

Safety Data Sheet



Section 1: Identification

Product Identifier and Other Means of Identification

Product Name : MC002973
Other Means of Identification : Silicone Heat Transfer Compound

Recommended Use and Restriction on Use

Use : heat transfer compound

Details of Manufacturer or Importer

Premier Farnell plc
150 Armley Road, Leeds, LS12 2QQ
+44 (0) 8701 202530

1.4. Emergency telephone number

+44 1865 407333

Section 2: Hazard(s) Identification

Classification of Hazardous Chemical

GHS Categories

| Criteria | Category | Signal Word | Pictograms |
|--|----------|-------------|-------------|
| Hazardous to the Aquatic Environment Chronic | 1 | Warning | Environment |

Note: The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

Label Elements

| | |
|---|--|
| Signal Word | WARNING |
| Pictograms | Hazard Statements |
|  | H410: Very toxic to aquatic life with long lasting effects |
| Prevention | Precautionary Statements |
| P273 | Avoid release to the environment. |
| Response | Precautionary Statements |
| P391 | Collect Spillage. |
| Disposal | Precautionary Statements |
| P501 | Dispose of contents and container in accordance to local, regional, national, and international regulations. |

Hazards Not Otherwise Specified

| Other Criteria | Hazard Statements/Precautionary Statement | Signal Word | Pictograms |
|----------------|---|-------------|------------|
| None | None | None | None |

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Section 3: Composition/Information on Ingredients

| CAS # | Chemical Name | % (Weight) |
|-------------|------------------|------------|
| 1314-13-2 | zinc oxide | 70% |
| 112945-52-5 | amorphous silica | 3% |

Section 4: First-Aid Measures

| Exposure Condition | GHS Code: Precautionary Statement |
|---------------------|---|
| IF IN EYES | P305 + P351+ P338 |
| Immediate Symptoms | Redness, mild irritation |
| Response | Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| IF ON SKIN | P302 + P352 |
| Immediate Symptoms | mild irritation |
| Response | Wash with plenty of water. |
| IF INHALED | P304 + P340 |
| Immediate Symptoms | Coughing, irritation of the respiratory tract |
| Delayed Symptoms | If exposed to metal fumes, chills and fever-like symptoms may occur 4-12 hours after exposure. |
| Response | Remove person to fresh air and keep comfortable for breathing. |
| IF SWALLOWED | P301 + P330, P331 |
| Immediate Symptoms | Low toxicity: abdominal pain, diarrhea, nausea, vomiting |
| Response | Rinse mouth. Do NOT induce vomiting. |

Section 5: Fire Fighting Measures

| | |
|---------------------|---|
| Extinguishing Media | : In case of fire: Use extinguishing media suitable for surrounding materials. Not flammable or combustible, but burns if involved in a fire. |
| Specific Hazards | : When the product is exposed to very high heat such as welding, this may cause harmful zinc oxide fumes. Inhalation of fumes may cause metal fever and irritate the respiratory tract. The flu-like symptoms of metal fume fever may be delayed, occurring 4–12 hours after exposure. Prevent fire-fighting wash from entering waterway or sewer system. |
| Combustion Products | : Produces carbon oxides (CO, CO ₂), metal fumes, zinc oxide (ZnO), and formaldehyde. |
| Fire-Fighter | : Wear self-contained breathing apparatus and full fire-fighting turn-out gear. |

Section 6: Accidental Release Measures

| | |
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| Personal Protection | : See personal protection recommendations in Section 8. |
| Precautions for Response | : Avoid breathing fumes or dust. Remove or keep away all sources of extreme heat or open flames. |

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Environmental Precautions : Avoid releasing to the environment. Prevent spill from entering drains and waterways.

Containment : Not applicable—not readily flowable

Cleaning : Collect waste in a waste container. Wash spill area with soap and water to remove the last traces of residue.

Disposal : Dispose of spill waste according to Section 13.

Section 7: Handling and Storage

Prevention : Keep out of reach of children.
Avoid breathing dust and fumes.
Avoid release to the environment.

Handling : Wear protective gloves, protective clothing, and eye protection.
Wash hands thoroughly after handling.
Collect spillage.

