

Description:

Santovac® 5 vacuum diffusion pump fluid operates efficiently, economically and safely in diffusion pumps, in properly designed systems, to produce ultra-high vacuums in the 10^{-10} torr range. The wide liquid range, low vapor pressure and unique balance of properties make it an ideal working fluid in diffusion pumps. Santovac 5 is a light colored, slightly viscous liquid at room temperature. Typical properties are given in the table below. Santovac 5 is an isomeric mixture of five-ring polyphenol ethers.

Low Vapor Pressure

Extremely low vapor pressure results in low ultimate pressures. The vapor pressure of Santovac 5 at 25 degrees C determined by extrapolation of higher temperature data is 4×10^{-10} . This, together with low backstreaming characteristics, means that 10^{-10} torr vacuums can be obtained in well designed systems without the use of liquid nitrogen traps. These characteristics can also eliminate the need for baffles, allowing greater pumping speed.

Low Backstreaming

Backstreaming depends on the vapor pressure of the fluid and its overall characteristics, the system design, the operating conditions and the temperature of the collecting surface. These oils have inherently low backstreaming characteristics.

Low backstreaming can result in less contamination in chambers and longer term operation for those processes that are sensitive to organic matter. Experience has shown us that polyphenyl ether type fluids like Santovac 5 pump fluid can be used for electronic component manufacture, and for laboratory, analytical instrumental and research applications.

High Thermal Stability

Santovac 5 offers unusually high thermal and oxidation stability. Isoteniscope tests show that they remain thermally stable at 870 degrees F. Santovac 5 may discolor with use, but this does not affect its operation as a diffusion pump fluid.

Clean and easy to use

Absorbed films of Santovac 5 is easier to remove than silicone films. Santovac 5 can be easily baked off in vacuum or cleaned with standard solvents.

Elastomer Compatability

Viton®, PTFE, butyl and silicone have been found to be generally compatible with Santovac 5. Since elastomer manufacturers are continually formulating and testing new compounds, designers who desire the latest available data should contact the packing and seal suppliers directly. The computability of other non-metallic materials should be checked by tests with the fluid under simulated conditions of use.

Viton® isa trademark of DuPont Dow Elastomers.

Santovac® is a registered trademark of Santovac Fluids, Inc.

Features:

- Ultimate Pressure to 10^{-10} Torr.
- Lowest Backstreaming Characteristics
- Excellent Thermal Stability
- High Tolerance to Pressure Bursts

Specifications:

Appearance	Clear
Vapor Pressure at 25 °C (torr)	4x10 ⁻¹⁰
Viscosity at 40 °C (cSt)	370 cSt
Viscosity at 100 °C (cSt)	13 cSt
Pour Point (°C)	4
Flash Point (°C)	288
Refractive Index at 25 °C	1.630
Thermal Stability (°C)	<453
Vapor Pressure at 260 °C (mmHg)	0.2
Surface Tension (dynes/cm)	49.9
Specific Gravity at 25 °C	1.2

SDS:

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