

Safety Data Sheet according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 29 November 2017 Version: 2.0

SECTION 1: Identification Product form Produ	SECTION 4. Hontification		
Product code :: MTEMP 548 Trade name :: HITEMP 548 Product code :: A00000465 Product group :: Trade product :: 1.2. Recommended use and restrictions on use No additional information available 1.3. Supplier 1.4. Emergency tolephone number 1.4. Cassification (OHS CA) 2.4. Cassification (OHS CA) 2.5. Cassification (OHS CA) 2.2. OHS Loadowy 1 1.5. State on the substance or mature 1.6. Cassification (OHS CA) 1.6. Cassification (OHS CA) 1.6			
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2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS CA)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
Copper	C.I. 77400 / C.I. Pigment Metal 2 / Copper, elemental / CI 77400 / Copper metal / Copper, metallic / Pigment Metal 2 / Granulated copper	(CAS-No.) 7440-50-8	54 - 56	Aquatic Acute 1, H400
Zinc	C.I. Pigment Black 16 / C.I. Pigment Metal 6 / Zinc (metallic) / Pigment Black 16	(CAS-No.) 7440-66-6	32.8 - 36.9	Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400
Nickel	Nickel metal / Nickel, elemental / Nickel, metallic / Nickel, metal / C.I. 77775	(CAS-No.) 7440-02-0	5.5 - 6.5	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400
Manganese	Manganese, elemental / Manganese metal / Manganese elemental	(CAS-No.) 7439-96-5	3.5 - 4.5	Not classified
Silicon	Silicon powder	(CAS-No.) 7440-21-3	0.1 - 0.2	Not classified

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures	
4.1. Description of first aid measures	
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell. Rinse mouth.
First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.
4.2. Most important symptoms and effe	ects (acute and delayed)
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
4.3. Immediate medical attention and s	pecial treatment, if necessary
Other medical advice or treatment	: Treat symptomatically.

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SECTION 7: Handling and storage	
7.1. Precautions for safe handling	
Precautions for safe handling	: Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly.
Hygiene measures	: Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Separate working clothes from town clothes. Launder separately.
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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

: Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure	controls/personal protection	
8.1. Control parameters	5	
Copper (7440-50-8)		
USA - ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m ³ (fume)
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	0.1 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Canada (Quebec)	VEMP (mg/m³)	0.2 mg/m ³ (fume)
Alberta	OEL TWA (mg/m ³)	0.2 mg/m ³ (fume)
British Columbia	OEL TWA (mg/m³)	1 mg/m ³ (dust and mist)
Manitoba	OEL TWA (mg/m³)	0.2 mg/m³ (fume)
New Brunswick	OEL TWA (mg/m³)	0.2 mg/m³ (fume)
Newfoundland & Labrador	OEL TWA (mg/m ³)	0.2 mg/m ³ (fume)
Nova Scotia	OEL TWA (mg/m ³)	0.2 mg/m³ (fume)
Nunavut	OEL STEL (mg/m³)	3 mg/m ³ (dust and mist)
Nunavut	OEL TWA (mg/m ³)	0.2 mg/m³ (fume)
Northwest Territories	OEL STEL (mg/m³)	3 mg/m ³ (dust and mist)
Northwest Territories	OEL TWA (mg/m ³)	0.2 mg/m³ (fume)
Ontario	OEL TWA (mg/m ³)	0.2 mg/m³ (fume)
Prince Edward Island	OEL TWA (mg/m ³)	0.2 mg/m³ (fume)
Saskatchewan	OEL STEL (mg/m³)	0.6 mg/m³ (fume)
Saskatchewan	OEL TWA (mg/m ³)	0.2 mg/m³ (fume)
Yukon	OEL STEL (mg/m ³)	0.2 mg/m ³ (fume)
Yukon	OEL TWA (mg/m ³)	0.2 mg/m ³ (fume)
Manganese (7439-96-5)		
USA - ACGIH	ACGIH TWA (mg/m³)	0.02 mg/m ³ (respirable particulate matter) 0.1 mg/m ³ (inhalable particulate matter)
USA - OSHA	OSHA PEL (Ceiling) (mg/m ³)	5 mg/m³ (fume)
Canada (Quebec)	VEMP (mg/m ³)	0.2 mg/m ³ (total dust and fume)
Alberta	OEL TWA (mg/m ³)	0.2 mg/m ³
British Columbia	OEL TWA (mg/m ³)	0.2 mg/m ³
Manitoba	OEL TWA (mg/m ³)	0.02 mg/m ³ (respirable particulate matter)
New Brunswick	OEL TWA (mg/m³)	0.2 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.02 mg/m ³ (respirable particulate matter)
Nova Scotia	OEL TWA (mg/m³)	0.02 mg/m ³ (respirable particulate matter)
Nunavut	OEL STEL (mg/m³)	0.6 mg/m³
Nunavut	OEL TWA (mg/m ³)	0.2 mg/m ³
Northwest Territories	OEL STEL (mg/m³)	0.6 mg/m ³
Northwest Territories	OEL TWA (mg/m³)	0.2 mg/m ³
Ontario	OEL TWA (mg/m ³)	0.2 mg/m ³

