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Chris Haslego
President
Cheresources, Inc.

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**Content Based
Chemical Engineering**

Physical Properties Datasheet

Version 1.50

by Stephen M. Hall, PE

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All cells are locked except user-defined data; unlock sheet from Tools menu (no password reqd).
VIEW-COMMENTS to see some additional explanations.

DATA INPUT	
Project Data	
Prepared by Date	Client W.O. Unit Area
<input checked="" type="radio"/> English <input checked="" type="radio"/> SI	
General Data	
Project Description Page Number	
Compound Selection	
Name from database	
<input type="text" value="Cyclohexane"/>	<input type="button" value="▼"/>
<input type="text" value="Water"/>	<input type="button" value="▼"/>
<input type="text"/>	<input type="button" value="▼"/>
<input type="text"/>	<input type="button" value="▼"/>
<input type="text"/>	<input type="button" value="▼"/>

1
2
3

				PHYSICAL PROPERTIES		
				CLIENT	PAGE	
REV	PREPARED BY	DATE	APPROVAL	W.O.		
0	0	1-Jan-04				
1						
2				UNIT	AREA	
0						
1	CAS #		110827	7732185		
2						
3						
4	Property	Units	Compound	Cyclohexane	Water	
5	Formula			C6H12	H2O	
6	Formula Weight			84.16	18.02	
7	Specific Gravity	Water @ 4°C =1		0.779 @ 20°C	0.9982 @ 20°C	
8	Weight per Volume	kg/cu.m.		778.98	998.17	
9	Boiling Point	°C		80.78	100.00	
10	Freezing Point	°C		6.56	0.00	
11	Heat of Vaporization	kJ/kg		355.88	2,258.55	
12	Heat of Fusion	kJ/kg		31.69	332.62	
13	Specific Heat of Liquid	joules/kg-°C			4.19	
14	Viscosity	Pa-Sec @ -20°C		0.001	0.001	
15	Thermal Conductivity	W/m-°C			0.399	
16	Flash Point	°C		-16		
17	Autoignition Point	°C		245		
18	Surface Temp. Classification			T2C		
19	Lower Flammable Limit	%		1.3		
20	Upper Flammable Limit	%		7.8		
21	Lower Oxygen Conc. Limit	%				
22	Heat of Combustion	kJ/kg		43,440		
23	Solubility in Water			56 ppm @25°	miscible	
24	Solubility in Alcohol				miscible	
25	Surface Tension	mN/m		24.7	75.6	
26	Critical Temperature	°C		280	374	
27	Critical Pressure	kPa		4,072.3	22,113.8	
28	Normal Physical State (1 atm, 20°C)			liquid	liquid	
29						
30	Vapor pressure data found for Cyclohexane, Water,					
31						
32						
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52						

Units

Name	
CAS #	
Formula	
Formula Weight	
Specific Gravity Water @ 4°C =1	
Sp Grav temperature	<input type="radio"/> °F <input type="radio"/> °C
Boiling Point deg. F	°C
Freezing Point deg. F	°C
Viscosity cP @ -68°F	
Heat of Vaporization	<input type="radio"/> Btu/lb <input type="radio"/> cal/g <input type="radio"/> Kcal/g-mole
Heat of Fusion Btu/lb	Btu/lb
Specific Heat of Liquid	<input type="radio"/> Btu/lb°F <input type="radio"/> cal/g°C <input type="radio"/> Joules/kg°C
Thermal Conductivity Btu/h-sq.ft.-°F/ft	<input type="radio"/> Btu/h-sq.ft.-°F/ft <input type="radio"/> W/m-°C
Flash Point deg. F	<input type="radio"/> °F <input type="radio"/> °C
Autoignition Point deg. F	°F
Lower Flammable Limit %	
Upper Flammable Limit %	
Solubility in Water	
Solubility in Alcohol	
Surface Tension	mN/m
Critical Temperature	<input type="radio"/> °F <input type="radio"/> °C <input type="radio"/> °K
Critical Pressure	kPa
Critical Volume	<input type="radio"/> Volume, cc/g <input type="radio"/> Density, g/cc
Heat of Combustion Btu/lb	<input type="radio"/> Btu/lb <input type="radio"/> cal/g <input type="radio"/> Kcal/g-mole
Ratio of Specific Heats	
Lower Oxygen Concentration %	
Antoine Coefficients	
Temperature (R, F, C, K)	K
Pressure (psia, mmHg)	mmHg
exponent (ln, log)	ln
Lower temperature	°C
Upper temperature	°C