Storage : Not applicable

Section 8: Exposure Controls/Personal Protection

Substances with Occupational Exposure Limit Values

| Chemical Name | Country or Vendor | Long Term Exposure Limits (PEL) | Short Term Exposure Limits (STEL) |
|------------------------|-------------------|---------------------------------|-----------------------------------|
| Zinc oxide (dust/mist) | ACGIH | 2 mg/m ³ | Not established |
| | U.S.A. OSHA PEL | 2 mg/m ³ | 10 mg/m ³ |
| | Canada AB | 2 mg/m ³ | 10 mg/m ³ |
| | Canada BC | 2 mg/m ³ | 10 mg/m ³ |
| | Canada ON | 2 mg/m ³ | 10 mg/m ³ |
| | Canada QC | 2 mg/m ³ | 10 mg/m ³ |
| Fumes dust | Canada QC | 10 mg/m ³ | Not established |
| Amorphous silica | ACGIH | Not established | Not established |
| | U.S.A. NIOSH | 6 mg/m ³ | Not established |
| Mineral dust | U.S.A. OSHA PEL | 20 mppcf ^{a)} | Not established |

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH1, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from RTECS2 database and data from suppliers' SDS were also consulted. Short term exposure limits (STEL) are for 15 min and long term permissible exposure limits (PEL) for 8 h. (mppcf) Millions of particles per cubic foot air, based on impinge samples counted by light-field technique.

Engineering Controls

Ventilation : Keep airborne concentrations below the occupational exposure limits (OEL).
The zinc oxide and silica dust are bound in the grease matrix and are not available as a respiration hazard under normal conditions.

Personal Protective Equipment

Eye protection : Wear appropriate protective eyeglasses or chemical safety goggles.
RECOMMENDATION: Ensure that glasses have side shields for lateral protection.

Skin Protection : For likely contacts, use of protective nitrile gloves or other chemically resistant gloves.



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Respiratory Protection : For over-exposures up to 10 x OEL of dust and fumes, wear a an approved respirator with particulate filter that meets local, regional, and national standards.
RECOMMENDATION: Consult your local safety supply store to ensure that your respirator has a NIOSH (U.S.) approved filter cartridges appropriate for the ingredients listed in Section 3. The respirator should be fitted to the employee by a professional.

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

Section 9: Physical and Chemical Properties

| | | | |
|------------------------|-----------------|---------------------------------------|-------------------------|
| Physical State | Solid | Lower Flammability Limit | Not applicable |
| Appearance | White paste | Upper Flammability Limit | Not applicable |
| Odor | None | Vapor Pressure @20°C | Not available |
| Odor Threshold | Not applicable | Vapor Density | Not available |
| pH | Not applicable | Relative Density @25°C | 2.4 |
| Freezing/Melting Point | Not applicable | Solubility in Water | Insoluble ^{a)} |
| Initial Boiling Point | >300°C [>572°F] | Partition Coefficient n-octanol/water | Not available |
| Flash Point | 260°C [500°F] | Auto-ignition Temperature | Not available |
| Evaporation Rate | Not available | Decomposition Temperature | Not available |
| Flammability | Not flammable | Viscosity @40°C | Not applicable |

a) Inorganic components are sparingly soluble.

Section 10: Stability and Reactivity

Reactivity : Not available
Chemical Stability : Chemically stable at normal temperatures and pressures
Conditions to Avoid : Ignition sources, excessive heat, and incompatible substances.
Incompatibilities : Strong oxidizing agents, strong acids
Polymerization : Will not occur
Decomposition : Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

Section 11: Toxicological Information

Summary of Effects and Symptoms by Routes of Exposure

Eyes : May cause redness and mild irritation.
Skin : May cause mild skin irritation.
Inhalation : May cause coughing and irritation of the respiratory tract.
Inhalation of fumes may cause metal fever and irritate the respiratory tract.
The flu-like symptoms of metal fume fever may be delayed, occurring 4–12 hours after exposure.
Ingestion : Low toxicity: abdominal pain, diarrhea, nausea, vomiting
Chronic : Not available



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Acute Toxicity (Lethal Exposure Concentrations)

| Chemical Name | LD50 oral | LD50 dermal | LC50 inhalation |
|------------------|-----------------|---------------|-----------------------------------|
| Zinc oxide | 7 950 mg/kg Rat | Not available | 2 500 mg/m ³ Mouse 4 h |
| Amorphous silica | 3 160 mg/kg Rat | Not available | Not available |

Note: Toxicity data from the RTECS2 and ECHA were consulted. The data from supplier SDSs were also consulted.

Other Toxicological Effects

| | |
|--|--|
| Skin corrosion/irritation | : Based on available data, the classification criteria are not met. |
| Serious eye damage/irritation | : Based on available data, the classification criteria are not met. |
| Sensitization (allergic reactions) | : Based on available data, the classification criteria are not met. |
| Carcinogenicity (risk of cancer) | : Not classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP. |
| Mutagenicity (risk of heritable genetic effects) | : Based on available data, the classification criteria are not met. |
| Reproductive Toxicity (risk to sex functions) | : Based on available data, the classification criteria are not met. |
| Teratogenicity (risk of fetus malformation) | : Based on available data, the classification criteria are not met. |
| STOT-single exposure | : Based on available data, the classification criteria are not met. |
| STOT-repeated exposure | : Based on available data, the classification criteria are not met. |
| Aspiration hazard | : Not applicable. There are no category 1 components and the kinematic viscosity of the mixture is >20.5 mm ² /s at 40°C. |

Section 12: Ecological Information

Ecological classifications are based on the IMDG/GHS criteria in conjunction with ecotoxicological data from our suppliers, the European Chemical Agency database and other reliable sources.

