



**SPI Supplies Division**

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**Manufacturer's CAGE:** 1P573

# Material Safety Data Sheet

**SPI #05069-AE and 05069-BG Santovac® 5GB Ultra High Vacuum Grease**

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## Section 01 Identification

Date Effective..... June 7, 2010  
(most recent revision)

Chemical Name/Synonyms: **Polyphenyl ether**

### Emergencies

Contacting CHEMTREC 24 Hour Emergency

Use Only #'s....

Worldwide phone : 1-(703)-527-3887

Worldwide FAX : 1-(703)-741-6090

Toll-free phone : 1-(800)-424-9300 USA only



Product or Trade Name.... SPI #05069-AE and 05069-BG Santovac® 5GB  
Ultra High Vacuum Grease

CAS #..... None assigned

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## Section 2 Composition

Santovac® 5GB polyphenyl grease is a proprietary lubricant.

The specific chemical identity of this product is withheld because it is trade secret information. However, we can state that the base fluid is

Santovac® 5 ultra-high vacuum fluid, and the material is "thickened" with a proprietary polymeric solid.

### Section 3: Hazard Identification

**Emergency Overview:**

Inhalation of vapor or oil mist generated from this material at high temperatures may irritate respiratory passages. Limits for airborne concentrations of oil mist in air is 5mg/m<sup>3</sup> per OSHA 29 CFR 1910.1000. *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.*

**Potential Health Effects:**

Likely routes of exposure: Skin and eye contact, inhalation of mist/vapor at high temperatures (> 250°C/482°F)

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 grease is not expected to produce significant adverse human health effects when recommended safety precautions are followed.

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### Section 4: First Aid Measures

Eye Contact: Wash eyes thorough with clean low-pressure water.  
If irritation persists, contact physician.

Skin Contact: Wash thorough with soap and water

Inhalation: Move to fresh air, contact physician if symptoms occur.

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

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### Section 5: Fire Fighting Measures

Flash point: 204°C (400°F) Method: Cleveland Closed Cup (CCC)

Extinguishing media: In case of fire, use carbon dioxide, water spray (fog), dry chemical, foam; water can be used to cool fire exposed containers.

**Fire Fighting Measures:** 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 Decomposition Products:**

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products:

Carbon dioxides and traces of incompletely burned carbon compounds.

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## **Section 6: Accidental Release Measures**

In the event of a spill, wipe/scrape up grease and place the material into an appropriate container for reclamation or proper disposal.

Refer to Section 13 for disposal information and to Section 15 for reportable quantity information.

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## **Section 7: Handling and Storage**

Emptied containers retain vapor and product residues. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

**Storage:** Product is stable under normal conditions or storage and handling.

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## **Section 8: Exposure Controls and Personal Protection**

### **Component Exposure Limits**

**Eye Protection:** Wear protective eye glasses or safety goggles. Use good industrial practice to avoid eye contact.

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

Respiratory Protection: Avoid breathing the mist of this material. Use NIOSH/MSHA approved respiratory protection equipment when potential airborne exposure exists. 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.

Ventilation: Provide natural or mechanical ventilation to minimize exposure.

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## Section 9: Physical and Chemical Properties

Appearance: Clear gel like material

Physical State: Viscous grease

Color: Water white clear

Odor: Odorless

Specific Gravity @ 25°C: 1.195-1.201

Viscosity:

Freezing/Melting Point: Not determined

Boiling point: Not applicable

Drop point: > 260°C (500°F)

pH: Neutral

Vapor Pressure:  $4 \times 10^{-10}$  torr @ 25°C

Dropping Point: Over 260°C (500°F)

Evaporation Rate: Nil (24 hours @ 150°C (302°F))

Oil Separation: Less than 1% (24 hours @ 150°C (302°F))

Note: The above information is not intended for the preparation of product specifications. This information represents typical values based on material tested but may vary from lot to lot. Typical values should not be construed as a guaranteed or certified analysis of any specific lot or as specifications for this product.

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## Section 10: Stability and Reactivity

Stability: Product is stable under normal storage and handling conditions.

Materials to avoid: Exposure to materials which are highly oxidizing should be avoided.

Hazardous Decomposition Products: Continued use at temperatures above 425°C (797°F) 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: Does not occur.

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## Section 11: Toxicological Information

Data from laboratory studies with Santovac® 5 polyphenyl ether lubricant, the base material for Santovac 5GB Ultra High Vacuum Grease, are itemized below:

### **Santovac® 5 polyphenyl ether lubricant:**

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 (624°F) in this study).

Eye Irritation - Non-irritating (Rabbit, 0.0/110.0)

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

Laboratory studies have been conducted on similar polyphenyl ether formulations and these data are considered representative of Santovac® 5GB Grease.

In a controlled skin 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 weights and liver/body weight ratios with accompanying increases in liver cell size, considered to be related to 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.

## Section 12: Ecological Information

Environmental Fate and Distribution: When used and/or disposed of as indicated, no adverse environmental effects are foreseen.

Environmental Effects and Mobility: Non-volatile/Insoluble in water so impact would not be expected to be significant.

Degradability: Not known

Fate and Effects in Waste Water Treatment Plants:  
No specific information available.

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## Section 13: Disposal Considerations

Contact a licensed waste disposal contractor for disposal recommendations. Waste product may also be classified as waste oil under state and federal regulations. Any discarded product, whether "hazardous waste" or not, should be incinerated in accordance with all local, state or federal laws and regulations. Consult your attorney or appropriate regulatory officials for information on such matters.

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## Section 14: Transport Information

Not classified as hazardous for transport by air, sea, or road.

DOT Road Shipment Information (49 CFR 172.101)  
Not subject to DOT regulation.

Ocean Shipment (IMDG): Not subject to IMDG code.

Air Shipment (ICAO): Not subject to ICAO regulations.

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## Section 15: Regulatory Information

Contents of this MSDS comply with the OSHA Hazard Communication

Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are listed or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances: None

Section 304 CERCLA Hazardous Substances: None

Section 312 Hazard Class:

Acute: No

Chronic: No

Fire: No

Pressure: No

Reactive: No

Section 313 Toxic Chemicals: None

Supplemental State Compliance Information:

California (USA) Proposition 65 requires manufacturers or distributors of consumer products into the State of California to provide a warning statement if the product contains ingredients for which the State has found to cause cancer, birth defects or other reproductive harm. If this product contains an ingredient listed by the State of California to cause cancer or reproductive toxicity, it will be listed below:

No such components in this product.

CERCLA Reportable Quantity: Not applicable

OSHA Air Containment (29 CFR 1910.1000): Oil mist in air if material is heated above 250°C (482°F). Airborne concentration limit is 5 mg/m<sup>3</sup>.

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## Section 16: Other Information

Disclaimer of Liability:

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc.

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Index

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Return to:

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- [SPI Supplies Catalog Table of Contents](#)
- [SPI Supplies Home Page](#)

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