

SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: HTC (High Thermal Conductivity)**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product Type:	Heat Sink Compunds	Emergency Contact:	Chemtrec
Product Name:	HTC (High Thermal Conductivity)	Phone:	(800) 424-9300
Part Number(s):	10-8135 10-8135-0001		

SECTION 2: COMPOSITION / IDENTIFICATION ON INGREDIENTS**2.1 Classification of the substance or mixture****2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]**

GHS Class Phrases: Hazardous to the aquatic environment, short term, acute, category 1
Hazardous to the aquatic environment, long term, chronic, category 1



Signal Words: Warning.

Hazard Statements: H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statement: P273 - Avoid release to the environment
P391 - Collect Spillage
P501 - Dispose of contents/container in accordance with Local, State, Federal, and Provincial Regulations.

2.3 Other Hazards: none

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**3.2 Mixtures**

Zinc Oxide	CAS# 1314-13-2	0 - 90%
	H315, H319, H400, H410	
	Skin Irritation, category 2	Eye Irritation, category 2
	Hazardous to the aquatic environment, short term, acute, category 1	
	Hazardous to the aquatic environment, long term, chronic, category 1	

Proprietary	No Data	0 - 10%
Magnesium Oxide	CAS # 1309-48-4	0 - 90%
Aluminum Nitride	CAS # 24304-00-5	0 - 90%
Aluminum Powder	CAS # 7429-90-5	0 - 90%
Aluminum Oxide	CAS # 1344-28-1	0 - 90%
Boron Nitride	CAS # 10043-11-5	0 - 90%

Zinc Oxide Comment: Skin and Eye irritation warnings are applicable to the loose powder form only and do not apply to this product

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Product Name: HTC (High Thermal Conductivity)**SECTION 4. FIRST AID MEASURES****4.1 Description of First Aid Measures****Eye Contact:** Immediately flush eyes with water for 15 to 20 minutes. Get medical attention if irritation or symptoms of overexposure persist.**Skin Contact:** Immediately wash skin with soap and water. Get medical attention if irritation develops or persists.**Inhalation:** If inhaled remove to fresh air. If not breathing give artificial respiration or oxygen by a trained personnel. Seek immediate medical attention.**Ingestion:** If swallowed do not induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.**4.2 Most important symptoms and effects both acute and delayed****Other First Aid:** Exposure to soldering fumes and vapors may be irritation to the eyes, respiratory system and skin.**4.3 Indication of immediate medical attention and special treatment needed****Note to Physicians:** none**SECTION 5. FIRE-FIGHTING MEASURES****Extinguishing Media:** Foam, carbon dioxide, dry chemical, water fog or spray.**Unsuitable Media:** Not determined**5.2 Special hazards arising from the substance or mixture****Unusual Fire Hazards:** None known**5.3 Advice for firefighters****Fire Fighting Instructions:** Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.**Protective Equipment:** As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.**NFPA Fire:** 0**NFPA Health:** 1**NFPA Reactivity:** 0**SECTION 6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures****Personal Precautions:** Do not ingest. Use proper personal protective equipment as listed in Section 8, wear gloves.**6.2 Environmental precautions****Environmental Precautions:** Avoid run-off into storm sewers, ditches and waterways**6.3 Methods and materials for containment and cleaning up****Methods for Containment:** Collect product and repackage in a container.**Methods for Cleanup:** Use common solvents such as mineral spirits, acetone or IPA. Provide ventilation. After removal, flush spill area with soap and water to remove trace residue.**6.4 Reference to other sections****Other Spill Precautions:** See section 13 for disposal information

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Product Name: HTC (High Thermal Conductivity)**SECTION 7. HANDLING AND STORAGE****7.1 Precautions for safe handling****Handling:** Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing.**Hygiene Practices:** Wash thoroughly after handling. Avoid contact with eyes and skin.**7.2 Conditions for safe storage, including any incompatibilities****Storage:** Store in a cool, dry, well ventilated area away from heat sources, combustible materials and incompatible substances. Keep container tightly closed when not in use.**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.2 Exposure controls****Engineering Controls:** Safety Glasses and Gloves are recommended for hygienic practice.**Ventilation:** Under normal conditions no special ventilation is needed.**Eye Protection:** Safety glasses are not necessary.**Skin Protection:** Gloves are not necessary.**Hygiene Practices:** Wash thoroughly after handling. Avoid contact with eyes and skin.**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

