WINTERGREEN® PELLET

Safety Data Sheet

EMERGENCY PHONE: 800-553-8011 Effective date: 11/04/2015 Print date: 11/4/2015

NFPA: Health 1, Fire 0, Reactivity 0

1. IDENTIFICATION

PRODUCT NAME: WINTERGREEN®
CAS #: MIXTURE

MANUFACTURER: OSSIAN INC., 635 SOUTH ELMWOOD AVE, DAVENPORT, IOWA 52802
EMERGENCY PHONE: 800-553-8011

PRODUCT USE: Ice Melting
USES ADVISED AGAINST: De-icing of concrete less than one year old. De-icing of metal surfaces.

ADDITIONAL INFORMATION: CONSUMER PRODUCTS: When package in quantities of 100 lbs or less, and used in a manner and frequency typical of consumer use, Ossian 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.

2. HAZARD(s) IDENTIFICATION:

EMERGENCY OVERVIEW NOTICE:
This product contains Urea. Urea, when heated, decomposes to carbon dioxide and ammonia; if burned, emits small amounts of nitrogen oxides. Can cause redness and irritation of skin and eyes. Green granules with either no odor or having a slight odor of ammonia (in the presence of moisture).

MAJOR HEALTH HAZARDS: CALCIUM CHLORIDE CAUSES EYE AND SKIN IRRITATION. HARMFUL IF SWALLOWED. MAY BE HARMFUL IN CONTACT WITH SKIN

PHYISICAL HAZARDS: Heat is generated by Calcium Chloride when mixed with water or aqueous acid solutions.

PRECAUTIONARY STATEMENTS: Wash thoroughly after handling.

GHS CLASSIFICATION OF MIXTURE:

CONTACT HAZARD – SKIN:	Category 2 – Causes skin irritation.
CONTACT HAZARD – EYE:	Category 2B – Mild irritant.
ACUTE TOXICITY – INHALATION:	No data available. Not classified.
ACUTE TOXICITY – ORAL:	Category 4 – Harmful if swallowed.
ACUTE TOXICITY – DERMAL:	Category 5 – May be harmful in contact with skin
CARCINOGENICITY:	Not classified as a carcinogen per GHS criteria. Not classified as a carcinogen by NTP, IARC, or OSHA

GHS LABELING PICTOGRAM:

GHS SIGNAL WORD:

WARNING

HAZARD STATEMENT: Non-toxic. No adverse health effects are anticipated with normal use of this product.

PRECAUTIONARY STATEMENT:

EYE CONTACT: Low irritant. Exposure may result in mild irritation. Can cause redness and pain.

INHALATION: Dust may cause irritation to upper respiratory tract (nose and throat).

SKIN CONTACT: Brief contact is essentially nonirritating to skin. Prolonged contact to calcium chloride in product 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. May cause more severe response if skin is abraded (scratched or cut). May cause more severe response on covered skin (under clothing, gloves).

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 injury. Swallowing may result in gastrointestinal irritation or ulceration.

OTHER HAZARDS: No other hazards known

3. COMPOSITION

SUBSTANCE/MIXTURE: Mixture.

CHEMICAL NAME	PERCENTAGE	CAS NUMBER
Calcium Chloride	> 90 - < 92	010043-52-4
Urea	> 25 - < 35	000057-13-6
Water	> 4 - < 6	007732-18-5
Potassium Chloride	> 2 - < 3	007447-40-7
Sodium Chloride	> 1 - < 3	007647-14-5
Potassium Acetate	< 1	000127-08-2
Polymeric Colorant	< 1	N/A

TECHNOLOGY: Process and formulation patented – Additional patents may be pending.

4. FIRST-AID MEASURES:

FIRST AID INHALATION: Remove to fresh air. Get medical attention for any breathing difficulty.

FIRST AID SKIN: Wash with soap and water. Obtain medical attention if irritation persists.

FIRST AID EYE: 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.

FIRST AID INGESTION: If swallowed, rinse mouth. Contact a poison control center or doctor/physician if you feel unwell. Never give anything by mouth to an unconscious or convulsive person.

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

Delayed Symptoms/Effects:

Chronic exposure to skin and mucus 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 comprises 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.

Notes to Physician: Due to irritant properties, resulting from heat created as a 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

EXTINGUSHING 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 and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

LOWER FLAMMABILITY LEVEL (air): Not applicable

UPPER FLAMMABILITY LEVEL (air): Not applicable

FLASH POINT: Not applicable

AUTOIGNITION TEMPERATURE: Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARDS:
At elevated temperatures, urea forms hazardous decomposition products, including ammonia. Refer to Section 10 for details. Explosive on contact with halogens such as chlorine.

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.

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 of calcium chloride in product 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).

SAFE STORAGE: (UREA)
Keep dry. Reacts with hypochlorites to form nitrogen trichloride, which explodes spontaneously in air. Reacts with nitric acid to form urea nitrate that decomposes explosively when heated.

