

SAFETY DATA SHEET

M44623 - North America - EN



ACL® 56 DISINFECTING GRANULES

SDS No.: M44623

Rev. Date: 27-Aug-2020

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Identification:	Occidental Chemical Corporation 14555 Dallas Parkway, Suite 400, Dallas, Texas 75254-4300
24 Hour Emergency Telephone Number:	1-800-733-3665 (USA); CANUTEC (Canada): 1-613-996-6666; 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:	ACL® 56 DISINFECTING GRANULES
Synonyms:	Sodium dichloroisocyanurate dihydrate; Sodium dichloro-s-triazinetrione dihydrate; 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3-dichloro-, sodium salt dihydrate; Troclosene sodium, dihydrate; SDCC dihydrate; NaDCC dihydrate; Dichloroisocyanuric acid sodium salt
Product Use:	Algaecide. Disinfectant. Sanitizer. Bactericide. Fungicide. Microbiocide/Microbiostat.
Restrictions on Use (United States):	This is a pesticide product; do not use in a pesticide application that is not approved by the EPA.
Restrictions on Use (EU):	There are no uses advised against noted in the CSR.
Other Global Restrictions on Use:	Not registered as a pesticide in Canada. Do not sell for pesticide uses in Canada. Other restrictions on use based on local, regional, or national regulations may exist and must be determined on a case-by-case basis.
Chemical Family:	CHLORINATED ISOCYANURATES

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SECTION 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: Granules, Crystals
Odor: Slight chlorine odor

Signal Word: **DANGER**

MAJOR HEALTH HAZARDS: CORROSIVE. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. TOXIC IF INHALED. HARMFUL IF SWALLOWED.

PHYSICAL HAZARDS: MAY INTENSIFY FIRE; OXIDIZER. Contact with water slowly liberates irritating and hazardous chlorine containing gases. Contamination with moisture, organic material, or other incompatible chemicals may start a reaction with generation of heat, liberation of hazardous gases, and possible fire and explosion. Contact with acids liberates toxic gas. Decomposes at temperatures above 210 °C (410 °F) with liberation of harmful gases. When ignited will burn with the evolution of chlorine and equally toxic gases. Do not get water inside container. Wet material may generate nitrogen trichloride, an explosion hazard.

AQUATIC TOXICITY: Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS: Do not breathe dusts or mists. Wash skin and contaminated clothing thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves, protective clothing, eye, and face protection. Keep away from heat, sparks, open flames, hot surfaces - No smoking. Keep away from combustible materials. Take precaution to avoid mixing with combustibles, acids, ammonia, bases, floor sweeping compounds, calcium hypochlorite, reducing agents, organic solvents and compounds.

ADDITIONAL HAZARD INFORMATION: Do not get water inside container; damp or wet material may generate nitrogen trichloride, an explosion hazard. Heating over 80 °C (176 °F) can initiate a self-sustaining decomposition which releases large amounts of heat and gas including toxic fumes. This material is corrosive. May cause burns to moist skin if not promptly removed. There is no specific antidote. To treat contacted tissue, flush with water to dilute.

HAZARD CLASSIFICATION:

GHS: CONTACT HAZARD - SKIN:	Category 1C - Causes severe skin burns and eye damage
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GHS: CONTACT HAZARD - EYE:	Category 1 - Causes serious eye damage
GHS: ACUTE TOXICITY - INHALATION:	Category 3 - Toxic if inhaled
GHS: ACUTE TOXICITY - ORAL:	Category 4 - Harmful if swallowed
HAZARDS NOT OTHERWISE CLASSIFIED (HNOC):	<ul style="list-style-type: none"> - Hazardous to Aquatic Environment (Chronic Hazard): Category 1 - Very toxic to aquatic life with long lasting effects - Damp or wet material may generate nitrogen trichloride, an explosion hazard and/or other hazardous and toxic gases - Heating over 80 °C (176 °F) can initiate a self-sustaining decomposition which releases large amounts of heat and gas including toxic fumes - Contact with acids liberates toxic gas - According to NFPA 400 (Hazardous Materials Code), this material is classified as a Class 1 Oxidizer. Class 1 Oxidizers are oxidizers that do not moderately increase the burning rate of combustible materials with which it comes into contact

GHS SYMBOL: Corrosion, Skull and Crossbones, Environmental hazard**GHS SIGNAL WORD:** **DANGER****GHS HAZARD STATEMENTS:****GHS - Health Hazard Statement(s) -**

- Harmful if swallowed
- Causes severe skin burns and eye damage
- Toxic if inhaled

Additional Hazards - GHS Hazards Not Otherwise Classified (HNOC):

- ACUTE AQUATIC HAZARD - CATEGORY 1: Very toxic to aquatic life
- CHRONIC AQUATIC HAZARD - CATEGORY 1: Very toxic to aquatic life with long lasting effects

GHS - Precautionary Statement(s) - Prevention

- Do not breathe dusts or mists
- Wash skin and contaminated clothing thoroughly after handling
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Wear protective gloves/protective clothing/eye protection/face protection
- Avoid release to the environment

