

SAFETY DATA SHEET

M48006 - ANSI - EN



DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

| | |
|--|--|
| Company Identification: | Occidental Chemical Corporation 5005 LBJ Freeway P.O. Box 809050 Dallas, TX 75380-9050 1-800-752-5151 |
| 24 Hour Emergency Telephone Number: | 1-800-733-3665 or 1-972-404-3228 (USA); CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186 |
| To Request an SDS: | MSDS@oxy.com or 1-972-404-3245 |
| Customer Service: | 1-800-752-5151 or 1-972-404-3700 |
| Product Identifier: | DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES |
| Synonyms: | Calcium Dichloride, Calcium Chloride, Calcium Chloride Flake, DOWFLAKE |
| Product Use: | Concrete Acceleration, Ice Melting, Dust Control, Road Base Stabilization |
| Uses Advised Against: | None identified. |
| Note: | DOWFLAKE™ is a trademark of The Dow Chemical Company |
| Additional Information: | CONSUMER PRODUCTS: When packaged in quantities of 50 lbs. or less, and used in a manner and frequency typical of consumer use, OxyChem considers this product a consumer use product which is regulated by the Consumer Product Safety Commission (CPSC). Because CPSC labeling requirements differ from the Occupational Safety and Health Administration (OSHA) GHS requirements for safety data sheets (SDS), slight differences in hazard information between the product label and SDS may be observed. |

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

2. HAZARDS IDENTIFICATION

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

EMERGENCY OVERVIEW:

Color: White
Physical state: Solid
Appearance: Flakes
Odor: Odorless

Signal Word: **WARNING**

MAJOR HEALTH HAZARDS: CAUSES EYE AND SKIN IRRITATION. HARMFUL IF SWALLOWED.

PHYSICAL HAZARDS: Heat is generated when mixed with water or aqueous acid solutions.

PRECAUTIONARY STATEMENTS: Wash thoroughly after handling.

GHS CLASSIFICATION:

| | |
|-----------------------------------|--|
| GHS: CONTACT HAZARD - SKIN: | Category 2 - Causes skin irritation |
| GHS: CONTACT HAZARD - EYE: | Category 2B - Causes eye irritation |
| GHS: ACUTE TOXICITY - INHALATION: | No data available. Not classified. |
| GHS: ACUTE TOXICITY - ORAL: | Category 4 - Harmful if swallowed |
| GHS: ACUTE TOXICITY - DERMAL: | Not classified as acutely toxic for dermal exposure |
| GHS: CARCINOGENICITY: | Not classified as a carcinogen per GHS criteria. This product is not classified as a carcinogen by NTP, IARC, or OSHA. |

UNKNOWN ACUTE TOXICITY:

A percentage of this product consists of ingredient(s) of unknown acute toxicity.

Unknown Acute Dermal Toxicity:

3% of this product consists of ingredient(s) of unknown acute dermal toxicity.

GHS SYMBOL:

Exclamation mark

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014



GHS SIGNAL WORD: WARNING

GHS HAZARD STATEMENTS:

GHS - Health Hazard Statement(s)

Causes skin irritation
Causes eye irritation
Harmful if swallowed

GHS - Precautionary Statement(s) - Prevention

Wear eye and face protection
Wear protective gloves
Wash thoroughly after handling
Do not eat, drink or smoke when using this product

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
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
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 Known

See Section 11: TOXICOLOGICAL INFORMATION

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Calcium Dichloride, Calcium Chloride, Calcium Chloride Flake, DOWFLAKE

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

| Component | Percent [%] | CAS Number |
|--------------------|-------------|------------|
| Calcium chloride | > 83 - < 87 | 10043-52-4 |
| Water | > 8 - < 14 | 7732-18-5 |
| Potassium Chloride | > 2 - < 3 | 7447-40-7 |
| Sodium Chloride | > 1 - < 2 | 7647-14-5 |

Notes: *Potassium chloride and sodium chloride are impurities from the naturally-occurring source material, brine solution.*

4. FIRST AID MEASURES

INHALATION: If inhalation of dust occurs and adverse effects result, remove to uncontaminated area. Call a POISON CENTER or doctor/physician if you feel unwell.