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Prince Edward Island	OEL TWA (mg/m³)	0.02 mg/m ³ (respirable particulate matter)
Saskatchewan	OEL STEL (mg/m ³)	0.6 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	0.2 mg/m³
Yukon	OEL Ceiling (mg/m ³)	5 mg/m ³
Nickel (7440-02-0)	·	
USA - ACGIH	ACGIH TWA (mg/m ³)	1.5 mg/m ³ (inhalable particulate matter)
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³
Canada (Quebec)	VEMP (mg/m ³)	1 mg/m ³
Alberta	OEL TWA (mg/m ³)	1.5 mg/m ³
British Columbia	OEL TWA (mg/m³)	0.05 mg/m ³
Manitoba	OEL TWA (mg/m³)	1.5 mg/m ³ (inhalable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	1 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable particulate matter)
Nunavut	OEL STEL (mg/m ³)	3 mg/m ³ (inhalable fraction)
Nunavut	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable fraction)
Northwest Territories	OEL STEL (mg/m³)	3 mg/m ³ (inhalable fraction)
Northwest Territories	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable fraction)
Ontario	OEL TWA (mg/m ³)	1 mg/m ³ (inhalable)
Prince Edward Island	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable particulate matter)
Saskatchewan	OEL STEL (mg/m ³)	3 mg/m ³ (inhalable fraction)
Saskatchewan	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable fraction)
Yukon	OEL STEL (mg/m ³)	3 mg/m ³
Yukon	OEL TWA (mg/m ³)	1 mg/m ³
Silicon (7440-21-3)	·	
USA - OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Canada (Quebec)	VEMP (mg/m³)	10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (total dust)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	30 mppcf
Zinc (7440-66-6)		
USA - ACGIH	ACGIH TWA (mg/m ³)	2 mg/m³ (as ZnO)

Environmental exposure controls

: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

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Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

SECTION 9: Physical and chemica	I properties
9.1. Information on basic physical and	d chemical properties
Physical state	: Solid
Appearance	: No data available
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
рН	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Vapour pressure at 50 °C	: No data available
Relative density	: Not applicable
Solubility	: No data available
Log Pow	: No data available
Explosive limits	: Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and react	ivity
10.1. Reactivity	
Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: None under recommended storage and handling conditions (see section 7).
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological in	formation	
11.1. Information on toxicologic	leffects	
Acute toxicity (oral)	: Oral: Harmful if swallowed.	
Acute toxicity (dermal)	: Not classified	
Acute toxicity (inhalation)	: Not classified	
ATE CA (oral)	1806.198 mg/kg bodyweight	
Manganese (7439-96-5)		
LD50 oral rat	9 g/kg	
ATE CA (oral)	9000 mg/kg bodyweight	
Nickel (7440-02-0)		
LD50 oral rat	> 9000 mg/kg	
LC50 inhalation rat (mg/l)	> 10.2 mg/l (Exposure time: 1 h)	
Silicon (7440-21-3)		
LD50 oral rat	3160 mg/kg	

