

# Polymer Systems Technology Limited

UK & Ireland Distributor



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Unit 2. Network 4. Cressex Business Park,  
Lincoln Road, High Wycombe, Bucks. HP12 3RF  
Phone +44 (0) 1494 446610  
Fax: +44 (0) 1494 528611  
Web: <http://www.siliconepolymers.co.uk>  
Email: [sales@silicone-polymers.co.uk](mailto:sales@silicone-polymers.co.uk)



**NuSil Technology**

1050 Cindy Lane • Carpinteria, CA 93013  
805/684-8780 • 805/566-9905 Fax  
www.nusil.com

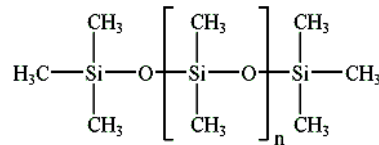
An ISO 9001 Certified Company

# MED-368

Silicone Fluid

## Product Profile

### Description



- A clear polydimethylsiloxane liquid to provide a lubricious and/or hydrophobic coating
- Available in viscosities between 20 cP and 99 cP
- Has lubrication characteristics and low surface tension
- Highly water repellent and resists decomposition by heat and oxidation

### Typical Properties

	Result	ASTM	NT-TM
Appearance	Translucent	D2090	002
Specific Gravity	0.96	D792	097
Refractive Index	1.40	D1747, D1218	018
Volatile content	≤2%	D2288	004
Cytotoxicity	Pass	-	061

### Instruction for Use

Apply directly to surfaces. When desiring a very thin film of polymer, dilute to 1-5% weight silicone solids in a non-polar solvent. Then apply this solution to a surface using the above techniques. After applying, allow sufficient time to permit the solvent to evaporate.

Although MED-368 possesses excellent lubricant characteristics, the fluid may not provide satisfactory lubrication in load-bearing situations, especially metal against metal. The fluid provides temporary lubricity when applied to silicone elastomers. This lubricity lasts 2 to 3 hours, at which time diffusion of the fluid into the elastomer depletes the fluid's surface and reduces or eliminates all lubricating characteristics. Since the fluid's rate of diffusion into a silicone elastomer decreases as the fluid's molecular weight increases, the higher-viscosity fluids lubricate a silicone elastomeric surface for a slightly longer period than the lower viscosity fluids. Polydimethylsiloxane elastomers tend to swell and decrease in durometer when exposed to MED-368. Before exposing a silicone elastomer to a silicone fluid, evaluate the exposure's effect on performance. NuSil Technology LLC's MED-400, MED-420, and MED-460 (Fluorosilicone polymer and MethylFluorosilicone copolymer) may be evaluated for such applications.

Thin films of MED-368 Fluid on plastics, metal and glass provide a temporary, water-repellent barrier. On temperature-resistant materials such as glass, ceramic and metal, this fluid film can be converted to a highly durable hydrophobic film by heating the treated surface. Heating 2 hours at 250°C (482°F), 1 hour at 276°C (536°F) or 30 minutes at 300°C (572°F) is satisfactory.

### Sterilization

**Dry Heat** – Dry heat is recommended as a sterilization method for silicone fluid sterilized in bulk or as thin films. Allow for the necessary time to raise the fluid's temperature and for thermal expansion of silicone contents.

### Packaging

2 Ounce (57 g)  
1 Pint (455 g)  
1 Gallon (3.64 kg)  
5 Gallon (18.2 kg)

### Warranty

36 Months

**Steam Autoclaving** – Bulk fluid sterilization by steam autoclaving is not recommended. Excess water diffuses into the fluid, causing it to become hazy. Thin films of fluid may be satisfactorily sterilized by this method.

**Gamma Irradiation**<sup>1</sup> - The exposure of polydimethylsiloxane fluids such as MED-368 to radiation introduces small levels of cross-linking into the fluid that may increase fluid viscosity. This effect is most noticeable in the higher-viscosity fluids. As with any exposure of a product to radiation, evaluate product performance after exposure to determine if such treatment has detrimental effects.

**Ethylene Oxide** - Bulk quantity sterilization by ethylene oxide (ETO) is not recommended. The high solubility of ETO and the associated ETO by-products in polydimethylsiloxane fluids increase the difficulty of removing these materials from the fluids using normal outgassing procedures. Thin films can be sterilized by ETO procedures because their large surface-to-volume ratios allow ETO to be easily removed and evacuated by normal outgassing procedures.

### **Solvent Compatibility**<sup>2</sup>

MED-368 is soluble in all proportions in the following nonpolar solvents: aliphatic hydrocarbon (e.g., hexane, heptane, mineral spirits), aromatic hydrocarbon (e.g., toluene, xylene), and chlorinated hydrocarbon (e.g., methylene chloride, chloroform, carbon tetrachloride, 1,1,1 trichloroethane).

## **Warnings About Product Safety**

NuSil Technology LLC believes that the information and data contained herein are accurate and reliable. However, the user is responsible to determine the material's suitability and safety of use. NuSil Technology LLC cannot know each application's specific requirements and hereby notifies the user that it has not tested or determined this material's suitability or safety for use in any application. The user is responsible to adequately test and determine the safety and suitability for their application and NuSil Technology LLC makes no warranty concerning fitness for any use or purpose. NuSil Technology LLC has completed no testing to establish safety of use in any medical application.

NuSil Technology LLC has tested this material only to determine if the product meets the applicable specifications. (Please contact NuSil Technology LLC for assistance and recommendations when establishing specifications.) When considering the use of NuSil Technology LLC products in a particular application, review the latest Material Safety Data Sheet and contact NuSil Technology LLC with any questions about product safety information.

Do not use any chemical in a food, drug, cosmetic, or medical application or process until having determined the safety and legality of the use. The user is responsible to meet the requirements of the U.S. Food and Drug Administration (FDA) and any other regulatory agencies. Before handling any other materials mentioned in the text, obtain available product safety information and take the necessary steps to ensure safety of use.

## **Specifications**

Do not use the typical properties shown in this technical profile as a basis for preparing specifications. Please contact NuSil Technology LLC for assistance and recommendations in establishing particular specifications.

## **Patent Warning**

NuSil Technology LLC disclaims any expressed or implied warranty against the infringement of any patent. NuSil Technology LLC does not warrant the use or sale of the products described herein will not infringe the claims of any United States' or other country's patents covering the product itself, its use in combination with other products or its use in the operation of any process.

## **Warranty Information**

NuSil Technology LLC's warranty period is 36 months from the date of shipment when stored below 40°C in original unopened containers. Unless NuSil Technology LLC provides a specific written warranty of fitness for a particular use, NuSil Technology LLC's sole warranty is that the product will meet NuSil Technology LLC's then current specification.

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<sup>1</sup>W. Noll, Chemistry & Technology of Silicones. (Academic Press Inc., 1968) 471-472.

<sup>2</sup>Noll 470-471.

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