GHS - Precautionary Statement(s) - Response

- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing

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- IF INHALED: Call a POISON CENTER or doctor/physician
- Specific treatment if inhaled (see First Aid information on product label and/or Section 4 of the SDS)
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- IF IN EYES: Immediately call a POISON CENTER or physician
- IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water/shower
- IF EXPOSED (skin/eye): Immediately call a POISON CENTER OR PHYSICIAN
- Specific treatment for skin or eye contact (see First Aid information on product label and/or Section 4 of the SDS)
- Wash contaminated clothing before reuse
- Collect spillage

GHS - Precautionary Statement(s) - Storage

- Store in a well-ventilated place. Keep container tightly closed
- Store in a secure manner

GHS - Precautionary Statement(s) - Disposal

- Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations

Physical Hazards Not Otherwise Classified

- Damp or wet material may generate nitrogen trichloride, an explosion hazard
- Heating over 80 °C (176 °F) can initiate a self-sustaining decomposition which releases large amounts of heat and gas including toxic fumes
- NFPA Class 1 Oxidizer (An oxidizer that does not moderately increase the burning rate of combustible materials with which it comes into contact)

Hazard Not Otherwise Classified (HNOC)-Health

- Damp or wet material may generate hazardous and toxic gases
- Contact with water slowly liberates irritating and hazardous chlorine containing gases
- Decomposes at temperatures above 210 °C (410 °F) with liberation of harmful gases
- Contact with acids liberates toxic gas
- Heating over 80 °C (176 °F) can initiate a self-sustaining decomposition which releases large amounts of heat and gas including toxic fumes

See Section 11: TOXICOLOGICAL INFORMATION**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS Number	Percent [%]
Sodium dichloroisocyanurate dihydrate	51580-86-0	98 - 100
Sodium Chloride	7647-14-5	0.1 - 1

SECTION 4. FIRST AID MEASURES

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INHALATION: IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.

SKIN CONTACT: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water/shower. IF EXPOSED: Immediately call a POISON CENTER OR PHYSICIAN. Wash contaminated clothing before reuse.

EYE CONTACT: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

INGESTION: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting.

Most Important Symptoms/Effects (Acute and Delayed):

Acute Symptoms/Effects:

Inhalation (Breathing): Respiratory System Effects. Exposure to the solid product or to free chlorine evolving from the product may cause irritation, redness of upper and lower airways, coughing, laryngospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure. Please refer to Section 11 for additional information.

Skin: Skin Corrosion. Exposure to solid along with moisture may cause redness, irritation, burning sensation, swelling, blister formation, first, second, or third degree burns.

Eye: Serious Eye Damage. Exposure to eyes may cause irritation and burns to the eye-lids, conjunctivitis, corneal edema, and corneal burn. Significant and prolonged contact may cause damage to internal eye structures.

Ingestion (Swallowing): Gastrointestinal Effects. Exposure by ingestion may cause irritation, nausea, and vomiting. May cause local tissue damage to esophagus and stomach such as burning, inflammation, local ulceration, and may cause gastrointestinal bleeding.

Delayed Symptoms/Effects:

- Repeated and prolonged skin contact may cause a dermatitis

Protection of First-Aiders: Protect yourself by avoiding contact with this material. Use personal protective equipment. Refer to Section 8 for specific personal protective equipment recommendations. Avoid contact with skin and eyes. Do not ingest. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

Notes to Physician: Treat as a corrosive substance. This material is more irritating to the skin and eyes in the presence of water. For prolonged exposures and significant exposures, consider delayed injury to exposed tissues. There is no antidote. Cyanuric acid is readily removed from the body via the renal system, and is not bioaccumulated. Treatment is supportive care. Follow normal parameters for airway, breathing, and circulation.

Interaction with Other Chemicals Which Enhance Toxicity: Contact with acids liberates toxic gas.

Medical Conditions Aggravated by Exposure: May aggravate preexisting conditions such as eye disorders that decrease tear production or have reduced integrity of the eye; skin disorders that compromise the integrity of the skin; and respiratory conditions including asthma and other breathing disorders.

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SECTION 5. FIRE-FIGHTING MEASURES

Fire Hazard: According to NFPA 400 (Hazardous Materials Code), this material is classified as a Class 1 Oxidizer. Class 1 Oxidizers are oxidizers that do not moderately increase the burning rate of combustible materials with which it comes into contact. Wet material may generate nitrogen trichloride, an explosion hazard. If heated by outside source to temperatures above 210 °C (410 °F), this product will undergo decomposition with the evolution of noxious gases but no visible flame.

Explosive properties: Damp or wet material may generate nitrogen trichloride, an explosion hazard. See Section 10 for stability and reactivity precautions.

Extinguishing Media: Flood with copious amounts of water.

Unsuitable Extinguishing Media: DO NOT use ABC or other dry chemical extinguishers. There is the potential for a violent reaction if extinguishing with ABC or other dry chemical extinguishers. DO NOT USE carbon dioxide as an extinguishing agent. DO NOT USE halogenated extinguishing agents.

Specific Hazards: STRONG OXIDIZING AGENT.

Unusual Hazards: Material which appears undamaged except for being damp on the outside, should be opened and inspected immediately. Use extreme caution when inspecting damaged packaging as damp or wet material may generate nitrogen trichloride, an explosion hazard and/or other hazardous and toxic gases.

