

SAFETY DATA SHEET

2615 DB X - ANSI - EN



Keystone Clean-X, Inc.

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Identification: Keystone Clean-X, Inc.
855 Industrial Hwy.
Cinnaminson, NJ 08077
1-856-786-4443
<http://keystoneclean-x.com>

24 Hour Emergency Telephone Number: CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1-703-527-3887

To Request a SDS: <http://keystoneclean-x.com> or 1-856-786-4443

Customer Service: 1-856-786-4443

Product Identifier: **DUO-BRITE 8, 12, 15, 24, and 25**

Trade Name: DUO-BRITE 8; DUO-BRITE12; DUO-BRITE15, DUO-BRITE24;DUO-BRITE25

Synonyms: Sodium Chlorite Solution; Chlorous Acid, Sodium Salt; 25 Active Sodium Chlorite; 25 Active Sodium Chlorite Solution, 12% Sodium Chlorite Solution

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

Product Use: DUO-BRITE 8, 12, 15, 24 and 25 are registered antimicrobial pesticides. See Section 15 for the EPA Registration Numbers. Their uses are potable water, industrial cooling water, food plant process water, wastewater, slime control in paper mills, and oilfield water. DUO-BRITE 15 and 24 can also be used for poultry processing water. Sodium Chlorite Solution 24 is a Registered Pesticide (Reg. No. 26203) in Canada, for use in Closed System Mechanical Generation of Chlorine Dioxide only for Microbial Control in Recirculating Cooling Systems and Pulp and Paper Mills

Uses Advised Against: None identified.

2. HAZARDS IDENTIFICATION

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

EMERGENCY OVERVIEW:

Color: Pale, yellow
Physical state: Liquid
Appearance: Slightly cloudy
Odor: Slight chlorine odor

Signal Word: **DANGER**

MAJOR HEALTH HAZARDS: CORROSIVE. CAUSES SEVERE SKIN BURNS AND SERIOUS EYE DAMAGE. TOXIC IF INHALED. HARMFUL IF SWALLOWED. INGESTION MAY CAUSE DAMAGE TO: BLOOD SYSTEM, AND KIDNEY SYSTEM. INHALATION MAY CAUSE DAMAGE TO THE RESPIRATORY SYSTEM. MAY CAUSE DAMAGE TO THE BLOOD AND KIDNEYS THROUGH PROLONGED OR REPEATED EXPOSURES.

PHYSICAL HAZARDS: OXIDIZER. Dried material can ignite upon contact with combustibles.

AQUATIC TOXICITY: HARMFUL TO AQUATIC LIFE.

PRECAUTIONARY STATEMENTS: Wash thoroughly after handling. Wear protective gloves, protective clothing, eye, and face protection. Do not eat, drink or smoke when using this product. Do not breathe mist, vapors, or spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Keep container tightly closed. Store in a secure manner. Always package, store, transport and dispose of all waste and contaminated equipment in accordance with all applicable federal, state, and local health and environmental regulations. Do not contaminate with acids, reducing agents, combustible materials, oxidizing materials, hypochlorite, organic solvents and compounds, garbage, dirt, organic matter, household products, chemicals, soap products, paint products, vinegar, beverages, oils, pine oil, dirty rags, sulfur-containing rubber, or any other foreign matter.

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

ADDITIONAL HAZARD INFORMATION: This material is corrosive and an oxidizer when dry. This material's pH and oxidative action contribute to its health and physical hazards.

GHS CLASSIFICATION:

GHS: CONTACT HAZARD - SKIN:	Category 1B - Causes severe skin burns and eye damage
GHS: CONTACT HAZARD - EYE:	Category 1 - Causes serious eye damage
GHS: ACUTE TOXICITY - INHALATION:	Category 3 - Toxic if inhaled
GHS: ACUTE TOXICITY - ORAL:	Not classified as acutely toxic for oral exposure
GHS: ACUTE TOXICITY - DERMAL:	Not classified as acutely toxic for dermal exposure
GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):	Category 2 - May cause damage to: .?
GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE):	Category 2 - May cause damage to Blood, Kidney through prolonged or repeated exposure

UNKNOWN ACUTE TOXICITY:

This product was tested as a whole. This information only pertains to untested mixtures.

