

Arcton® 22 Data Sheet – SI Units

Physical Property Data for Arcton® 22

Property	Units	Value
Chemical Formula		CHClF ₂
Molecular Weight		86.48
Boiling Point (1 atm)	°F	-41.4
	°C	-40.8
Freezing point	°F	-256
	°C	
Critical Temperature	°F	204.8
	°C	96.01
Critical Pressure	lb/sq in abs	724.05
	kg/cm ² abs	50.9
Critical Density	lb/cu ft	32.76
	kg/m ³	524.78
Density of liquid at 86°F (30°C)	lb/cu ft	73.3
	kg/m ³	1174.2
Latent heat of vaporisation at boiling point	Btu/lb	100.20
	k cal/kg	55.67
Solubility of water in Arcton	wt % 86°F (30°C)	0.15
	32°F (0°C)	0.060
Solubility of 'Arcton' in water at 1 atm 77°F (25°C)	wt %	0.30
Relative di-electric strength 1 atm 73.4°F (23°C) (Nitrogen=1)		1.3
Di-electric constant, liquid at 75.2°F (24°C)		6.11
Di-electric constant, vapour at 0.5 atm 77.7°F (25.4°C)		1.0035

Arceton® 22 - SPECIFIC HEAT BTU/LB °F

Temperature °F	Specific Heat	
	Liquid Vapour at 1 atm	Liquid Vapour at 1 atm
-100	0.239	
-80	0.242	
-60	0.246	
-40	0.252	0.137
-20	0.257	0.14
0	0.264	0.142
20	0.271	0.145
40	0.278	0.149
60	0.286	0.152
80	0.297	0.155
100	0.311	0.158
120	0.331	0.161
140	0.361	0.164
160	0.412	0.167
180	0.505	0.17
200	-	0.173

Btu/lb °F k cal/kg °C = 4.187 kJ/kg °C

Arceton® 22 - THERMAL CONDUCTIVITY BTU/FT H °F x 10³

Temperature °F	Thermal Conductivity	
	Liquid	Liquid Vapour at 1 atm
-100	79	
-80	76	
-60	72	
-40	69	4
-20	66	4.4
0	63	4.8
20	60	5.2
40	57	5.6
60	53	6
80	50	6.3
100	47	6.7
120	44	7.1
140	41	7.5
160	37	7.9
180	32	8.3
200	24	4

Btu/ft h °F = 0.0041 cal/cm s °C = 1.731 W/m °C

Arcton® 22 - VISCOSITY CENTIPOISE x 10²

Temperature °F	Thermal Conductivity	
	Liquid	Liquid Vapour at 1 atm
-100	47.7	
-80	41.5	
-60	37.5	
-40	32.6	1.05
-20	29.4	1.09
0	26.7	1.13
20	24.5	1.18
40	22.6	1.22
60	21	1.26
80	19.6	1.3
100	18.3	1.33
120	17.4	1.37
140	16	1.41
160	14	1.45
180	11.8	1.48
200	7.9	1.52
220	-	1.56
240	-	1.6
260	-	1.65
280	-	1.69
300	-	1.73

$$1 \text{ cP} = 1 \text{ mN s/m}^2 = 1 \text{ g/m/s}$$

Arcton® 22 - SURFACE TENSION DYNES/CM

Temperature °F	Surface Tension
-60	20.5
-40	18.7
-20	16.9
0	15.1
20	13.3
40	11.5
60	9.7
80	8
100	6.5
120	4.9
140	3.3
160	2
180	0.8

$$1 \text{ dyne/cm} = 1 \text{ mN/m}$$



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