Technical Data Sheet
PR Silicone Fluid 100,000 – 500,000 CST
Polydimethylsiloxane Base Fluid

Silicone fluid for foam control agent and additive applications

FEATURES

• High-viscosity, cost-effective dimethicone conditioning agent • High compressibility and shear ability without breakdown • High flash point
• High damping action • High oxidation resistance • Low fire hazard • Low reactivity and vapor pressure • Low surface energy • Low pour point
• Good heat stability • Non greasy, nonocclusive and nonstinging on skin • Excellent water repellent, release, dielectric and antifoam properties
• Essentially inert and nontoxic • Soluble in a wide range of solvents

APPLICATIONS

• For foam control in petroleum production and refinery operations • Conditioning agent for hair care products, particularly conditioning shampoos and rinse-off conditioners

BENEFITS

For personal care applications:
- Provides easy combing and detangling for wet or dry hair
- Provides lubricious, smooth feel to the hair
- Adds gloss and softness

For industrial applications:
- Effective foam control at low addition levels

COMPOSITION

• High-viscosity dimethicone fluid
• Linear polydimethylsiloxane polymers typically have the following typical chemical composition: $(CH_3)_3SiO[SiO(CH_3)_2]_nSi(CH_3)_3$

DESCRIPTION

PremierRepak Inc. PRSF 100,000 – 500,000CST is a high-viscosity polydimethyl- siloxane polymer primarily used for foam control in nonaqueous processes. In petroleum processing, it provides effective foam control at extremely small addition levels. PremierRepak Inc. PR Silicone Fluid is also suitable for use in personal care applications. The high-molecular- weight dimethicone provides easy combing and detangling for wet or dry hair, and adds softness, smoothness and gloss.

HOW TO USE

As an Antifoam

The starting level of active material recommended is 10 ppm; in many cases, the optimal usage level may be approximately 1 ppm. PremierRepak Inc. PR Silicone Fluid is typically prediluted in a hydrocarbon solvent, such as white spirits, toluene, xylene, diesel, naphtha or another low- molecular-weight petroleum fraction, and added continuously by metering pump.

The viscosity of the PremierRepak Inc. PR Silicone Fluid should be selected to suit the application, with primary selection criteria including insolubility in the foaming system, working temperature and ease of handling.

As a Conditioning Additive

For personal care applications, PremierRepak Inc. PR Silicone Fluid should be pre-emulsified to the desired particle size, incorporated into a shampoo base and post-stabilized. Alternatively, it can be directly emulsified into a hair care formulation.

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HANDLING PRECAUTIONS

PremierRepak Inc. PR Silicone Fluid 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 40°C (104°F) in the original unopened containers, 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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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.

		Result		
Test	**Unit**	**100,000 CST**	**300,000 CST**	**500,000 CST**
As Supplied				
Appearance		Crystal clear	Crystal clear	Crystal clear
Specific Gravity at 25°C (77°F)		0.977	0.977	0.977
Refractive Index at 25°C (77°F)		1.4037	1.4037	1.4037
Color, APHA		5	5	5
Flash Point, Open Cup	°C (°F)	>326 (>620)	>321 (>609.8)	>321 (>609.8)
Acid Number, BCP		trace	trace	trace
Melt Point [1,2]	°C (°F)	-23 (-9)	N/A	N/A
Pour Point	°C (°F)	-33 (-27)	-	-25 (-13)
Surface Tension at 25°C (77°F)	dynes/cm	–	21.5	21.5
Volatile Content at 150°C (302°F)	percent	0.30	0.23	0.29
Viscosity Stability at 25°C (77°F), after 16 hr exposure at 150°C (302°F)	percent change	-2.4		
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	0.00038	0.00038
Solubility Parameter[3]		7.4	7.4	7.4
Solubility in Typical Solvents				
Chlorinated Solvents		High	-	-
Aromatic Solvents		High	-	-
Aliphatic Solvents		High	-	-
Dry Alcohols		Poor	-	-
Water		Poor	-	-

[1]The 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.
[2]Due to different rates of cooling, this test method may yield pour points lower than the temperature at which these fluids would melt.
[3]Fedors Method: R.F. Fedors, *Polymer Engineering and Science*, Feb. 1974.
N/A = Not applicable.

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