GHS SYMBOL:

Skull and Crossbones, Corrosive, Health hazards



GHS SIGNAL WORD: **DANGER**

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

Toxic if inhaled

Causes severe skin burns and eye damage

Causes serious eye damage

Harmful if swallowed

May cause damage to organs through prolonged or repeated exposure (Respiratory, Kidney, and Blood Systems)

May cause damage to Renal system (Kidneys), and Blood system through prolonged or repeated exposure

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

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 thoroughly after handling
Use only outdoors or in a well-ventilated area
Do not eat, drink or smoke when using this product

GHS - Precautionary Statement(s) - Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing
Specific treatment is urgent (see Section 4 of SDS or first aid information on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing
IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Call a POISON CENTER or doctor/physician if you feel unwell

GHS - Precautionary Statement(s) - Storage

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

GHS - Precautionary Statement(s) - Disposal

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

Hazards Not Otherwise Classified (HNOC)

None identified

See Section 11: TOXICOLOGICAL INFORMATION

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Sodium Chlorite Solution; Chlorous Acid, Sodium Salt; 25 Active Sodium Chlorite; 25 Active Sodium Chlorite Solution, 15% Sodium Chlorite Solution

Component	Percent [%]	CAS Number
Water	60 - 95	7732-18-5
Sodium chlorite	5 - 35	7758-19-2
Sodium Chloride	1 - 5	7647-14-5

4. FIRST AID MEASURES

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

INHALATION: If inhalation of mists, vapors, or spray 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. Pulse oximetry may not be reliable, see notes to physician. GET MEDICAL ATTENTION IMMEDIATELY. There is no specific antidote, treat symptomatically.

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 and shoes before reuse. Discard contaminated leather goods.

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. See notes to physician.

Most Important Symptoms/Effects (Acute and Delayed) :

Acute Symptoms/Effects: Listed below.

Inhalation (Breathing): Breathing (Inhalation): Inhalation of airborne material may cause irritation, redness of upper and lower airways, coughing, laryngeal spasm and edema, shortness of breath, bronchio-constriction, and possible pulmonary edema. Severe and permanent scarring may occur. The pulmonary edema may develop several hours after a severe acute exposure.

Skin: Skin Corrosion: Skin exposure to gas or liquid 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): Ingestion: Exposure by ingestion may cause irritation, nausea, and vomiting. Oxidation may cause significant metabolic issues such as: methemoglobinemia, hemolysis, and intravascular coagulation and renal failure.

Delayed Symptoms/Effects:

- Repeated and prolonged skin contact may cause a dermatitis

Interaction with Other Chemicals Which Enhance Toxicity: Mixing with ammonia, acids, detergents, or organic matter will release chlorinated compounds, which are irritating to eyes, lungs, and mucus membranes.

Medical Conditions Aggravated by Exposure: May aggravate preexisting conditions such as: Eye disorders that decrease tear production or have reduced integrity. Skin disorders that compromise the integrity of the skin. Respiratory conditions including asthma and other breathing disorders. Ingestion may induce G6PD deficiency, hemolysis and renal failure. G6PD deficiency, hemoglobinopathies, renal compromise, and conditions causing hypoxia may be aggravated by ingestion of this material.

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

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

Notes to Physician: Treat as a corrosive due to the pH of this material. This is also a strong oxidizer which will react with tissue in the presence of water. For prolonged exposures and significant exposures, consider delayed injury to exposed tissues. There is no specific antidote. Treatment is supportive care. Follow normal parameters for airway, breathing, and circulation. Ingestion of even small amounts of solution should be closely monitored for methemoglobinemia, hemolysis, and glutathione depletion, followed by renal failure. This chemical acts similarly to its related compound chlorate, and produces a drug induced G6PD deficiency. Methylene blue has not been reported as effective. Consult the PubMed Case Report PMID 22996135 for the case description and treatment utilized. Chlorine dioxide vapors are emitted when this product contacts acids or chlorine. If these vapors are inhaled, monitor patient closely for delayed development of pulmonary edema which may occur up to 48-72 hours post-inhalation. Following ingestion, neutralization and use of activated charcoal is not indicated. Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

Fire Hazard: Negligible fire hazard. Avoid evaporation to dryness. Dried material can ignite upon contact with combustibles. This product may represent an explosion hazard if it contacts acids, chlorine, or organic materials (Refer to Section 10).

Extinguishing Media: Use extinguishing agents appropriate for surrounding fire.

Fire Fighting: Wear NIOSH approved positive-pressure self-contained breathing apparatus. 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. Cool containers with water spray until well after the fire is out. Flood with fine water spray. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

Hazardous Combustion Products: Chlorine, Oxides of sodium

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 applicable

6. ACCIDENTAL RELEASE MEASURES

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

Personal Precautions:

Isolate hazard area and deny entry. Keep unnecessary and unprotected personnel from entering the area. Avoid contact with skin and eyes. Do not breathe vapors, fumes or mist. Wear appropriate personal protective equipment recommended in Section 8 of the SDS.

