



Safety Data Sheet

Product No. 891-50 Santovac® 5, Diffusion Pump Oil

Issue Date (03-03-08)

Review Date (04-10-15)

Section 1: Product and Company Identification

Product Name: Santovac® 5, Diffusion Pump Oil

Synonym: Santovac® 5 Polyphenyl Ether Vacuum Pump Fluid

Company Name

Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477

Domestic Phone (800) 237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

International Phone (01) (530) 243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

Chemtrec Emergency Number 1-800-424-9300 24 hrs a day.

Section 2: Hazard Identification

GHS Pictograms: No significant hazards associated with this material.

GHS Categories: No significant hazards associated with this material.

Signal Word: NA

Health Effects:

NFPA Hazard Rating: Health: 0; Fire: 1; Reactivity: 0

HMIS® Hazard Rating: Health: 0; Fire: 1; Reactivity: 0

(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Results of PBT and vPvB assessment: A chemical safety assessment has not been carried out.

PBT: ND

vPvB: ND

Emergency overview:

Appearance: Light yellow to clear liquid.

Immediate effects: ND

Potential health effects

Primary Routes of entry: Skin contact

Signs and Symptoms of Overexposure: Occupational exposure to this material has not been reported to cause significant adverse health effects. On the basis of available information, exposure to SANTOVAC® 5 polyphenyl ether lubricant is not expected to produce significant adverse human health effects when recommended safety precautions are followed.

Chemical Listed As Carcinogen Or Potential Carcinogen: No

See Toxicological Information (Section 11)

Potential environmental effects

See Ecological Information (Section 12)

Section 3: Composition / Information on Ingredients

Principle Component(s) (chemical and common name(s)) (Cas. No)	%	OSHA PEL mg/m ³	ACGIH TLV mg/m ³	NTP Carcinogen	IARC Carcinogen	OSHA regulated Carcinogen
Polyphenyl ether (2455-71-2)		NE	NE	No	No	No

It is not a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Section 4: First Aid Measures

If accidental overexposure is suspected

Eye(s) Contact: Immediate first aid is not likely to be required. However, this material can be removed with water. Wash heavily contaminated clothing before reuse.

Skin Contact: immediate first aid is not likely to be required. However, this material can be removed with water. Wash heavily contaminated clothing before reuse.

Inhalation: Immediate first aid is not likely to be required. However, if symptoms occur, remove to fresh air. Remove material from eyes, skin and clothing.

Ingestion: immediate first aid is not likely to be required. A physician or Poison Control Center may be contacted for advice.

Note to physician

Treatment: ND

Medical Conditions generally Aggravated by Exposure: ND

Section 5: Fire Fighting Measures

Flash Point: 550 °F (287 °C)

Flammable Limits: ND

Auto-ignition point: 1135 °F (612 °C)

Fire Extinguishing Media: In case of fire, use water spray (fog), foam, dry chemical, or CO₂.

Special Fire Fighting Procedures: Fire fighters and others exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

Unusual Fire and Explosion Hazards: None known

Hazardous combustion products: Continued use at temperatures above 425 °C may result in the formation of benzene and phenol. If the product is burned, complete combustion produces carbon dioxide and water and partial combustion produces carbon monoxide, smoke, soot and low molecular weight hydrocarbons.

DOT Class: Not regulated

Section 6: Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Contain large spills with dikes and transfer the material to appropriate containers for reclamation or disposal. Absorb remaining material or small spills with an inert material and then place in a chemical

waste container. Flush residual spill area with water.

Waste Disposal Methods: Dispose of waste according to Federal, State and Local Regulations.

Section 7: Handling and Storage

Precautions to be taken in Handling and Storage: handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin and clothing.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

Storage temperature: Room temperature

Storage Pressure: NA

Section 8: Exposure Controls / Personal Protection

Engineering Controls

Ventilation required: Provide natural or mechanical ventilation to minimize exposure. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Personal Protection Equipment

Respiratory protection: Avoid breathing mist. Use NIOSH/MSHA approved respiratory protection equipment when airborne exposure is excessive. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer. Respiratory protection programs must comply with 29 CFR 1910.134. Protective gloves:

Skin protection: Although it does not present a significant skin concern, minimize skin contamination by following good industrial practice. Wearing protective gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

Eye protection: This product does not cause significant eye irritation or eye toxicity requiring special protection. Use good industrial practice to avoid eye contact.

