

Technical Data Sheet

PR Silicone Fluid 50 – 200 CST

Polydimethylsiloxane Base Fluid

PREMIERREPAK

Silicone Sealants • Silicone Compounds • Silicone Greases
Anti-Seize Pastes • Aerosol Lubricants • Silicone Fluids
Contract Packaging • Private Label • Turnkey Packaging

INCI Name: Dimethicone Colorless, clear polydimethylsiloxane fluid

FEATURES

- Ease of application and rubout • Ease of buffing • Enhances color • High water repellency • High compressibility
- High shear ability without breakdown • High spread ability and compatibility • Low environmental hazard • Low fire hazard
- Low reactivity and vapor pressure • Low surface energy • Good heat stability • Essentially odorless, tasteless and nontoxic
- Soluble in a wide range of solvents

APPLICATIONS

- Active ingredient in a variety of automotive, furniture, metal, and specialty polishes in paste, emulsion and solvent-based polishes and aerosols
- Various applications including cosmetic ingredient, elastomer and plastics lubricant, electrical insulating fluid, foam preventive or breaker, mechanical fluid, mold release agent, surface active agent, and solvent-based finishing and fat liquoring of leather

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:

- High dielectric strength
- High damping action
- Oxidation-, chemical- and weather-resistant

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

PremierRepak Inc. PRSF 50 - 200 CST is a polydimethylsiloxane polymer manufactured to yield essentially linear polymers in a wide range of average kinematic 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 PremierRepak Inc. PRSF 100 CST and 1 part PremierRepak 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

PremierRepak Inc. PRSF 50 - 200 CST is highly soluble in organic solvents such as aliphatic and aromatic hydrocarbons, and the halocarbon propellants used in aerosols. The fluid is easily emulsified in water with standard emulsifiers and normal emulsification techniques.

PremierRepak Inc. PRSF 50 - 200 CST is insoluble in water and many organic products. Additive quantities as small as 0.1% may suffice where PremierRepak Inc. PRSF 50 - 200 CST is to be used as a surface agent 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.

PREMIERREPAK
Innovative Ideas...Moving You Forward

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PRODUCT SAFETY INFORMATION

PremierRepak Inc. PRSF 50 - 200 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 user's 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.

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TYPICAL PROPERTIES

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

Test	Unit	Result		
		50 CST	100 CST	200 CST
Appearance		Crystal clear	Crystal clear	Crystal clear
Specific Gravity at 25°C (77°F)		0.960	0.964	0.967
Refractive Index at 25°C (77°F)		1.4022	1.4030	1.4032
Color, APHA		5	5	5
Flash Point, Open Cup	°C (°F)	318 (605)	>326 (>620)	>326 (>620)
Acid Number, BCP		trace	trace	trace
Melt Point	°C (°F) ^{1,2}	-41 (-42)	-28 (-18)	-27 (-17)
Pour Point	°C (°F)	-70 (-94)	-65 (-85)	-65 (-85)
Surface Tension at 25°C (77°F)	dynes/cm	20.8	20.9	21.0
Volatile Content at 150°C (302°F)	percent	0.3	0.02	0.07
Viscosity Temperature Coefficient		0.59	0.60	0.60
Coefficient of Expansion	cc/cc/°C	0.00104	0.00096	0.00096
Thermal Conductivity at 50°C (122°F)	g cal/cm·sec·°C	–	0.00037	-
Solubility Parameter ³		7.3	7.4	7.4
Solubility in Typical Solvents				
Chlorinated Solvents		High	High	High
Aromatic Solvents		High	High	High
Aliphatic Solvents		High	High	High
Dry Alcohols		Poor	Poor	Poor
Water		Poor	Poor	Poor
Fluorinated Propellants		High	High	High
Dielectric Strength at 25°C (77°F)	volts/mil	400	400	400
Volume Resistivity at 25°C (77°F)	ohm-cm	1.0x10 ¹⁵	1.0x10 ¹⁵	1.0x10 ¹⁵

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