Material Safety Data Sheet

Chlorine Dioxide (RXSOL-60-6652-025)

1. Product and Company Identifaction

Porduct Name	Chlorine Dioxide
Part Number	RXSOL-60-6652-025

Company Details:

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

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

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2. Composition / informationon ingredients

Chemical Name	Cas No	EC No	%	Formula
Sodium Chlorite	7758-19-2	231-836-6	80+/-1%	$NaClO_2$

3. Hazards Identification

Signal Word	Danger
Hazard Statements	H271 May cause fire or explosion: strong oxidizer. H301 Toxic if swallowed. H310 Fatal in contact with skin H314 Causes severe skin burns and eye damage. H373 May cause damage to organs through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	P221 Take any precaution to avoid mixing with combustibles. P260 Do not breathe dust/fume/gas/mist/vapors/spray. P280 Wear protective gloves/protective clothing/eye protection/ face protection. P284 (in case of inadequate ventilation) Wear respiratory protection.
Other hazard	No data available

4. First Aid Measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible). In case of contact with clothing: Remove clothing immediately. Submerge in water to prevent the possibility of a fire. Wash shoes with wate
Eye Contact	Immediately rinse with water for at least 30 minutes while holding the eyelids wide open. Immediately call a POISON CENTER or doctor/physician. Continue rinsing eyes during transport to hospital
Swallowed	Do NOT induce vomiting. Seek medical attention immediately.
Skin Contact	Take off contaminated clothing and shoes immediately. Flush skin with soap and plenty of water. Immediately call a POISON CENTER or doctor/physician
Inhalation	Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Seek medical attention immediately. If not breathing, give artificial respiration
Ingestion	No data available
Most important symptoms and effects, both acute and delaye	No data available
Indication of any immediate medical attention and special treatment needed	If you feel unwell, seek medical advice (show label where possible).

5. Fire-fighting Measures

Flammability	No data available
Suitable extinguishing media	Water. Form curtains of water to absorb the gases that are generated in the combustion. Keep containers and deposits cool, spraying them with water if exposed to the fire. If feasible, remove the combustible agent. Remove the containers from the area of fire, if this does not entail risk.
Unsuitable extinguishing media	CO2 powder (powdered dry ice), foam (organic products)
Hazardous combustion products	Chlorine, oxygen, and hydrochloric acid.
Protective Equipment	No data available
Specific Hazard Arising from the Chemical	This product is not flammable or explosive. If it reaches 175 degrees C it decomposes to chlorine and chlorate. Subsequent decomposition of the chlorate produces oxygen which may give rise to the explosion or bursting of closed containers.
Advice for firefighters	Self contained breathing equipment. Individual protective equipment (gloves and suitable clothing). Seek location with your back against the wind

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Avoid contact with the eyes, skin and clothing. Do not act without appropriate protective equipment.
Spillage	No data available
Personal Protection	No data available
Enviromental Precaution	Recover the whole product that is possible in a clean dry plastic or metallic container. Following product recovery, flush area with water. If spill could potentially enter any waterway, including intermittent dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC at 800-424-9300 (in USA) or (international code) + 1-703-527-3887.
Methods and materials for containment and cleaning	Absorb any spillage using sand, earth or clay. Wash the area with plenty of water. Take the absorbent products to a safe storage for treatment by expert personnel in handling the product or an authorized waste handler.
Reference to other sections	See heading 8, Exposure Controls and Personal Protection.

7. Handling and Storage

Advice for safe handling	Avoid the formation of sparks. Avoid mixing with incompatible products (acids, acid materials, combustible materials, oils, greases, etc.). Avoid dust formation.
Hygiene measures	Handle in accordance with good industrial hygiene and safety procedures. Always wash your hands immediately after handling this product, and once again before leaving the workplace. Provide good ventilation in process area to prevent formation of vapor. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke in the areas where product is used
Technical measures	Observe all regulations and local requirements regarding storage of containers
Storage conditions	Store in a dry, cool and well ventilated place. Keep containers closed when not in use. Store away from heat sources, ignition sources, direct sunlight, incompatible materials, combustible materials.. Storage areas should be periodically checked for corrosion and integrity. Usable materials for containers are Polyester, PVC, stainless steel, or coated steel
Incompatible materials	Wood, rubber, aluminum, copper and alloys

8. Exposure controls and personal protection

Enviornmenta exposure control	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Avoid the emission of dust to the atmosphere.
Engineering Control	Use adequate ventilation to keep a low concentration in air.
Personal Protective Equipment	Avoid all unnecessary exposure. In the event of emission of sodium chlorite powder, use mas with a dust filter (EN 143 P2 or P3). In the event of formation of chlorine dioxide use breathing protection mask with filter for inorganic gases (Chlorine) for low concentrations, for higher concentrations use self contained breathing equipmen

Protective clothing	Wear suitable protective clothingImpermeable protective gloves. Nitrile rubber, PVC (do not use leather or rubber)
Eye/face protection	Chemical goggles.
Skin and body protection	Wear suitable protective clothing. Chemical resistant suit.
Respiratory protection	Use a NIOSH approved respirator or self contained breathing apparatus whenever exposure may exceed established Occupations Exposure Limits. Where risk assessment shows air purifying respirators are appropriate use a full face particle respirator type N100.
Other Protection Measure	Do not eat, drink or smoke during use.