Physical State:	Paste
Color:	White, off white or grey
Odor:	Odorless
pH:	Not determined
Melting Temperature:	Not determined
Boiling Temperature:	>400 F / >204 C
Flash Point:	Not determined
Ignition Temperature:	Not determined
Lower Flammable Limit:	Not determined
Upper Flammable Limit:	Not determined
Vapor Pressure:	Not determined
Vapor Density:	Not determined
Solubility:	Insoluble
Specific Gravity:	2.2 – 3.0 (H ₂ O = 1)
Evaporation Rate:	< 0.01 (butyl acetate = 1)
Partition Coefficient:	Not determined
Percent Volatile:	Not determined
VOC Content:	Not determined
Viscosity:	100,000 – 1,500,000 cP@ 1, 10 sec-1 shear @ 25 C
Odor Threshold:	Not determined
Oxidizing Properties:	Not an oxidizer
Explosive Properties:	Not determined

9.2 Other information

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Product Name: HTC (High Thermal Conductivity)**SECTION 10. STABILITY AND REACTIVITY****10.1 Reactivity****Reactivity:** No data available**10.2 Chemical Stability****Chemical Stability:** Stable under recommended handling and storage conditions**10.3 Possibility of hazardous polymerization****Hazardous Polymerization:** Will not occur**10.4 Conditions to avoid****Conditions to Avoid:** Heat, flames and sparks**10.5 Incompatible materials****Incompatible Materials:** Oxidizing agents.**10.6 Hazardous decomposition****Hazardous Decomposition:** Toxic gases such as ZnO fumes may be released in a fire**SECTION 11. TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects****PreExisting Conditions** None generally recognized.**Aggravated by Exposure:****Acute Inhalation Effects:** May be harmful if inhaled.**Acute Skin Effects:** May cause skin irritation.**Acute Ingestion Effects:** May be harmful if ingested.**Acute Eye Effects:** May cause eye irritation.**Zinc Oxide Eye Toxicity:** Administration into the eye – Rabbit Standard Draize test:
500mg/24H [Mild] (RTECS)**SECTION 12. ECOLOGICAL INFORMATION****12.1 Ecotoxicity****Ecotoxicity:** Harmful to aquatic organisms, may cause long term effects in the aquatic environment.**Environmental Stability:** No data available for this product.**12.3 Bioaccumulative potential****Bioaccumulation:** No data available for this product.**12.4 Mobility in soil****Mobility in environmental Media:** No data available for this product**SECTION 13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Waste Disposal:** Dispose of in accordance with Local, State, Federal and Provincial regulations

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Product Name: HTC (High Thermal Conductivity)**SECTION 14. TRANSPORT INFORMATION**

DOT Shipping Name:	Not regulated as hazardous material for transportation
DOT UN Number:	Not regulated as hazardous material for transportation
IMDG Shipping Name:	Environmentally hazardous substance, solid, n.o.s (ZnO)
IMDG UN Number:	UN3077
IMDG Hazard Class:	9
IMDG Packing Group:	III
IATA Shipping Name:	Environmentally hazardous substance, solid, n.o.s (ZnO)
IATA UN Number:	UN3077
IATA Hazard Class:	III
IATA Subrisk:	9
RID/ADR Shipping Name:	Environmentally hazardous substance, solid, n.o.s. (ZnO)
RID/ADR UN Number:	UN3077
RID/ADR Hazard Class:	9
RID/ADR Packing Group:	III

SECTION 15. REGULATORY INFORMATION**15.1 Safety, health, and environmental regulations/legislation specific for the substance****Regulatory – Product Based****SARA:** Listed, Zinc Compounds**Regulatory – Ingredient Based:****Zinc Oxide:****Canada DSL:** Listed**TSCA Inventory Status:** Listed**EC Number:** 215-222-5**SECTION 16. OTHER INFORMATION**

HMIS:	Health	1
	Flammability	0
	Reactivity	0
	PPE	X

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