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Silicon (7440-21-3)	
ATE CA (oral)	3160 mg/kg bodyweight
Zinc (7440-66-6)	
LD50 oral rat	630 mg/kg
ATE CA (oral)	630 mg/kg bodyweight
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure.
Nickel (7440-02-0)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
SECTION 12: Ecological information	
12.1. Toxicity	
Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. Very toxic to aquatic life.
Acute aquatic toxicity	: Very toxic to aquatic life.
Chronic aquatic toxicity	: Not classified
Copper (7440-50-8)	
EC50 96h algae (1)	0.031 - 0.054 mg/l (Species: Pseudokirchneriella subcapitata [static])
Nickel (7440-02-0) LC50 fish 1	. 100 mg// (Evenenues times 06 h. Species Brachudenia ratio)
LC50 fish 2	 > 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio) 1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 1	 > 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Daphnia 2	1 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h algae (1)	0.18 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 96h algae (1)	0.174 - 0.311 mg/l (Species: Pseudokirchneriella subcapitata [static])
• • •	
Zinc (7440-66-6) EC50 96h algae (1)	0.11 - 0.271 mg/l (Species: Pseudokirchneriella subcapitata [static])
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12.2. Persistence and degradability No additional information available	
12.3. Bioaccumulative potential	
No additional information available	
12.4. Mobility in soil	
No additional information available	
12.5. Other adverse effects	
Ozone	: Not classified

SECTION 13: Disposal considerations	
13.1. Disposal methods	
Waste treatment methods : Dispose of contents/container in	accordance with licensed collector's sorting instructions.

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SECTION 14: Transport information
14.1. Basic shipping description
In accordance with TDG
Transportation of Dangerous Goods
Not regulated for transport
14.2. Transport information/DOT
Department of Transport
Not regulated for transport
14.3. Air and sea transport
IMDG
Not regulated for transport
ΙΑΤΑ
Not regulated for transport
SECTION 15: Regulatory information
15.1. National regulations
Copper (7440-50-8)
Listed on the Canadian DSL (Domestic Substances List)
Manganese (7439-96-5)
Listed on the Canadian DSL (Domestic Substances List)
Nickel (7440-02-0) Listed on the Canadian DSL (Domestic Substances List)
Silicon (7440-21-3)
Listed on the Canadian DSL (Domestic Substances List)
Zinc (7440-66-6)
Listed on the Canadian DSL (Domestic Substances List)
15.2. International regulations
Copper (7440-50-8)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on Turkish inventory of chemical
Manganese (7439-96-5)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the United States TSCA (Toxic Substances Control Act) inventory Japanese Pollutant Release and Transfer Register Law (PRTR Law) Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on Turkish inventory of chemical
Nickel (7440-02-0)

Nickel (7440-02-0)

Listed on the AICS (Australian Inventory of Chemical Substances) Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on N2IOC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the United States TSCA (Toxic Substances Control Act) inventory Japanese Pollutant Release and Transfer Register Law (PRTR Law) Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on Turkish inventory of chemical

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Silicon (7440-21-3) Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on Turkish inventory of chemical Zinc (7440-66-6) Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on Turkish inventory of chemical

SECTION 16: Other information

: 29 November 2017

Date of issue

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H302	Harmful if swallowed.			
H317	May cause an allergic skin reaction.			
H351	Suspected of causing cancer.			
H372	Causes damage to organs through prolonged or repeated exposure.			
H400	Very toxic to aquatic life.			

SDS Canada (GHS)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.