

Technical Data Sheet



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Diphenyl Silicone Oil LF-PM12

Description:

Chemical Name: Diphenyl silicone oil; Dimethyl-diphenylpolysiloxane;

Special Features:

Diphenyl silicone oil is a phenyl-modified silicone fluid known for its unique properties.

Wide Temperature Range: Capable of long-term operation in environments from -70°C to 250°C (and up to 300°C or higher in closed-loop systems).

Low Volatility: Exhibits minimal evaporation loss under high vacuum or high-temperature conditions;

Superior Lubricity: The incorporation of phenyl groups significantly enhances metal-to-metal lubrication performance;

Radiation Resistance: The phenyl molecular structure effectively absorbs high-energy radiation, protecting the polymer backbone from degradation.

Typical Technical Properties:

Item	CAS NO.	Viscosity (25°C, mm ² /s)	Refractive Index (25°C, η D25)	Appearance
LF-PM12A	68083-14-7	50-3000	1.4200~1.4400	Colorless to yellowish transparent liquid
LF-PM12B	68083-14-7	150-250	1.4800~1.5000	
LF-PM12D	68083-14-7	400-500	1.5000~1.5100	

Applications:

Industrial: High-temperature oil baths (Heat transfer fluids); Base oil for high-temperature lubricants and greases;

Electronics & Electrical: Dielectric coolants; Moisture-proof potting and encapsulating materials for electronic components.

Medical & Pharmaceutical: Used as a vitreous substitute/retinal tamponade in ophthalmic surgery (due to its high refractive index and excellent biocompatibility).

Cosmetics & Personal Care: Enhances product gloss and shine (e.g., in lipsticks, hair oils) by increasing the refractive index.

Aerospace & Aviation: Used as a damping fluid or lubricant for precision instruments in environments with extreme temperature fluctuations.

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Package & Storage:

In 25kg and 200kg drum.

Keep in cool, dry and ventilated place. Keep away from sunlight and fire sources. Keep in unopened containers, shelf life is 24 months from the date of production. Storage beyond the shelf life does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.