INCOMPATIBLITIES/MATERIALS TO AVOID:
Heat is generated by the calcium chloride in product when mixed with water or aqueous acids. Spattering and boiling can occur. Avoid contact with: bromide trifluoride, 2-furan percarboxylic acide 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. Attachs metals in the presence of moisture, and may release flammable hydrogen gas. Reaction of bromide impurity with ocidizing materials may generate trace levels of impurities such as bromates.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION:

Regulatory Exposure Limit(s):

COMPONENT	CAS NUMBER	OSHA FINAL PEL TWA	OSHA FINAL PEL STEL	OSHA FINAL PEL CEILING
Particulates Not Otherwise Regulated	Not Assigned	TWA 15 mg/m^3 (total) TWA 5 mg/m^3 (resp)	-----	-----

OEL: Occupational Exposure Level; OSHA: United States Occupational Safety and Health Administration; PEL: Permissable Exposure Level; TWA: Time Weighted Average; STEL: Short Term Exposure Level

Non-Regulatory Exposure Limit(s):
- **The Non-Regulatory United States Occupational Safety and Health Association (OSHA) limits shown in the table 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.**

COMPONENT	CAS NUMBER	ACGIH TWA	ACGIH STEL	ACGIH CEILING	OSHA TWA (Vacated)	OSHA STEL (Vacated)	OSHA CEILING (Vacated)
Particulates Not Otherwise Specified (PNOS)	Not Assigned	TWA 10 mg/m^3 (inhalable) TWA 3 mg/m^3 (resp)	-----	-----	-----	-----	-----

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:

COLOR:	Blend white and green, solid pellets
ODOR:	Odorless or slight ammonia odor from the Urea
FREEZING POINT/RANGE:	Not applicable to solids
MELTING POINT/RANGE (Calcium Chloride):	772 °C (1,422 °F) Literature Approximately
MELTING POINT/RANGE (Urea):	Decomposes at 132.7 °C (270.8°F)
DECOMPOSITION TEMPERATURE:	Not applicable
VAPOR PRESSURE:	Literature negligible at ambient temperature
VAPOR DENSITY (air=1):	Not applicable
SPECIFIC GRAVITY (water=1):	Not applicable to solids
BULK DENSITY:	58 – 66 lb/ft3 Estimated
WATER SOLUBILITY (Calcium Chloride):	Readily soluble
WATER SOLUBILITY (Urea):	119 g at 25 °C (77 °F)
pH (Calcium Chloride):	Not applicable to solids
pH (Urea):	7.2 (10% Water solution)

FLASH POINT:	Not applicable
LOWER FLAMMABILITY LEVEL (air):	NA
UPPER FLAMMABILITY LEVEL (air):	NA
AUTOIGNITION TEMPERATURE:	Not applicable
HYGROSCOPIC:	Yes

10. STABILITY & 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: None known. Avoid moisture.

INCOMPATIBILITIES / MATERIALS TO AVOID: (CALCIUM CHLORIDE)
Heat is generated when mixed with water. Spattering and boiling can occur. Avoid contact with: Sulfuric acid. Corrosive when wet. Flammable hydrogen may be generated from contact with metals such as: Zinc. Sodium. Reaction of bromide impurity with oxidizing materials may generate trace levels of impurities such as bromate.

INCOMPATIBILITIES / MATERIALS TO AVOID: (UREA)
Nitric acid, sodium nitrate, nitrosyl perchlorate, gallium perchlorate, hypochlorites, phosphorus pentachloride.

HAZARDOUS DECOMPOSITION PRODUCTS: CALCIUM CHLORIDE)
Formed under fire conditions: hydrogen chloride gas, calcium oxide.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION;

TOXICITY DATA: CALCIUM CHLORIDE

PRODUCT TOXICITY DATA: CALCIUM CHLORIDE

LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
1055 mg/kg – Oral Acute Toxicity Estimate (ATE)	2776 mg/kg – Dermal Acute Toxicity Estimate (ATE)	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 (Raat)	----
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 respirator 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.

CHRONIC EFFECTS: Chronic exposures to CALCIUM CHLORIDE that cause irritation may cause chronic dermatitis or mucosal membrane problem. For the minor component(s): SODIUM CHLORDIE: 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).

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.

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:	Category 5 – May be harmful in contact with skin.
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.
Calcium chloride ($CaCl_2$) – In vitro genetic toxicity studies were negative.
Sodium Chloride – In vitro genetic toxicity studies were predominately negative.

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

TOXICITY DATA: UREA

PRODUCT TOXICITY DATA: UREA

LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
Ranges from 11.5 g/kg (female mouse) to 15 g/kg (female rat)	No data available	No data is available Urea dust at 22 mg/m3 caused mild irritation (species not specified).

SUBCHRONIC TOXICITY (Urea):

In a repeated dose toxicity study, Urea at 10%, 20% and 40% in ointment was applied to the back skin of rats for 4 weeks. No dose-dependent toxicity was observed. There were no consistent treatment-related effects on standard hematological parameters, clinical chemistry, organ weights or organ histopathology, including the testicles, prostate, seminal vesicles, ovaries and the uterus.

