.7	1.8	1.9

THERMODYNAMIC PROPERTIES OF HEXADECANE

TEMPERATURES/(K)

P/(MPA)		775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000
5.0000	V/(M3/KG)	.00263	.00287	.00322	.00371	.00427	.00479	.00516	.00536
	H/(KJ/KG)	1430.4	1505.4	1590.3	1689.7	1801.6	1921.0	2046.4	2178.3
	S/(KJ/KG K)	2.9865	3.0817	3.1861	3.3049	3.4345	3.5691	3.7064	3.8472
	C/(M/SEC)	222.4442	194.2684	167.6764	150.5432	147.5914	151.3672	155.2828	157.1353
	KAPPA/(1/MPA)	.0605	.0881	.1338	.1894	.2182	.2214	.2187	.2175
	BETA/(1000/K)	3.3	4.0	5.1	5.9	5.2	3.8	2.3	.7
6.0000	V/(M3/KG)	.00250	.00269	.00293	.00323	.00359	.00397	.00427	.00444
	H/(KJ/KG)	1427.1	1500.4	1582.5	1678.5	1789.0	1910.9	2041.2	2179.7
	S/(KJ/KG K)	2.9789	3.0719	3.1729	3.2876	3.4157	3.5530	3.6958	3.8435
	C/(M/SEC)	268.5774	244.6557	217.8445	192.1882	174.1628	166.6936	165.8928	167.5511
	KAPPA/(1/MPA)	.0396	.0518	.0708	.0991	.1308	.1516	.1589	.1586
	BETA/(1000/K)	2.7	3.1	3.7	4.2	4.3	3.5	2.3	.8
7.0000	V/(M3/KG)	.00242	.00258	.00276	.00299	.00325	.00352	.00375	.00390
	H/(KJ/KG)	1424.8	1496.9	1577.6	1671.9	1781.2	1903.7	2037.1	2180.4
	S/(KJ/KG K)	2.9727	3.0644	3.1636	3.2762	3.4029	3.5409	3.6871	3.8399
	C/(M/SEC)	308.0852	288.1329	263.3234	237.3293	216.7862	199.7958	193.2895	193.7560
	KAPPA/(1/MPA)	.0293	.0359	.0457	.0598	.0772	.0935	.1031	.1043
	BETA/(1000/K)	2.4	2.7	3.0	3.3	3.3	2.9	2.1	.9
8.0000	V/(M3/KG)	.00236	.00250	.00266	.00285	.00305	.00326	.00345	.00358
	H/(KJ/KG)	1422.9	1494.3	1574.1	1667.4	1776.0	1898.9	2034.1	2180.7
	S/(KJ/KG K)	2.9672	3.0579	3.1560	3.2675	3.3933	3.5318	3.6800	3.8362
	C/(M/SEC)	343.2220	326.5849	303.5602	278.4857	255.4789	238.2130	228.9457	228.2464
	KAPPA/(1/MPA)	.0232	.0274	.0333	.0413	.0512	.0611	.0678	.0693
	BETA/(1000/K)	2.2	2.4	2.6	2.8	2.8	2.5	1.9	1.0
9.0000	V/(M3/KG)	.00231	.00244	.00258	.00275	.00292	.00310	.00326	.00338
	H/(KJ/KG)	1421.3	1492.2	1571.2	1664.0	1772.2	1895.3	2031.9	2180.7
	S/(KJ/KG K)	2.9622	3.0522	3.1495	3.2601	3.3855	3.5243	3.6739	3.8326
	C/(M/SEC)	375.3083	361.4472	339.7583	315.5164	292.8535	275.1245	264.8123	263.3002
	KAPPA/(1/MPA)	.0192	.0220	.0260	.0312	.0374	.0436	.0481	.0493
	BETA/(1000/K)	2.1	2.3	2.4	2.5	2.5	2.2	1.7	1.1
10.0000	V/(M3/KG)	.00227	.00239	.00252	.00267	.00283	.00298	.00312	.00323
	H/(KJ/KG)	1419.9	1490.3	1568.9	1661.2	1769.1	1892.6	2030.1	2180.6
	S/(KJ/KG K)	2.9575	3.0469	3.1435	3.2537	3.3788	3.5178	3.6686	3.8291
	C/(M/SEC)	405.1785	393.6538	372.8930	349.2115	326.9266	309.1955	298.4544	296.3491
	KAPPA/(1/MPA)	.0164	.0184	.0212	.0249	.0291	.0333	.0364	.0374
	BETA/(1000/K)	2.0	2.2	2.3	2.3	2.2	2.0	1.6	1.1

APPENDIX II: COEFFICIENTS FOR THE EQUATION OF STATE AND THE IDEAL GAS SPECIFIC HEATS

Two tables are presented in this appendix: a table containing the equation of state coefficients for methane through hexadecane and a table presenting the coefficients for the ideal gas specific heats. These coefficients are to be used in the equations listed in Appendix III and assume the SI Metric unit system.

