



SAFETY DATA SHEET

1. Identification

Product identifier Diamond Crystal® Flash Melt® Ice Melter

Other means of identification

SDS number ND13

Synonyms Calcium Chloride. * Diamond Crystal® Flash Melt® Calcium Chloride Ice Melter.

Recommended use Deice

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Cargill Incorporated

Address Minneapolis, MN 55440

Telephone 1-888-385-7258

Website www.cargillsalt.com

Emergency telephone number CHEMTREC (800) 424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health Hazards Serious eye damage/eye irritation Category 2A

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Causes serious eye irritation.

Precautionary statement

Prevention Wash thoroughly after handling. Wear eye/face protection.

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.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Calcium Chloride	10043-52-4	90-92
Water	7732-18-5	4-6
Potassium chloride	7447-40-7	2-3
Sodium Chloride	7647-14-5	1-2

4. First-aid measures

Inhalation	If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Give one or two glasses of water if patient is alert and able to swallow. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	This product is not flammable or combustible.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Avoid inhalation of dust from the spilled material. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Calcium chloride can corrode containers made of steel. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Collect dust using a vacuum cleaner equipped with HEPA filter. Minimize dust generation and accumulation. Avoid release to the environment. Following product recovery, flush area with water. Walking surfaces may remain wet longer due to moisture being held by spilled material. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Provide appropriate exhaust ventilation at places where dust is formed. Minimize dust generation and accumulation. Avoid breathing dust. Avoid contact with eyes. Avoid contact with water and moisture. Will absorb water when exposed to atmosphere. Contact with sulfuric acid will yield hydrogen chloride. Practice good housekeeping.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Considerable heat is generated when mixed with water. Incompatible with boric oxide, calcium oxide, bromine trifluoride, and zinc. Metals will slowly corrode in aqueous solution. Aluminum and yellow brass will be attacked by calcium chloride. Leather clothing and shoes will be damaged by calcium chloride.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing.

Individual protection measures, such as personal protective equipment

Eye/face protection	Unvented, tight fitting goggles should be worn in dusty areas.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear suitable protective clothing.
Respiratory protection	Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	White to off-white solid pellets or flakes.
Physical state	Solid.
Form	Small white, hygroscopic, deliquescent granules that release heat upon contact with water and have a strong bitter and pungent taste.
Color	White.
Odor	Odorless.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	1439.6 °F (782 °C)
Initial boiling point and boiling range	3515 °F (1935 °C) (760 mmHg) (760 mm Hg)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	0.75 g/ml
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Molecular formula	CaCl ₂ or CaCl ₂ ·2H ₂ O
Molecular weight	110.99 or 147.02

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Incompatible materials	Will absorb water when exposed to atmosphere. Contact with sulfuric acid will yield hydrogen chloride. Metals will slowly corrode in aqueous solution. Aluminum and yellow brass will be attacked by calcium chloride. Materials to avoid: boric oxide, calcium oxide, bromine trifluoride, and zinc. Reaction of bromide impurity with oxidizing materials may generate trace levels of impurities such as bromide.
Hazardous decomposition products	See above.

11. Toxicological information

Information on likely routes of exposure

Inhalation Inhalation of dusts may cause respiratory irritation.

Skin contact Prolonged or repeated skin contact may cause irritation.

Eye contact Causes serious eye irritation.

Ingestion Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity In some cases of confirmed hypertension, ingestion may result in elevated blood pressure.

Components	Species	Test Results
Calcium Chloride (CAS 10043-52-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, 24 Hours
<i>Oral</i>		
LD50	Mouse	1940 mg/kg
	Rabbit	1000 mg/kg
	Rat	2120 mg/kg
<i>Other</i>		
LD50	Mouse	382 mg/kg
	Rat	264 mg/kg
Sodium Chloride (CAS 7647-14-5)		
Acute		
<i>Oral</i>		
LD50	Mouse	4000 mg/kg
	Rat	3000 mg/kg
<i>Other</i>		
LD50	Mouse	2602 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Calcium Chloride (CAS 10043-52-4)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 52 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 3930 - 5360 mg/l, 96 hours
Sodium Chloride (CAS 7647-14-5)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 340.7 - 469.2 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss) 4747 - 7824 mg/l, 96 hours

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	None known.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

16. Other information, including date of preparation or last revision

Issue date 15-September-2014

Revision date -

Version # 01

HMIS® ratings Health: 2
Flammability: 0
Physical hazard: 0

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