

# SYLTHERM 800

## Silicone Heat Transfer Fluid

SYLTHERM<sup>†</sup> 800 heat transfer fluid is a highly stable, long-lasting silicone fluid designed for high temperature liquid phase operation. It exhibits low potential for fouling and can often remain in service for 10 years or more. SYLTHERM 800 has essentially no odor, is low in acute oral toxicity, and is not listed as reportable under SARA Title III, Section 313<sup>††</sup>.

**Recommended use temperature range:**  
-40°C (-40°F) to 400°C (750°F)

For health and safety information for this product, contact your Dow sales representative or call the number for your area on the second page of this sheet for a Material Safety Data Sheet (MSDS).

<sup>††</sup> You may need to comply with similar or additional regulations in other countries.

### Typical Properties of SYLTHERM 800 Fluid<sup>1</sup>

Composition: Dimethyl Polysiloxane

	As Supplied		After Extended Use	
Color:	Clear Yellow		Darkened	
Property	SI Units	English Units	SI Units	English Units
Viscosity @ 25°C (77°F)	9.1 mPa·s	9.1 cps	≥6.0 mPa·s	≥6.0 cp
Flash Point <sup>3</sup> , Closed Cup, Typical	160°C	320°F	≥35°	≥95°
Flash Point <sup>4</sup> , Open Cup, Typical	177°C	350°F	≥57°C	≥135°F
Fire Point <sup>3</sup>	193°C	380°F	≥68°C	≥155°F
Autoignition Point, ASTM D 2155	385°C	725°F	385°C	725°F
Acid Number, Typical	0.03		0.03	
Freeze Point	-60°C	-76°F	≤-40°C	≤-40°F
Density @ 25°C (77°F)	936 kg/m <sup>3</sup>	7.8 lb/gal	936kg/m <sup>3</sup>	7.8lb/gal
Specific Gravity 25°C (77°F)	0.93		0.93	
Heat of Combustion	28,659 kJ/kg	12,300 Btu/lb	28,659 kJ/kg	12,300 Btu/lb
Estimated Critical Temperature	367°C	692°F	367°C	692°F
Estimated Critical Pressure	10.9 bar	10.8 atm	10.9 bar	10.8 atm
Estimated Critical Volume	3.22 l/kg	0.0515 ft <sup>3</sup> /lb	3.22 l/kg	0.0515 ft <sup>3</sup> /lb

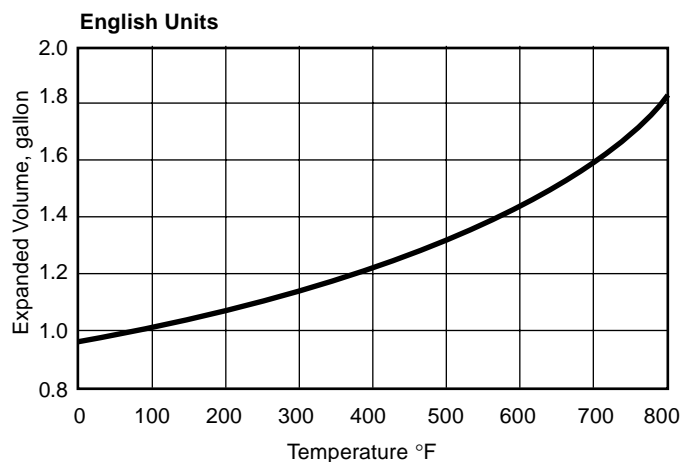
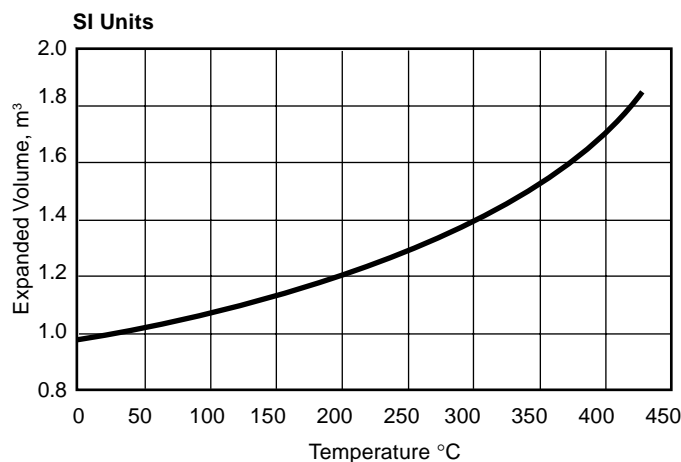
<sup>1</sup> Not to be construed as specifications

<sup>2</sup> Properties of the fluid at "equilibrium." Can be regarded as ongoing, long-term values for design purposes

<sup>3</sup> ASTM D92

<sup>4</sup> ASTM D93

### Thermal Expansion of SYLTHERM 800 Fluid



# SYLTHERM 800

## Silicone Heat Transfer Fluid

### Saturated Liquid Properties of SYLTHERM 800 Fluid (SI Units)

Temp. °C	Specific Heat kJ/kg K	Density kg/m <sup>3</sup>	Thermal Conductivity W/m K	Viscosity mPa·s	Vapor Pressure kPa
-40	1.506	990.61	0.1463	51.05	0.00
0	1.574	953.16	0.1388	15.33	0.00
40	1.643	917.07	0.1312	7.00	0.10
80	1.711	881.68	0.1237	3.86	1.46
120	1.779	846.35	0.1162	2.36	9.30
160	1.847	810.45	0.1087	1.54	35.00
200	1.916	773.33	0.1012	1.05	94.60
240	1.984	734.35	0.0936	0.74	204.80
280	2.052	692.87	0.0861	0.54	380.20
320	2.121	648.24	0.0786	0.41	630.50
360	2.189	599.83	0.0711	0.31	961.20
400	2.257	547.00	0.0635	0.25	1373.00

### Saturated Liquid Properties of SYLTHERM 800 Fluid (English Units)

Temp. °F	Specific Heat Btu/lb °F	Density lb/ft <sup>3</sup>	Thermal Conductivity Btu/hr ft <sup>2</sup> (°F/ft)	Viscosity cP	Vapor Pressure psia
-40	0.360	61.91	0.0845	51.00	0.00
40	0.378	59.32	0.0797	13.80	0.00
120	0.396	56.82	0.0749	6.10	0.00
200	0.414	54.37	0.0700	3.25	0.40
280	0.432	51.91	0.0652	1.94	2.60
360	0.451	49.38	0.0604	1.24	9.11
440	0.469	46.72	0.0555	0.83	23.42
520	0.487	43.90	0.0507	0.58	48.58
600	0.505	40.84	0.0459	0.42	86.84
680	0.523	37.49	0.0411	0.31	139.39
760	0.541	33.80	0.0362	0.24	206.50

***For further information, call...***

**In the United States and Canada: 1-800-447-4369 • FAX: 1-989-832-1465**

**In Europe: +32 3 450 2240 • FAX: +32 3 450 2815**

**In the Pacific: +886 22 547 8731 • FAX: +886 22 713 0092**

**In other Global Areas: 1-989-832-1560 • FAX: 1-989-832-1465**

**[www.dowtherm.com](http://www.dowtherm.com)**

**NOTICE:** No freedom from any patent owned by Seller or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Seller assumes no obligation or liability for the information in this document. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

Published November 2001

**NOTE:** SYLTHERM heat transfer fluids are manufactured by Dow Corning Corporation and distributed by The Dow Chemical Company.