EQUATION OF STATE COEFFICIENTS

	OCTANE	NONANE	DECANE	UNDECANE	DODECANE
X_1	-.37837312396552E-01	-.15542913577167E-01	-.33763672847657E+00	-.10303504675122E+01	-.17094147792538E+01
X_2	-.48694686814041E+06	-.36029665189407E+06	-.73735627843776E+06	-.20100999275666E+07	-.33326891576281E+07
X_3	.10831034104239E+09	.47609389859463E+08	.10992125322779E+09	.52003199847915E+09	.92213592771439E+09
X_4	-.17452021516874E+11	-.86510112097102E+10	-.37552199450116E+10	-.45488284274427E+11	-.75254675895496E+11
X_5	.39913081873616E-02	.43495232296647E-02	.66074518226754E-02	.11916744883101E-01	.17110812296925E-01
X_6	.38618766094007E+04	.39595249896072E+04	.60755713890752E+04	.13185664047517E+05	.21967624879898E+05
X_7	.23858238911207E+09	-.52838183372264E+08	-.88867150758737E+08	-.11776039785053E+09	-.66389342858491E+08
X_8	-.80796548504096E-05	-.11464385406658E-04	-.16894212881161E-04	-.27451255653835E-04	-.33988747038876E-04
X_9	-.39627147508182E+01	-.55795326071359E+01	-.69209379986097E+01	-.12938342174256E+02	-.17989470635429E+02
X_{10}	.16314602509335E-07	.20019205726091E-07	.25622923926312E-07	.41579124905738E-07	.50188896165940E-07
X_{11}	-.12546464401235E-01	-.15834319204261E-01	-.24540369205639E-01	-.13602874936510E-01	-.10188665257404E-01
X_{12}	.20480490204531E-02	.41321282153217E-02	.66374374452435E-04	-.75840152262862E-04	-.49055427429529E-02
X_{13}	-.24064771833007E-11	-.41237223958801E-11	-.80595489015195E-11	-.19053676645024E-10	-.23229268765382E-10
X_{14}	.83496790827768E-08	.15023264760452E-08	-.25989611080915E-07	-.13235173965723E-07	-.84439005992878E-08
X_{15}	-.38027442673120E-05	-.29057049218474E-05	.29121382959038E-05	-.60200989575225E-07	-.33215444415721E-06
X_{16}	-.23907706142231E+09	.52399027551462E+08	.88074592086146E+08	.11548442818764E+09	.62069263343925E+08
X_{17}	-.86018137041574E+06	-.64657056131316E+06	-.71782169519377E+06	-.31220370069545E+06	-.21221793460004E+06
X_{18}	-.59285386701944E+01	.36008913512227E+01	.75416457493332E+01	.14826307972322E+02	.14861493132563E+02
X_{19}	-.13280082065227E-01	-.16517683383899E-01	-.25720656141050E-01	-.14526425222221E-01	-.11072422371924E-01
X_{20}	-.56589493009156E-06	-.31660676924198E-06	-.46682065882390E-06	-.13740415703385E-05	-.34078773235911E-05
X_{21}	.30000000000000E-07	.50000000000000E-07	.70000000000000E-07	.90000000000000E-07	.10000000000000E-06
Y_1	.39236919454184E+03	.28871320086875E+03	.90091601423541E+03	.24864794549306E+04	.41100303415925E+04
Y_2	.86017429746254E+06	.64656304266246E+06	.71781048795342E+06	.31218165768471E+06	.21218392996694E+06
Y_3	.12567806281876E-01	.16684182848780E-01	.20534653356687E-01	.36525830256974E-01	.48299884356344E-01

