SAFETY DATA SHEET
Silicone Heat Transfer Compound

1. Identification

Product Identifier
Product name Silicone Heat Transfer Compound
Product number HTS, EHTS02S, EHTS10S, EHTS35SL, EHTS100T, EHTS01K, EHTS25K, ZE

Recommended use of the chemical and restrictions on use
Application Heat Dissipation
Uses advised against No specific uses advised against are identified.

Details of the supplier of the safety data sheet
Supplier ELECTROLUBE. A division of HK WENTWORTH LTD
HK WENTWORTH-AMERICA
PO Box 126257
Benbrook, Texas 76126
USA
info@hkw.us.com
+1 888-501-9203

Emergency telephone number
Emergency telephone +1 202 464 2554 (USA only)
+44 1235 239670

2. Hazard(s) Identification

Classification of the substance or mixture
Physical hazards Not Classified
Health hazards Not Classified
Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

Label elements
Pictogram

Signal word Warning
Hazard statements H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements P273 Avoid release to the environment.
P391 Collect spillage.
P501 Dispose of contents/ container in accordance with national regulations.

Other hazards
Silicone Heat Transfer Compound

This product does not contain any substances classified as PBT or vPvB.

### 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Mixtures</th>
<th>60-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>zinc oxide</td>
<td>CAS number: 1314-13-2</td>
</tr>
<tr>
<td>M factor (Acute) = 1</td>
<td>M factor (Chronic) = 1</td>
</tr>
</tbody>
</table>

**Classification**
- Aquatic Acute 1 - H400
- Aquatic Chronic 1 - H410

The full text for all hazard statements is displayed in Section 16.

### 4. First-aid measures

#### Description of first aid measures

**General information**
Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.

**Inhalation**
Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

**Ingestion**
Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

**Skin Contact**
Rinse with water.

**Eye contact**
Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

**Protection of first aiders**
First aid personnel should wear appropriate protective equipment during any rescue.

#### Most important symptoms and effects, both acute and delayed

**General information**
See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation**
Prolonged inhalation of high concentrations may damage respiratory system.

**Ingestion**
Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.

**Skin contact**
Prolonged contact may cause dryness of the skin.

**Eye contact**
May cause temporary eye irritation.

#### Indication of immediate medical attention and special treatment needed

**Notes for the doctor**
Treat symptomatically.

### 5. Fire-fighting measures
Silicone Heat Transfer Compound

Extinguishing media

Suitable extinguishing media
The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards
Containers can burst violently or explode when heated, due to excessive pressure build-up.

Hazardous combustion products
Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

Advice for firefighters

Protective actions during firefighting
Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions
No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material.

Environmental precautions

Environmental precautions
Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up
Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labeled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
Silicone Heat Transfer Compound

Reference to other sections
For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions
Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene
Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

Conditions for safe storage, including any incompatibilities

Storage precautions
Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well-ventilated place. Keep containers upright. Protect containers from damage. Utilize retaining walls to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Storage class
Miscellaneous hazardous material storage.

Specific end uses(s)
The identified uses for this product are detailed in Section 1.

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits
zinc oxide
Long-term exposure limit (8-hour TWA): OSHA 5 mg/m³ fume
Long-term exposure limit (8-hour TWA): OSHA 15 mg/m³ total dust
Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m³ respirable fraction
Short-term exposure limit (15-minute): ACGIH 10 mg/m³ respirable fraction
Long-term exposure limit (8-hour TWA): OSHA 5 mg/m³ respirable fraction
OSHA = Occupational Safety and Health Administration.
ACGIH = American Conference of Governmental Industrial Hygienists.

zinc oxide (CAS: 1314-13-2)

Immediate danger to life and health
500 mg/m³

Exposure controls

Protective equipment

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**Appropriate engineering controls**

Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimize worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimize exposure.

**Eye/face protection**

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with OSHA 1910.133. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

**Hand protection**

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

**Other skin and body protection**

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

**Hygiene measures**

Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.

**Respiratory protection**

Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.

**Environmental exposure controls**

Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
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</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
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<tr>
<td><strong>Color</strong></td>
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<tr>
<td><strong>Odor</strong></td>
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<tr>
<td><strong>pH</strong></td>
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<tr>
<td><strong>Melting point</strong></td>
</tr>
<tr>
<td><strong>Initial boiling point and range</strong></td>
</tr>
</tbody>
</table>
Silicone Heat Transfer Compound

Flash point: Not available.
Evaporation rate: Not available.
Flammability (solid, gas): Not available.
Upper/lower flammability or explosive limits: Not available.
Vapor pressure: Not available.
Vapor density: Not available.
Relative density: 2.1 @ 20°C/68°F
Solubility(ies): Insoluble in water.
Partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition Temperature: Not available.
Viscosity: 201-227 Pa s @ 20°C/68°F
Explosive properties: Not considered to be explosive.
Oxidizing properties: Does not meet the criteria for classification as oxidizing.

