Technical Data Sheet

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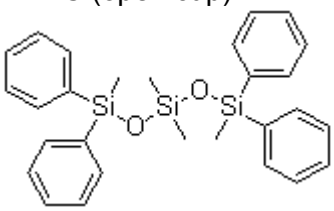
Silfluo LS-644

Phenyl Siloxane

Description:

Silfluo LS-644 is 1,3,3,5-Tetramethyl-1,1,5,5-tetraphenyltrisiloxane, a tetraphenyl-modified trisiloxane fluid.
The molecule contains four phenyl groups and four methyl groups on a three-unit linear Si–O–Si–O–Si backbone.
The narrow molecular weight distribution and steep vapor pressure curve make it suitable as a diffusion pump working fluid for ultra-high-vacuum applications.
The tetraphenyl architecture provides thermal oxidation stability and chemical inertness under continuous pump operating conditions.
Used as diffusion pump fluid and as heat transfer or base fluid in high-temperature, high-vacuum, or radiation-exposed environments.
Performance equivalent to Dow DC-704 and Shin-Etsu HIVAC-F4.

Typical Technical Properties

Silfluo Code:	LS-644
Chemical Name:	1,1,5,5-Tetraphenyltetramethyltrisiloxane
Synonyms:	1,3,3,5-Tetramethyl-1,1,5,5-tetraphenyltrisiloxane
CAS No. :	3982-82-9
EINECS No. :	223-620-5
Molecular Formula:	$C_{28}H_{32}O_2Si_3$
Molecular Weight:	484.82
Appearance:	Colorless transparent liquid
Purity (by GC, %):	90.0 min
Density (25°C):	1.07
Refractive Index (nD 20°C):	1.559
Boiling Point:	215°C (reduced pressure)
Flash Point:	221°C (open cup)
Chemical Structure:	

Applications:

1. Ultra-high-vacuum diffusion pumps

Used as working fluid in diffusion pumps for electron microscopes, mass spectrometers, particle accelerators, and vacuum research systems.

2. Optical and semiconductor thin-film deposition

Used in vacuum chambers for sputtering and thermal evaporation systems in optical coating and semiconductor manufacturing.

3. Vacuum metallurgy and aerospace heat treatment

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Used in vacuum furnaces for electron beam welding, vacuum melting, and degassing of aerospace-grade alloys.

4. High-temperature heat transfer and base fluids

Used as heat transfer fluid, dielectric coolant, and base oil in high-temperature or radiation-exposed environments.

Package &Storage:

In 1kg fluorinated bottle, 25kg pail, 200kg drum.

Keep in cool, dry and ventilated place. Keep away from sunlight and fire sources. Keep in unopened containers, shelf life is 12 months from the date of production. It is shipped as non-hazardous substance.

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.

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