

Dimethylpolysiloxane

Dimethyl Silicone; Polydimethylsiloxane

CAS: [9006-65-9]

DESCRIPTION

Dimethylpolysiloxane is a mixture of fully methylated linear siloxane polymers containing repeating units of the formula $[(\text{CH}_3)_2\text{SiO}]$ and stabilized with trimethylsiloxy end-blocking units of the formula $[(\text{CH}_3)_3\text{SiO}-]$. It occurs as a clear, colorless, viscous liquid that is soluble in most aliphatic and aromatic hydrocarbon solvents but insoluble in water.

Note: Dimethylpolysiloxane is frequently used in commerce as such, or as a liquid containing silica (usually 4% to 5%), which must be removed by high-speed centrifugation (about 20,000 rpm) before testing the Dimethylpolysiloxane for *Identification*, *Refractive Index*, *Specific Gravity*, and *Viscosity*. This monograph does not apply to aqueous emulsions containing emulsifying agents and preservatives, in addition to silica.

Functional Use in Foods Defoaming agent.

REQUIREMENTS

Identification The infrared absorption spectrum, determined in a 0.5-mm cell, of a solution of 1 mg of the sample in 25 mL of carbon tetrachloride exhibits maxima only at the same wavelengths as that of a similar preparation of USP Polydimethylsiloxane Reference Standard.

Heavy Metals (as Pb) Not more than 10 mg/kg.

Loss on Heating Not more than 18.0%.

Refractive Index Between 1.4000 and 1.4050.

Specific Gravity Between 0.96 and 0.98.

Viscosity Between 300 and 1500 centistokes.

TESTS

Heavy Metals Prepare and test a 2-g sample as directed in *Method II* under the *Heavy Metals Test*, Appendix IIIB, using 20 μg of lead ion (Pb) in the control (*Solution A*).

Note: If silica is present, it must be removed by filtration before the pH is adjusted.

Loss on Heating Heat 15 g of the sample in an open tared aluminum cup, having an internal surface of about 30 cm^2 , for 4 h at 200° in a circulating air oven, cool, and weigh.

Refractive Index, Appendix IIB Determine with an Abbé or other refractometer of equal or greater accuracy.

Specific Gravity Determine by any reliable method (see *General Provisions*).

Viscosity Determine as directed in the general method, Appendix IIB.

Packaging and Storage Store in tight containers.