Product Name : Sodium Chlorite Solution 25%

Part Number : RXSOL-42-1977-030

**Company Details:** 

RX MARINE INTERNATIONAL 105, A wing , BSEL , TECH PARK. VASHI ,NEW BOMBAY 400703 INDIA

Branch: Kandla, Mumbai, Chennai, Vizag, Kolkata, UAE, OMAN and CANADA

Phone +91 22 20871200 - 1400

Fax +91 22 2761 2100 :::AOH :0091 9821214367

Email <u>123@rxmarine.com</u>
Website <u>www.rxmarine.com</u>

### 2. Composition / Information on ingredients

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Name of Substance Cas Number

Sodium Chlorite 7758-19-2
Sodium Hydroxide 1310-73-2
Sodium Carbonate 497-19-8
Non Hazardous Compound Proprietory

### 3. Hazards Identification

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Signal Word Danger

Hazard Statements H302 Harmful if swallowed.

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.

H412 Harmful to aquatic life with long lasting effects. EUH032 Contact with acids liberates very toxic gas.

Precautionary statements - P260 Do not breathe vapour/spray.
prevention P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements - response P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin

with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if

present and easy to do. Continue rinsing.

P391 Collect spillage. P405 Store locked up.

P501 Dispose of contents/container in accordance with national regulations.

### 4. First Aid Measures

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Eye Contact

Hold eye open and rinse slowly and gently with present, after the first five minutes, then continue and the state of the s

breathing becomes difficult.

Ingestion:

If swallowed, call a poison control center or doctor drink plenty of water.

General Advice

Chlorine dioxide vapors are emitted when this prinhaled, monitor patient closely for delayed development and the second second

### 5. Fire-fighting Measures

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Flamibility / Flash point

Suitable extinguishing media

Protective Equipment

Not Applicable

Extinguish with carbon dioxide, dry chemical, foa

Use personal protective equipment.

Hazardous combustion products

Disodium oxide. Hydrogen chloride. Oxygen. Co chlorine donors will produce chlorine dioxide ga

keep the chlorine dioxide concentration low.

Advice for firefighters

As in any fire, wear self-contained breathing appa

Specific extinguishing methods

Approach fire from upwind to avoid hazardous quantities of water as fog or spray. This product use water spray to keep fire-exposed containers of fire. Firefighters should wear full protective cloth positive pressure self-contained breathing apparatu

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and upwind of spill/leak. Wear appropriate protect

section 8 of the SDS. DO NOT USE RAGS, SAV

Notify all downstream water users of possible con

open flame, sources of heat or sources of ignition

### 6. Accidental Release Measures

# Personal precautions, protective equipment and emergency procedures Immediately evacuate personnel to safe areas. Ke

touch damaged containers or spilled material authorities should be advised if significant spill

Environmental Precaution Avoid release to the environment. Avoid dischar

Methods and materials for Isolate spill area and deny entry to unnecessary of containment and cleaning up such as flames, hot glowing surfaces or electric appropriate personnel. Cleanup personnel must

## 7. Handling and Storage

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Advice on safe handling

Use only in a well-ventilated area. Wear chemical breathermist or vapor. Do not taste or swallow. Keeping the same of the sam

product dry. When using, do not eat, drink or s materials. Observe good industrial hygiene practic Storage

Store in a cool, dry place out of direct sunlight. clearly identified, clear of obstruction and access from incompatible materials (see Section 10 of the store near combustible materials. Do not handle

Advice on general occupational hygiene

Use good work and personal hygiene practices to
Wash hands before eating, drinking or smoking R

### 8. Exposure controls and personal protection

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**Engineering Controls** 

Personal Protection

Exposure Conrol

Hygiene measures





Gloves

Suit

Good general ventilation (typically 10 air changes matched to conditions. If applicable, use process er controls to maintain airborne levels below recomm established, maintain airborne levels to an accept system to capture mist or fume. Do not use wood entry into bearings or gear boxes, which could cause

**Eye/face protection :** Wear safety glasses with semergency eye wash fountain and quick drench she **Skin protection:** 

Hand protection Gloves impervious to the materia gloves. Advice should be sought from glove supplic **Respiratory protection**: In case of insufficien NIOSH/MSHA approved air-purifying respirator pressure, air-supplied respirator may be used to respirator if there is any potential for an uncontrol circumstances where airpurifying respirators may selected based on the form and concentration of a CFR 1910.134). Seek advice from respiratory protections.