CHRONIC TOXICITY (Urea):

In a chronic toxicity and carcinogenicity screening study conducted in mice over 12 months, urea was administered at 0, 0.45%, 0.9%, and 4.5% in the diet. No pathology was reported immediately following treatment period. After 4 months, testes, prostate and uterus were histologically examined for occurrence of tumors in the survivors. Although there was a statistically increased incidence of interstitial cell adenomas of the testis in the high dose group, its biological significance was deemed questionable, since the lesion may occur in 100% of controls.

TERATOGENICITY (Urea):

In a single oral dose study in mice, 2,000 mg/kg administered on day 10 of pregnancy was not teratogenic. Urea in water was given in 2 doses 12 hours apart by gavage to rats during pregnancy for 14 days and the dams were allowed to deliver. No hypertrophy or other kidney changes were detected nor were any teratogenic effects noted. Urea caused developmental effects in chick embryos when injected into eggs.

CARCINOGENICITY (Urea):

Urea is not classified as a carcinogen by NTP, IARC or OSHA.

MUTAGENICITY (Urea): Urea was negative in tests of bacterial mutagenicity and demonstrated low clastogenic potential in non-bacterial mutagenicity tests. Chromosome breakage has been observed in some laboratory tests using exteremely high concentrations of urea. At near lethal doses, urea was mutagenic in in-vivo non-bacterial tests in mice.

12. ECOLOGICAL INFORMATION;

ECOTOXICITY DATA: CALCIUM CHLORIDE

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), 96h: 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

Microorganism 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.

EXOTOXICITY DATA: UREA

Large amounts of urea can damage plant seedlings and inhibit germination. As a readily available source of nitrogen, urea can also foster excessive growth of algae or microorganisms in water systems.

Urea is non-toxic to aquatic organisms as defined by USEPA.

Fish 96 hour LC50: > 9,100 mg/L
Daphnia 24 hour EC50: > 10,000 mg/L

Exotoxicity information (Urea):

The cell multiplication toxicity threshold values for bacteria, green algae, and protozoa are > 10,000, > 10,000, and 29 mg/L, respectively. The critical range for the creek chub is 16,000 to 30,000 mg/L in Detroit river water.

Environmental Fate Information (Urea):

Particulate-phase urea is physically washed out of the atmosphere by dry and wet deposition. In the soil, urea degrades rapidly, usually within 24 hours; however, degradation may be slower depending on soil type, moisture content and urea formulation. The ultimate degradation products are carbon dioxide and ammonia. The soil mobility is high based on an organic carbon partition coefficient of 8. In water, biodegradation to carbon dioxide and ammonia is the major fate pathway. The biodgradation rate increases with increasing temperature and presence of phytoplankton. Oxidation of urea by nitrifying bacteria can increase biological oxygen demand. Bioaccumulation of urea is very low. The 72-hour bioconcentration factor (BCF) for carp is reported to be 1.

13. DISPOSAL CONSIDERATIONS: (See Section 14 for Regulatory Information)

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 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:

UNITED STATES DOT INFORMATION:

This product is not regulated by D.O.T. when shipped domestically by land.

CANADIAN TDG INFORMATION:

This product is not regulated by T.D.G. when shipped domestically by land.

15. REGULATORY INFORMATION: (Not meant to be all-inclusive- selected regulations represented)

D.O.T. PROPER SHIPPING NAME:	N/A
HAZARDOUS SUBSTANCE 49CFR CERCLA:	N/A
D.O.T. HAZARD CLASS	N/A
D.O.T. LABELS REQUIRED	N/A
D.O.T. PLACARDS REQUIRED	N/A

U.S. REGULATIONS

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

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):
Not regulated

EPCRA EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):
Not regulated

EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.21):
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 372.65):
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 are listed

STATE REGULATIONS

CALIFORNIA PROPOSITION 65: This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute. 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 INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:
D2B – eye or skin irritant (See sections 4 & 5) Refer to employer's workplace education program.

16. OTHER INFORMATION:

HMIS: (SCALE 0-4) (Rated using National Paint & Coatings Association HMIS: Rating Instructions, 2nd Edition)

HEALTH RATING: 2 FLAMMABILITY RATING: 0 REACTIVE RATING: 0

NFPA 704 – HAZARD IDENTIFICATION RATINGS (SCALE 0-4)

HEALTH RATING: 1 FLAMMABILITY RATING: 0 REACTIVE RATING: 0

ADDITIONAL HEALTH DATA COMMENT:
This Safety Data Sheet contains environmental, health and toxicological information for your employees. Please make sure this information is given to them. It also contains information to help you meet community right-to-know / emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this SDS must be given to the buyer or the information incorporated in your SDS. Discard any previous edition of this SDS.
Latest version of this SDS can be found at http://www.OSSIAN.com or by contacting **icemelt@ossian.com**

IMPORTANT:
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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 the Safety Data Sheet available to your employees.