Santovac® 5 Cryo Oil

HAMPTON RESEARCH
Solutions for Crystal Growth

User Guide **HR2-861**

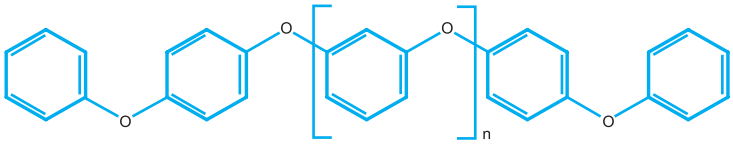
Application

- Cryoprotectant for macromolecular crystallization.

Suggested Use

Pick up the crystal using a Mounted Cryoloop with as little mother liquid as possible. Dip the mounted crystal into the Santovac 5 Cryo Oil. Cryogenically cool the mounted crystal. One can also add a small amount of Santovac Cryo Oil to the crystallization drop before mounting the crystal. After adding the Santovac Cryo Oil, mount the crystal using a Mounted Cryoloop. Withdraw the mounted crystal from the drop and the Santovac 5 Cryo Oil will coat the mounted crystal. Cryogenically cool the mounted crystal.

Representative Structure of Polyphenyl Ether (PPE)



Santovac 5 is a five ring polyphenyl ether (PPE) with very low vapor pressure and low reactivity. The oil is highly resistant to oxidation. The only elements in the pure polyphenyl ether are oxygen, hydrogen and carbon.

The fluid is chemically stable, non-corrosive, safe and non-toxic at normal operating temperatures.

Santovac 5 is not miscible with water, paraffin oil, silicon oil, alkanes, or Parabar 10312 (Paratone). Santovac is miscible with acetone.

Santovac® 5 is a trademark of Santovac® Fluids.

Physical / Chemical Properties

Lot Number	
Molecular Formula	Not available
Average Molecular Weight (M_r)	446
CAS Number	[2455-71-2]
Appearance	Light yellow clear liquid
MDL Number	Not available
PubChem Substance ID	Not available
Refractive Index	1.6306 at 25°C

(Continued) Physical / Chemical Properties

Solubility in Water	Insoluble
Density	1.20
Odor	Odorless to slight phenolic
Boiling Point @ 760 mm Hg	889°F (476°C)
Pour Point	40°F (4.4°C)
Specific Gravity @ 25/25°C	1.195 - 1.201
Vapor Pressure	$4x10^{-10}$ torr @ 25°C
Flash Point	288°C
Viscosity	1000.0 cs @ 27°C (80.6°F); 363.0 cs @ 40°C (104°F); 13.1 cs @ 100°C (212°F); 1.2 cs @ 260°C (500°F)
Auto Ignition Temperature	590°C (1094°F)
Coefficient of expansion per degree Celsius	C0.0008 (25 - 50°C)
Surface Tension	49.9 Dynes/cm
Thermal Stability	Excellent
Oxidation Resistance	Excellent
Chemical Resistance	Excellent
Radiation Resistance	Excellent

For laboratory use only.
Refer to the material safety data sheet for additional information.

Reference

1. Structure of the 'open' form of Aspergillus nidulans 3-dehydroquinate synthase at 1.7 Å resolution from crystal grown following enzyme turnover. C.E. Nichols, A.R. Hawkins and D.K. Stammersa. Acta Crystallographic Section D, Volume 60, Part 5, Pages 971-973, May 2004.

2. Crystal Structure of the Caspase Activator Human Granzyme B, a Proteinase Highly Specific for an Asp-P1 Residue. E. Estebanez-Perpina et al. Biol. Chem., Vol. 381, pp. 1203-1214, December 2000.