Technical Data Sheet

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Silfluo LF-AM11

Long Chain Alkyl-modified Silicone Oil

Description:

Silfluo LF-AM11 is a long-chain alkyl-modified polysiloxane in which pendant long-chain alkyl groups replace a portion of the standard methyl substituents on the siloxane backbone.

The alkyl modification increases compatibility with organic media (mineral oils, synthetic esters, waxes) compared to standard polydimethylsiloxane, and improves boundary lubricity on metal surfaces — particularly aluminum — where PDMS provides limited film strength.

The siloxane backbone retains thermal stability and release characteristics inherent to polysiloxane chemistry.

Viscosity are customizable on request.

Typical Technical Properties:

Silfluo Code:	LF-AM11
Chemical Name:	Long Chain Alkyl-Modified Silicone Oil
Synonyms	Long Chain Alkyl-Modified Silicone Fluid
Appearance:	Clear to yellowish transparent liquid
Viscosity (25°C, mpa.s):	350~550
Volatile (150°C, 3h)/%:	<3

Chemical Structure:

The above are typical indicators, and corresponding products can be customized according to requirements.

Features:

1. Boundary Lubricity on Metal Surfaces

Long-chain alkyl groups adsorb onto metal surfaces to form a boundary lubricating film under extreme-pressure contact conditions. Effective on aluminum and other non-ferrous metals where PDMS films provide insufficient load-bearing capacity. Suitable as base fluid component or friction-reducing additive in specialty greases.

2. Paintable Mold Release

Mold release films formed by LF-AM11 do not transfer silicone contamination to the molded part surface. Parts can proceed directly to printing, hot stamping, painting, bonding, and vacuum metallization without pre-cleaning or additional surface treatment. Verify compatibility with specific mold substrate, polymer, and secondary process conditions via trial.

3. Defoaming in Organic Coating Systems

Compatible with coating, latex, and printing ink formulations; controls foam without causing fisheye or crater defects in the applied film. Compatibility with the specific resin system and pigment chemistry should be confirmed at target dosage before production use.

4. Organic Media Compatibility

Miscible with mineral oils, synthetic esters, and waxes, enabling stable blending in lubricant, personal care, and cosmetic formulations where standard PDMS phase-separates.

Applications:

1. Specialty lubricants and greases

Used as base fluid component or friction-reducing additive in specialty lubricants and greases for metal-to-metal contact applications, including aluminum substrate lubrication.

2. Paintable mold release agent

Used as mold release agent for rubber, plastics, and metal die-casting where post-mold secondary surface operations (printing, painting, metallization) are required. Dilute to 2 – 10% in aliphatic or aromatic solvent (e.g., mineral spirits, toluene) for spray or wipe application; can also be formulated as aerosol or water-based emulsion.

3. Defoamer and leveling additive for coatings and inks

Used as defoamer and surface leveling additive in paints, printing inks, and coatings where standard silicone defoamers cause surface defects.

4. Personal care and cosmetics

Used as emollient and gloss-enhancing additive in personal care formulations where compatibility with organic actives, esters, and waxes is required.

Processing Instructions

Dilute LF-AM11 to 2 – 10% concentration in a compatible aliphatic or aromatic solvent (mineral spirits, toluene) for spray or wipe application.

Alternatively, formulate as aerosol spray or water-based emulsion depending on processing equipment and substrate requirements.

Molded parts released with LF-AM11 require minimal pre-cleaning before proceeding to printing, hot stamping, painting, or vacuum metallization. Verify suitability for the specific mold material, polymer system, and secondary surface process via controlled trials before production scale-up.

Package &Storage:

In 5kg bottle and 25kg, 50kg drum.

Keep in cool, dry and ventilated place. Keep away from strong oxidants, acids, alkalis, corrosive substances, away from heat sources; avoid contact with eyes, long-term or repeated contact with skin. Keep in unopened containers, shelf life is 12 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.