9. Physical and chemical properties

Physical state	Solid Powder
Colour	White
Odour	Odorless
Odor Threshold	No data available
pH	12-13
Melting Point	Decomposes before melting
Boiling Point	No data available
Flash Point	No data available
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Explosive limits	No data available
Upper/lower flammability or explosive limits	No data available
Autoignition temperature	No data available
Decomposition temperature	180-200 degrees C
Vapour pressure	No data available
Viscosity	No data available
Density	No data available
Relative Density	No data available
Specific Gravity	No data available
Partition coefficient	No data available
Explosive properties	No data available
Solubility	572 g/L at 20 degrees C
Ignition temperature	No data available
Particle characteristics	No data available

10. Stability and reactivity

Reactivity	No data available
Chemical stability	Stable under recommended handling and storage conditions (see section 7)
Possibilityof hazardous reactions	Violent exothermic reaction, development of heat with reducing materials (sodium sulfite). Potentially explosive reaction and fire with combustible materials (wood, cellulose, grease, cotton).
Conditions to avoid	Direct sunlight, moisture, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.
Incompatible materials	Acids, acid substances (Aluminum sulfate, aluminum chloride, ferric chloride), wood, cellulose, grease, cotton.
Hazardous product dicomposition	This product decomposes into chloride and sodium chlorate under heating and direct sun-light. The subsequent decomposition of chlorate releases oxygen with risk of bursting containers. In contact with acid materials (acid, aluminum sulfate, aluminum chloride, etc.) chlorine dioxide is formed with risk of explosion.

11. Toxicological information

Acute toxicity	Toxic if swallowed. Fatal in contact with skin. Fatal if inhaled. Acute (oral) LD50 284 mg/kg body weight (Rats) (OECD 401) Acute (dermal) LD50 134 mg/kg body weight (rabbit) (EPA OPP 81-2) LC50 inhalation: An acute inhalation toxicity study is not required since exposure of humans via inhalation is unlikely taking into account the vapor pressure of the substance and/or the possibility of exposure to aerosols, particles or droplets of an inhalable size.
Skin corrosion/irritation	skin corrosive Category 1B: Causes severe skin burns and eye damage. Corrosive (rabbit: necrosis is observed in two animals) (EPA No 158.81-5
Serious eye damage/irritation	Irreversible effects in the eye: Category 1: Causes serious eye damage. Damage observed in rabbits
Respiratory or skin sensitization	No data available
Carcinogenicity	No data available
Germ cell mutagenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Additional Information	No data available

12. Ecological information

Persistence and degradability	Readily biodegradable
Toxicity to fish	LC50 Fish 106mg/l (96h. Oncorhynchus mykiss) 105mg/l (96h, Cyprinodon variegatus)
Toxicity to daphnia and other aquatic invertebrates	No data available
Toxicity	No data available
Bioaccumilation potential	Sodium Chlorite is highly water soluble with an extremely low Log Pow. Therefore, the substance has a low potential for bioaccumulation. Due to its extremely low lipophilicity and high instability in water, sodium chlorite and hence chlorine dioxide are not expected to bioaccumulate.
Toxicity to bacteria	No data available
Toxicity to algae	EC50 Selenastrum capricornutum 1mg/l: 96hrs.)
Products Biodegradation	No data available
Mobility in soil	No data available
Results of PBT av PvB assessment	No data available
Endocrine disrupting properties	No data available
Other adverse effects	Avoid release to the environment

13. Disposal considerations

Waste water method	Dispose of waste material in accordance with all local, regional, national, and international regulations. Hazardous waste due to toxicity
Sewage disposal recommendations	Do not dispose of waste into sewer. Do not empty into drains; dispose of this material and its container in a safe way. Avoid release to the environment.

14. Transport information

UN number	ADR/RID:1496	IMDG:1496	IATA:1496
UN proper shipping name	ADR/RID:Sodium Chlorite	IMDG:Sodium Chlorite	IATA:Sodium Chlorite
Transport hazard classess	ADR/RID:5.1	IMDG:5.1	IATA:5.1
Packaging group	ADR/RID:ll	IMDG:ll	IATA:ll
Environmental hazards	ADR/RID:Yes	IMDG:Yes	IATA:Yes
Special precautions for user	No data available		

Further information	No data available

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture	This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006
Other regulations	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Chemical Safety Assessment	For this product a chemical safety assessment has been carried out

16. Other information

Other Information	The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and weassume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rx Marine International has been advised of the possibility of such damages. DISCLAIMER OF LIABILITY :The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.