SKIN CONTACT: If on skin, wash with plenty of water. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. **SPECIFIC TREATMENT:** Wash with lots of water.

EYE CONTACT: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation occurs, get medical advice/attention.

INGESTION: If swallowed, rinse mouth. Contact a poison center or doctor/physician if you feel unwell.

Most Important Symptoms/Effects (Acute and Delayed) :

Acute Symptoms/Effects: Listed below.

Inhalation (Breathing): Inhaling dust may cause irritation to upper respiratory tract (nose and throat). Nasal mucosal and oropharyngeal erythema.

Skin: Skin Irritation. Direct abrasion of skin from solid, erythema and burn from reaction with water. Prolonged contact and occlusion may cause more severe symptoms. Damage is localized to contact areas.

Eye: Eye Irritation. Direct abrasion of cornea from solid, erythema and burn from reaction with water, conjunctival swelling and cornea opacification from hypertonic solution and heat. Corneal eye pain, redness, acute corneal thickening or whitening.

Ingestion (Swallowing): Consumption of solids or hypertonic solutions causes nausea, vomiting, and increased thirst.

Delayed Symptoms/Effects:

- Chronic exposures to skin and mucous membranes that cause irritation may cause a chronic dermatitis or mucosal membrane problem

Interaction with Other Chemicals Which Enhance Toxicity: None known.

Medical Conditions Aggravated by Exposure: Any skin condition that disrupts the skin, such as abrasions, cuts, psoriasis, fungal infections, etc. Any upper respiratory conditions that compromise mucosa can increase local damage from dust contact. Any eye condition that compromises tear production, conjunctiva, or normal corneal homeostasis.

Protection of First-Aiders: At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission. If potential for exposure exists refer to Section 8 for specific personal protective equipment.

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

Notes to Physician: Due to irritant properties, resulting from heat created as solid material dissolves in water, swallowing may result in burns/ulceration of mucus membranes. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

Fire Hazard: This material does not burn.

Extinguishing Media: Use extinguishing agents appropriate for surrounding fire.

Fire Fighting: Keep unnecessary people away, isolate hazard area and deny entry. This material does not burn. Fight fire for other material that is burning. Water should be applied in large quantities as fine spray. Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode. Wear protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

Hazardous Combustion Products: Formed under fire conditions: hydrogen chloride gas, calcium oxide

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): Not applicable

Upper Flammability Level (air): Not applicable

Flash point: Not applicable

Auto-ignition Temperature: Not applicable

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Isolate area. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard on some surfaces. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling, for additional precautionary measures.

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

Methods and Materials for Containment and Cleaning Up:

Small and large spills: Contain spilled material if possible. Collect in suitable and properly labeled containers. Flush residue with plenty of water. See Section 13, Disposal considerations, for additional information.

Environmental Precautions:

Prevent large spills from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. HANDLING AND STORAGE**Precautions for Safe Handling:**

Heat developed during diluting or dissolving is very high. Use cool water when diluting or dissolving (temperature less than 80°F, 27°C). Avoid contact with eyes, skin, and clothing. Do not swallow. Wash thoroughly after handling. See Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Safe Storage Conditions:

Store in a dry place. Protect from atmospheric moisture. Keep container tightly closed. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

Incompatibilities/ Materials to Avoid:

Heat is generated when mixed with water or aqueous acids. Spattering and boiling can occur. 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. Attacks metals in the presence of moisture, and may release flammable hydrogen gas. Reaction of bromide impurity with oxidizing materials may generate trace levels of impurities such as bromates.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

| Component | OSHA Final PEL TWA | OSHA Final PEL STEL | OSHA Final PEL Ceiling |
|--|--|------------------------|---------------------------|
| Particles Not Otherwise Regulated (PNOR) 00-00-001 | 15 mg/m ³ (Total) 5 mg/m ³ (Respirable) | ----- | ----- |

