

Material Safety Data Sheet

Hi-Z Thermal Grease

Section 1 - Chemical Product and Company Identification

MSDS Name: Hi-Z Thermal Grease

Synonyms: Boron Nitride Grease, Heat Transfer Grease

Company Identification:

Hi-Z Technology, Inc.
7606 Miramar Rd. Suite 7400
San Diego, CA 92126
(858) 695-6660

Section 2 - Composition, Information on Ingredients

% by Weight	CAS No.	Ingredient	Exposure Limits	Units
67	3982-82-9	Tetramethyl tetraphenyl trisiloxane (silicone oil)	none	
33	10043-11-5	Boron Nitride	ACGIH (TLV) 10 * OSHA (PEL) 15 *	mg/M ³ mg/M ³

*Limits apply only to airborne dust. The silicone oil prevents the formulated product from forming airborne dust.

Section 3 - Hazards Identification

Acute Effects

Eye: Direct contact may cause temporary redness and discomfort.

Skin: No significant irritation expected from a single short-term exposure

Inhalation: No significant effects expected from a single short-term exposure

Oral: Low ingestion hazard in normal use

Prolonged / Repeated Exposure Effects

Skin: No known applicable information

Inhalation: No known applicable information

Signs and Symptoms of Overexposure: No known applicable information

Medical Conditions Aggravated by Exposure: No known applicable information

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water

Skin: Wipe from skin with a paper towel. No other first aid should be needed

Ingestion: No first aid should be needed. Ingestion of >5 g may produce a mild laxative effect.

Inhalation: No first aid should be needed.

Notes to Physician: It was not this product that made the patient sick. Investigate other causes.

Section 5 - Fire Fighting Measures

Flash Point: > 214 °F / > 101.1 °C (Closed Cup)

Autoignition Temperature: Not determined.

Flammability Limits in Air: Not determined.

Extinguishing Media: On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO₂), dry chemical or water spray. Water can be used to cool fire exposed containers.

Fire Fighting Measures: Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.

Unusual Fire Hazards: None.

Section 6 - Accidental Release Measures

Spills/Leaks: Wipe up spill with paper towels or with rags. Dispose of waste wipers only in accordance with applicable State and Local regulations.

Section 7 - Handling and Storage

Use with adequate ventilation. Traces of benzene (carcinogen) may form if heated in air above 300 F (149 C). Provide ventilation to control vapor exposure within inhalation guidelines when

handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements. Avoid eye contact.

Use reasonable care and store away from oxidizing materials.

Section 8 - Exposure Controls, Personal Protection

Component Exposure Limits

10043-11-5	Boron Nitride	ACGIH (TLV) 10 *	mg/M ³
		OSHA (PEL) 15 *	mg/M ³

* limits apply only to airborne dust of boron nitride

Engineering Controls

Local Ventilation: None should be needed.

General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Suitable Gloves: Handle in accordance with good industrial hygiene and safety practices.

Inhalation: No respiratory protection should be needed.

Suitable Respirator: None should be needed.

Personal Protective Equipment for Spills

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Inhalation/Suitable Respirator: No respiratory protection should be needed.

Precautionary Measures: Avoid eye contact. Use reasonable care.

Comments: Traces of benzene (carcinogen) may form if heated in air above 300 F (149°C) and formaldehyde may form above 300°C. Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements.

Section 9 - Physical and Chemical Properties

Physical State: Grease
Appearance: bright white grease
Odor: None.
pH: Not water soluble.
Vapor Pressure: 2×10^{-8} Torr @ 25°C
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not determined.
Boiling Point: >300°C.
Freezing/Melting Point: not determined
Decomposition Temperature: Not available.
Solubility: insoluble
Specific Gravity/Density: Not available.

Section 10 - Stability and Reactivity

Chemical Stability: Stable
Conditions to Avoid: Dust generation from boron nitride solid residue if oil has boiled away.

Incompatibilities: Open flame

Hazardous Decomposition Products: Benzene and formaldehyde may form if heated in air above 300°C

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

Acute Toxicology Data for Product

	Species	Test Results
Oral LD50:	Rat	> 2,000 mg/kg
Dermal LD50:	Rabbit	> 2,000 mg/kg

Special Hazard Information on Components: No known applicable information.

Section 12 - Ecological Information

Environmental Fate and Distribution: No information available.

Environmental Effects: No information available.

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

Section 13 - Disposal Considerations

When a decision is made to discard this material, as received, is it classified as a hazardous waste? Yes

TCLP: D018

State or local laws may impose additional regulatory requirements regarding disposal.

Section 14 - Transport Information

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

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

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

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 included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):

None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):

None.

Section 311/312 Hazard Class (40 CFR 370):

Acute: No

Chronic: No

Fire: No

Pressure: No

Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):

None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

Section 16 - Additional Information

MSDS Creation Date: 10/04/2011

Prepared by: Hi-Z Technology, Inc.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Hi-Z Technology be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Hi-Z has been advised of the possibility of such damages.