Product Data

Methyl Hydrogen Silicone Fluid for Water Repellent

TSF484

TSF484 is a methyl hydrogen silicone fluid, which imparts water repellency to textile materials and others.

STRUCTURAL FORMULA

\[
\begin{align*}
\text{CH}_3 & \quad \text{Si} & \quad \text{O} & \quad \text{Si} & \quad \text{O} & \quad \text{Si} & \quad \text{CH}_3 \\
\text{CH}_3 & \quad \text{Si} & \quad \text{O} & \quad \text{Si} & \quad \text{O} & \quad \text{Si} & \quad \text{CH}_3 \\
\text{CH}_3 & \quad \text{Si} & \quad \text{O} & \quad \text{Si} & \quad \text{O} & \quad \text{Si} & \quad \text{CH}_3 \\
\text{CH}_3 & \quad \text{Si} & \quad \text{O} & \quad \text{Si} & \quad \text{O} & \quad \text{Si} & \quad \text{CH}_3 \\
\end{align*}
\]

KEY FEATURES

♦ Imparts water repellency to a variety of materials such as textiles and powders.

APPLICATIONS

♦ Water repellent for textiles, powders, glass, metals

TYPICAL PROPERTY DATA

<table>
<thead>
<tr>
<th>PROPERTIES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear, Water White</td>
</tr>
<tr>
<td>Silicone Content, %</td>
<td>100</td>
</tr>
<tr>
<td>Viscosity (25°C) mm²/s (cSt)</td>
<td>25 {25}</td>
</tr>
<tr>
<td>Specific Gravity (25°C)</td>
<td>1.00</td>
</tr>
<tr>
<td>Refractive Index (nD²⁵)</td>
<td>1.396</td>
</tr>
<tr>
<td>Solids content (105°C, 1.5h) %</td>
<td>97</td>
</tr>
<tr>
<td>Methylhydrogensiloxane units mol %</td>
<td>99</td>
</tr>
</tbody>
</table>

Typical property data values should not be used as specifications
INSTRUCTION FOR USE (Powder treatment)

1. Dilute TSF484 with an appropriate solvent such as toluene or hexane to a 10-25% solution.
2. Add the solution to the powder, as silicone content will be 0.1 to 1.0 weight percent.
3. Mix them with a conventional mixer such as ribbon mixer to coat the powder surface uniformly.
4. Removing solvent by heating at 60-80°C, heat treat at 150°C for 60 minutes.
5. Treating temperature can be lowered by using the following catalysts. Typical level is about 2 % to TSF484.
   - Stannous octoate, Stannous oleate, Zinc octoate, Zinc naphthoate, Iron octoate

<table>
<thead>
<tr>
<th>TEMPERATURE °C</th>
<th>TIME min</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>3</td>
</tr>
<tr>
<td>130</td>
<td>15</td>
</tr>
<tr>
<td>100</td>
<td>60</td>
</tr>
</tbody>
</table>

WARNING
- Catalyst should be added to pre-diluted TSF484 to avoid rapid hydrogen-gas generation.
- Pot life of the catalyzed solution, which contains 10-25% TSF484, is about 8 hours at 25°C.
- Since hydrogen gas can be generated by the addition of catalysts or heating, special attention should be paid.
- The catalyzed solution should be not stored in closed container.
- Solvent removal and heat treat processes should be carried out in a well-ventilated area.

HANDLING AND SAFETY
- TSF484 generates flammable gas on contact with acids, bases or oxidizing materials.
- Wear eye protection, protective gloves at all times when working with this product.
- Maintain adequate ventilation in the work place at all times.

STORAGE
- Store in a dark, cool place out of direct sunlight.
- Keep out of reach of children.
PACKAGING

♦ 1kg bottle available in cases of 10
♦ 15kg can available
♦ 18kg pail available
♦ 200kg drum available

FOR INDUSTRIAL USE ONLY

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