

PremierRepak Inc.

PR Silicone Fluid 0.65 – 1.0 CST

Polydimethylsiloxane base fluid

FEATURES

- Good dielectric properties • High water repellency • High shearability without breakdown • High compressibility • High spreadability
- Low surface tension • Low fire hazard and reactivity • Low vapor pressure • Good heat stability • Good leveling and easy rubout
- Essentially odorless and nontoxic • Soluble in a wide range of solvents • Volatile carrier • Compatible with a wide range of cosmetic ingredients

APPLICATIONS

- Personal care products such as antiperspirants, deodorants, hair sprays, cleansing creams, skin creams, lotions, bath oils, suntan products, nail polishes
- Industrial applications such as glass vial and lens coatings, household product ingredients, mechanical fluids, penetrating oil ingredients, surface active agents, coatings, electrical insulating fluids and polish ingredients

BENEFITS

- For personal care: • Soft feel and subtle skin lubricity • Excellent spreading • Leaves no residue or buildup • Transient effect
- Nongreasy feel

For industrial applications: • Little change in physical properties over a wide temperature span – a relatively flat viscosity-temperature slope, and serviceability from -40°C up to 200°C • Low surface tension – readily wets clean surfaces to impart water repellency and release characteristics

COMPOSITION

- Polydimethylsiloxane polymers • Chemical composition $(\text{CH}_3)_3\text{SiO}[\text{SiO}(\text{CH}_3)_2]_n\text{Si}(\text{CH}_3)_3$

DESCRIPTION

Premier Repak Inc. PR Silicone Fluid is a polydimethylsiloxane fluid commonly used as a base fluid in personal care products due to its excellent spreading and unique volatility characteristics. It is clear, tasteless, essentially odorless and non-greasy. Unlike other volatile carriers used in the personal care industry, this volatile silicone fluid does not cool the skin when it evaporates, a consequence of its unusually low heat of vaporization

Premier Repak Inc. PR Silicone Fluid, 0.65 cSt, is a volatile fluid with an appreciable vapor pressure at ambient temperature.

Commercial bulk-polymerized dimethyl silicone fluids, such as Premier Repak Inc. PR Silicone Fluids, typically contain trace amounts of impurities.

HOW TO USE

Premier Repak Inc. PR Silicone Fluid may be used alone or blended with other cosmetic fluids to provide a fluid base for a variety of cosmetic ingredients. It features good solubility in most anhydrous alcohols and in many solvents used in cosmetics.

HANDLING PRECAUTIONS

Premier Repak Inc. PRSF 0.65 – 1 cSt may cause temporary eye discomfort.

Use caution when handling volatile fluids at temperatures with 10°C of the quoted flash point.

Premier Repak Inc. PR Silicone Fluid with viscosities below 5 cSt are flammable. Keep away from heat, sparks, open flames and other sources of ignition. Keep container tightly closed.

At elevated temperatures, Premier Repak Inc. PR Silicone Fluids are sensitive to contamination by strong acids, bases, some metallic compounds and oxidizing agents. These contaminants may cause an accelerated rate of volatile byproduct formation. Oxidizing agents can also cause an increase in fluid viscosity. When these conditions may exist, it is recommended that the flash point of the fluids be checked periodically to monitor operational safety. Also, ignitable conditions may exist if the fluid is giving off smoke.

PRODUCT SAFETY INFORMATION

Premier Repak Inc. PRSF 0.65 - 1 cSt may cause temporary eye discomfort.

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL, ENVIRONMENTAL, AND HEALTH HAZARD INFORMATION.

USABLE LIFE AND STORAGE

When stored at or below 25°C (77°F) in the original unopened containers, this product has a usable life ranging from 30 to 60 months from the date of production depending on viscosity.

LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses. Not intended for human injection. Not intended for food use.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

It is the users responsibility to determine the suitability of any PremierRepak Inc. product for his intended use or particular production requirement. Because the use of our products is beyond our control, we are not responsible for the results obtained.

We make no warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose and undertake and accept no liabilities, except as expressly set forth on our product labels. In every case, the Company's liability is limited to replacing such quantities of the product proven to be defective. The Company disclaims any liability for incidental, liquidated labor or any consequential damages arising from the use of products.

No representative of the Company is authorized to grant any warranty or to waive this limitation of liability.

The warranty provided herein and the obligation and liabilities of seller there under are exclusive and in lieu of and buyer hereby waives all other remedies, warranties, guarantees or liabilities, express or implied, arising by law or otherwise, including without limitation, any obligations of the seller with respect to consequential damages whether or not occasioned by seller's negligence. This warranty shall not be extended, altered or varied except by a written instrument signed by seller and buyer.

TYPICAL PROPERTIES

Test	Unit	Result	
		<u>0.65 cSt</u>	<u>1.0 cSt</u>
Appearance		Crystal clear	Crystal clear
INCI Name		Disiloxane	Trisiloxane
Specific Gravity at 25°C (77°F)		0.760	0.816
Refractive Index at 25°C (77°F)		1.3745	1.3826
Color, APHA		5	5
Flash Point, Closed Cup	°C	-1	30
Acid Number, BCP		trace	trace
Melt Point	°C ^{1,2}	-68	-86
Pour Point	°C	-68	-100
Surface Tension at 25°C (77°F)	dynes/cm	15.9	17.4
Volatile Content at 150°C (302°F)	percent		
Viscosity Temperature Coefficient		0.31	0.41
Coefficient of Expansion	cc/cc/°C	0.00134	0.00134
Thermal Conductivity at 50°C (122°F)	g cal/cm·sec·°C	0.00024	–
Solubility Parameter ³		6.8	7.0
Solubility in Typical Solvents			
Chlorinated Solvents		High	High
Aromatic Solvents		High	High
Aliphatic Solvents		High	High
Dry Alcohols		Good	Good
Water		Poor	Poor
Fluorinated Propellants		High	High
Dielectric Strength at 25°C (77°F)	volts/mil	300	350
Volume Resistivity at 25°C (77°F)	ohm-cm	1.0x10 ¹⁴	1.0x10 ¹⁴

¹The melt point temperature is a typical value and may vary somewhat due to molecular distribution. If the melting point is critical to your application, then several lots should be thoroughly evaluated.

²Due to different rates of cooling, this test method may yield pour points lower than the temperature at which these fluids would melt.

³Fedors Method: R.F. Fedors, *Polymer Engineering and Science*, Feb. 1974.