Technical Data Sheet

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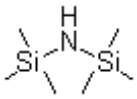
Silfluo LS-611

Hexamethyldisilazane (HMDS)

Description

Silfluo LS-611 is Hexamethyldisilazane (HMDS), a trimethylsilylating agent and surface modifier. The molecule contains two trimethylsilyl groups connected by an Si–N–Si linkage with an N–H bond. The Si–N–H reacts with active hydrogen-bearing species including silanols, hydroxyls, amines, and carboxyls, introducing trimethylsilyl groups and releasing ammonia as the sole byproduct.
Used as silylating agent in pharmaceutical and organic synthesis, adhesion promoter in semiconductor photolithography, anti-structuring process aid in HCR and LSR compounding, and surface hydrophobization agent for fumed silica and mineral fillers.
Performance equivalent to Momentive A-166, Dow Z-6079, Evonik HMDS, and Shin-Etsu SZ-31.

Typical Physical Properties

Silfluo Code:	LS-611
Chemical Name:	Hexamethyldisilazane(HMDS)
Synonyms	1,1,1,3,3,3-Hexamethyldisilazane; 1,1,1-Trimethyl-N-(trimethylsilyl)silanamine;
CAS No. :	999-97-3
EINECS No. :	213-668-5
Molecular Weight:	161.39
Appearance:	Clear liquid with ammonia odor
Purity (by GC, %)	99.0 min
Density (ρ20°C, g/cm³)	0.771 ~ 0.777
Refractive Index (n25/D)	1.406~1.410
Boiling Point:	125°C(760mmHg)
Flash Point:	8 °C closed cup
Chemical Structure:	

Applications

1. Semiconductor photolithography and CVD
Used as adhesion promoter for photoresist on silicon wafer substrates and as precursor for silicon nitride film deposition.
2. HCR and LSR silicone rubber compounding
Used as in-situ fumed silica surface treatment agent to prevent crepe hardening and improve compound processability.
3. Pharmaceutical and organic synthesis
Used as protecting group reagent for hydroxyl, amine, and carboxyl groups in API synthesis.
4. Lithium-ion battery electrolyte additive
Used as moisture and HF scavenger in Li-ion cell electrolyte systems to improve SEI layer stability and cycle life.
5. Inorganic filler and aerogel hydrophobization

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Used for surface hydrophobization of fumed silica, aerogels, and mineral fillers.

Packaging

In 150kg drum and 750kg IBC

Safety and Storage

Keep in a cool and dry place and avoid storage in direct sunlight. Storage temperature: -50 °C ~ 45°C. Shelf life is min. 12 months. It is shipped as hazardous substance.

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