

# Safety Data Sheet

## 1. IDENTIFICATION

### Sodium Chlorite (BugBUST 4322)

**Use:** Generation of chlorine dioxide for sanitizing, oxidizing, disinfectant, bleaching agent  
**Company:** Chemical Research Products Industrial Sales Incorporated  
475 J.P Rizal St., Mahabang Parang, Sta. Maria, Bulacan  
**Telephone No.:** (044) 703 6998  
**Website:** [www.chemicalresearchph.com](http://www.chemicalresearchph.com)

Emergency Information

Chemical Research Technical Tel. No.: (02) 687-6541

## 2. HAZARD(s) IDENTIFICATION

**GHS Classification:** The mixture is classified according to: Regulation EC 1272/2008 [EU-GHS/CLP]  
Acute Toxicity, Oral (Category 4), H302  
Acute Toxicity, Dermal (Category 3), H311  
Skin Corrosive (Category 1B), H314  
STOT RE, Spleen (Category 2), H373  
Aquatic Acute (Category 1), H400

**Label Element:**



**Signal Word:** **Danger**

**Hazard Statement:** Harmful if swallowed.  
Toxic if inhaled.  
Causes serious eye damage.  
May cause damage to organs through prolonged or repeated exposure (blood, kidneys, liver, spleen).  
Causes severe skin burns and eye damage.

### Precautionary Statements

- Prevention:** Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Use only outdoors or in a well-ventilated area. Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not eat, drink or smoke when using this product. Avoid release to the environment
- Response:** If SWALLOWED: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): 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 INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. If exposed: Call a poison center/doctor. Collect spillage.
- Storage:** Store locked up. Store in a well-ventilated place. Keep container tightly closed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS No.	Percentage
Sodium Chlorite	(7758-19-2)	25% min.

### 4. FIRST-AID MEASURES

- Eyes:** Immediately flush with plenty of lukewarm water for up to 20 minutes. Remove any contact lenses and open eyelids wide apart. Continue rinsing. Take care not to raise contaminated water into affected eye. Get medical attention immediately.
- Skin:** Take off immediately all contaminated clothing. Immediately flush skin with plenty of water. Wash contaminated clothing before reuse.
- Ingestion:** Never give anything by mouth if victim is rapidly losing consciousness, or if unconscious or convulsing. Have victim rinse mouth thorough with water. Have victim drink one cup (240-300ml 8-10 oz) to dilute material in stomach. Do not induce vomiting. If vomiting occurs naturally, rinse mouth and repeat administration of water. If breathing has stopped, trained personnel should begin artificial respiration or, if the heart has stopped cardiopulmonary resuscitation (CPR) immediately. Get medical attention immediately.
- Inhalation:** Remove source of contamination or move victim to fresh air. If breathing has stopped, trained personnel should begin artificial respiration or, if the heart has stopped start CPR (cardiopulmonary resuscitation). Get medical attention immediately.

**Most important symptoms/effects, acute and delayed:** Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May be harmful if swallowed. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Can cause severe skin burns. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Prolonged exposure may cause chronic effects. Material is irritating to mucus membranes and upper respiratory tract. Symptoms may include bloody nose and sneezing. High concentrations may cause lung damage.

**General information:** Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

## 5. FIRE-FIGHTING MEASURES

- Extinguishing Media:** Water spray, fog (flooding amounts). Water only; no dry chemical, CO<sub>2</sub> or Halon. This product itself does not burn but combustibles wetted with this solution and subsequently dried are easily ignited and burn vigorously.
- Exposure Hazard:** May intensify fire; oxidizer when dry. Drying of this product on clothing or combustible materials may cause fire.
- Protective Equipment:** Wear full protective clothing and self-contained breathing apparatus exposed to vapors or products of combustion.
- Advice for Firefighters:** Evacuate area. Remove all sources of ignition. In case of fire: Stop leak if safe to do so. Move combustibles out of path of advancing pool if you can do so without risk. Move containers from fire area if you can do so without risk. Fight fire from upwind to avoid exposure to combustion products. In case of fire and/or explosion do not breathe fumes.

## 6. ACCIDENTAL RELEASE MEASURES

- Personal Precaution:** Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.
- Environmental Precaution:** Cover the drains to prevent the product from entering the environment. If product contaminates rivers and lakes or drains inform respective authorities.
- Clean up Methods:** Ventilate the contaminated area. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop the flow of material, if this is without risk. Keep combustibles (wood, paper, oil, etc.) away from spilled

material. Absorb in dry sand or earth and place into containers. Use water spray to reduce vapors or divert vapor cloud drift. Do not let the product dry.

