

SAFETY DATA SHEET**Heat Transfer Compound - Zinc Oxide Free**

According to Regulation (EC) No 1907/2006, Annex II, as amended.

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier****Product name** Heat Transfer Compound - Zinc Oxide Free**Product number** HTCX_ZF, EHTCX_ZF10S, ZE**1.2. Relevant identified uses of the substance or mixture and uses advised against****Identified uses** Heat Dissipation**Uses advised against** No specific uses advised against are identified.**1.3. Details of the supplier of the safety data sheet****Supplier** ELECTROLUBE. A division of HK WENTWORTH LTD
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ASHBY DE LA ZOUCH, LEICESTERSHIRE LE65 1JR
UNITED KINGDOM
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info@hkw.co.uk**1.4. Emergency telephone number****Emergency telephone** +44 1865 407333**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification (EC 1272/2008)****Physical hazards** Not Classified**Health hazards** Not Classified**Environmental hazards** Not Classified**2.2. Label elements****Hazard statements** NC Not Classified**2.3. Other hazards**

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

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

Heat Transfer Compound - Zinc Oxide Free

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| Aluminium Oxide | 60-100% |
| CAS number: 1344-28-1 | REACH registration number: 01-2119529248-35-XXXX |
| Classification | |
| Not Classified | |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

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| General information | Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel. |
| Inhalation | 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. |
| 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. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. |
| Skin contact | Remove affected person from source of contamination. Rinse immediately with plenty of 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. |

4.2. Most important symptoms and effects, both acute and delayed

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| 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. |

4.3. Indication of any immediate medical attention and special treatment needed

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| Notes for the doctor | Treat symptomatically. |
| Specific treatments | No special treatment required. |

SECTION 5: Firefighting measures

5.1. Extinguishing media

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| 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. |

5.2. Special hazards arising from the substance or mixture

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| 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 vapours. |
| 5.3. Advice for firefighters | |
| Protective actions during firefighting | Avoid breathing fire gases or vapours. 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 vapours and protect men stopping the leak. |
| Special protective equipment for firefighters | Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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| 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. |
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6.2. Environmental precautions

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| Environmental precautions | Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air). |
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6.3. Methods and material for containment and cleaning up

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| 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. Reuse or recycle products wherever possible. 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 labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. |
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6.4. Reference to other sections

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| Reference to other sections | For personal protection, see Section 8. |
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

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| 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 minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. |
| Advice on general occupational hygiene | Wash promptly if skin becomes contaminated. Take off contaminated clothing. 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. |

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7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in accordance with local regulations.

Storage class Unspecified storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Aluminium Oxide

Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ respirable dust

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ inhalable dust

Maleic Anhydride

Long-term exposure limit (8-hour TWA): WEL 1 mg/m³

Short-term exposure limit (15-minute): WEL 3 mg/m³

Sen

Diboron Trioxide

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³

Short-term exposure limit (15-minute): WEL 20 mg/m³

WEL = Workplace Exposure Limit

Sen = Capable of causing occupational asthma.

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Good general ventilation should be adequate to control worker exposure to airborne contaminants.

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 European Standard EN166. The following protection should be worn: Chemical splash goggles.

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 European Standard EN374. 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.

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| Respiratory protection | Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Provide adequate ventilation. Large Spillages: If ventilation is inadequate, suitable respiratory protection must be worn. |
| Environmental exposure controls | Not regarded as dangerous for the environment. |

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

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| Appearance | Paste. |
| Colour | Grey. |
| Odour | Not known. |
| Odour threshold | Not available. |
| pH | Not available. |
| Melting point | Not available. |
| Initial boiling point and range | Not available. |
| Flash point | Not available. |
| Evaporation rate | Not available. |
| Evaporation factor | Not available. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | Not available. |
| Other flammability | Not available. |
| Vapour pressure | Not available. |
| Vapour density | Not available. |
| Relative density | 2.28 @ 20°C |
| Bulk density | Not available. |
| Solubility(ies) | Not available. |
| Partition coefficient | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition Temperature | Not available. |
| Viscosity | 85-95 Pa s @ 25°C |
| Explosive properties | Not considered to be explosive. |
| Oxidising properties | Does not meet the criteria for classification as oxidising. |

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

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| Reactivity | There are no known reactivity hazards associated with this product. |
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10.2. Chemical stability

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Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No potentially hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects Not regarded as a health hazard under current legislation.

Acute toxicity - oral

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

Skin corrosion/irritation

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

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

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

Skin sensitisation

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

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

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

IARC carcinogenicity

None of the ingredients are listed or exempt.

Reproductive toxicity

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

Reproductive toxicity - development

Based on available data the classification criteria are not met.

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Specific target organ toxicity - single exposure

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

Specific target organ toxicity - repeated exposure

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

Aspiration hazard

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

General information

No specific health hazards known. 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.

Toxicological information on ingredients.

Maleic Anhydride

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 2,000.0

Species Rat

ATE oral (mg/kg) 2,000.0

SECTION 12: Ecological Information

Ecotoxicity

Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity

Based on available data the classification criteria are not met.

12.2. Persistence and degradability

Persistence and degradability

The degradability of the product is not known.

12.3. Bioaccumulative potential

Bioaccumulative potential

No data available on bioaccumulation.

Partition coefficient

Not available.

12.4. Mobility in soil

Mobility

No data available.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Other adverse effects

None known.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information

The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever 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.

Disposal methods

Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of the local water authority.

SECTION 14: Transport information

General

The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to

Annex II of MARPOL 73/78
and the IBC Code

Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Health and Safety at Work etc. Act 1974 (as amended).
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].
EH40/2005 Workplace exposure limits.

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EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Commission Regulation (EU) No 453/2010 of 20 May 2010.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Dangerous Preparations Directive 1999/45/EC.

Dangerous Substances Directive 67/548/EEC.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

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| Training advice | Read and follow manufacturer's recommendations. Only trained personnel should use this material. |
| Issued by | Toni Ashford |
| Revision date | 15/04/2016 |
| Revision | 1 |
| SDS number | 123 |

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.