Fire Fighting: Consider evacuation of personnel located downwind. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode. Material which appears undamaged except for being damp on the outside, should be opened and inspected immediately. DO NOT attempt to reseal contaminated drums. Damp material should be neutralized to a non-oxidizing state. Contact OxyChem for instructions for handling and disposal of damp material.

Hazardous Combustion Products: Chlorine; Nitrogen; Nitrogen trichloride; Cyanogen chloride; Oxides of carbon; Phosgene

Products Formed During Combustion and Thermal Degradation:

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): Not flammable

Upper Flammability Level (air): Not flammable

Flash point: Not applicable

Auto-ignition Temperature: Not determined

Physical Hazards Not Otherwise Classified

- Damp or wet material may generate nitrogen trichloride, an explosion hazard

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- Heating over 80 °C (176 °F) can initiate a self-sustaining decomposition which releases large amounts of heat and gas including toxic fumes
 - NFPA Class 1 Oxidizer (An oxidizer that does not moderately increase the burning rate of combustible materials with which it comes into contact)
-

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep unnecessary and unprotected persons away. Isolate hazard area and deny entry. Do not get in eyes, on skin or on clothing. Do not breathe dust, fume, gas, mist, vapors, or spray. Wear appropriate personal protective equipment recommended in Section 8, Exposure Controls / Personal Protection, of the SDS.

Personal Protective Equipment: For Unknown Concentrations or exposures above IDLH (Immediately Dangerous to Life or Health) - Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece. See section 8 for information on personal protective equipment.

Environmental Precautions: This material is very toxic to aquatic life with long lasting effects. This material is alkaline and may raise the pH of surface waters with low buffering capacity. Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

Methods and Materials for Containment, Confinement, and/or Abatement: DO NOT add water to spilled material. DO NOT use floor sweeping compounds to clean up spills. Sweep and scoop spilled material into clean, dedicated equipment. Every attempt should be made to avoid mixing spilled material with other chemicals or debris when cleaning up. DO NOT attempt to reseal contaminated drums. DO NOT transport wet or damp material. Damp material should be neutralized to a non-oxidizing state. Contact OxyChem for instructions for handling and disposal of damp material.

Recovery: Contain spilled material. Any spillage of ACL products should be cleaned up as soon as possible to prevent contamination with foreign materials with which it may react. Floor sweeping compounds should not be used. KEEP SPILLED MATERIAL DRY. If allowed to stand in damp or wet areas, tear producing vapors may result. Keep unneutralized ACL out of sewers, watersheds and water systems. Using clean, dedicated equipment, sweep and scoop up all spilled material, contaminated soil and other contaminated material and place into clean dry containers for disposal. Complete cleanup on a dry basis if possible. Sweeping compounds or other contaminants should not be mixed with ACL during this cleanup operation as fuming, fire or explosion may result. Follow all protective measures indicated in the "Personal Precautions and Personal Protective Equipment" sections of this document.

Neutralization: The neutralization process involves the addition of waste ACL products to alkaline aqueous solutions maintained at a pH of 10.5 (e.g. sodium hydroxide; sodium carbonate; or sodium sulfite). At this pH (10.5), the major fraction of chlorine is destroyed by chemical reactions between chlorine and cyanuric acid contained in the waste ACL. THIS PROCESS SHOULD ONLY BE CARRIED OUT AFTER CAREFULLY REVIEWING THE ACL® WASTE NEUTRALIZING PROCEDURE PROVIDED BY OXYCHEM TECHNICAL SERVICE.

Final Disposal: For waste disposal, see section 13.

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SECTION 7. HANDLING AND STORAGE

Handling:

Precautions for Safe Handling: Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or dust when opening container. Avoid creation of dust. Wash thoroughly after handling. Wear personal protective equipment as described in Exposure Controls/Personal Protection (Section 8) of the SDS. NEVER add water to this product. Always add product to large quantities of water. Use clean, dry utensils. Do not add the product to any dispensing device containing residuals of other products. Take any precaution to avoid mixing with combustibles or incompatible materials. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Technical measures/precautions: Due to the thermal decomposition properties of ACL 56, friction-producing equipment, such as screw conveyors or items with internal bearings, should be avoided whenever possible.

Prevention of contact: Provisions should be made to open and use ACL containers in well-ventilated work areas to protect handlers from excessive chlorine odor and dust. See Section 8, Exposure Controls and Personal Protection, for additional information.

Storage:

Safe Storage Conditions: Store and handle in accordance with all current regulations and standards. (NFPA Oxidizer Class 1). Keep/Store away from clothing and other combustible materials. Store in original container and in a dry area where temperatures do not exceed 52 °C (125 °F) for 24 hours. Do not allow water to get in container. If liner is present, tie after each use. Keep container tightly closed and properly labeled. Store containers on pallets. Keep away from food, drink and animal feed. Keep separated from incompatible substances (see Section 10 of the Safety Data Sheet).

Technical measures: ACL should be stored in a cool (temperatures not to exceed 125°F for 24hours), dry, well-ventilated area, segregated from incompatible chemicals. Storage conditions should comply with the requirements established by the National Fire Protection Association's NFPA 1 – Uniform Fire Code and/or NFPA 400 – Hazardous Materials Code and/or the International Code Council's (ICC) International Fire Code. Since both NFPA and ICC codes are used throughout the U.S., consult with local fire departments to determine which codes apply.