## 7. HANDLING and STORAGE

- Handling:** Use only in a well-ventilated area. Wear chemically resistant protective equipment during handling. Do not breathe mist or vapor. Do not taste or swallow. Keep away from heat. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not let the product dry. When using, do not eat, drink or smoke. Keep away from clothing and other combustible materials. Observe good industrial hygiene practices. Avoid release to the environment.
- Storage:** Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Store in original tightly closed container. Do not store near combustible materials. Do not handle or store near an open flame, heat or other sources of ignition.
- Incompatible Materials:** Wood, rubber, aluminum, copper and alloys.

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

- Personal Protection:** RUBBER BOOTS, GLOVES, APRON, FACE SHIELD.  
The following are recommendations only. It is the responsibility of the employer / user to conduct a hazard assessment of the process in which this product being used and determine the proper engineering controls and PPE for their process. Additional regulatory and safety information should be sought from local authorities and, if needed, a professional industrial hygienist.
- Respiratory Protection:** In case of insufficient ventilation, wear suitable respiratory equipment. A NIOSH/MSHA approved air-purifying respirator with the appropriate chemical cartridges or a positive-pressure, air-supplied respirator may be used to reduce exposure. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134). Seek advice from respiratory protection specialists.
- Eye Protection:** Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

<b>Skin Protection:</b>	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
<b>Other Personal Protection Data:</b>	Where contact is likely, wear chemical-resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield. Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Eye wash facilities and emergency shower must be available when handling this product.
<b>Hygiene Measures:</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL and CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance:	Slightly yellow – yellow green
Odor:	Odorless to slight Chlorine-like or faint bleach-like
Odor threshold:	Not available
pH:	12 - 14
Specific gravity:	1.15 – 1.25
Melting point/range (°C):	-3 °C
Boiling point/range (°C):	100 °C
Vapor Pressure:	20 mmHg @ 20 °C
Water solubility (g/L):	Soluble.
Viscosity:	Not available

## 10. STABILITY and REACTIVITY

<b>Conditions to Avoid:</b>	Keep away from heat, sparks and open flame. Keep away from direct sunlight and contact with incompatible materials. This product may react with reducing agents.
<b>Chemical Stability:</b>	Material is stable under normal conditions. Will decompose if heated. Absorption of atmospheric carbon dioxide may lower the pH of the solution, which will cause it to slowly decompose.
<b>Materials to Avoid:</b>	Acids, acid substances (aluminum sulphate, aluminum chloride, ferric chloride.), wood, cellulose, grease, cotton.
<b>Hazardous Decomposition:</b>	The product decomposes into chlorine dioxide and oxygen under heating and direct sun-light, with risk of bursting of containers. In contact with acid materials (Acids, aluminium polychloride, aluminum sulphate, ferric chloride, etc.) chlorine dioxide is formed, with risk of explosion. Violent exothermic

reaction, development of heat with reducing materials (sodium sulphite). Potentially explosive reaction with combustible materials (wood, cellulose, grease, cotton...).

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Inhalation:** Toxic if inhaled.

**Skin contact:** Causes severe skin burns.

**Eye contact:** Causes serious eye damage/irritation.

**Ingestion:** Harmful if swallowed.

### Delayed and immediate effects and chronic effects from short-term and long-term exposure Effects of short-term (acute) exposure:

Causes serious eye damage, may cause severe irritation and possibly burns. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Causes severe skin burns. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Acute ingestion of large quantities may also cause anemia due to the oxidizing effects of the chemical. Material is irritating to mucous membranes and upper respiratory tract. Symptoms may include coughing, bloody nose and sneezing. High concentrations can cause lung damage. May be harmful if swallowed. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.

**Effects of long-term (chronic) exposure:** Prolonged exposure may cause chronic effects. Dermatitis is likely to occur from repeated or prolonged contact. Other symptoms may include methemoglobinemia (causes bluish discoloration of the skin and mucous membranes). Will irritate and may cause corrosion of the gastrointestinal tract.

