

# SAFETY DATA SHEET

M31037 - ANSI - EN



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## TOWERCHLOR® 56 GRANULES

SDS No.: M31037

SDS Revision Date: 11-May-2015

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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<b>Company Identification:</b>	Occidental Chemical Corporation 5005 LBJ Freeway P.O. Box 809050 Dallas, TX 75380-9050 1-800-752-5151
<b>24 Hour Emergency Telephone Number:</b>	1-800-733-3665 or 1-972-404-3228 (U.S.); CHEMTREC (outside U.S.): +1 703-527-3887
<b>To Request an SDS:</b>	MSDS@oxy.com or 1-972-404-3245
<b>Customer Service:</b>	1-800-752-5151 or 1-972-404-3700
<b>Product Identifier:</b>	<b>TOWERCHLOR® 56 GRANULES</b>
<b>Synonyms:</b>	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
<b>Product Use:</b>	Algaecide, Disinfectant, Sanitizer, Bactericide, Fungicide, Microbiocide/microbiostat
<b>Uses Advised Against:</b>	None identified. This is a pesticide product, do not use it in a pesticide application that is not included on its label.

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### 2. HAZARDS IDENTIFICATION

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

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**EMERGENCY OVERVIEW:**

**Color:** White  
**Physical State:** Solid  
**Appearance:** Crystals, Granules  
**Odor:** Slight chlorine odor

**Signal Word:** **DANGER**

**MAJOR HEALTH HAZARDS:** CORROSIVE. CAUSES SERIOUS EYE DAMAGE. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. MAY BE FATAL IF INHALED. HARMFUL IF SWALLOWED.

**PHYSICAL HAZARDS:** OXIDIZING AGENT. 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 464 °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 organisms. Very toxic to aquatic life with long lasting effects.

**PRECAUTIONARY STATEMENTS:** Do not get in eyes, on skin, or on clothing. Wear eye protection, face protection, protective gloves. Do not breathe dusts or mists. Use outdoors or in a well-ventilated area. Wash hands and affected skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not get water inside container, an explosion hazard. Oxidizer, keep separated from incompatible substances.

**ADDITIONAL HAZARD INFORMATION:** This material is corrosive. Product has strong buffering capability. Use dilution. May cause burns to moist skin if not promptly removed. There is no specific antidote.

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**GHS CLASSIFICATION:**

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 - INHALATION:	Category 2 - Fatal if inhaled
GHS: ACUTE TOXICITY - ORAL:	Category 4 - Harmful if swallowed.
GHS: ACUTE TOXICITY - DERMAL:	Not acutely toxic by dermal exposure.
GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):	Category 3 - May cause respiratory tract irritation
GHS: CARCINOGENICITY:	This product is not classified as a carcinogen by NTP, IARC or OSHA.

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GHS: HAZARDOUS TO AQUATIC ENVIRONMENT - ACUTE HAZARD:	Category 1 - Very toxic to aquatic life
GHS: HAZARDOUS TO AQUATIC ENVIRONMENT - CHRONIC HAZARD:	Category 1 - Very toxic to aquatic life with long lasting effects

**UNKNOWN ACUTE TOXICITY:** Not applicable. 100% of this product consists of ingredient(s) of known acute toxicity.

**GHS SYMBOL:** Corrosion, Skull and Crossbones, Exclamation mark, Environmental hazard



**GHS SIGNAL WORD:** DANGER

**GHS HAZARD STATEMENTS:****GHS - Health Hazard Statement(s)**

Causes severe skin burns and eye damage  
 Causes serious eye damage  
 Fatal if inhaled  
 Harmful if swallowed  
 May cause respiratory irritation

**GHS - Environmental Hazard Statement(s)**

Very toxic to aquatic life  
 Very toxic to aquatic life with long lasting effects

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

Do not breathe dust, fume, gas, mist, vapors, or spray  
 In case of inadequate ventilation, wear respiratory protection  
 Wear protective gloves, protective clothing, eye, and face protection  
 Wash face, hands and any exposed skin 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

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor/physician

Specific treatment is urgent (see Section 4 of SDS or first aid information on this label)

IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower

Wash contaminated clothing before reuse

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

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

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

Collect spillage

**GHS - Precautionary Statement(s) - Storage**

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

Store locked up

**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)**

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

Contact with acids liberates toxic gas

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

**Synonyms:** Sodium dichloroisocyanurate dihydrate, Sodium dichloro-s-triazinetriene 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

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

**4. FIRST AID MEASURES**

**INHALATION:** If inhalation of dust occurs and adverse effects result, remove to uncontaminated area. Evaluate ABC's (is Airway constricted, is Breathing occurring, and is blood Circulating) and treat symptomatically. GET MEDICAL ATTENTION IMMEDIATELY. There is no specific antidote, treat symptomatically.

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**SKIN CONTACT:** Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry and shoes. Wash contaminated areas with large amounts of water. GET MEDICAL ATTENTION IMMEDIATELY. Thoroughly clean and dry contaminated clothing before reuse.

**EYE CONTACT:** Immediately flush contaminated eyes with a directed stream of water for as long as possible. Remove contact lenses, if present, then continue rinsing. GET MEDICAL ATTENTION IMMEDIATELY.