Incompatible Substances: ACLs are highly reactive oxidizing and chlorinating agents. Precautions should be taken to prevent the mixing of these products with other incompatible chemicals during storage, handling and manufacture. Some chemicals incompatible with ACLs include (but are not limited to): Strong acids or bases; Amino Compounds (amines; amides; ammonia, and ammonium salts) and hydrazines; Acetic acid and acetic anhydride; Alcohols (methyl, ethyl, isopropyl, etc.) and phenols; Alkenes and acetylene; Biuret; Calcium hypochlorite; Ethers; Fungicides; Glycerin; Mineral reducing agents (sulfides, bisulfites, thiosulfates, nitrites, cyanide salts, etc.); Oils and paints; Organic or mineral oxidizers (peroxides, perborates, percarbonates); Petroleum products (gasoline, kerosene, etc.); Urea. Substances not listed must be evaluated for compatibility prior to use.

Packaging Material: ACL products have excellent stability when they are properly packaged and stored; however, these materials can form enough chlorine-containing gases to cause deterioration of the container. Therefore, the standard shelf-life for packaged product (in bulk bags, plastic drums or pails) is two years. The one exception is for product in cardboard cases where the shelf-life is six months. These guidelines are based on potential deterioration of packaging and not on degradation of product.

Additional Information:

Physical Hazards Not Otherwise Classified

- Damp or wet material may generate nitrogen trichloride, an explosion hazard
- Heating over 80 °C (176 °F) can initiate a self-sustaining decomposition which releases large amounts of heat and

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gas including toxic fumes

- NFPA Class 1 Oxidizer (An oxidizer that does not moderately increase the burning rate of combustible materials with which it comes into contact)

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

REGULATORY EXPOSURE LIMIT(S):

This product does not contain any components that have regulatory occupational exposure limits (OELs) established.

NON-REGULATORY EXPOSURE LIMIT(S):

This product does not contain any components that have advisory (non-regulatory) occupational exposure limits (OEL's). However, Occidental Chemical Corporation has tentatively established a Manufacturer Recommended Exposure Limit for a similar compound, Trichloroisocyanuric Acid, of 0.5 mg/m³ for an 8-hour time weighted average (TWA). Contact manufacturer for further information addressing appropriate exposure monitoring / sampling methods. Recommended Exposure Limits (REL's) are non-regulatory occupational exposure limits that the manufacturer has established based on health effects data.

Additional Advice: Chlorine and chlorine compounds may be found in slight amounts in the head-space of containers of this product.

ENGINEERING CONTROLS: Use only in well-ventilated areas. Provide local exhaust ventilation where dust or mist may be generated. Conventional mixer types can be used for the formulation of these products but should be designed or modified to minimize attrition, dusting or spilling. Provision should be made to collect any dust from the mixer in a suitable dust-collecting system. Note, the dust collection system for ACL products should not be used to collect dust from materials that will react with ACL products. All equipment should be thoroughly cleaned before and after mixing to prevent the possibility of undesired reactions or fire as a result of accidental contamination. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear chemical safety goggles with a face shield to protect against eye and skin contact when appropriate. Provide an emergency eyewash fountain and quick drench shower in the immediate work area.

Skin and Body Protection: Wear protective clothing to minimize skin contact. When potential for contact with dry material exists, wear disposable coveralls suitable for dust exposure, such as Tyvek®. Contaminated clothing should be removed and laundered before reuse.

Hand Protection: Wear appropriate chemical resistant gloves. Consult a glove manufacturer for assistance in selecting an appropriate chemical resistant glove.

Protective Material Types: Butyl rubber, Natural rubber, Neoprene, Nitrile, Polyvinyl chloride (PVC), Tyvek®

Respiratory Protection: A NIOSH approved respirator with N95 (dust, fume, mist) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. The added protection of a full face-piece respirator is required when visible dusty conditions are encountered and eye irritation may occur. Acid gas cartridges with N95 filters are required when fumes or vapor may be generated. A respiratory protection program

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that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Color:	White
Odor:	Slight chlorine odor
Molecular Weight:	256
Molecular Formula:	C ₃ N ₃ O ₃ Cl ₂ Na.2H ₂ O
Chemical Family:	CHLORINATED ISOCYANURATES
pH:	6 - 7 @ 25 °C (1% solution)
Melting Point/Range:	Decomposes without melting
Freezing Point/Range:	Not applicable
Flash point:	Not applicable
Vapor Pressure:	<0.06 Pa @ 20C
Vapor Density (air=1):	Not applicable
Relative Density/Specific Gravity (water=1):	1.95 g/mL @ 25 °C
Density:	No data available
Bulk Density:	56 - 60 lbs/ft ³ (loose)
Water Solubility:	26.5 g/ 100 g @ 25 °C
Partition Coefficient (n-octanol/water):	Kow = 0
Auto-ignition Temperature:	Not determined
Decomposition Temperature:	Decomposes at temperatures above 210 °C (410 °F) with liberation of harmful gases
Odor Threshold [ppm]:	Not Available
Evaporation Rate (ether=1):	Not applicable
Volatility:	Not applicable
Flammability (solid, gas):	Not flammable
Lower Flammability Level (air):	Not flammable
Upper Flammability Level (air):	Not flammable
Viscosity:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable, not reactive under normal temperatures and pressures.