Contains zinc oxide which is a chronic category 1 solid (non-biodegradable, minimal EC50 of 0.042 mg/L *Pseudokrichneriella subcapita*) that is harmful to the environment.

Based on available data, the polydimethyl siloxane fluid and amorphous silica are not classifiable as ecotoxic hazards according to GHS criteria.

Acute Ecotoxicity

See chronic ecotoxicity

Chronic Ecotoxicity

Category 1

Very toxic to aquatic life with long lasting effects

Avoid release to the environment. Collect spillage.

Biodegradability

Not readily biodegradable

Other Effects

Exempted volatile organic compounds (VOC) by EPA and CEPA regulations.

Section 13: Disposal Information

Dispose of contents in accordance with all local, regional, national, and international regulations.

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Section 14: Transport Information

Ground

| | | |
|--|--|--|
| Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations); USA DOT 49 CFR (Parts 100 to 185) Regulations. | | |
| Sizes under 450 kg 860-4G, 860-60G, 860-150G, 860-1P, 860-3.78L, 860-1G NOT REGULATED in TDG per Special Provisions 99 | Sizes greater than 5 kg (USA) 860-5GPSW UN number: UN3077 Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide) Class: 9 Packing Group: III Marine Pollutant: Yes | |
| Sizes 5 kg and under NOT REGULATED in 49 CFR per exception 171.4(c)(2) | | |

Special Provision 99 (2): These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety.

Air

| | | |
|--|--|--|
| Refer to ICAO-IATA regulations. | | |
| Sizes 5 kg and under 860-4G, 860-60G, 860-150G, 860-1P, 860-3.78L, 860-1G NOT REGULATED On the air waybill, write "Not Restricted, as per Special Provisions A197" | Sizes greater than 5 kg 860-5GPSW UN number: UN3077 Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide) Class: 9 Packing Group: III Marine Pollutant: Yes | |

Special Provision A197: These substances when transported in single or combination packagings containing net quantity per single or inner packaging of less than 5 L or less for liquids or having a net mass of 5 kg or less for solids, are not subject to any other provisions of these Regulations provided the packagings meet the general provisions 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

Sea

| | | |
|--|--|--|
| Refer to IMDG regulations. | | |
| Sizes 5 kg and under 860-4G, 860-60G, 860-150G, 860-1P, 860-3.78L, 860-1G NOT REGULATED per 2.10.2.7 | Sizes greater than 5 kg 860-5GPSW UN number: UN3077 Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide) Class: 9 Packing Group: III Marine Pollutant: Yes | |

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2.10.2.7: Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to any other provision of this Code relevant to marine pollutants provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. In the case of marine pollutants also meeting the criteria for inclusion in another hazard class, all provisions of this Code relevant to any additional hazards continue to apply.

Note: Shipper must be appropriately trained and certified before involvement with the transport of dangerous goods.

Section 15: Regulatory Information

Canada

Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)

All hazardous ingredients are listed on the DSL/NDSL.

Hazardous Products Act (R.S.C., 1985, c. H-3)

The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

USA

Other Classifications

HMIS RATING

| | |
|----------------------|---|
| HEALTH: | 1 |
| FLAMMABILITY: | 0 |
| PHYSICAL HAZARD: | 0 |
| PERSONAL PROTECTION: | |

NFPA 704 CODES



Approximate HMIS and NFPA Risk Ratings Legend:

0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product contains zinc compounds which are subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity)

This product does not contain any of the listed substances.

Europe

RoHS (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, PBDE's, DEHP, BBP, DBP, or DIBP and complies with European RoHS regulations.

WEEE (Waste Electrical and Electronic Equipment Directive)

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.

Section 16: Other Information

Abbreviations

ACGIH

American Conference of Governmental Industrial Hygienists (USA)

EC50

Half maximal effective concentration

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Element14.com/exclusive-brands



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| | |
|-------|---|
| EL50 | Half maximal effective loading |
| IARC | International Agency for Research on Cancer |
| NOELR | No observable effect loading ratio |
| NTP | National Toxicology Program |
| GHS | Globally Harmonized System of Classification of Labeling of Chemicals |
| LC50 | Lethal Concentration 50% |
| LCLo | Lowest published lethal concentration |
| LD50 | Lethal Dose 50% |
| OEL | Occupational Exposure Limit |
| PEL | Permissible Exposure Limit |
| SDS | Safety Data Sheet |
| STEL | Short-Term Exposure Limit |
| TCLo | Lowest published toxic concentration |
| TWA | Time Weighted Average |
| VOC | Volatile Organic Content |
| Wt | Weight |

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|--------------------|
| Part Number |
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|----------|
| MC002973 |
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