	TRIDECANE	TETRADECANE	PENTADECANE	HEXADECANE
X_1	-.17855930349247E+01	-.71312634070185E+01	-.14409641343211E+02	-.41090985559325E+02
X_2	-.56857640868070E+07	-.25408759654822E+08	-.52181142595771E+08	-.14848096706535E+09
X_3	.25185486038878E+10	.12471192177262E+11	.26169735518420E+11	.75324614364546E+11
X_4	-.43057298305585E+12	-.22869138857568E+13	-.48862350000618E+13	-.14220963101643E+14
X_5	.42697640753944E-02	-.12149622145499E-03	-.17007182815575E-02	.21271124406634E-01
X_6	.58929562460522E+04	.53598542555837E+04	.72831316483948E+04	.53825403913113E+05
X_7	-.19463844296534E+10	-.18980797333023E+10	-.80107291519594E+09	-.26388600300978E+09
X_8	-.59437582435702E-05	.14233643848910E-04	.28060512690537E-04	.14632711310046E-04
X_9	-.60906105050813E+01	-.11185338892966E+02	-.19389585443541E+02	-.49427905457315E+02
X_{10}	.34887382639139E-07	.85309799534770E-07	.10642803859226E-06	.13368674168379E-06
X_{11}	.17767043125592E-03	.11299314621958E-02	.78991719914711E-03	.54459617244151E-03
X_{12}	.67832664592459E-01	.30244155214439E+00	.49645900736596E+00	.64811278496786E+00
X_{13}	-.21117624976924E-10	-.66058457278603E-10	-.77538615330659E-10	-.15103005563974E-09
X_{14}	.76786023396139E-07	.45868280963244E-06	.78836140335605E-06	.13432757724154E-05
X_{15}	-.75673323065442E-04	-.37544180249954E-03	-.63371340629157E-03	-.10201037603761E-02
X_{16}	.19453729291260E+10	.18968910093467E+10	.79929881563164E+09	.25017805919505E+09
X_{17}	.18345740895233E+04	.71401988398294E+04	.51861041939286E+04	.44095568126326E+04
X_{18}	.57228010409076E+03	.89565795085493E+03	.47201068983167E+03	.13193687298984E+03
X_{19}	.29145141131945E-03	.20991590774183E-02	.22936528184357E-02	.26685783670084E-02
X_{20}	.11260276101675E-03	.36255425057665E-03	.40445531576335E-03	.45920829444093E-03
X_{21}	.30000000000000E-06	.50000000000000E-06	.70000000000000E-06	.90000000000000E-06
Y_1	.53207532826457E+04	.22297699597716E+05	.45253880250100E+05	-.18410725000000E-01
Y_2	-.18432275198034E+04	-.71441563686877E+04	-.51902938480514E+04	-.18410725000000E-01
Y_3	.93512732155321E-02	-.21089046633648E-02	-.26508321866105E-02	-.18410725000000E-01

IDEAL GAS SPECIFIC HEAT COEFFICIENTS

	G_1	G_2	G_3	G_4	G_5	G_6
METHANE	-.50267261E+05	.27616157E+04	-.98965846E+01	.31820734E-01	-.31887248E-04	.11232069E-07
ETHANE	-.17042487E+05	.12492701E+04	-.35080848E+01	.21654751E-01	-.25313280E-04	.97516374E-08
PROPANE	-.22775276E+05	.10280282E+04	-.23509709E+01	.20633789E-01	-.25922550E-04	.10430319E-07
BUTANE	.31561244E+06	-.28972486E+04	.15436637E+02	-.16612299E-01	.10118572E-04	-.25991777E-08
PENTANE	.31989095E+06	-.29371374E+04	.15726538E+02	-.17239441E-01	.10628979E-04	-.27530627E-08
HEXANE	.37392813E+06	-.34365366E+04	.17583711E+02	-.20436882E-01	.13178981E-04	-.35278517E-08
HEPTANE	.34310073E+06	-.31573843E+04	.16714839E+02	-.19131896E-01	.12210239E-04	-.32515072E-08
OCTANE	.41297767E+06	-.36894900E+04	.18329540E+02	-.21465119E-01	.13793273E-04	-.36573120E-08
NONANE	.33501556E+06	-.30709397E+04	.16479358E+02	-.18784524E-01	.11894707E-04	-.31359241E-08
DECANE	.34643298E+06	-.31821804E+04	.16932455E+02	-.19631271E-01	.12629019E-04	-.33812182E-08
UNDECANE	.32947990E+06	-.30082568E+04	.16285260E+02	-.18452927E-01	.11572827E-04	-.30143887E-08
DODECANE	.16960330E+06	-.15127220E+04	.11039980E+02	-.97826600E-02	.47680100E-05	-.97624000E-09
TRIDECANE	.34360241E+06	-.31592615E+04	.16947706E+02	-.19768664E-01	.12773312E-04	-.34309225E-08
TETRADECANE	.32359957E+06	-.29577573E+04	.16194629E+02	-.18410725E-01	.11586143E-04	-.30305815E-08
PENTADECANE	.33023038E+06	-.30240217E+04	.16397071E+02	-.18889685E-01	.12035883E-04	-.31860617E-08
HEXADECANE	.33479777E+06	-.30659596E+04	.16629878E+02	-.19226435E-01	.12301908E-04	-.32731138E-08

