Material Safety Data Sheet

Chlorine Powder (RXSOL-31-3028-020)

1. Product and Company Identifaction

Product Name	RXSOL-31-3028-020
Product Type	Chlorine Powder

Company Details:

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

Stock Point : Mumbai, Kandla, Chennai, Visakhapatnam, Kolkata, Fujairah, Oman, Kenya, Canada

Phone	+91 22 27815541 / 42
Fax	+91 22 2781 1318 :::AOH :0091 9821214367
Email	care@rxmarine.com

2. Composition / informationon ingredients

Hazardous Ingredients	% by Weight	Cas No.
Calcium Hypochlorite	60-80%	7778-54-3
Sodium Chloride	10-20%	7647-14-5
Calcium Chloride	0-5%	10043-52-4
Calcium Hydroxide	0-4%	1305-62-0
Calcium Carbonate	0-5%	471-34-1
Calcium Chlorate	0-5%	10137-74-3
Water	5.5-10%	7732-18-5

3. Hazards Identification

Inhalation	Dust and mist irritate the nose and throat. In confined areas, mechanical agitation can result in high levels of dust, and reaction with incompatibles materials (e.g., acids and water/moisture) can result in high concentrations of chlorine vapour, either of which may result in burns to the respiratory tract, producing lung edema, shortness of breath, wheezing, choking, chest pains, impairment of lung function, and possible permanent lung damage.
Skin Contact / Absorption	Calcium hypochlorite dust and solutions can cause irritation and in severe cases, chemical burns, which are characterized by redness, swelling, and scab formation. Moisture from perspirations will accelerate tissue destruction.
Eye Contact	Exposure to calcium hypochlorite can cause eye irritation and vision impairment. Contact can produce impairment of vision and corneal damage.
Ingestion	When ingested, there will be burning of the mouth and throat. Can cause abdominal cramps, vomiting, diarrhea, nausea, and/or tissue ulceration which may lead to convulsions, coma, and even death.
Exposure Limits	Ceiling= 3mg/m3 as chlorine (manufacturer's internal standard)

4. First Aid Measures

Inhalation	Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.
Skin Contact / Absorption	Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.
Eye Contact	Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.
Ingestion	Immediately give large amounts of water. Do not induce vomiting. If vomiting occurs, lean victim forward to prevent breathing in vomitus. Do not give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention.
Additional Information	Not available

5. Fire-fighting Measures

Conditions of Flammability	Non-flammable. Note calcium hypochlorite is a strong oxidizing agent; may form explosive mixtures with combustibles, organic, or other oxidizable materials.
Means of Extinction	Drench with water, and cool surrounding products and area with water. Avoid dry extinguishers containing ammonium compounds.
Flash Point	Not Applicable
Auto-ignition Temperature	Not Applicable
Upper Flammable Limit	Not Applicable
Lower Flammable Limit	Not Applicable
Hazardous Combustible Products	Chlorine, oxygen, and chlorine monoxide at higher temperatures. Water in contact with hot calcium hypochlorite can release hydrochloric acid or chlorine gas.
Special Fire Fighting Procedures	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
Explosion Hazards	Not sensitive to mechanical impact or static discharge.

6. Accidental Release Measures

Leak / Spill.	Wear appropriate personal protective equipment. Ventilate area. Stop or reduce leak if safe to do so. Prevent material from entering sewers. Flush with water to remove any residue. .
Deactivating Materials	Not available

7. Handling and Storage

Handling Procedures	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.
Storage Requirements	Store in a cool, dry, well-ventilated place. Keep container tightly closed, and away from incompatible materials. Keep out of the sun. .

