Technical Data Sheet

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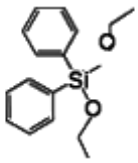
Silfluo LS-E12

Phenyl Functional Organosilane

Description:

Silfluo LS-E12 is Diphenyldiethoxysilane, a bifunctional phenyl-functional diethoxysilane.
The molecule contains two phenyl groups and two hydrolyzable ethoxy groups on silicon.
The difunctional ethoxy structure enables linear chain extension and controlled condensation without crosslinking, distinguishing it from trifunctional phenyltriethoxysilane (LS-E11).
Used as reactive intermediate in phenyl silicone polymer synthesis, as external electron donor (selectivity control agent) in Ziegler-Natta polyolefin catalysis, and in high-RI optical encapsulant and electrolyte additive applications.
Performance equivalent to Shin-Etsu KBE-202 and Dow 1-6533.

Typical Technical Properties

Silfluo Code:	LS-E12
Chemical Name:	Diphenyldiethoxysilane
Synonyms:	Diethoxydiphenylsilane
CAS No. :	2553-19-7
EINECS No. :	219-860-5
Molecular Formula:	$C_{16}H_{20}O_2Si$
Molecular Weight:	272.42
Appearance:	Colorless transparent liquid
Purity (by GC, %):	98.0 min
Density (20°C, g/cm^3):	1.028~1.038
Refractive Index (nD 20°C):	1.519~1.529
Boiling Point:	167°C (15 mmHg)
Flash Point:	110°C
Chemical Structure:	

Applications:

1. Phenyl silicone polymer synthesis
Used as difunctional chain extender and reactive intermediate for methylphenyl silicone fluids, phenyl silicone resins, and PVMQ elastomers.
2. Polyolefin catalysis — external electron donor
Used as SCA in Ziegler-Natta catalyst systems for isotactic polypropylene production.
3. LED encapsulation and electronic potting
Used as high-RI intermediate in optical-grade silicone encapsulants and potting compounds.
4. Lithium-ion battery electrolyte additive
Used as functional additive to improve SEI layer formation and high-voltage cycle performance in Li-ion cells.

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5. Industrial coatings and adhesives
Used in coating, adhesive, and sealant formulations for hydrophobicity and high-temperature interfacial adhesion.

Package &Storage:
In 25kg pail, 200kg drum and 1000kg IBC.
Keep in cool, well-ventilated place, and avoid exposure to humidity. Keep away from sunlight and fire sources. Keep in unopened containers, shelf life is 24 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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