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Technical Data Sheet

DOWSIL™ 710 Fluid

Polyphenylmethylsiloxane

Features & Benefits

- Retains its properties after continuous use at temperatures up to 260°C in closed systems.
- Shows very low volatility even at elevated temperatures.
- Highly resistant to oxidation and gumming.
- Exhibits good radiation resistance by remaining serviceable after doses of up to 200 megarads at room temperature.
- No change in physical properties after thousands of hours operation at 250°C in a closed system.

Applications

- Lubricant for timing devices, instruments, bearings operating at 0°C to 260°C.
- Good base oil for high temperature greases thickened with molybdenum disulphide.
- Heat exchange fluid in high temperature baths and in heat treating baths for metals.

Typical Properties

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

Property	Unit	Result
Color		Colorless to light straw
Viscosity at 25°C	mm^2/s	500
Specific gravity at 25°C/15.6°C		1.11
Flash point - open cup	°C	302
Volatility 4 hours/ 250°C	%	3.0
Vapor pressure at 25°C	kPa	Negligible
Vapor pressure at 149°C	kPa	0.01
Vapor pressure at 232°C	kPa	0.2
Vapor pressure at 260°C	kPa	0.5
Vapor pressure at 288°C	kPa	1.3
Vapor pressure at 316°C	kPa	2.9
Vapor pressure at 371°C	kPa	11.0
Thermal decomposition point	°C	370
Spontaneous ignition temperature	°C	488

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Typical Properties (Cont.)

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

Property	Unit	Result
Freeze point	°C	-22
Coefficient of expansion (0°C to 135°C)	1/C	0.00072
Sound velocity at 25°C	m/s	1370
Compressability at 34.5 MPa	%	1.70
Compressability at 69 MPa	%	3.15
Compressability at 138 MPa	%	5.50
Thermal conductivity at 50°C	W/(m.K)	0.14
Specific heat at 40°C	kJ/kg. K	1.52
Specific heat at 100°C	kJ/kg. K	1.64
Specific heat at 200°C	kJ/kg. K	1.84
Molecular weight, average		2600
Refractive index at 25°C		1.533
Surface tension at 25°C	mN/m	28.5
Electric strength[1]	kV/mm	14
Permittivity at 25°C 100 Hz		2.95
Permittivity at 25°C 100 kHz		2.95
Dissipation factor at 25°C 100 Hz		0.002
Dissipation factor at 25°C 100 kHz		0.0002
Volume resistivity	ohm.cm	$1x10^{13}$

1. 2.5 mm gap, rapid rise.

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 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.

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, dow.com or consult your local Dow representative.

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Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

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