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

NON-REGULATORY EXPOSURE LIMIT(S): Listed below for the product components that have advisory (non-regulatory) occupational exposure limits (OEL's) established.

| Component | CAS Number | ACGIH TWA | ACGIH STEL | ACGIH Ceiling | OSHA TWA (Vacated) | OSHA STEL (Vacated) | OSHA Ceiling (Vacated) |
|-----------|---------------|--------------|---------------|------------------|-----------------------|------------------------|------------------------------|
|-----------|---------------|--------------|---------------|------------------|-----------------------|------------------------|------------------------------|

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

| | | | | | | | |
|---|--------------|--|-------|-------|-------|-------|-------|
| Particulates Not Otherwise Specified (PNOS) | Not Assigned | 10 mg/m ³ (Inhalable) 3 mg/m ³ (Respirable) | ----- | ----- | ----- | ----- | ----- |
|---|--------------|--|-------|-------|-------|-------|-------|

- **The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).**

- 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.

Additional Advice: Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

ENGINEERING CONTROLS: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear safety glasses with side-shields. For dusty operations or when handling solutions of the material, wear chemical goggles.

Skin and Body Protection: Wear clean, body-covering clothing.

Hand Protection: Use gloves chemically resistant to this material. If hands are cut or scratched, use gloves chemically resistant to this material even for brief exposures. Examples of preferred glove barrier materials include: Neoprene, Polyvinyl chloride ("PVC" or "vinyl"), Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In dusty or misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: High efficiency particulate air (HEPA) N95. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state

Solid

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

| | |
|---|-----------------------------------|
| Appearance: | Flakes |
| Color: | White |
| Odor: | Odorless |
| Odor Threshold [ppm]: | No data available. |
| Molecular Formula: | CaCl ₂ |
| Decomposition Temperature: | Not applicable |
| Boiling Point/Range: | Not applicable to solids |
| Freezing Point/Range: | Not applicable to solids. |
| Melting Point/Range: | 772 °C (1,422 °F) |
| Vapor Pressure: | Negligible at ambient temperature |
| Vapor Density (air=1): | Not applicable |
| Relative Density/Specific Gravity (water=1): | Not applicable to solids |
| Bulk Density: | 51 - 61 lb/ft ³ |
| Water Solubility: | Readily soluble |
| pH: | Not applicable to solids |
| Volatility: | Not applicable |
| Evaporation Rate (ether=1): | Not applicable |
| Partition Coefficient (n-octanol/water): | No data available |
| Flash point: | Not applicable |
| Flammability (solid, gas): | Not applicable |
| Lower Flammability Level (air): | Not applicable |
| Upper Flammability Level (air): | Not applicable |
| Auto-ignition Temperature: | Not applicable |
| Viscosity: | Not applicable |
| Hygroscopic: | Yes |

10. STABILITY AND REACTIVITY

Reactivity: Hygroscopic. Liberates large amounts of heat when dissolving in water or aqueous acids.

Chemical Stability: Stable at normal temperatures and pressures.

Possibility of Hazardous Reactions:

Avoid moisture.

Conditions to Avoid:

(e.g., static discharge, shock, or vibration) -. None known.

Incompatibilities/ Materials to Avoid:

Heat is generated when mixed with water or aqueous acids. Spattering and boiling can occur. 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. Attacks metals in the presence of moisture, and may release flammable hydrogen gas. Reaction of bromide impurity with oxidizing materials may generate trace levels of impurities such as bromates.

Hazardous Decomposition Products: Formed under fire conditions: hydrogen chloride gas, calcium oxide

Hazardous Polymerization: Will not occur.