**INGESTION:** If swallowed, do not induce vomiting. Give large amounts of water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops. Never give anything by mouth to an unconscious or convulsive person. GET MEDICAL ATTENTION IMMEDIATELY.

### Most Important Symptoms/Effects (Acute and Delayed) :

**Acute Symptoms/Effects:** Listed below.

**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.

**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 the internal contents of the eye.

**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

**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.

**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.

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## 5. FIRE-FIGHTING MEASURES

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**Fire Hazard:** Negligible fire hazard. If heated by outside source to temperatures above 240 C (464 F), this product will undergo decomposition with the evolution of noxious gases but no visible flame. Wet material may generate nitrogen trichloride, an explosion hazard.

**Extinguishing Media:** Flood with copious amounts of water. Do not use ABC fire extinguishers. Do not use dry chemicals, carbon dioxide, or halogenated extinguishing agents.

**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

**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

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## 6. ACCIDENTAL RELEASE MEASURES

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**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.

**Methods and Materials for Containment and Cleaning Up:**

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.

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**Environmental Precautions:**

This material is toxic to aquatic life. Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

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## 7. HANDLING AND STORAGE

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**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.

**Safe Storage Conditions:**

Store and handle in accordance with all current regulations and standards. (NFPA Oxidizer Class 1). 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). Product has an indefinite shelf life if stored in original container in a cool, dry place.

**Incompatibilities/ Materials to Avoid:**

acids, ammonia, bases, floor sweeping compounds, calcium hypochlorite, reducing agents, organic solvents and compounds

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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**Regulatory Exposure Limit(s):** None. This product does not contain any components that have regulatory occupational exposure limits (OEL's) established.

*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):** None. This product does not contain any components that have advisory (non-regulatory) occupational exposure limits (OEL's).

- *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.*

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**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. Ensure compliance with applicable exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT:**

**Eye Protection:** Wear chemical safety goggles. Provide an emergency eye wash 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 that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State:</b>	Solid
<b>Appearance:</b>	Crystals, Granules
<b>Color:</b>	White
<b>Odor:</b>	Slight chlorine odor
<b>Odor Threshold [ppm]:</b>	Not Available.
<b>Molecular Weight:</b>	256
<b>Molecular Formula:</b>	C <sub>3</sub> N <sub>3</sub> O <sub>3</sub> Cl <sub>2</sub> Na.2H <sub>2</sub> O
<b>Decomposition Temperature:</b>	486 °F (252 °C) - dehydrates at 104 - 212 °F (40 - 100 °C)
<b>Boiling Point/Range:</b>	Not applicable
<b>Freezing Point/Range:</b>	Not applicable.
<b>Melting Point/Range:</b>	Decomposes without melting @ 252 °C
<b>Vapor Pressure:</b>	Not available
<b>Vapor Density (air=1):</b>	Not applicable
<b>Relative Density/Specific Gravity (water=1):</b>	1.95 g/mL @ 25 °C
<b>Density:</b>	No data available
<b>Bulk Density:</b>	56 - 60 lbs/ft <sup>3</sup> (loose)
<b>Water Solubility:</b>	26.5 g/ 100 g @ 25 °C



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<b>pH:</b>	6 - 7 @ 25 °C (1% solution)
<b>Volatility:</b>	Not applicable
<b>Evaporation Rate (ether=1):</b>	Not applicable
<b>Partition Coefficient (n-octanol/water):</b>	Kow = 0
<b>Flash point:</b>	Not applicable
<b>Flammability (solid, gas):</b>	Not flammable
<b>Lower Flammability Level (air):</b>	Not flammable
<b>Upper Flammability Level (air):</b>	Not flammable
<b>Auto-ignition Temperature:</b>	Not determined
<b>Viscosity:</b>	Not applicable

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**10. STABILITY AND REACTIVITY**

**Reactivity:** Not reactive under normal temperatures and pressures.

**Chemical Stability:** Stable at 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.

**Conditions to Avoid:**

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

**Incompatibilities/ Materials to Avoid:**

acids. ammonia. bases. floor sweeping compounds. calcium hypochlorite. reducing agents. organic solvents and compounds.

**Hazardous Decomposition Products:** chlorine, nitrogen, nitrogen trichloride, cyanogen chloride, oxides of carbon, phosgene

**Hazardous Polymerization:** Will not occur.

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**11. TOXICOLOGICAL INFORMATION**

**IRRITATION DATA:** PRIMARY SKIN IRRITATION: Severe Irritation, Corrosive (rabbit, 24 hr)

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

**TOXICITY DATA:****PRODUCT TOXICITY DATA: TOWERCHLOR® 56 GRANULES**

<b>LD50 Oral:</b> 1823 mg/kg (Rat)	<b>LD50 Dermal:</b> >2000 mg/kg (Rabbit)	<b>LC50 Inhalation:</b> 0.27 - 1.17 mg/L (4 hr - Rat)
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**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:
Sodium dichloroisocyanurate dihydrate 51580-86-0	735 mg/kg (Rat)	2000 mg/kg (Rabbit)	50 mg/L (1 hr-Rat)
Sodium Chloride 7647-14-5	3 g/kg (Rat)	10 g/kg (Rabbit)	42 g/m <sup>3</sup> (1 hr-Rat)

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**POTENTIAL HEALTH EFFECTS:**

- 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 contents of eye.
- Skin contact:** Exposure to solid along with moisture may cause redness, irritation, burning sensation, swelling, 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, laryngeospasm 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 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, laryngeospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.

