



Technical Data Sheet

DOWSIL™ 550 Fluid

FEATURES & BENEFITS

- Low volatility
- Serviceable temperature range of -40°C up to 230°C in open systems, and up to 315°C in closed systems
- Viscosity of 100-150mm²/sec at 25°C
- High flash point
- Excellent heat transfer characteristics
- High viscosity index
- Good compressibility
- Good oxidation and thermal stability

Polyphenylmethyldimethylsiloxane

APPLICATIONS

As a lubricant:

- Base oil for high temperature ball bearing greases.
- Lubricating oil for high temperature instruments.

As a heat transfer medium:

- Heat-treating baths for speciality metals.
- Heat exchange fluid for research apparatus and instrument calibration baths.
- Heat transfer oil in capacitors, transformers and various electronics.

As a thermostat fluid:

- Suitable for temperatures from -40°C to 315°C in thermostat systems, which should be kept clean.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
Viscosity at +99°C	mm ² /s	20
Viscosity at +38°C	mm ² /s	84
Viscosity at +25°C	mm ² /s	100-150
Viscosity at -29°C	mm ² /s	22,000
Viscosity-temperature coefficient ¹		0.76
Viscosity stability ²		<5%
Flash point - open cup	°C	>300
Freeze point	°C	-50
Refractive index at 25°C		1.4900-1.5000
Surface tension at 25°C	mN/m	24.5
Volatility 12 months/ 150°C	%	4
Volatility 12 months/ 200°C	%	15
Volatility 4 hours/ 250°C	%	1.2
Volatility 48 hours/ 250°C	%	5.5
Thermal gel time ² - months at 200°C ³		14
Thermal gel time ² - hours at 250°C ³		1200
Thermal gel time ² - hours at 260°C ³		200
Thermal conductivity at 25°C, W/m.K		0.13

TYPICAL PROPERTIES (Continued)

Property	Unit	Result
Specific heat at 0°C	kJ/kg. K	1.418
Specific heat at 40°C	kJ/kg. K	1.498
Specific heat at 100°C	kJ/kg. K	1.615
Specific heat at 200°C	kJ/kg. K	1.812

¹Viscosity-temperature coefficient equals (1- viscosity at 99°C/viscosity at 38°C).

²% change after 16 hours at 250°C, viscosity measured at 25°C.

³As determined by heating a 35 to 40 gram sample in a 150 ml beaker (19.35 cm² bottom area). Air circulating oven used.

Table 1: Vapour Pressure vs. Temperature

Temperature, °C	Pressure, Pa
228	11
244	25
263	84
277	155
380	13332

(1mm Hg = 133.322 Pa)

Table 2: Compressibility

Pressure MPa	% Compressibility
7	0.5
20	1.4
35	2.3
50	3.0
75	4.2
100	5.2
150	6.8

DESCRIPTION

DOWSIL™ 550 Fluid is a trimethyl-terminated dimethyl, phenylmethyl siloxane fluid.

HANDLING

PRECAUTIONS

PRODUCT SAFETY

INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT

WWW.CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

USABLE LIFE AND STORAGE

When stored at or below 60°C in the original unopened containers, this product has a usable life of 60 months from the date of production.

PACKAGING INFORMATION

DOWSIL 550 Fluid is available in 500 ml and 1 kg. bottles as well as 18 Kg. pails, 220 kg. drums and 1275 kg. IBC's.

LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, www.consumer.dow.com or consult your local Dow representative.

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DOWSIL™ 550 Fluid

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