Methods and Materials for Containment and Cleaning Up:

Contain spill. Spilled materials may be absorbed using non-combustible and non-organic commercial absorbents. Dampen 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. Keep collected material damp and put into drums. Dried material can ignite upon contact with combustibles. Dispose of promptly. Dispose of in accordance with all applicable regulations.

Environmental Precautions:

This material is harmful to aquatic life. 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. See Section 12 for additional ecological information.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

Do not taste or swallow. Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or mist when opening container. Avoid creation of vapor or mist. Wash thoroughly after handling. Use clean utensils. Do not add the product to any dispensing device containing residuals of other products. Contamination may start a chemical reaction with generation of heat, liberation of hazardous gases (chlorine dioxide a poisonous, explosive gas), and possible fire and explosion. Do not contaminate with acids, reducing agents, combustible materials, oxidizing materials, hypochlorite, organic solvents and compounds, garbage, dirt, organic matter, household products, chemicals, soap products, paint products, vinegar, beverages, oils, pine oil, dirty rags, sulfur-containing rubber, or any other foreign matter. Dried material can ignite upon contact with combustibles.

Safe Storage Conditions:

Store and handle in accordance with all current regulations and standards. Store in tightly closed, labeled containers away from combustible materials. Store in a cool, dry area. Store in a well-ventilated area. Store below 212 °F (100 °C). Avoid exposure to sunlight or ultraviolet light. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

Incompatibilities/ Materials to Avoid:

acids. reducing agents. combustible material. oxidizing agents. hypochlorite. organic solvents and compounds. garbage. dirt. organic materials. household products. chemicals. soap products. paint products. vinegar, beverages, oils, pine oil, dirty rags, sulfur-containing rubber, or any other foreign matter.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

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

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

OXY REL 8 hr TWA	1 mg/m ³ recommended Time Weighted Average - 8 hour (internal Occupational Exposure Limit) This value is based on potential systemic effects from inhalation of sodium chlorite dust
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- **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.

ENGINEERING CONTROLS: Use only in well-ventilated areas. Provide local exhaust ventilation where vapors, mist or aerosols may be generated.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear chemical safety goggles. Where splashing or spraying is possible, use a face-shield in addition to chemical protective 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. Contaminated clothing should be removed and laundered before reuse. Discard contaminated leather goods.

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

Protective Material Types: Neoprene

Respiratory Protection: A NIOSH approved full-face respirator equipped with N95 (dust, fume, mist) cartridges may be permissible when symptoms have been observed that are indicative of overexposure. If chlorine or chlorine dioxide is present, an acid gas cartridge is also required. An approved self-contained breathing apparatus operated in the pressure demand mode or an airline respirator with escape pack is required when an air purifying respirator is not adequate or for spills / emergencies of unknown concentrations. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state Liquid

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

Appearance:	Slightly cloudy
Color:	Pale, yellow
Odor:	Slight chlorine odor
Odor Threshold [ppm]:	No data available.
Molecular Weight:	90.45
Molecular Formula:	NaClO ₂
Boiling Point/Range:	No data available
Freezing Point/Range:	No data available.
Melting Point/Range:	Not applicable to liquids
Crystallization Temperature:	DUO-BRITE X: -8°C (17.6°F); Technical Sodium Chlorite Solution 24: -8°C (17.6°F); 25 Active Sodium Chlorite: 3°C (37.4°F)
Vapor Pressure:	No data available
Vapor Density (air=1):	No data available
Relative Density/Specific Gravity (water=1):	1.1 to 1.3 @ 25°C
Density:	11.1 lbs/gal @ 35°C
Water Solubility:	Soluble
pH:	>12 @ 25°C
Volatility:	59-85% by volume
Evaporation Rate (ether=1):	No data available
Partition Coefficient (n-octanol/water):	No data available
Flash point:	Not applicable
Flammability (solid, gas):	Not applicable
Lower Flammability Level (air):	Not flammable
Upper Flammability Level (air):	Not flammable
Auto-ignition Temperature:	Not applicable
Viscosity:	No data available

10. STABILITY AND REACTIVITY

Reactivity: Not reactive under normal temperatures and pressures.

Chemical Stability: Stable at normal temperatures and pressures.

Possibility of Hazardous Reactions:

Avoid heat, flames, sparks and other sources of ignition. Avoid evaporation to dryness. Dried material can ignite upon contact with combustibles. Avoid contamination with foreign materials. Avoid exposure to sunlight or ultraviolet light.

Conditions to Avoid:

(e.g., static discharge, shock, or vibration) -. Avoid mechanical shock or impact, if contaminated.