APPENDIX III: THERMODYNAMIC PROPERTY EQUATIONS

Pressure

$$P = \rho RT + F_1\rho^2 + F_2\rho^3 + F_3\rho^4 + F_4\rho^5 + F_5\rho^6 + \left(F_6 + F_7\rho^2 + F_8\rho^4 \right) \rho^3 \left(\exp(-\gamma\rho^2)\right)$$

$$F_1 = X_1T + Y_1 + \left(X_2/T\right) + \left(X_3/T^2\right) + \left(X_4/T^3\right)$$

$$F_2 = X_5T + Y_2 + \left(X_6/T\right) + \left(X_7/T^2\right)$$

$$F_3 = X_8T + Y_3 + \left(X_9/T\right)$$

$$F_4 = X_{10}T + X_{11} + \left(x_{12}/T\right)$$

$$F_5 = X_{13}T + X_{14} + \left(X_{15}/T\right)$$

$$F_6 = \left(X_{16}/T^2\right) + X_{17}$$

$$F_7 = \left(X_{18}/T^2\right) + X_{19}$$

$$F_8 = \left(X_{20}/T^2\right)$$

Internal Energy

$$u = \int_{T_o}^{T} c^o \, dT + \int_0^{\rho} \frac{1}{\rho 2} \left[P - T \frac{\partial P}{\partial T} \right)_\rho \right] d\rho + u_o$$

$$\int_{T_o}^{T} c_v^o \, dT = G_i \ln \left(T/T_o\right) + \sum_{i=2}^{6} \left(\frac{1}{i-1}\right) G_i T^{i-1} \Big|_{T_o}^{T}$$

$$\int_0^{\rho} \frac{1}{\rho^2} \left[P - T \frac{\partial P}{\partial T} \right)_\rho \right] d\rho = \sum_{i=1}^{5} \left(F_i - TF_i'\right) \frac{\rho^i}{i}$$

$$+ \left(F_6 - TF_6' \right) \left(1-\exp(-\gamma\rho^2)\right) \frac{1}{2\gamma}$$

$$+ \left(F_7 - TF_7'\right) \left[\frac{-\rho^2}{2\gamma} \exp(-\gamma\rho^2) + \frac{1}{2\gamma^2} \left(1-\exp(-\gamma\rho^2)\right)\right]$$

$$+ \left(F_8 - TF_8'\right)\left[\frac{-\rho^4}{2\gamma} \exp(-\gamma\rho^2) + \frac{-\rho^2}{\gamma^2} \exp(-\gamma\rho^2) + \frac{1}{\gamma^3}\left(1-\exp(-\gamma\rho^2)\right)\right]$$

Entropy

$$s = \int_{T_o}^{T} \frac{c_v^o \, dT}{T} - R \ln \rho + \int_0^{\rho} \frac{1}{\rho^2} \left[\rho R - \left(\frac{\partial P}{\partial T} \right)_\rho \right] d\rho$$

$$\int_{T_o}^{T} \frac{c_v^o}{T} \, dT = \left. \frac{-2G_1}{T} \right|_{T_o}^{T} + G_2 \ln \left(T/T_o \right) + \left. \sum_{i=3}^{6} \frac{G_i T^{i-2}}{i-2} \right|_{T_o}^{T}$$

$$\int_0^{\rho} \frac{1}{\rho^2} \left[\rho R - \left(\frac{\partial P}{\partial T} \right)_\rho \right] d\rho = \sum_{i=1}^{5} F_i' \frac{\rho^i}{i}$$

$$+ F_6' \left(1 - \exp(-\gamma\rho^2) \right) \frac{1}{2\gamma}$$

$$+ F_7' \left[\frac{-\rho^2}{2\gamma} \exp(-\gamma\rho^2) + \frac{1}{2\gamma^2} \left(1 - \exp(-\gamma\rho^2) \right) \right]$$

$$+ F_8' \left[\frac{-\rho^4}{2\gamma} \exp(-\gamma\rho^2) + \frac{-\rho^2}{\gamma^2} \exp(-\gamma\rho^2) + \frac{1}{\gamma^3} \left(1 - \exp(-\gamma\rho^2) \right) \right]$$

Reference Temperatures, Internal Energies, and Entropies

	T_o/(K)	U_o/(KJ/KG)	S_o/(Kj/Kg K)
METHANE	90.	497.160	5.27826
ETHANE	150.	498.616	3.19345
PROPANE	200.	420.272	2.16739
BUTANE	250.	427.607	1.89165
PENTANE	250.	378.305	1.47415
HEXANE	300.	384.366	1.36697
HEPTANE to HEXADECANE	300.	344.689	1.04947

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