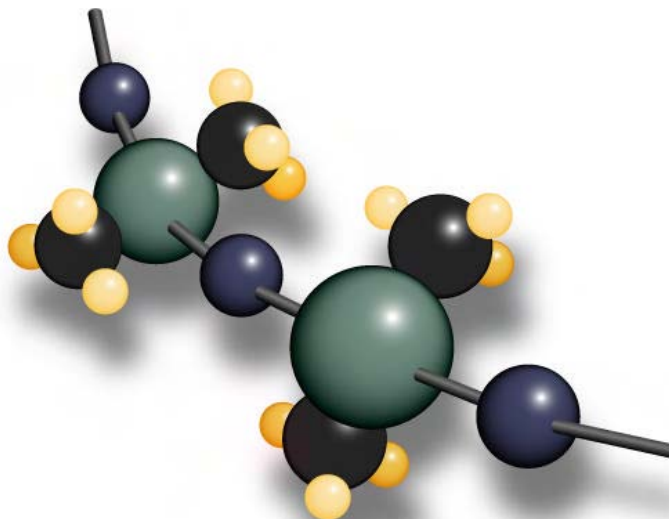


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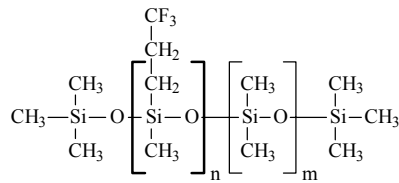
An ISO 9001 Certified Company

MED-460

Silicone Fluid

Product Profile

Description



- A clear liquid copolymer consisting of dimethylsiloxane and trifluoropropylmethylsiloxane
- Available in standard viscosities of 350, 1,000 and 12,500 cP and custom viscosities upon request
- Has reduced solubility, good wetting properties and good lubrication characteristics for plastics, rubber and skin
- Highly water repellent and resists decomposition by heat and oxidation

Applications

- To provide a lubricious and/or hydrophobic coating
- For lubricating the surfaces of molded dimethyl silicone elastomer parts

Typical Properties	Result	Metric Conv.	ASTM	NT-TM
Appearance	Translucent	-	D2090	002
Volatility	0.2%	-	D792	004
Refractive Index	1.383	-	D1747, D1218	018
Volume Resistivity	1 x 10 ¹⁵ ohms-cm	-	D1169	024
Dielectric Strength	400 volts/mil	-	-	-
Coefficient of Thermal Expansion	0.00096 cc/cc/°C	-	-	-
Operating Temperature Range	-40°F to 392°F	-40°C to 200°C	-	-

Instruction for Use

Apply directly to surfaces by dipping, spraying or wiping. When desiring a very thin film of fluid, 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-460 Fluid possesses excellent lubricant characteristics, the fluid may not provide satisfactory lubrication in load-bearing situations, especially metal against metal. MED-460 contains about 60 mole percent fluorinated polymer, which reduces its solubility in most silicone elastomers, particularly polydimethylsiloxane elastomers, while retaining good wetting properties. The combination of reduced solubility and good surface wetting properties allows the fluid to remain on the surface of the silicone polymer longer than polydimethylsiloxane fluids, resulting in improved long-term surface lubricity and reduced elastomer swelling. Since MED-460's rate of diffusion into silicone elastomers decreases as the molecular weight of the fluid increases, the higher viscosity fluids lubricate a silicone elastomeric surface for a slightly longer period than lower viscosity fluids. Before exposing a silicone elastomer to any fluid, evaluate the effect of the exposure on performance.

Packaging

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

Warranty

36 Months

Thin films of MED-460 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 – Sterilize thin films of MED-460 by dry heat. The minimum sterilization program recommended is 1 hour at 160°C (320°F). (Note: Add the time necessary to raise the fluid's temperature.)

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 - The exposure of polydimethylsiloxane fluids such as MED-460 to 2.5 megarads (25 K. Gray) of Co^{60} radiation introduces small levels of cross-linking into the fluid and increases 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 of MED-460 by ethylene oxide (ETO) is not recommended. The high solubilities 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 of MED-460 can be sterilized by ETO procedures because their large surface-to-volume ratios allow them to be relatively easily freed from ETO residues by normal outgassing procedures.

Solvent Compatibility

MED-460 is soluble in chlorinated hydrocarbon (e.g., methylene chloride, chloroform, carbon tetrachloride, 1,1,1 trichloroethane), and ketones (e.g. acetone, MEK, MIBK). MED-460 is also slightly soluble (the solution is hazy) in aromatic hydrocarbons, mineral spirits and alcohol IPA.

FDA Master File

A Master Access File for MED-460 has been filed with the U.S. Food and Drug Administration. Customers interested in authorization to reference the Master Access File must contact NuSil Technology.

Warnings About Product Safety

NuSil Technology believes the information and the data contained herein are accurate and reliable. However, the user is responsible to determine the material's suitability and safety of use. NuSil Technology 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 makes no warranty concerning fitness for any use or purpose. NuSil Technology has completed no testing to establish safety of use in any medical application.

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

Patent Warning

NuSil Technology disclaims any expressed or implied warranty against the infringement of any patent. NuSil Technology 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's warranty period is 36 months from the date of shipment when stored below 40°C in original unopened containers. Unless NuSil Technology provides a specific written warranty of fitness for a particular use, NuSil Technology's sole warranty is that the product will meet NuSil Technology's then current specification. NuSil Technology specifically disclaims any other expressed or implied warranty, including warranties of merchantability and fitness for use. The exclusive remedy and NuSil Technology's sole liability for breach of warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. NuSil Technology expressly disclaims any liability for incidental or consequential damages.