Incompatibilities/ Materials to Avoid:

acids. reducing agents. combustible material. oxidizing agents. hypochlorite. organic solvents and compounds. garbage. dirt. organic materials. household products. chemicals. soap products. paint products. vinegar, beverages, oils, pine oil, dirty rags, sulfur-containing rubber, or any other foreign matter.

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

Hazardous Decomposition Products: Chlorine dioxide is formed on contact with acids, Thermal decomposition products include chlorine and oxides of sodium

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA:

PRODUCT TOXICITY DATA: DUO-BRITE 8, 12, 15, 24, and 25 Active Sodium Chlorite (EPA)

LD50 Oral: 389 - 1800 mg/kg (Rat)	LD50 Dermal: > 2 gm/kg skin-rabbit	LC50 Inhalation: 0.58 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 chlorite 7758-19-2	165 mg/kg (Rat)	107.2 mg/kg (Rabbit)	230 mg/m ³ (4 hr-Rat)
Sodium Chloride 7647-14-5	3 g/kg (Rat)	10 g/kg (Rabbit)	42 g/m ³ (1 hr-Rat)

POTENTIAL HEALTH EFFECTS:

- Eye contact:** Causes serious eye damage. Eye exposures may cause burns to the eye lids, conjunctivitis, corneal edema, and corneal burn. May cause permanent eye damage including blindness. Significant and prolonged contact may cause damage to the internal contents of eye.
- Skin contact:** Causes severe skin burns. May cause redness, irritation, burning sensation, swelling, blister formation, first, second, or third degree burns.
- Inhalation:** Toxic if inhaled. Inhalation may cause coughing, irritation (possibly severe), redness of upper and lower airways, shortness of breath, chemical burns and possibly pulmonary edema. Pulmonary edema may develop several hours after a severe acute exposure.
- Ingestion:** Harmful if swallowed. Ingestion may cause irritation, nausea, and vomiting. Causes significant metabolic issues through oxidation. May induce methemoglobinemia, hemolysis, and intravascular coagulation and renal failure.

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

SIGNS AND SYMPTOMS OF EXPOSURE:

Signs and symptoms of exposure vary, and are dependent on the route of exposure, degree of exposure, and duration of exposure.

Inhalation (Breathing): Breathing (Inhalation): Inhalation of airborne material may cause irritation, redness of upper and lower airways, coughing, laryngeal spasm and edema, shortness of breath, bronchio-constriction, and possible pulmonary edema. Severe and permanent scarring may occur. The pulmonary edema may develop several hours after a severe acute exposure.

Skin: Skin Corrosion: Skin exposure to gas or liquid 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): Ingestion: Exposure by ingestion may cause irritation, nausea, and vomiting. Oxidation may cause significant metabolic issues such as: methemoglobinemia, hemolysis, and intravascular coagulation and renal failure.

CHRONIC TOXICITY:

Sodium chlorite has produced hemolytic anemia in several animal species at concentrations of 100 mg/L or higher. In a subchronic study using rats, hematological alterations included decreased erthrocyte counts, hemoglobin levels, and hemacrit. Methemoglobin levels decreased in females, but increased in males. There is no evidence of kidney effects in humans; however, in animal studies with sodium chlorite, there is limited evidence of kidney effects.

Interaction with Other Chemicals Which Enhance Toxicity: Mixing with ammonia, acids, detergents, or organic matter will release chlorinated compounds, which are irritating to eyes, lungs, and mucus membranes.

GHS HEALTH HAZARDS:

Listed below

GHS: ACUTE TOXICITY - ORAL: Not classified as acutely toxic for oral exposure.

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

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

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

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

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure):

Category 2 - Respiratory System, Blood, Renal system (Kidneys)

SPECIFIC TARGET ORGAN TOXICITY (Repeated or Prolonged Exposure):

Category 2 - Blood, Renal System (Kidneys)

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

MUTAGENIC DATA:

Not classified as a mutagen per GHS criteria. Sodium chlorite has tested positive in some studies. The significance of these test results for human health is unclear because the oxidizing effects of the chlorite or salting effects of sodium may significantly affect the ability of the tests to accurately detect mutagens.

REPRODUCTIVE TOXICITY:

Not classified as a reproductive toxin per GHS criteria. There is limited evidence of male reproductive effects in animal studies.

DEVELOPMENTAL TOXICITY:

Not classified as a developmental or reproductive toxin per GHS criteria. Observations in animal studies include decreased serum levels of thyroid hormones in offspring.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:**Aquatic Toxicity:**

LC50 rainbow trout = 290 mg/l as 80% NaClO₂ (96 hour); bluegill = 265-310 mg/l as 80% NaClO₂ (96 hour); Sheepshead minnow = 62-90 ppm (96 hour).