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA:

PRODUCT TOXICITY DATA: DOWFLAKE XTRA 83-87% CALCIUM CHLORIDE FLAKES

| | | |
|---|---|--|
| <u>LD50 Oral:</u> 1126 mg/kg - Oral Acute Toxicity Estimate (ATE) | <u>LD50 Dermal:</u> 2637 mg/kg - Dermal Acute Toxicity Estimate (ATE) | <u>LC50 Inhalation:</u> No data is available |
|---|---|--|

COMPONENT TOXICITY DATA:

Note: The component toxicity data is populated by the LOLI database and may differ from the product toxicity data given.

| Component | LD50 Oral: | LD50 Dermal: | LC50 Inhalation: |
|---------------------------------|------------------|------------------|--------------------------------|
| Calcium chloride 10043-52-4 | 1000 mg/kg (Rat) | 2630 mg/kg (Rat) | ----- |
| Potassium Chloride 7447-40-7 | 2600 mg/kg (Rat) | ----- | ----- |
| Sodium Chloride 7647-14-5 | 3 g/kg (Rat) | 10 g/kg (Rabbit) | 42 g/m ³ (1 hr-Rat) |

POTENTIAL HEALTH EFFECTS:

- Eye contact:** For solid: May cause slight eye irritation, mechanical injury only. Dust formation should be avoided, as dust can cause severe eye irritation with corneal injury.

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

- Inhalation:** Dust may cause irritation to upper respiratory tract (nose and throat).

- Ingestion:** Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause local mucosal damage to esophagus and stomach. Swallowing may result in gastrointestinal irritation or ulceration.

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

Chronic Effects:

Chronic exposures to calcium chloride that cause irritation may cause a chronic dermatitis or mucosal membrane problem. For the minor component(s): POTASSIUM CHLORIDE: In animals, effects have been reported on the following organs after ingestion: Gastrointestinal tract, heart, and kidney. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use. SODIUM CHLORIDE: Medical experience with sodium chloride has shown a strong association between elevated blood pressure and prolonged dietary overuse. Related effects could occur in the kidneys.

SIGNS AND SYMPTOMS OF EXPOSURE:

Solution and or solids may be visible on the skin and or eyes. Localized redness, warmth, and irritation consistent with mechanism of injury: abrasion, burn, hypertonic solution.

Inhalation (Breathing): Inhaling dust may cause irritation to upper respiratory tract (nose and throat). Nasal mucosal and oropharyngeal eythema.

Skin: Skin Irritation. Direct abrasion of skin from solid, erythema and burn from reaction with water. Prolonged contact and occlusion may cause more severe symptoms. Damage is localized to contact areas.

Eye: Eye Irritation. Direct abrasion of cornea from solid, erythema and burn from reaction with water, conjunctival swelling and cornea opacification from hypertonic solution and heat. Corneal eye pain, redness, acute corneal thickening or whitening.

Ingestion (Swallowing): Consumption of solids or hypertonic solutions causes nausea, vomiting, and increased thirst.

Interaction with Other Chemicals Which Enhance Toxicity: None known.

GHS HEALTH HAZARDS:

GHS: ACUTE TOXICITY - ORAL: Category 4 - Harmful if swallowed.

GHS: ACUTE TOXICITY - DERMAL: Not classified as acutely toxic for dermal exposure.

GHS: ACUTE TOXICITY - INHALATION: No data available. Not classified.

GHS: CONTACT HAZARD - SKIN: Category 2 - Causes skin irritation

GHS: CONTACT HAZARD - EYE: Category 2B - Causes eye irritation

GHS: CARCINOGENICITY:

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

MUTAGENIC DATA:

Not classified as a mutagen per GHS criteria. The data presented are for the following material: Calcium chloride (CaCl₂) - 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.