All chemical Personal Protective Equipment (PPE chemical hazard present and the risk of exposure based on an assessment of the chemical hazards a in a mixture with other products or fluids, add assessment of risk may be required. The risk of from workplace to workplace and should be assess

Keep from contact with clothing and other corclothing promptly. Upon completion of work, wash facilities. When using do not smoke. Always observed the handling the material and before eating, drink protective equipment to remove contaminants.

# 9. Physical and chemical properties

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Form Liquid

Apperance Clear, water white to slightly yellow

Odour Faint bleach-like odour

Odor threshold Not applicable Flash Point Not Determine Boiling Point  $106 \,^{\circ}\text{C} \, (1013 \, \text{hPa})$  Freezing Point  $3^{\circ}\text{C} \, (37.4^{\circ}\text{F})$  pH 11-13

Evaporation rate No information available

Flammability (solid, gas)

Upper explosion limit

No data available

Lower explosion limit

No data available

Explosive properties No data available Vapor pressure 19.87 hPa (20?)

Vapor density No information available 1.28 - 1.31 @ 20°C Specific gravity Relative density Not Availabe Water solubility Miscible in water Solubility in other solvents No data available Partition coefficient: octanol No data available Autoignition temperature No data available Thermal decomposition No data available No data available Viscosity, kinematic Explosive properties No data available Oxidizing properties No data available Dynamic viscosity No data available

Formula NaClO2 Molecular Weight 90.45

### 10. Stability and reactivity

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Recativity Not reactive under normal temperatures and pressures

Stability Stable in itself, but reactive as detailed below.

Avoid heat, flames, sparks and other sources of ignition. Avoid evaporation to dryness. Dried material can ignite up Possibility of hazardous reactions

combustibles. Avoid contamination with foreign materials. Avoid exposure to sunlight or ultraviolet light.

acids. reducing agents. combustible material. oxidizing agents. hypochlorite. organic solvents and compounds.garbag Incompatible materials

materials. household products. chemicals. soap products. paint products. vinegar, beverages, oils, pine oil, dirty rags, st

Chlorine dioxide is formed on contact with acids, Thermal decomposition products include chlorine and oxides of sodius

Keep away from heat, sparks and open flame. Keep away from direct sunlight and contact with incompatible material

rubber, or any other foreign matter.

Hazardous Decomposition

Condition to Avoid

may react with reducing agents.

Polymerization Hazardous polymerization does not occur.

### 11. Toxicological information

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#### Acute toxicity INHALATION

Inhalation may cause irritation of the mucous membranes and respiratory tract. Symptoms may include coughing, bloody nose, and sneezing. Severe overexposures may cause lung damage.

#### ANIMAL TOXICOLOGY

Inhalation LC50: No available data Dermal LD50: > 2 g/kg (rabbit) Oral LD50: 165 mg/kg (rat)

#### CHRONIC TOXICITY INHALATION

There is no available data on the chronic effects of inhaling sodium chlorite.

#### **SKIN**

There are no studies or reports on the repeated effects of dermal exposure to sodium chlorite. Because of the acute effects, repeated direct contact may be unlikely

#### INGESTION

The chronic ingestion of low concentrations of this product has been studied in laboratory animals. Concentrations in the drinking water of 100 ppm and higher have been shown to cause mild anemia and a minor suppression of thyroid functions in laboratory animals. All effects were reversible after cessation of treatment. Clinical studies of communities using sodium chlorite as a disinfectant found no adverse effects in the human population studied. However, other studies have suggested that those individuals deficient in an enzyme (G6PD) utilized in hemoglobin synthesis might be susceptible to the development of anemia if exposed repeatedly. Repeated exposures to solutions of chlorine dioxide at concentrations of 10-100 ppm have produced slight effects upon the thyroid in younger animals and the hematologic system. Exposures to these concentration can reduce the cellular and blood levels of glutathione, an agent which is protective against the oxidizing effect of

this chemical. Exposure of laboratory animals above 100 ppm in the drinking water have shown a decrease in blood cell glutathione, red blood cell count and hemoglobin. In some studies these levels also caused a slight decrease in thyroid hormones, especially in younger animals.

#### **CARCINOGENICITY**

Sodium chlorite is not listed by NTP, IARC, OSHA, EPA, or any other authority as a carcinogen. Carcinogenicity studies conducted in mice and rats did not show an increase in tumors in animals exposed to sodium chlorite in their drinking water.