Additional clothing and/or equipment:

Exposure Guidelines

See Composition/Information on Ingredients (Section 3)

Section 9 Physical and Chemical Properties

Appearance and Physical State: Light yellow to clear liquid

Odor: Odorless to slight phenolic

Specific Gravity (H₂O=1): 1.195 - 1.201 @ 25/25 °C

Vapor Pressure (mm Hg): ND

Vapor Density (air=1): 15.5

Percent Volatile by volume: ND

Evaporation Rate (butyl acetate=1): ND

Boiling Point: 889°F @ 760 mm Hg

Freezing point / melting point: ND

pH: Neutral

Solubility in Water: Soluble in acetone and light aromatic solvents; insoluble in water

Molecular Weight: ND

Section 10: Stability and Reactivity

Stability: Stable under normal conditions.

Conditions to Avoid: Temperatures above 425 °C

Materials to Avoid (Incompatibility): Exposure to materials that are highly oxidizing should be avoided.

Hazardous Decomposition Products: Continued use at temperatures above 425 °C may result in the formation of benzene and phenol. If the product is burned, complete combustion produces carbon dioxide and water and partial combustion produces carbon monoxide, smoke, soot and low molecular weight hydrocarbons.

Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

Results of component toxicity test performed:

Single exposure (acute) studies indicate:

Oral - Practically Nontoxic (Rat LD50 > 34,600 mg/kg)

Oral - Practically Nontoxic (Rabbit LD50 > 34,600 mg/kg)

Dermal - Practically Nontoxic (Rabbit LD50 > 34,600 mg/kg)

Inhalation - Practically Nontoxic (Rat 4-hr LC50 > 47 mg/l. No deaths and no signs of toxicity were observed in animals exposed to 47 mg/l, the highest atmospheric concentration achievable by heating the material to 329 °C in this study.)

Eye Irritation - Nonirritating (Rabbit, 0.0/110.0)

Skin Irritation - Nonirritating (Rabbit, 24-hr exposure, 0.0/8.0)

In a controlled skin contact study, no skin irritation (primary or cumulative) or skin allergy was observed in humans following repeated exposures to a polyphenyl ether formulation similar to SANTOVAC® 5 Lubricant. Increases in liver weight and liver/body weight ratios with accompanying increase in liver cell size, considered to be related in increased liver metabolic activity and increases in adrenal weight were noted in rats following repeated skin exposure (4-weeks) to a second polyphenyl ether formulation. This same formulation produced no genetic changes in standard tests using animal or bacterial cells.

Human experience: ND

This product **does not** contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

Section 12: Ecological Information

Ecological Information: ND

Chemical Fate Information: ND

Section 13 Disposal Considerations

RCRA 40 CFR 261 Classification: None

Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14: Transportation Information

US DOT Information: Proper shipping name: Not regulated

IATA: Proper shipping name: Not regulated

Marine Pollutant: No

Canadian TDG: Not regulated

Section 15: Regulatory Information**United States Federal Regulations**

MSDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.

SARA: Substance not listed.

SARA Title III: Substance not listed

RCRA: None

TSCA: All components are listed.

CERCLA: None listed

State Regulations

California Proposition 65: Substance not listed.

International Regulations

Canada WHMIS: ND

Europe EINECS Numbers: ND

Section 16: Other Information

Label Information: Not regulated

European Risk and Safety Phrases: ND

European symbols needed: ND

Canadian WHMIS Symbols: ND

Abbreviations used in this document

NE= Not established

NA= Not applicable

NIF= No Information Found

ND= No Data

Disclaimer

Ted Pella, Inc. makes no warranty of any kind regarding the information furnished herein. Users should independently determine the suitability and completeness of information from all sources. While this data is presented in good faith and believed to be accurate, it should be considered only as a supplement to other information gathered by the user. It is the User's responsibility to assure the proper use and disposal of these materials as well as the safety and health of all personnel who may work with or otherwise come in contact with these materials.