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

DEVELOPMENTAL TOXICITY:

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.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:**Aquatic Toxicity:**

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

Invertebrate Toxicity:

Calcium Chloride: LC50, water flea *Daphnia magna*: 759 - 3,005 mg/l

Potassium Chloride: EC50, water flea *Daphnia magna*, 24 h, immobilization: 590 mg/l

LC50, water flea *Ceriodaphnia dubia*, 96 h: 3,470 mg/l

Sodium Chloride: LC50, water flea *Daphnia magna*: 4,571 mg/l

Other Toxicity:

Sodium Chloride: IC50, OECD 209 Test; activated sludge, respiration inhibition: > 1,000 mg/l

FATE AND TRANSPORT:

BIODEGRADATION: This material is inorganic and not subject to biodegradation.

PERSISTENCE: 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.

BIOCONCENTRATION: No bioconcentration is expected because of the relatively high water solubility. Potential for mobility in soil is very high (Koc between 0 and 50). Partitioning from water to n-octanol is not applicable.

BIOACCUMULATIVE 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.

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

13. DISPOSAL CONSIDERATIONS

Waste from material:

Reuse or reprocess, if possible. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Report spills if applicable. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Landfill and waste water treatment system.

Container Management:

Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:

Status: Not regulated

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

Status: Not regulated

MARITIME TRANSPORT (IMO / IMDG) Not regulated

Status - IMO / IMDG: Not Regulated

15. REGULATORY INFORMATION

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

U.S. REGULATIONS

OSHA REGULATORY STATUS:

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

Not regulated.

SARA EHS Chemical (40 CFR 355.30)

Not regulated

EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.10):

Acute Health Hazard

EPCRA SECTION 313 (40 CFR 372.65):

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):

Not regulated

NATIONAL INVENTORY STATUS

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.

STATE REGULATIONS

California Proposition 65:

This product is not listed, but it may contain impurities/trace elements known to the State of California to cause cancer or reproductive toxicity as listed under Proposition 65 State Drinking Water and Toxic Enforcement Act.

WARNING: This product (when used in aqueous formulations with a chemical oxidizer such as ozone) may react to form calcium bromate, a chemical known to the State of California to cause cancer.

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 - Poisonous and Infectious Material; Materials causing other toxic effects - Toxic material

DOWFLAKE™ XTRA 83-87% CALCIUM CHLORIDE FLAKES

SDS No.: M48006

SDS Revision Date: 18-Dec-2014

16. OTHER INFORMATION

Prepared by: OxyChem Corporate HESS - Product Stewardship**Rev. Date:** 18-Dec-2014**Disclaimer:**

We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

This information is intended solely for the use of individuals trained in the NFPA and/or HMIS systems.

HMIS: (SCALE 0-4) (Rated using National Paint & Coatings Association HMIS: Rating Instructions, 2nd Edition)**Health Rating:** 2**Flammability Rating:** 0**Reactivity Rating:** 0**NFPA 704 - Hazard Identification Ratings (SCALE 0-4)****Health Rating:** 1**Flammability:** 0**Reactivity Rating:** 0**Reason for Revision:**

- Emergency Overview was revised: SEE SECTION 2
- Modified Composition/Information on Ingredients: SEE SECTION 3
- Updated First Aid Measures: SEE SECTION 4
- Revised Handling and Storage Recommendations: SEE SECTION 7
- Revised Exposure Controls/Personal Protection information: SEE SECTION 8
- Toxicological Information has been revised: SEE SECTION 11
- Regulatory Information Changes: SEE SECTION 15

IMPORTANT:

The information presented herein, while not guaranteed, was prepared by technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESSED OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal and other factors that may involve other or additional legal, environmental, safety or performance considerations, and OxyChem assumes no liability whatsoever for the use of or reliance upon this information. While our technical personnel will be happy to respond to questions, safe handling and use of the product remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any Federal, State, local or foreign laws

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Safety Data Sheet available to your employees

End of Safety Data Sheet