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

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**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 the internal contents of the eye.

**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.

**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.

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

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**GHS HEALTH HAZARDS:**

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

**GHS: ACUTE TOXICITY - DERMAL:** Not acutely toxic by dermal exposure.

**GHS: ACUTE TOXICITY - INHALATION:** Category 2 - Fatal if inhaled.

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

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

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

**SPECIFIC TARGET ORGAN TOXICITY (Single Exposure):**  
Category 3 - Respiratory Tract Irritation

**MUTAGENIC DATA:**  
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.

**OTHER HAZARDS:**  
Contact with acids liberates toxic gas.

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**12. ECOLOGICAL INFORMATION**

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**ECOTOXICITY DATA:****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): 1,916 mg/kg

LD50 N. Bobwhite Quail (oral): 1,732 mg/kg

LD50 Mallard duck (diet): &gt;10,000 ppm

LD50 N. Bobwhite Quail (diet): &gt;10,000 ppm

**FATE AND TRANSPORT:****BIODEGRADATION:** This material is subject to hydrolysis  
Cyanuric acid produced by hydrolysis is biodegradable**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**BIOCONCENTRATION:** This material hydrolyses in water liberating free available chlorine and cyanuric acid.  
These products are not bioaccumulative.**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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**13. DISPOSAL CONSIDERATIONS**

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**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.

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**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.

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**14. TRANSPORT INFORMATION**

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**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) :****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

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**LABELING REQUIREMENTS:** 9, Marine Pollutant

**MARINE POLLUTANT:** Sodium dichloroisocyanurate dihydrate

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## 15. REGULATORY INFORMATION

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### 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

**EPCRA SECTION 313 (40 CFR 372.65):**

Not regulated.

**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. 935-68 (Towerchlor® 56 Granules)

**TOWERCHLOR® 56 GRANULES**

SDS No.: M31037

SDS Revision Date: 11-May-2015

**FIFRA LABELING REQUIREMENTS:** - This chemical is a pesticide product registered by the United States 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 460 °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

**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 and its ingredients are 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. For additional information, contact OxyChem Technical Services at 1-800-733-1165.

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	New Jersey Right to Know Hazardous Substance List	New Jersey Special Health Hazards Substance List
Sodium dichloroisocyanurate dihydrate 51580-86-0	Not Listed	Not Listed	Not Listed	Listed	1694	Not Listed

Component	New Jersey - Environmental Hazardous Substance List	Pennsylvania Right to Know Hazardous Substance List	Pennsylvania Right to Know Special Hazardous Substances	Pennsylvania Right to Know Environmental Hazard List	Rhode Island Right to Know Hazardous Substance List

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<b>Sodium dichloroisocyanurate dihydrate 51580-86-0</b>	Not Listed	Listed	Not Listed	Not Listed	Listed
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**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:**

- Material is regulated as a pesticide, therefore is not regulated under WHMIS
- Pest Control Products Act Registration No. 25822 - (Towerchlor 56 Granules Microbiocide)

## 16. OTHER INFORMATION

**Prepared by:** OxyChem Corporate HESS - Product Stewardship

**Rev. Date:** 11-May-2015

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

**Health Rating:** 3

**Flammability Rating:** 0

**Reactivity Rating:** 1

**NFPA 704 - Hazard Identification Ratings (SCALE 0-4)**

**Health Rating:** 2

**Flammability:** 0

**Reactivity Rating:** 1



**TOWERCHLOR® 56 GRANULES**

SDS No.: M31037

SDS Revision Date: 11-May-2015

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**Reason for Revision:**

- Changed the SDS format to meet the GHS requirements of the revised 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
- Updated the (M)SDS header
- Product Identifier has been added or updated: SEE SECTION 1
- Updated Uses Advised Against information: SEE SECTION 1
- Revised Hazard(s) Identification information: SEE SECTION 2
- Emergency Overview was revised: SEE SECTION 2
- Added GHS Information: SEE SECTION 2
- Updated First Aid Measures: SEE SECTION 4
- Updated 24 Hour Emergency Telephone Number: SEE SECTION 1
- Modified Fire Fighting Measure Recommendations: SEE SECTION 5
- Revised Accidental Release Measures: SEE SECTION 6
- Revised Handling and Storage Recommendations: SEE SECTION 7
- Physical State information has been revised: SEE SECTIONS 2 and 9
- Stability and Reactivity recommendations: SEE SECTION 10
- Toxicological Information has been revised: SEE SECTION 11
- Updated Disposal Considerations. SEE SECTION 13
- Updated FIFRA Regulations: SEE SECTION 15
- Added SDS Revision Date: 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 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

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**End of Safety Data Sheet**