



1170 Eagan Industrial Road  
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## Safety Data Sheet: HeatWave®

### SECTION 1. IDENTIFICATION

Product Identifier HeatWave  
Other Means of Identification Calcium chloride brine with corrosion inhibitors  
Recommended Use De-icing/ anti-icing, Ice Melting, Dust control, Refrigeration, Road Base Stabilization, Full Depth Reclamation, Tire Weighting.  
Restrictions on Use Not Available  
Initial Supplier Identifier Green Touch Systems  
1170 Eagan Industrial Road  
Eagan, MN 55121  
Emergency Telephone CHEMTREC (800) 424-9300

### SECTION 2. HAZARD IDENTIFICATION

**Classification** Category 2: Serious eye damage/skin irritation  
**Label Elements** Color: Clear Physical state: Liquid Odor: Odorless  
Exclamation mark



**GHS SIGNAL WORD: WARNING**

#### Other Hazards

#### GHS HAZARD STATEMENTS:

**GHS - Health Hazard Statement(s):** Causes skin irritation/ Causes serious eye irritation.

#### GHS - Precautionary Statement(s) - Prevention

Wear eye and face protection; Wear protective gloves; Wash thoroughly after handling.

#### GHS - Precautionary Statement(s) - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do continue rinsing. If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of water, Take off contaminated clothing and wash it before reuse If skin irritation occurs: Get medical advice/attention.

Specific treatment (see First Aid information on product label and/or Section 4 of the SDS)

**GHS - Precautionary Statement(s) – Storage:** There are no Precautionary-Storage phrases assigned

**GHS - Precautionary Statement(s) – Disposal:** Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

**Hazards Not Otherwise Classified (HNOC):** None identified

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration	Common name / Synonyms
Water	7732-18-5	55-70%	
Calcium chloride	10043-52-4	25-30%	
Magnesium chloride	7791-18-6	2-4%	
Urea	57-13-6	1-4%	
Corrosion inhibitors	Proprietary	2-7%	



## SECTION 4. FIRST-AID MEASURES

<b>Inhalation</b>	Remove to fresh air if effects occur. Consult a physician.
<b>Skin Contact</b>	Wash off in flowing water or shower.
<b>Eye Contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
<b>Ingestion</b>	Do not induce vomiting. Give large amounts of water or milk if available and transport to medical facility.
<b>Most Important Symptoms and Effects, Acute and Delayed</b>	<b>Acute Symptoms/Effects:</b> <b>Inhalation (Breathing):</b> Inhaling mist, spray, or vapor may cause irritation to upper respiratory tract (nose and throat). Nasal mucosal and oropharyngeal erythema. <b>Skin:</b> Skin Irritation. Skin exposure may cause slight irritation, redness, itching, swelling. May cause more severe response if skin is damp, abraded (scratched or cut), or covered by clothing, gloves, or footwear. Prolonged contact may cause more severe symptoms. Damage is localized to contact areas. <b>Eye:</b> Eye Irritation. Eye exposure may cause serious eye irritation and pain. May cause conjunctival swelling and cornea opacification from hypertonic solution. Corneal eye pain, redness, acute corneal thickening or whitening. <b>Ingestion (Swallowing):</b> Consumption of solids or hypertonic solutions causes nausea, vomiting, and increased thirst. <b>Delayed Symptoms/Effects:</b> Chronic exposures to skin and mucus membranes that cause irritation may cause a chronic dermatitis or mucosal membrane problem
<b>Immediate Medical Attention and Special Treatment</b>	Notes to physician: Treat symptomatically

## SECTION 5. FIRE-FIGHTING MEASURES

<b>Extinguishing Media Suitable</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Extinguishing Media Unsuitable</b>	No information available.
<b>Extinguishing Media Specific Hazards Arising from the Product</b>	No information available.
<b>Special Protective Equipment and Precautions for Fire-Fighters</b>	Wear positive pressure self contained breathing apparatus (SCBA) and full protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves).

## SECTION 6. ACCIDENTAL RELEASE MEASURES



**Personal Precautions, Protective Equipment, and Emergency Procedures**  
**Methods for Containment and Cleaning Up**

Isolate area. Avoid contact with eye and skin. May be a slipping hazard. Stop leak if it can be done safely. Wash exposed body areas thoroughly after handling. Use appropriate safety equipment.

Prevent product from entering drains. See Section 12 for additional Ecological Information. Prevent further leakage or spillage if safe to do so. Dike far ahead of spill; use dry sand to contain the flow of material.

For **small spills**: contain spill if possible. Absorb with material such as sand. Collect material in suitable and properly labeled containers. Flush residue with plenty of water. For **large spills**: dike and transfer to suitable and properly labeled containers. Absorb with material such as sand. Flush residue with plenty of water.