Invertebrate Toxicity:

LC50 Daphnia Magna = 0.29 mg/L as 80% NaClO₂ (48 hour)

Other Toxicity:

LD50 Mallard duck = 0.49-1.00g/kg as 80% NaClO₂ (gavage);

LD50 Bob White quail = 0.39 - 0.66 g/kg as 80% NaClO₂ (gavage);

Sodium chlorite in the diet of birds was not acutely toxic. Eight-day dietary LC50's in the Mallard duck and Bob White quail were > 5,000 ppm

FATE AND TRANSPORT:

BIODEGRADATION: Chlorite ions are reduced by some bacteria under anaerobic conditions.

PERSISTENCE: This material will eventually degrade to sodium chloride.

BIOCONCENTRATION: This material will not bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Waste from material:

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. Contact with incompatible materials could cause a reaction and fire. Contact Technical Service to obtain neutralization instructions. Keep out of water supplies and sewers. May be subject to disposal regulations.

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

Container Management:

Containers are non-refillable. Do not reuse or refill containers. Offer for recycling if available. Offer for reconditioning if appropriate. Triple rinse or pressure rinse container promptly after emptying. Triple rinse containers 5-gallons or smaller as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Triple rinse containers larger than 5 gallons as follows: Empty remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse about 40 PSI for at least 30 seconds. Drain for 10 seconds, after the flow begins to drip. Container rinsate must be disposed of in compliance with applicable regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT**U.S. DOT 49 CFR 172.101:**

UN NUMBER: UN1908
PROPER SHIPPING NAME: Chlorite solution
HAZARD CLASS/ DIVISION: 8
PACKING GROUP: II
LABELING REQUIREMENTS: 8

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

UN NUMBER: UN1908
SHIPPING NAME: Chlorite solution
CLASS OR DIVISION: 8
PACKING/RISK GROUP: II
LABELING REQUIREMENTS: 8

MARITIME TRANSPORT (IMO / IMDG) Regulated

UN NUMBER: UN1908
PROPER SHIPPING NAME: Chlorite Solution
HAZARD CLASS / DIVISION: 8
Packing Group: II
LABELING REQUIREMENTS: 8

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

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):

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 Registration Number: 5382-43 (DUO-BRITE 24%); EPA Registration Number: 5382-44 (DUO-BRITE 12%); EPA Registration Number: 5382-45 (25 Active Sodium Chlorite)

5382-45

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

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 and skin burns
- Harmful if swallowed
- Irritating to nose and throat
- This product is toxic to fish and aquatic organisms
- Dry sodium chlorite is a strong oxidizing agent. This product becomes a fire or explosive hazard if allowed to dry.
- Mix only into water
- Contamination may start a chemical reaction with generation of heat, liberation of hazardous gases (chlorine dioxide a poisonous, explosive gas), and possible fire and explosion
- Do not contaminate with garbage, dirt, organic matter, household products, chemicals, soap products, paint products, solvents, acids, vinegar, beverages, oils, pine oil, dirty rags, or any other foreign matter

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

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 chlorite 7758-19-2	Not Listed	Not Listed	Not Listed	Listed	1689	corrosive; reactive - second degree

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
Sodium chlorite 7758-19-2	Not Listed	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.

Canada - CEPA Schedule I - Toxic Substance list: Not Listed

Canadian Domestic Substance List (DSL/NDSL): Listed

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

WHMIS - Classifications of Substances:

- D1A - Poisonous and Infectious Material; Materials causing immediate and serious toxic effects - Very toxic material
- D1B - Poisonous and Infectious Material; Materials causing immediate and serious toxic effects - Toxic material
- E - Corrosive material

PCP Registration:

- DUO-BRITE X is registered as a pesticide in Canada under PCP Reg No. 26203 under the product name Sodium Chlorite Solution 24
 - The other products covered by this safety data sheet ARE NOT registered as pesticides in Canada
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16. OTHER INFORMATION

Rev. Date: 13-Jul-2016

Disclaimer:

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

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

Health Rating: 3

Flammability Rating: 0

Reactivity Rating: 1

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

Health Rating: 3

Flammability: 0

Reactivity Rating: 1

DUO-BRITE 8, 12, 15, 24, and 25

SDS No.: 2615 DB X

SDS Revision Date: 13-Jul-2016

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 this Safety Data Sheet available to your employees

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End of Safety Data Sheet