

# Material Safety Data Sheet

## N-Series Diamond Thermally Conductive Grease

### Section 1. Product and Company Identification

JunPus International Co., Ltd.  
4F., No.101, NINHSIA RD. DATONG DISTRICT, Taipei, Taiwan  
Tel: +886-2-25539932

Generic Description: Silicone compound  
Physical Form: Grease  
Color: Gary  
Odor: Slight odor  
NFPA Profile: Health 1 Flammability 1 instability/Reactivity 0

### Section 2. Osha Hazardous Components

<u>Hazard Classification</u>	<u>Wt%</u>
Dimethyl Siloxane	10.0~15.0
Metal Oxide	>50.0
Metal Powder	25.0~30.0

### Section 3. Hazards Identification

#### POTENTIAL HEALTH EFFECTS

##### Acute Effects

Eye: Direct contact may cause mild irritation.  
Skin: No significant irritation expected from a single short-term exposure.  
Inhalation: Irritates respiratory passages very slightly.  
Oral: Low ingestion hazard in normal use.

##### Prolonged/Repeated Exposure Effects

Skin: Repeated or prolonged exposure may cause irritation.  
Inhalation: No known applicable information.  
Oral: Repeated ingestion or swallowing large amounts may injure internally

##### Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure  
No known applicable information.

#### Section 4. First Aid Measures

Eye:	Immediately flush with water.
Skin:	No first aid should be needed.
Inhalation:	No first aid should be needed.
Oral:	Get medical attention.
Comments:	Treat symptomatically.

#### Section 5. Fire Fighting Measures

Flash Point(°F):	>200
Auto ignition 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 (CO <sub>2</sub> ), 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. Use water spray to keep fire exposed containers cool. Determine the need to evacuate or isolate the area according to your local emergency plan.
Unusual Fire Hazards:	None.

#### Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicone dioxide. Formaldehyde. Hydrogen. Metal oxides.

## Section 6. Accidental Release Measures

Containment/Clean up: Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Materials in contact with water, moisture, acids or bases have the potential to generate hydrogen gas. Recovered material should be stored in a vented container. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

## Section 7. Handling and Storage

Use with adequate ventilation. Avoid eye contact. Do not take internally.

Product may evolve minute quantities of flammable hydrogen gas which can accumulate. Adequately ventilate to maintain vapors well below flammability limits and exposure guidelines. Do not repackage. Do not store in glass containers which may shatter due to pressure build up. Clogged container vents may increase pressure build up. Keep container closed and store away from water or moisture.

## Section 8. Exposure Controls / Personal Protection

### Component Exposure Limits

There are no components with workplace exposure limits.

### Engineering Controls

Local Ventilation:	Recommended.
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:	No special protection needed.
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. Do not take internally. Use reasonable care.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

### Section 9. Physical and Chemical Properties:

Physical Form:	Grease
Color:	Gray
Odor:	Slight odor
Specific Gravity @ 25°C:	Not determined
Viscosity:	89,000
Freezing/Melting Point:	Not determined
Boiling Point:	Not determined
Vapor Pressure @ 25°C:	Not determined
Vapor Density:	Not determined
Solubility in Water:	immiscible in water
PH:	Not determined
Volatile Content:	Not determined

### Section 10. Stability and Reactivity

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction.

### Section 11. Toxicological Information

### Component Toxicology Information

This material contains zinc oxide. Zinc oxide produced adverse developmental effects when fed to rats at 300 mg/kg/day for 21 days prior to mating and throughout pregnancy. However, no adverse effects were observed at a dose of 100 mg/kg/day for the same duration.

### Special Hazard Information on Components

No known applicable information.

### Section 12. Ecological Information

Toxicity Data: No data available.

Irritation Data: May cause irritation to eyes, respiratory system and skin.

### Section 12. Ecological Information

#### Environmental Fate and Distribution

Complete information is not yet available.

#### Environmental Effects

Complete information is not yet available.

#### Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

#### Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	$\leq 1$	$>1$ and $\leq 100$	$>100$
Acute Terrestrial Toxicity	$\leq 100$	$>100$ and $\leq 2000$	$>2000$

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

### Section 13. Disposal Considerations.

Appropriate Method of Disposal of substance:

Contact a licensed professional waste disposal service to disposal of this material.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with and afterburner and scrubber. Observe all federal, state, and local environmental regulations.

### 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 Informaion**

EU Addition Classification:

Symbol of Danger: N

Indication of Danger: Not determined.

R: 50/53

Risk Statements: No determined information of toxic to aquatic organisms, may cause adverse effects in the aquatic environment.

S: 60 61

Safety Statements: This material and its container can be disposed of as hazardous waste. Recommend to Avoid release to the environment. Refer to special instructions/safety data sheets.

**Section 16. Other information:**

Data: Sep. 16, 2008

Department: JunPus International Co., Ltd.

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Tel: +886-2-25539932

Revision: 0

Other Information

The MSDS is prepared in accordance with ISO 11014-1:1994.

The above information is believed to be correct but dost not purport to be all inclusive and shall be used only as a guide. We make no warranty if merchantability or any other warranty, express and 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 way shall we 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 from using the above information.