#### MUTAGENICITY

Sodium chlorite has been evaluated for possible mutagenic effects in several laboratory tests. Sodium chlorite tested positive in the Ames Salmonella reverse mutation assay without metabolic activators and caused chromosomal aberrations in an in vitro Chinese hamster fibroblast cell line without metabolic activators. Sodium chlorite also tested positive in the mouse micronucleus assay when administered intraperitoneally (directly into the body cavity), but was not mutagenic when administered orally. 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 Sodium chlorite has not been found to be teratogenic in studies in which animals have been exposed up to 100 ppm in the drinking water. Male rats repeatedly exposed to concentrations of 100 ppm or greater in the drinking water have shown slight effects on sperm motility. No effects were observed at 10 ppm and no effects were observed on fertility rate, histology of the male reproductive system or conception rate of animals exposed at 10 ppm or higher. The CMA conducted a two-generation reproductive rat study with developmental neurotoxicity to evaluate the effects of sodium chlorite on reproduction and pre- and postnatal development when administered orally via drinking water for two successive generations. Sodium chlorite was administered at 0, 35, 70, and 300 ppm in drinking water to male and female Sprague Dawley rats for ten weeks prior to mating. Dosing continued during the mating period, pregnancy and

lactation. The final report concluded that there were no meaningful treatment related effects at any dose level for systemic, reproductive/ developmental, and developmental neurological end points. Hematological effects and reduced body weight gains were observed in some treatment groups.

Aspiration hazard

Not applicable.

Other information

Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

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Toxicity

This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to the discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority.

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 Acute TL50 for Rainbow Trout: 50.6 mg/l (as 80% NaClO2)

Acute LC50 (96 Hours) for Rainbow Trout: 290 mg/l (as 80% NaClO2)

Acute TL50 for Bluegill: 208 mg/l (as 80% NaClO2)

Acute LC50 (96 Hours) for Bluegill: 265-310 mg/l (as 80% NaClO2) Acute LD50 Mallard Ducks: 0.49-1.00 g/kg (gavage) (as 80% NaClO2) Acute LD50 Bobwhite Quail: 0.66 g/kg (gavage) (as 80% NaClO2) Acute LC50 (48 Hours) for Daphnia Magna: 0.29 mg/l (as 80% NaClO2)

Sodium chlorite in the diet of birds was not acutely toxic. Eight-day dietary LC50's in mallard ducks

and

bobwhite quail were both greater than 10,000 ppm in the diet

Biodegradatio

This material is inorganic and not subject to biodegradation; however, chlorite ions are reduced by

some bacteria under anaerobic conditions.

This material will eventually degrade to sodium chloride.

Persistence

This material will eventually degrade to sodium chloride.

### 13. Disposal considerations

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Remarks

Waste Disposal

Dispose in accordance with all applicable regulating partially filled containers into the trash or waste concause a reaction and fire. Contact Technical Serve water supplies and sewers. May be subject to dispose

The product should not be allowed to enter drains, preferred to disposal or incineration. If recycling i regulations. Dispose of wastes in an approved waste

### 14. Transport information

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Regulatory Information	UN Number	Proper Shipping Name	Classes	Packing Group	Other Information
DOT Classification	UN1908	Chlorite solution	8	II	Marine Pollutant A3, A6, A7, B2, IB2, N34, T7, TP2, TP24
IMDG Class	UN1908	Chlorite solution	8	II	Marine Pollutant Emergency schedules (EmS) F-A, S-B
IATA-DGR Class	UN1908	Chlorite solution	8	П	Marine Pollutant Passenger aircraft 851: 1 L Cargo aircraft 855: 30 L

## 15. Regulatory information

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Regulations

International inventories

**OSHA REGULATORY STATUS:** 

This material is considered hazardous by the OSHA F 1910.1200)

1910.1200)

CERCLA SECTIONS 102a/103 HAZARDOUS SUE

Not regulated.

SARA EHS Chemical (40 CFR 355.30)

Not regulated

EPCRA SECTIONS 311/312 HAZARD CATEGOR

Acute Health Hazard

EPCRA SECTION 313 (40 CFR 372.65):

Not regulated.

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.11

Not regulated

WORKPLACE HAZARDOUS MATERIALS INFO

CLASSIFICATION

WHMIS Classifications applicable to this product:

E (Corrosive Material) based on assignment to TDG (

CANADIAN ENVIRONMENTAL PROTECTION A

All components of this product are on the Domestic S

HAZARDOUS PRODUCTS ACT

This product has been classified in accordance with the

Products Regulations (CPR)

EINECS No.: 231-836-6

STATE REGULATIONS

**CALIFORNIA PROPOSITION 65** 

Sodium Chlorite does not appear on the California Pr

Europe

16. Other information

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Other Information

The information above is believed to be accurate available to us. However, we make no warranty of implied, with respect to such information, and we should make their own investigations to deterparticular purposes. In no event shall be liable for ar for lost profits or any special, indirect, incidental, arising, even if **RX Marine International** has been

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