Reactivity: Not reactive under normal temperatures and pressures.

Possibility of Hazardous Reactions: Do not get water inside container. Wet material may generate nitrogen trichloride, an explosion hazard. Avoid contact with easily oxidizable organic material. Contact with acids liberates toxic gas.

- ACL in the presence of ammonia gas or aqueous solutions of ammonia will generate hazardous amounts of

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explosive nitrogen trichloride.

- Contamination with oils and greases may cause decomposition of ACL with formation of CO₂, Cl₂, and other toxic gases.

- Hydrogen peroxide may react violently with ACL with liberation of oxygen.

Conditions to Avoid (e.g., static discharge, shock, or vibration): ACL materials in themselves are very stable to static discharge, shock or vibration. They do not present a dust explosion hazard. Wet material may generate nitrogen trichloride, an explosion hazard. Nitrogen trichloride (NCl₃) can appear as a yellow, oily liquid or vapor. Any quantity of NCl₃ is potentially explosive. Liquid NCl₃ will explode in contact with certain organic impurities, when melting after having been frozen, from impact or supersonic vibration, or on heating to 60°C or above. Vapor NCl₃ can be exploded or decomposed (to N₂ and Cl₂) when concentrations in air are as low as 0.3%. At this low concentration, however, the propagation rate is extremely slow, on the order of several minutes per foot. At concentrations of 3-4%, the detonation is explosive with an instantaneous pressure rise. There are no good data on what temperature or conditions are required to explode the gas. It is known that NCl₃ vapor (or vapor-air mixture) can be exploded by a spark or by temperature in excess of 100°C.

Incompatible Substances: ACLs are highly reactive oxidizing and chlorinating agents. Precautions should be taken to prevent the mixing of these products with other incompatible chemicals during storage, handling and manufacture. Some chemicals incompatible with ACLs include (but are not limited to): Strong acids or bases; Amino Compounds (amines; amides; ammonia, and ammonium salts) and hydrazines; Acetic acid and acetic anhydride; Alcohols (methyl, ethyl, isopropyl, etc.) and phenols; Alkenes and acetylene; Biuret; Calcium hypochlorite; Ethers; Fungicides; Glycerin; Mineral reducing agents (sulfides, bisulfites, thiosulfates, nitrites, cyanide salts, etc.); Oils and paints; Organic or mineral oxidizers (peroxides, perborates, percarbonates); Petroleum products (gasoline, kerosene, etc.); Urea. Substances not listed must be evaluated for compatibility prior to use.

Hazardous Decomposition Products: Chlorine, nitrogen, nitrogen trichloride, cyanogen chloride, Oxides of Carbon, Phosgene, Chloramines.

Hazardous Polymerization: Not expected to occur.

SECTION 11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS:

TOXICITY:

Monosodium cyanurate was administered via drinking water to rats for 104 weeks at concentrations of 0, 400, 1200, 2400, and 5375 ppm (solubility limit). No compound-related effects on body weights, clinical signs of toxicity or food or water consumption were noted during the study. An increased incidence of gross lesions in the urinary tract, calculi in the kidney and lesions in the heart were observed in males receiving the highest dose level of 5375 ppm (solubility limit). The health effects seen in this study were due to precipitation of the test substance in the urinary tract when the test substance was fed at the solubility limit. Adverse health effects were not seen at lower doses where precipitation did not occur.

ACUTE TOXICITY:

Eye contact: Eye exposures may cause burns to the eye lids, conjunctivitis, corneal edema, and corneal burn. Significant and prolonged contact may cause damage to the internal eye structures.

Skin contact: Exposure to solid along with moisture may cause redness, irritation, burning sensation, swelling,

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blister formation, first, second, or third degree burns. Dry material is less irritating than wet material. This material is not a skin sensitizer based on studies with guinea pigs.

Inhalation: This material in the form as sold is NOT expected to produce respiratory effects. Particles of respirable size are generally not encountered. The respirable fraction is typically less than 0.1% by weight for the granular and extra granular grades. If ground or otherwise in a powdered form, effects similar to a corrosive substance may occur. Exposure to the solid product or to free chlorine evolving from the product may cause irritation, redness of upper and lower airways, coughing, laryngospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.

Ingestion: Exposure by ingestion may cause irritation, nausea, and vomiting. May cause local tissue damage to epiglottis, mucus membranes of the mouth, esophagus and stomach such as burning, inflammation, local ulceration, and may cause gastrointestinal bleeding.

CHRONIC TOXICITY:

Chronic Effects: None identified for the parent chemical. Based on animal studies, exposure to concentrations of monosodium cyanurate at the solubility limit may cause cardiovascular, kidney and urinary bladder effects.

SIGNS AND SYMPTOMS OF EXPOSURE:

Inhalation (Breathing): Respiratory System Effects. Exposure to the solid product or to free chlorine evolving from the product may cause irritation, redness of upper and lower airways, coughing, laryngospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure. Please refer to Section 11 for additional information.

Skin: Skin Corrosion. Exposure to solid along with moisture may cause redness, irritation, burning sensation, swelling, blister formation, first, second, or third degree burns.