8. Exposure controls and personal protection

Protective Equipment	
Eyes	Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
Respiratory	Use NIOSH-approved respirator - full facepiece with chlorine and dust/mist cartridges when dust is present. Use a self-contained breathing apparatus should be used for major spills
Gloves	Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
Clothing	Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse
Footwear	Impervious boots of chemically resistant material should be worn at all times
Engineering Controls	
Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure, and control of process conditions should be provided. Supply sufficient replacement air to make up for air removed by exhaust systems
Other	Emergency shower and eyewash should be in close proximity

9. Physical and chemical properties

Physical State	Solid
Odor and Appearance	White, TABLET solid with a strong chlorine odour
Odor Threshold	~ 1.4 mg/m3 based on chlorine
Specific Gravity (Water=1)	Specific Gravity (Water=1)
Vapor Pressure (mm Hg, 20C)	not applicable
Vapor Density (Air=1)	Not available.
Evaporation Rate	Not available.
Boiling Point	not applicable

Freeze/Melting Point	Decomposes at 170-180°C
pH	10.4-10.8 (1% solution)
Water/Oil Distribution Coefficient	Not applicable
Bulk Density	0.8 g/cm3
% Volatiles by Volume	Not available
Solubility in Water	18% at 25°C
Molecular Formula	Ca(OCl)2
Molecular Weight	142.98

10. Stability and reactivity

Stability	Stable in optimum storage conditions. Heat, sunlight and contamination could cause decomposition
Incompatibility	Acids, reducing agents, combustible materials such as wood, cloth, or organic materials, dry powder fire extinguishers containing monoammonium phosphate, metals such as iron and copper and their alloys, water or steam, ammonia, urea, amines
Hazardous Products of Decomposition	Water in contact with calcium hypochlorite releases chlorine gas. Contact with incompatibles presents an explosion and fire hazard. Toxic or corrosive fumes may be liberated. These include chlorine gas
Polymerization	Will not occur

11. Toxicological information

Irritancy	Causes irritation and burns to eyes and skin
Sensitization	Not available
Chronic/Acute Effects	Skin irritation may occur from repeated or prolonged skin contact. Chronic inhalation exposure may cause impairment of lung function and permanent lung damage. Asthma, respiratory and cardiovascular disease may be aggravated by exposure to this chemical
Synergistic Materials	Not available

Animal Toxicity Data	LC50(inhalation,rat,1 hour)= 1300mg/m3 based on chlorine LD50(oral,rat)= 850mg/kg LD50(dermal,rabbit)= > 2000mg/kg
Carcinogenicity	Not considered to be carcinogenic as per IARC, NTP, OSHA, and ACGIH.
Reproductive Toxicity	Not reported to show reproductive toxicity.
Teratogenicity	Results in laboratory analysis show it is not a tetrogen
Mutagenicity	Results in laboratory analysis show it is not a mutagen

12. Ecological information

Fish Toxicity	LC50(bluegill,96 hour)= 0.088mg/L LC50(rainbow trout,96 hour)= 0.16mg/L LC50(daphnia magna,48 hour)= 0.11mg/L
Biodegradability	Not available
Environmental Effects	Not available

13. Disposal considerations

Waste Disposal	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

14. Transport information

DOT Classification	CLASS 5.1: Oxidizing material.
Identification	Calcium hypochlorite, dry : UN1748 PG: II
Special Provisions for Transport	Not available.

15. Regulatory information

Federal and State Regulations	Pennsylvania RTK: Calcium hypochlorite Massachusetts RTK: Calcium hypochlorite TSCA 8(b) inventory: Calcium hypochlorite CERCLA: Hazardous substances.: Calcium hypochlorite
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
Other Classifications	
WHMIS (Canada)	CLASS C: Oxidizing material. CLASS E: Corrosive solid.
DSCL (EEC)	R22- Harmful if swallowed. R38- Irritating to skin. R41- Risk of serious damage to eyes.
HMIS (U.S.A.)	Health Hazard: 3

	Fire Hazard: 0
	Reactivity: 2
	Personal Protection: j
National Fire Protection Association (U.S.A.):	Health: 3
	Flammability: 0
	Reactivity: 1
	Specific hazard:
Protective Equipment:	Gloves. Lab coat. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

16. Other information

The information contained in this safety data sheet is given in good faith. It is accurate to the best of our knowledge and belief and represents the most up to date information. The information given in this data sheet does not constitute or replace the users own assessment of workplace risk as required by other health and safety legislation.