**SECTION 7. HANDLING AND STORAGE**

**Precautions for Safe Handling**

Product shipped/handled hot can cause thermal burns. Selection of specific items such as gloves, boots, apron, or other, will depend on each operation. If hands are cut or scratched, use gloves impervious to this material for brief exposures. Use gloves with insulation for thermal protection, when needed.

**Conditions for Safe Storage**

Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Regulatory Exposure Limit(s)**: Listed below for the product components that have regulatory occupational exposure limits (OEL's).

Chemical Name	ACGIH® TLV®		OSHA PEL	
	TWA	STEL	TWA	STEL
Particles Not Otherwise Regulated (PNOR) 00-00-001	15 mg/m <sup>3</sup> (Total) 5 mg/m <sup>3</sup> (Respirable)			

The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

**Notes**

**OEL**: OCCUPATIONAL EXPOSURE LIMIT; **OSHA**: UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION; **PEL**: PERMISSIBLE EXPOSURE LIMIT; **TWA**: TIME WEIGHTED AVERAGE; **STEL**: SHORT TERM EXPOSURE LIMIT

**Appropriate Engineering Controls Individual Protection Measures**  
**Eye/Face Protection**

When there is a potential for exposure, an emergency eyewash and safety shower should be provided within the immediate work area.

**Eye/Face Protection**

Wear safety glasses with non-flexible side shields or chemical goggles. A face shield should be worn if a potential for splashing or spraying exists.

**Skin Protection**

Wear appropriate protective non-leather protective gloves and boots. Wear appropriate protective, impervious clothing. Chemical protective gloves and boots such as PVC, Neoprene, or Heavy Nitrile are recommended. Leather products do not offer adequate protection and will dehydrate with resultant shrinkage and possible destruction.

**Respiratory**

A respirator is not indicated under normal operating conditions. Use of a NIOSH –



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**Protection** approved respirator (N95 or greater) should be based on the presence of nuisance dusts.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Clear Liquid
<b>Odour</b>	Odorless
<b>Odour Threshold</b>	Not Applicable
<b>pH</b>	4-7
<b>Melting Point and Freezing Point</b>	Melting Point – not applicable Freezing Point - -40 °C (-40 °F)
<b>Initial Boiling Point and Boiling Range</b>	112 °C (233 °F)
<b>Flash Point</b>	Not Applicable
<b>Evaporation Rate</b>	No Data Available
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Upper and Lower Flammability or Explosive Limit</b>	No Data Available
<b>Vapour Pressure</b>	9 - 15 mm Hg @ 25 °C (77 °F)
<b>Vapour Density (air = 1)</b>	No data available
<b>Relative Density (water = 1)</b>	1.300-1.350
<b>Solubility in Water</b>	Completely soluble
<b>Solubility in Other Liquids</b>	No data available
<b>Partition Coefficient, n-Octanol / Water (Log Kow)</b>	Not Applicable
<b>Auto-ignition Temperature</b>	Not Applicable
<b>Decomposition Temperature</b>	Not Applicable
<b>Viscosity</b>	2-4 Centipoises

## SECTION 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Hygroscopic
<b>Chemical Stability</b>	Stable at normal temperatures and pressures.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.
<b>Conditions to Avoid</b>	None known based on information supplied.
<b>Incompatible Materials</b>	Avoid contact with: bromide trifluoride, 2-furan percarboxylic acid because calcium chloride is incompatible with those substances. Contact with zinc forms flammable hydrogen gas, which can be explosive. Catalyzes exothermic polymerization of methyl vinyl ether. May release flammable hydrogen gas. Reaction of bromide impurity with oxidizing materials may generate trace levels of impurities such as bromates.
<b>Hazardous Decomposition Products</b>	Formed under fire conditions: hydrogen chloride gas, calcium oxide.



## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

#### Product Information

Inhalation	May cause irritation.
Eye Contact	Irritating to eyes.
Skin Contact	Slightly toxic by dermal absorption.
Ingestion	May cause irritation.

### Acute Toxicity

LC50	LC50 greater than 100 mg/L in most sensitive species
LD50 (oral)	5743 mg/kg
LD50 (dermal)	7414 mg/kg
Notes	

### Skin Corrosion / Irritation

Brief contact is essentially non-irritating to skin. Prolonged contact may cause skin irritation, even a burn. May cause more severe response if skin is damp, abraded (scratched or cut), or covered by clothing, gloves, or footwear. Not classified as corrosive to the skin according to DOT guidelines.

### Serious Eye Damage / Irritation

May cause serious eye irritation. May cause slight corneal injury. Effects may be slow to heal.

### STOT (Specific Target Organ Toxicity) - Single Exposure

Not Available

### Aspiration Hazard

No information available

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information available

### Respiratory and/or

### Skin Sensitization

No information available

### Carcinogenicity

Not classified as a carcinogen per GHS criteria. This product is not classified as a carcinogen by NTP, IARC, or OSHA.