Eye: Serious Eye Damage. Exposure to eyes may cause irritation and burns to the eye-lids, conjunctivitis, corneal edema, and corneal burn. Significant and prolonged contact may cause damage to internal eye structures.

Ingestion (Swallowing): Gastrointestinal Effects. Exposure by ingestion may cause irritation, nausea, and vomiting. May cause local tissue damage to esophagus and stomach such as burning, inflammation, local ulceration, and may cause gastrointestinal bleeding.

Interaction with Other Chemicals Which Enhance Toxicity: Contact with acids liberates toxic gas.

GHS HEALTH HAZARDS:

GHS: CONTACT HAZARD - SKIN: Category 1C - Causes severe skin burns and eye damage

GHS: CONTACT HAZARD - EYE: Category 1 - Causes serious eye damage

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

GHS: ACUTE TOXICITY - INHALATION: Category 3 - Toxic if inhaled

TOXICITY DATA:

PRODUCT TOXICITY DATA: The test material for the LC50 inhalation 4 hr. Rat resulting in 0.6 mg/L was TowerBrom 60 (~ 90% Dichloroisocyanurate); all other results were from Dichloroisocyanurate.

LD50 Oral: 1823 mg/kg (Rat)	LD50 Dermal: >2000 mg/kg (Rabbit)	LC50 Inhalation: > 0.27 - < 1.17 mg/L (4 hr - Rat) 0.6 mg/L (4 hr - Rat)
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Component	Oral LD50	Dermal LD50	Inhalation LC50
Sodium dichloroisocyanurate	1823 mg/kg (Rat)		

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Component	Oral LD50	Dermal LD50	Inhalation LC50
dihydrate			

Standard Draize (Eye): PRIMARY EYE IRRITATION: Severe Irritation, Corrosive (rabbit, 24 hr)

Eye Irritation/Corrosion: Corrosive to the eyes and may cause severe damage including blindness.

Standard Draize (Skin): PRIMARY SKIN IRRITATION: Severe Irritation, Corrosive (rabbit, 24 hr)

Skin Irritation/Corrosion: This product is classified as causing severe skin burns (Category 1, H314), according to GHS classification criteria.

Skin Absorbent / Dermal Route: NO.

CARCINOGENICITY: This product is not classified as a carcinogen by NTP, IARC or OSHA.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure): The substance is not classified as a specific target organ toxicant after single exposure per GHS criteria.

SPECIFIC TARGET ORGAN TOXICITY (Repeated or Prolonged Exposure): The substance is not classified as a specific target organ toxicant upon repeated exposure per GHS criteria.

INHALATION HAZARD: This product is TOXIC IF INHALED. Size of actual cut typically ranges 250 - 1700 microns with <0.3% less than 100 microns and <0.06% less than 10 microns (limit of respirable particles).

IN-VITRO / IN-VIVO GENOTOXICITY: Not classified as a mutagen per GHS criteria. Not mutagenic in 5 Salmonella strains and 1 E. coli strain with or without mammalian microsomal activation.

REPRODUCTIVE TOXICITY: Not classified as a reproductive toxin per GHS criteria. There are no known or recorded effects on reproductive function or fetal development.

TOXICOKINETICS: Not available.

METABOLISM: Not available.

PATHOGENICITY AND ACUTE INFECTIOUSNESS (ORAL, DERMAL, AND INHALATION): Not applicable.

ENDOCRINE DISRUPTOR: Not available.

NEUROTOXICITY: Not Available.

IMMUNOTOXICITY: Not available.

Hazard Not Otherwise Classified (HNOC)-Health

- Damp or wet material may generate hazardous and toxic gases
- Contact with water slowly liberates irritating and hazardous chlorine containing gases
- Decomposes at temperatures above 210 °C (410 °F) with liberation of harmful gases
- Contact with acids liberates toxic gas
- Heating over 80 °C (176 °F) can initiate a self-sustaining decomposition which releases large amounts of heat and gas including toxic fumes

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SECTION 12. ECOLOGICAL INFORMATION**ECOTOXICITY (EC, IC, and LC):****Fish Toxicity:**

LC50 Bluegill sunfish: 0.25-1.0 mg/L (96 hour)

LC50 Rainbow trout: 0.13-0.36 mg/L (96 hour)

LC50 Inland silversides: 1.21 mg/L (96 hour)

Invertebrate Toxicity:

LC50 Water flea: 0.196 mg/L (48 hour)

LC50 Mysid shrimp: 1.65 mg/L (96 hour)

Other Toxicity:

LD50 Mallard duck (oral): No Data

LD50 N. Bobwhite Quail (oral): 1,766 mg/kg

LC50 Mallard duck (diet): >5,000 ppm

LC50 N. Bobwhite Quail (diet): No Data

FATE AND TRANSPORT:

PERSISTENCE: This material is believed not to persist in the environment. Free available chlorine is rapidly consumed by reaction with organic and inorganic materials to produce chloride ion. The stable degradation products are chloride ion and cyanuric acid.