<table>
<thead>
<tr>
<th>10. Stability and reactivity</th>
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<tbody>
<tr>
<td>Reactivity</td>
</tr>
<tr>
<td>Stability</td>
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<tr>
<td>Possibility of hazardous reactions</td>
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<tr>
<td>Conditions to avoid</td>
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<tr>
<td>Materials to avoid</td>
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<tr>
<td>Hazardous decomposition products</td>
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<tr>
<th>11. Toxicological information</th>
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<tbody>
<tr>
<td>Information on toxicological effects</td>
</tr>
<tr>
<td>Acute toxicity - oral Notes (oral LD₅₀)</td>
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<tr>
<td>Acute toxicity - dermal Notes (dermal LD₅₀)</td>
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<tr>
<td>Acute toxicity - inhalation Notes (inhalation LC₅₀)</td>
</tr>
<tr>
<td>Skin corrosion/irritation Animal data</td>
</tr>
</tbody>
</table>
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Serious eye damage/irritation
Based on available data the classification criteria are not met.

Respiratory sensitization
Based on available data the classification criteria are not met.

Skin sensitization
Based on available data the classification criteria are not met.

Germ cell mutagenicity
Based on available data the classification criteria are not met.

Carcinogenicity
Based on available data the classification criteria are not met.

Reproductive toxicity
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure
Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard
Based on available data the classification criteria are not met.

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion
Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.

Skin Contact
Prolonged contact may cause dryness of the skin.

Eye contact
May cause temporary eye irritation.

Route of entry
Ingestion Inhalation Skin and/or eye contact

Target Organs
No specific target organs known.

12. Ecological Information

Toxicity
Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

zinc oxide

Acute aquatic toxicity

LE(C)₅₀

0.1 < L(E)C₅₀ ≤ 1

M factor (Acute)

1
Silicone Heat Transfer Compound

Chronic aquatic toxicity
M factor (Chronic)  1

Persistence and degradability
Persistence and degradability  The degradability of the product is not known.

Bioaccumulative potential
Bio-Accumulative Potential  No data available on bioaccumulation.
Partition coefficient  Not available.

Mobility in soil
Mobility  No data available.

Other adverse effects
Other adverse effects  None known.

13. Disposal considerations

Waste treatment methods
General information  The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products where possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods  Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

14. Transport information

General  For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

UN Number
UN No. (TDG)  3082
UN No. (IMDG)  3082
UN No. (ICAO)  3082
UN No. (DOT)  ID8000

UN proper shipping name
Proper shipping name (TDG)  ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS zinc oxide)
Proper shipping name (IMDG)  ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS zinc oxide)
Proper shipping name (ICAO)  ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS zinc oxide)
Proper shipping name (DOT)  CONSUMER COMMODITY

Transport hazard class(es)
Silicone Heat Transfer Compound

DOT hazard class 9
DOT hazard label 9
TDG class 9
TDG label(s) 9
IMDG Class 9
ICAO class/division 9
Transport labels

DOT transport labels

Packing group
TDG Packing Group III
IMDG packing group III
ICAO packing group III

Environmental hazards
Environmentally Hazardous Substance

Special precautions for user
Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS F-A, S-F

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15. Regulatory information

US Federal Regulations
SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
None of the ingredients are listed or exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
None of the ingredients are listed or exempt.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
None of the ingredients are listed or exempt.
Silicone Heat Transfer Compound

SARA 313 Emission Reporting
The following ingredients are listed or exempt:

- zinc oxide
  1.0%

CAA Accidental Release Prevention
None of the ingredients are listed or exempt.

FDA - Essential Chemical
None of the ingredients are listed or exempt.

FDA - Precursor Chemical
None of the ingredients are listed or exempt.

SARA (311/312) Hazard Categories
None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals
None of the ingredients are listed or exempt.

US State Regulations
California Proposition 65 Carcinogens and Reproductive Toxins
None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-I)
The following ingredients are listed or exempt:

- zinc oxide
  Present.

California Air Toxics "Hot Spots" (A-II)
None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances
The following ingredients are listed or exempt:

- zinc oxide
  Present.

Massachusetts "Right To Know" List
The following ingredients are listed or exempt:

- zinc oxide
  Present.

Rhode Island "Right To Know" List
The following ingredients are listed or exempt:

- zinc oxide
  Present.

Minnesota "Right To Know" List
The following ingredients are listed or exempt:

- zinc oxide
  Present.

New Jersey "Right To Know" List
The following ingredients are listed or exempt:
Silicone Heat Transfer Compound

**zinc oxide**
Present.

**Pennsylvania "Right To Know" List**
The following ingredients are listed or exempt:

**zinc oxide**
Present.

**Inventories**

**US - TSCA**
All the ingredients are listed or exempt.

**US - TSCA 12(b) Export Notification**
None of the ingredients are listed or exempt.

### 16. Other information

<table>
<thead>
<tr>
<th>Training advice</th>
<th>Read and follow manufacturer's recommendations. Only trained personnel should use this material.</th>
</tr>
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<tbody>
<tr>
<td>Issued by</td>
<td>Bethan Massey</td>
</tr>
<tr>
<td>Revision date</td>
<td>10/17/2016</td>
</tr>
<tr>
<td>Revision</td>
<td>0</td>
</tr>
<tr>
<td>SDS No.</td>
<td>507</td>
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</tbody>
</table>
| Hazard statements in full | H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects. |