Technical Data Sheet

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Silfluo LR-TMP10

Solid Silicone Intermediate

Descriptions:

Silfluo LR-TMP10 is a 100% active, solid phenyl propyl silicone resin intermediate containing reactive silanol functional groups. Solvent-free and solid at room temperature (softening point 70-110°C), this intermediate is well-suited for powder coating formulations. It demonstrates compatibility and undergoes condensation grafting with the hydroxyl groups of traditional organic resins, including acrylics, polyesters, and epoxies. Whether incorporated via physical dry-blending or chemical copolymerization, LR-TMP10 upgrades the thermal stability, UV weatherability, and chalking resistance of the final coating system without compromising recoatability.
Performance equivalent to Dow DOWSIL™ RSN-6018.

Typical Technical Properties:

Silfluo Code:	LR-TMP10
Chemical Name:	Phenyl, Propyl Silsesquioxanes, Hydroxy
Synonyms:	Solid Silicone Resin Intermediate, Solvent-Free Phenyl Propyl Siloxane Resin, Flaked Silicone Resin
CAS NO.:	114697-07-3
Appearance	Colorless to light yellow transparent solid
Volatile Matter %	≤ 2 %
Softening Point (°C)	70-110
Solubility in Toluene(1:1)	Clear and transparent

Features

1. 100% Active Solid Structure: Solvent-free and solid at room temperature, making it the VOC-compliant modifier for advanced dry powder coating systems.
2. Silanol Reactivity: Features silanol groups that readily crosslink and chemically graft onto the backbone of organic resins (epoxies, polyesters, acrylics) to form organic-inorganic hybrid networks.
3. Thermal Upgrading: Improves the heat resistance of organic coatings, preventing thermal degradation, substrate cracking, and yellowing at elevated temperatures.
4. Weather & UV Resilience: Imparts long-term weatherability, gloss retention, and chalking resistance for coatings subjected to harsh environmental elements.
5. Exceptional Miscibility: Demonstrates compatibility with a wide of organic base resins and dissolves in aromatic solvents (like toluene) for liquid compounding.
6. Recoatability: Provide powerful heat and weather defense while maintaining minimal impact on intercoat adhesion and the recoatability of the finished multi-layer coating system.

Applications

1. Powder Coatings: The modifying resin for heat-resistant and ultra-weatherable powder coatings, allowing for dry-blending, extrusion, and crosslinking without VOC emissions.
2. Heat Industrial Finishes: For liquid compounding (at a recommended minimum of ≥15% solid weight) or grafting into industrial paints for industrial ovens, and high-temperature processing equipment.
3. Polysiloxane Coatings: Formulated into weather-resistant polysiloxane marine and protective architectural coatings, meeting HG/T 4755-2014 for exceptional salt spray and corrosion resistance.

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4. Coil Coatings: Chemically grafted with polyesters to manufacture highly flexible, weather-resistant silicone-modified polyester (SMP) coil coatings for exterior metal cladding and roofing.

Package &Storage:

Generally be packed in 50kg plastic inner lining paper drums, sealed stored in a cool and dry environment under 25°C. The shelf life is one year(can still be used if the product is qualified after the expiration date).

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