Chemical Name	IARC	ACGIH®	OSHA

### Reproductive Toxicity

#### Development of Offspring

Not classified as a developmental or reproductive toxin per GHS criteria. For the major component(s): Did not cause birth defects or any other fetal effects in laboratory animals.

#### Sexual Function and Fertility

No information available

#### Effects on or via Lactation

No information available

### Germ Cell Mutagenicity

Not classified as a mutagen per GHS criteria. The data presented are for the following material: Calcium chloride (CaCl<sub>2</sub>) - In vitro genetic toxicity studies were negative. The data presented are for the following material: Potassium chloride - In vitro genetic toxicity studies were positive. However, the relevance of this to humans is unknown. For the minor component(s): Sodium chloride - In vitro genetic toxicity studies were predominantly negative.



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**Interactive Effects** No information available

## **SECTION 12. ECOLOGICAL INFORMATION** *(section heading must appear; all content is optional)*

**Ecotoxicity** Material is practically non-toxic to aquatic organisms on an acute basis. (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

### **Freshwater Fish Toxicity:**

Calcium Chloride: LC50, bluegill (*Lepomis macrochirus*): 8,350 - 10,650 mg/l  
Potassium Chloride: LC50, rainbow trout (*Oncorhynchus mykiss*), 96 h: 4,236 mg/l  
Sodium Chloride: LC50, fathead minnow (*Pimephales promelas*): 10,610 mg/l

**Persistence and Degradability** Calcium chloride is believed not to persist in the environment because it is readily dissociated into calcium and chloride ions in water. Calcium chloride released into the environment is thus likely to be distributed into water in the form of calcium and chloride ions. Calcium ions may remain in soil by binding to soil particulate or by forming stable salts with other ions. Chloride ions are mobile and eventually drain into surface water. Both ions originally exist in nature, and their concentrations in surface water will depend on various factors, such as geological parameters, weathering, and human activities.

**Bio-accumulative Potential** Calcium chloride and its dissociated forms (calcium and chloride ions) are ubiquitous in the environment. Calcium and chloride ions can also be found as constituents in organisms. Considering its dissociation properties, calcium chloride is not expected to accumulate in living organisms.

**Mobility in Soil** Calcium chloride is not expected to be absorbed in soil due to its dissociation properties and high water solubility. It is expected to dissociate into calcium and chloride free ions or it may form stable inorganic or organic salts with other counter ions, leading to different fates between calcium and chloride ions in soil and water components. Calcium ions may bind to soil particulate or may form stable inorganic salts with sulfate and carbonate ions. The chloride ion is mobile in soil and eventually drains into surface water because it is readily dissolved in water.

**Other Adverse Effects** No information available

## **SECTION 13. DISPOSAL CONSIDERATIONS** *(section heading must appear; all content is optional)*

**Disposal Methods** Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Tiger Calcium Services Inc. encourages that disposal methods be utilized in accordance with the above noted. For unused or contaminated product, the preferred options include sending the material to a licensed, permitted, re-claimer or waste water treatment system.

## **SECTION 14. TRANSPORT INFORMATION** *(section heading must appear; all content is optional)*

**Proper Shipping Name:** Clear Guard (Calcium Chloride Brine)

**Hazard Classification:** Not regulated when shipped domestically by land.

**TRANSPORTATION EMERGENCIES: CHEMTREC (800) 424-9300**





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Regulation	UN No.	Proper Shipping Name	Technical Name (for N.O.S. entry)	Transport Hazard Class(es)	Packing Group
Not Regulated					

**Special Precautions Environmental Hazards** This product is not classified as corrosive to the skin according to DOT guidelines.  
 Not Regulated

**Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code** Not Regulated

**SECTION 15. REGULATORY INFORMATION** *(section heading must appear; all content is optional)*

**Safety, Health and Environmental Regulations** **U.S. INVENTORY STATUS:** Toxic Substance Control Act (TSCA): All components are listed or exempt.

**TSCA 12(b):** This product is not subject to export notification.  
**Canadian Chemical Inventory:** All components of this product are listed on either the DSL or the NDSL.

**CANADIAN REGULATIONS**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations

**WHMIS - Classifications of Substances:**

- D2B – eye and skin irritant.

**SECTION 16. OTHER INFORMATION**

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<b><u>NFPA</u></b>	Health Hazard 1	Flammability 0	Instability 0	<b>Physical and Chemical Hazards</b> -
<b><u>HMS</u></b>	Health Hazard 1	Flammability 0	<b>Physical Hazard</b> 0	<b>Personal Protection</b> X

**Prepared by** Green Touch Systems  
**Date of Latest Revision** June 16, 2016

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