BIODEGRADATION: Chlorinated isocyanurates react with water to form hypochlorous acid and isocyanuric acid. Hypochlorous acid is rapidly destroyed by natural substances present in the water or environment (on the scale of minutes or hours). Isocyanuric acid biodegrades very slowly under aerobic conditions unless; 1) specific fungi or bacteria strains are present, 2) the microorganisms have been acclimated to isocyanuric acid, and 3) organic nutrients are present for the microorganisms.

BIOCONCENTRATION: This material hydrolyses in water liberating free available chlorine and cyanuric acid. These products are not bioaccumulative.

BIOACCUMULATIVE POTENTIAL: No bioaccumulation data is available for isocyanuric acid in fish or aquatic organisms, but it is not expected to bioaccumulate due to its low octanol-water partition coefficient (0.67). Isocyanuric acid is eliminated unchanged from the bodies of rats, dogs, and humans.

MOBILITY IN SOIL: The soil partition coefficient is a measure of a compound's tendency to partition to soils and sediments. Isocyanuric acid should be considered highly mobile and not strongly absorbed onto soil.

ADDITIONAL ECOLOGICAL INFORMATION: This product is very toxic to fish and aquatic organisms. This product is very toxic to aquatic life with long lasting effects. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of appropriate regulatory requirements (e.g. permit and the permitting authority has been notified in writing prior to discharge). Do not discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your local or regional regulatory water boards and/or other appropriate regulatory offices.

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SECTION 13. DISPOSAL CONSIDERATIONS**Waste from material:**

Use or reuse if possible. This material is a registered pesticide. May be subject to disposal regulations. Dispose in accordance with all applicable regulations. Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. DO NOT transport wet or damp material. Damp material should be neutralized to a non-oxidizing state. Contact OxyChem for instructions for handling and disposal of damp material. Wastes of this pesticide may cause irreversible eye damage and burns to skin and may be dangerous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA regional office for guidance.

Container Management:

See product label for container disposal information. 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.

SECTION 14. TRANSPORT INFORMATION**LAND TRANSPORT****U.S. DOT 49 CFR 172.101:**

Status: Non-Bulk Packaging: Not Regulated unless transported by vessel.
Bulk Packaging or Shipment by Vessel: Regulated as follows:

UN NUMBER: UN3077

PROPER SHIPPING NAME: Environmentally Hazardous Substance, Solid, n.o.s. (Sodium dichloroisocyanurate dihydrate), Marine Pollutant

HAZARD CLASS/ DIVISION: 9

PACKING GROUP: III

LABELING REQUIREMENTS: 9, Marine Pollutant

MARINE POLLUTANT: Sodium dichloroisocyanurate dihydrate

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

Status: Non-Bulk Packaging: Not Regulated unless transported by vessel.
Bulk Packaging or Shipment by Vessel: Regulated as follows:

UN NUMBER: UN3077

SHIPPING NAME: Environmentally Hazardous Substance, Solid, n.o.s. (Sodium dichloroisocyanurate dihydrate), Marine Pollutant

CLASS OR DIVISION: 9

PACKING/RISK GROUP: III

LABELING REQUIREMENTS: 9, Marine Pollutant

CAN. MARINE POLLUTANT: Sodium dichloroisocyanurate dihydrate

MARITIME TRANSPORT (IMO / IMDG)

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Status - IMO / IMDG: Shipment by Vessel: Regulated

UN NUMBER: UN3077

PROPER SHIPPING NAME: Environmentally Hazardous Substance, Solid, n.o.s. (Sodium dichloroisocyanurate dihydrate), Marine Pollutant

HAZARD CLASS / DIVISION: 9

Packing Group: III

LABELING REQUIREMENTS: 9, Marine Pollutant

MARINE POLLUTANT: Sodium dichloroisocyanurate dihydrate

AIR TRANSPORT (ICAO / IATA)

Special Instructions CAO: IATA Certificate for shipping personnel is required

SECTION 15. REGULATORY INFORMATION

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):

Fire Hazard, Reactive Hazard, Acute Health Hazard

SARA HAZARD CATEGORIES ALIGNED WITH GHS (2018):

Health Hazard - Acute Toxin (any route of exposure)

Health Hazard - Skin Corrosion or Irritation

Health Hazard - Serious eye damage or eye irritation

EPCRA SECTION 313 (40 CFR 372.65):

Not regulated.

DEPARTMENT OF HOMELAND SECURITY (DHS)- Chemical Facility Anti-Terrorism Standards (6 CFR 27):

No components in this material are regulated under DHS

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

Not regulated.

FIFRA REGULATIONS: Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). EPA Reg. No. 935-42 (ACL® 56 Disinfecting Granules).

FIFRA LABELING REQUIREMENTS: - This chemical is a pesticide product registered by the United States

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Environmental Protection Agency (EPA) and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

- FIFRA Signal Word - DANGER
- Corrosive
- Causes irreversible eye damage
- May be fatal if inhaled
- Harmful if swallowed or absorbed through skin
- This pesticide is toxic to fish and aquatic organisms
- Strong oxidizing agent
- Contact with water slowly liberates irritating and hazardous chlorine containing gases
- Decomposes at temperatures above 464 °F with liberation of harmful gases
- When ignited will burn with the evolution of chlorine and equally toxic gases
- NEVER add water to product
- Always add product to large quantities of water
- Use only clean and dry utensils
- DO NOT add this product to any dispensing device containing remnants of any other product
- Such use may cause a violent reaction leading to fire or explosion
- Contamination with moisture, organic material, or other incompatible chemicals may start a reaction with generation of heat, liberation of hazardous gases, and possible fire and explosion

EPA'S CLEAN WATER AND CLEAN AIR ACTS:

Component(s) not listed on impacted regulatory lists.

