

PremierRepak Inc.

PR Silicone Fluid 5,000 - 12,500 CST

INCI Name: Dimethicone Silicone fluid for foam control and additive applications

FEATURES

- Ease of application, rubout and buffing • Enhances color • Reduced surface tension • Fungi- and bacteria-resistant
- Thermally stable • Essentially inert • Soluble in a wide range of solvents • High compressibility • High shearability without breakdown • High gloss intensity • High damping action • Low environmental hazard and fire hazard • Low reactivity • Low surface energy • Low vapor pressure • Low pour point • Allows skin transpiration • Essentially colorless, odorless, tasteless and nontoxic • Good abrasion resistance • Water repellent

APPLICATIONS

- Active ingredient in a variety of automotive, furniture, metal, and specialty polishes • Ingredient in protective creams, aerosol shave lathers, antiperspirants, and other personal care products • Foam control for petroleum production and refinery operations • Other applications including coatings additive, damping fluid, elastomer and plastics lubricant, electrical insulating fluid, mechanical fluid, mold release agent, plastics additive, specialty chemical products ingredient, leather finishing, surface active agent

BENEFITS

- For personal care applications:** • Skin protection • Imparts soft, velvety skin feel • Spreads easily on both skin and hair
- De-soaping (prevents foaming during rubout)

- For industrial applications:** • Oxidation-, chemical- and weather-resistant • Excellent release, dielectric and antifoam properties

COMPOSITION

- Linear polydimethylsiloxane polymers • $(\text{CH}_3)_3\text{SiO}[\text{SiO}(\text{CH}_3)_2]_n\text{Si}(\text{CH}_3)_3$

DESCRIPTION

Premier Repak Inc. PRSF 5,000 – 12,500 cSt is a high-viscosity polydimethyl- siloxane polymer manufactured to yield essentially linear polymers in a wide range of viscosities.

The viscosities generally used in formulating polishes are between 100 and 30,000 cSt. To obtain optimum results, in terms of ease of application and depth of gloss, it is preferable to use a blend of a low-viscosity fluid and a high-viscosity fluid (e.g. 3 parts Premier Repak Inc. PRSF 100 cSt and 1 part Premier Repak Inc. PRSF 12,500 cSt). The low-viscosity silicone fluid acts as a lubricant to make polish application and rubout easier, whereas the high- viscosity silicone fluid produces a greater depth of gloss. Since these polymers are inherently water- repellent, they will cause water to bead up on a treated surface rather than penetrate the polish film.

HOW TO USE

Premier Repak Inc. PR Silicone Fluid is insoluble in water and many organic products. It is highly soluble in organic solvents such as aliphatic and aro-matic hydrocarbons, and the halo-carbon propellants used in aerosols. The fluid is easily emulsified in water with standard emulsifiers and normal emulsification techniques.

As an Antifoam

The starting level of active material in nonaqueous foam control is 10 ppm. In many cases, the optimal usage level may be 1~100ppm. Premier Repak Inc. PR Silicone Fluid is typically prediluted in a hydro-carbon solvent, such as white spirits, toluene, xylene, diesel, naphtha or another low molecular weight petroleum fraction, and added continuously by metering pump.

As a Conditioning Additive

Additive quantities as low as 0.1% may suffice where Premier Repak Inc. PR Silicone Fluid is to be used as a surface treatment or for de-soaping creams and lotions. However, 1-10% is needed for applications such as hand creams and lotions to form a more uniform film and effective barrier.

PRODUCT SAFETY INFORMATION

Premier Repak Inc. PRSF 5,000 - 12,500 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 60°C (140°F) in the original unopened container, this product has a usable life of 36 months from the date of production.

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

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Premier Repak Inc. sales representative prior to writing specifications on this product.

Test	Unit	Result		
		5,000 cSt	10,000 cSt	12,500 cSt
As Supplied				
Appearance		Crystal clear	Crystal clear	Crystal clear
Specific Gravity at 25°C (77°F)		0.975	0.975	0.974
Refractive Index at 25°C (77°F)		1.403	1.4036	1.4036
Color, APHA		–	5	5
Flash Point, Open Cup	°C (°F)	>321 (>610)	>326 (>620)	>326 (>620)
Acid Number, BCP		–	trace	trace
Melt Point	°C (°F) ^{1,2}	–	-24 (-11)	-24 (-11)
Pour Point	°C (°F)	-50 (-58)	-	-46 (-51)
Surface Tension at 25°C (77°F)	dynes/cm	21.4	21.5	21.5
Volatile Content at 150°C (302°F)	percent	–	0.27	0.23
Viscosity Stability at 25°C (77°F), after 16 hr exposure at 150°C (302°F)	percent change	–	-0.7	-1.6
Viscosity Temperature Coefficient		0.61	0.61	0.61
Coefficient of Expansion	cc/cc/°C	0.00096	0.00096	0.00096
Thermal Conductivity at 50°C (122°F)	g cal/cm -sec -°C	0.00038	–	0.00037
Solubility Parameter ³		–	7.4	7.4
Solubility in Typical Solvents				
Chlorinated Solvents		–	High	High
Aromatic Solvents		–	High	High
Aliphatic Solvents		–	High	High
Dry Alcohols		–	Poor	Poor
Water		–	Poor	Poor

¹The melt point temperature is a typical value and may vary somewhat due to molecular distribution (especially 50 cSt or less). 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.