### Information on toxicological effects

#### Acute toxicity

Product	Species	Test Results
Sodium Chlorite Solution 25%		
Acute Inhalation		
LC <sub>50</sub>	Rat	0.92 mg/L (Calculated ATE at 25%)
Oral		
LD <sub>50</sub>	Rat	660 mg/kg (Calculated ATE at 25%)

Product	Species	Test Results
Sodium Chlorite Solution 25% Dermal	OECD Guideline 435, “In Vitro Membrane Barrier Test Method for Skin Corrosion”	31.5 min (Average breakthrough time calculated at 25.4%)

Product	Species	Test Results
<b>Sodium Chlorite (CAS 7758-19-2)</b> Acute Inhalation LC <sub>50</sub>	Rat	0.23 mg/L (Mist)
Oral LD <sub>50</sub>	Rat	165 mg/kg

\* Estimates for product may be based on additional component data not shown.

<b>Skin corrosion/irritation:</b>	Can cause severe skin burns.
<b>Serious eye damage/eye irritation:</b>	Can cause serious eye damage/irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization:</b>	Not expected to be a respiratory sensitizer.
<b>Skin sensitizer:</b>	Not sensitizing.
<b>Germ cell mutagenicity:</b>	Not expected to be mutagenic.
<b>Carcinogenicity:</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>Reproductive toxicity:</b>	Not classified as a reproductive toxin.
<b>Specific target organ toxicity - single exposure:</b>	Not classified as a specific target organ toxicity - single exposure.
<b>Specific target organ toxicity - repeated exposure:</b>	Specific Target Organ Toxicity (STOT), Repeated Exposure: blood, kidneys, liver, spleen.
<b>Aspiration toxicity:</b>	Not expected to be an aspiration hazard.
<b>Chronic effects:</b>	Chronic skin contact with low concentrations may cause dermatitis. Prolonged or repeated overexposure may cause blood, liver, spleen and kidney effects.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** toxic to aquatic life. In water and soil, sodium chlorite will eventually degrade to sodium chloride.

Product	Species	Test Results
<b>Sodium Chlorite (CAS 7758-19-2)</b>		
<b>Aquatic</b>		
Acute		
Algae	EC <sub>50</sub>	Green algae ( <i>Selenastrum capricornutum</i> ) 1.2 mg/l
Crustacea	EC <sub>50</sub>	Water flea ( <i>Daphnia</i> ) 0.025 mg/l
Fish	LC <sub>50</sub>	Sheepshead minnow ( <i>Cyprinodon variegatus</i> ) 110 mg/l
Chronic		
Algae	EC <sub>50</sub>	Green algae ( <i>Selenastrum capricornutum</i> ) 1 mg/l

**Persistence and Degradability:**

Biodegradation is not applicable to inorganic substances.

**Bioaccumulative Potential:**

The product itself has not been tested.

**Mobility in the soil:**

In soil, will degrade to sodium chloride but may form chlorine dioxide in contact with acidic soils. Chlorate is an intermediate product of decomposition; it will slowly degrade to chloride.

**Other adverse effects:**

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. DISPOSAL CONSIDERATION

**Disposal of wastes:**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Contaminated Packaging:**

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

**Clean up:**

Do not touch spilled material. Prevent material from entering sewers or confined place. Shovel into clean, dry, labeled containers. Flush area with water. Care should be taken while handling contaminated material.



## 14. TRANSPORT INFORMATION

Shipping Name (TDGR)	UN Number	Hazard	Class Packing Group
Chlorite Solution	UN 1908	8	III

### IATA

UN number	UN 1908
UN proper shipping name	CHLORITE SOLUTION
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine Pollutant	Yes
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft:	Allowed.
Cargo aircraft only:	Allowed.

### IMDG

UN number	UN 1908
UN proper shipping name	CHLORITE SOLUTION
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine Pollutant	Yes
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

## 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

### EU Regulations

Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances.  
Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work.

## Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for the components of this substance.

### Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances(PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).

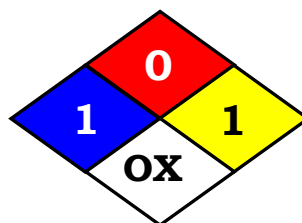
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. OTHER INFORMATION

### HMIS

<b>HEALTH</b>	<b>1</b>
<b>FLAMMABILITY</b>	<b>0</b>
<b>REACTIVITY</b>	<b>1</b>
<b>PERSONAL PROTECTION</b>	<b>X</b>

### NFPA



Relevant classification and H statements (number and full text):

H271 May cause fire or explosion; strong oxidizer.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H310 Fatal in contact with skin.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

Precautionary phrases: Danger!

#### **References**

Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2014 (Chempendium, RTECs, HSDB, INCHEM).

European Chemicals Agency, Classification Legislation, 2014. Material Safety Data Sheet from manufacturer. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2014.

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product. Employers should use this information only as a supplement to other information gathered by them and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.