NATIONAL INVENTORY STATUS**U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):**

Component	TSCA Inventory	TSCA ACTIVE LIST	TSCA 12(b)	TSCA - Section 4	TSCA - Section 5	TSCA - Section 6	TSCA - Section 8
Sodium dichloroisocyanurate dihydrate 51580-86-0	Not Listed	HYDRATE EXEMPTION	Not Listed	Not listed	Not Listed	Not listed	Not listed
Sodium Chloride 7647-14-5	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Not listed	Not listed

CANADIAN CHEMICAL INVENTORY: All components of this product are listed on either the DSL or the NDSL.

Component	DSL	NDSL
Sodium dichloroisocyanurate dihydrate 51580-86-0 (98 - 100)	Listed	Not Listed
Sodium Chloride 7647-14-5 (0.1 - 1)	Listed	Not Listed

STATE REGULATIONS**California Proposition 65:**

This product and its ingredients are not listed on the California Governor's current list of Carcinogens, Reproductive Toxicants, and/or Candidate Carcinogens (Proposition 65), but it may contain trace amounts of impurities that are listed. For additional information, contact OxyChem Customer Relations.

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Component	California Proposition 65 Cancer WARNING:	California Proposition 65 CRT List - Male reproductive toxin:	California Proposition 65 CRT List - Female reproductive toxin:	Massachusetts Right to Know Hazardous Substance List	Rhode Island Right to Know Hazardous Substance List
Sodium dichloroisocyanurate dihydrate	Not Listed	Not Listed	Not Listed	Listed	Listed
Sodium Chloride	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

Component	New Jersey Right to Know Hazardous Substance List	New Jersey Special Health Hazards Substance List	New Jersey - Environmental Hazardous Substance List	Pennsylvania Right to Know Hazardous Substance List	Pennsylvania Right to Know Special Hazardous Substances	Pennsylvania Right to Know Special Hazardous Substances	Pennsylvania Right to Know Environmental Hazard List
Sodium dichloroisocyanurate dihydrate	Not Listed	Not Listed	Not Listed	Listed	Not Listed	Not Listed	Not Listed
Sodium Chloride	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

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.

Component	Canada - CEPA - Schedule I - List of Toxic Substances	Canada - NPRI	Canada - CEPA - 2010 Greenhouse Gases (GHG) Subject to Mandatory Reporting	CANADIAN CHEMICAL INVENTORY:	NDSL:
Sodium dichloroisocyanurate dihydrate 51580-86-0 (98 - 100)	Not listed	Not Listed	Not Listed	Hydrate Exemption	Not Listed
Sodium Chloride 7647-14-5 (0.1 - 1)	Not listed	Not Listed	Not Listed	Listed	Not Listed

PCP Registration:

- This product cannot be sold into Canada as a pesticide
- This product is not registered as a pesticide in Canada

SECTION 16. OTHER INFORMATION

Prepared by: OxyChem Corporate HESS - Product Stewardship

Rev. Date: 27-Aug-2020

Reason for Revision:

- CORRECTED TRANSPORTATION STATUS FOR NON-BULK PACKAGING. NON-BULK PACKAGING IS NOT REGULATED UNLESS TRANSPORTED BY VESSEL. (SEE SECTION 14 FOR CORRECTIONS MADE)
- Change of company physical address: SEE SECTION 1
- Added emphasis on Uses Advised Against: SEE SECTION 1
- Modified the Emergency Overview information: SEE SECTION 2
- Revised GHS Information: SEE SECTION 2
- Modified GHS Hazard and Precautionary Statements: SEE SECTION 2

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- Added Health Hazards Not Otherwise Classified: Section 2 and 11
- Added or revised Hazards Not Otherwise Classified: SEE SECTION 2
- Added Physical Hazards Not Otherwise Classified to format: SEE SECTIONS 5&7
- Updated First Aid Measures: SEE SECTION 4
- Modified Fire Fighting Measure Recommendations: SEE SECTION 5
- Revised Accidental Release Measures: SEE SECTION 6
- Revised Handling and Storage Recommendations: SEE SECTION 7
- Additional information on dust collection systems added: SEE SECTION 8
- Stability and Reactivity recommendations: SEE SECTION 10
- Added Acute Toxicity Information: See Section 11
- SDS format change / enhancement to Section 11: Toxicological Information
- Ecological Information has been modified: SEE SECTION 12
- Updated Disposal Considerations. SEE SECTION 13
- Updated Transportation Information: SEE SECTION 14
- Added air transport certificate requirements for shipping personnel: SEE SECTION 14
- Added SARA Hazard Categories Aligned with GHS (2018): SEE SECTION 15
- Revised California Proposition 65 Statement: SEE SECTION 15
- Removed non-harmonized hazard ratings (NFPA/HMIS) from format (harmonized GHS hazard classifications and hazard symbols / signal word are found in Section 2): SEE SECTION 16

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 Occidental Chemical Corporation 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