Material Safety Data Sheet

Muriatic Acid (RXSOL-19-2205-220)

1. Product and Company Identifaction

Product Name	RXSOL-22-2205-220
Product Type	Muriatic Acid

Company Details:

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

Stock Point : Mumbai, Gandhidham, Chennai, Visakhapatnam, Kolkata, Barka - Muscat, Fujairah, Nairobi, Canada

Phone	+91 22 27815541 / 42
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2. Composition / informationon ingredients

Ingredient	CAS No	Percent	Hazardous
Chlorous Acid	7647-01-0	32 - 38%	Yes
Water	7732-18-5	62 - 68%	No

3. Hazards Identification

Emergency Overview
DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR INHALED.
SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating	3 - Severe (Poison)
Flammability Rating	0 - None
Reactivity Rating	1 - Slight
Contact Rating	4 - Extreme (Corrosive)
Lab Protective Equip	GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code	White (Corrosive)

Potential Health Effects Health hazards given on this data sheet apply to concentrated solutions of hydrochloric acid. Hazards of dilute solutions may be reduced, depending upon the concentration. Degree of hazard for these reduced concentrations is not currently addressed in the available literature.

Inhalation	Corrosive! Inhalation of vapors can cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract, and in severe cases, pulmonary edema, circulatory failure, and death.
Ingestion	Corrosive! Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract. May cause nausea, vomiting, and diarrhea, and in severe cases, death.
Skin Contact	Corrosive! Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and discolor skin.
Eye Contact	Corrosive! Vapors are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage.
Chronic Exposure	Long-term exposure to concentrated vapors may cause erosion of teeth. Long term exposures seldom occur due to the corrosive properties of the acid.
Aggravation of Pre-existing Conditions	Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.

4. First Aid Measures

First aid procedures given apply to concentrated solutions. Exposures to dilute solutions may not require these extensive first aid procedures.

Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Skin Contact	Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire-fighting Measures

Fire	Not considered to be a fire hazard. May react with metals or heat to release flammable hydrogen gas.
Explosion	Not considered to be an explosion hazard.
Fire Extinguishing Media	Water or water spray. Neutralize with soda ash or slaked lime.
Special Information	In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Structural firefighter's protective clothing is ineffective for fires involving hydrochloric acid. Stay away from ends of tanks. Cool tanks with water spray until well after fire is out.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then

absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities.

7. Handling and Storage

Store at room temperature. Store in a dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat and incompatible materials. Do not wash out container and use it for other purposes. When diluting, always add the acid to water; never add water to the acid. When opening metal containers, use non-sparking tools because of the possibility of hydrogen gas being present. Protect from freezing. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. Exposure controls and personal protection

Airborne Exposure Limits	
For Hydrochloric acid	
OSHA Permissible Exposure Limit (PEL)	5 ppm (Ceiling)
ACGIH Threshold Limit Value (TLV)	2 ppm (Ceiling), A4 Not classifiable as a human carcinogen
Ventilation System	A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.
Personal Respirators (NIOSH Approved)	If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece respirator with an acid gas cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator
WARNING	Air purifying respirators do not protect workers in oxygen-deficient atmospheres.
Skin Protection	Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure to prevent skin contact.
Eye Protection	Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and chemical properties

Appearance	Clear, colorless solution.
Odor	Pungent, hydrochloric acid.
Solubility	Infinitely soluble
Specific Gravity	ca. 1.3

pH	For solutions: 0.1 (1.0 N), 1.1 (0.1 N), 2.02 (0.01 N)
% Volatiles by volume @ 21C (70F)	100 (as water and acid)
Boiling Point	ca. 100C (ca. 212F)
Melting Point	ca. 0C (ca. 32F)
Vapor Density (Air=1)	Essentially the same as water.
Vapor Pressure (mm Hg)	Essentially the same as water.
Evaporation Rate (BuAc=1)	Essentially the same as water.

10. Stability and reactivity

Stability	Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products	When heated to decomposition, emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas.
Hazardous Polymerization	Will not occur
Incompatibilities	A strong mineral acid, concentrated hydrochloric acid is highly reactive with strong bases, metals, metal oxides, hydroxides, amines, carbonates and other alkaline materials. Incompatible with materials such as cyanides, sulfides, sulfites, and formaldehyde.
Conditions to Avoid	Heat, direct sunlight, incompatibles.

11. Toxicological information

Muriatic acid: Inhalation rat LC50: 3124 ppm/1H; Oral rabbit LD50: 900 mg/kg. Investigated as a tumorigen, mutagen, reproductive effector. \Cancer Lists\-NTP Carcinogen Ingredient Known Anticipated ARC Category Hydrogen Chloride (7647-01-0) No No 3 Water (7732-18-5) - No -No-None

12. Ecological information

Environmental Fate	
For Muriatic Acid (Concentrated Solutions)	When released into the soil, this material is not expected to biodegrade. When released into the soil, this material may leach into groundwater.
Environmental Toxicity	
For Muriatic Acid (Concentrated Solutions)	This material may be toxic to aquatic life. LC50 Shrimp: 100-300 ppm/48-hr/salt water; LC100 trout: 10 mg/l/24-hr; TLm mosquito fish: 282 ppm/96-hr.

13. Disposal considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport information

Domestic (Land, D.O.T.)

UN

Proper Shipping Name	HYDROGEN CHLORIDE SOLUTION		
UN NO.	1789		
Hazard Class	8	Packing Group	II
Information reported for product/size	210 L		

International (Water, I.M.O.)

Proper Shipping Name	HYDROGEN CHLORIDE SOLUTION		
UN No.	1789		
Hazard Class	8	Packing Group	II
Information reported for product/size	210L		

International (Air, I.C.A.O.)

Proper Shipping Name	HYDROGEN CHLORIDE SOLUTION		
UN No.	1789		
Hazard Class	8	PackingGroup	II
Information reported for product/size	20L		

15. Regulatory information

--------\Chemical Inventory Status - Part 1\---------------------------------

Ingredient	TSCA	EC	Japan	Australia
Hydrogen Chloride (7647-01-0)	Yes	Yes	Yes	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes

--------\Chemical Inventory Status - Part 2\---------------------------------

	--Canada--			
Ingredient	Korea	DSL	NDSL	Phil.
Hydrogen Chloride (7647-01-0)	Yes	Yes	No	Yes

Water (7732-18-5) Yes Yes No Yes

--------\Federal, State & International Regulations - Part 1\----------

-SARA 302- ------SARA 313------

Ingredient RQ TPQ List Chemical Catg.

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Hydrogen Chloride (7647-01-0) 5000 500* Yes No

Water (7732-18-5) No No No No

--------\Federal, State & International Regulations - Part 2\----------

-RCRA- -TSCA-

Ingredient CERCLA 261.33 8(d)

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Hydrogen Chloride (7647-01-0) 5000 No No

Water (7732-18-5) No No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: Yes

SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No

Reactivity: No (Mixture / Liquid)

Australian Hazchem Code: None allocated.
Poison Schedule: None allocated.
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other information

Text of R and S phrase codes used in this safety data sheet:- R34: Causes burns; R37: Irritating to respiratory system.The information provided about the product on this Safety Data Sheet has been compiled from knowledge of the individual constituents The data given here is based on current knowledge and experience. This Safety Data Sheet describes the product in terms of safety requirements and does not signify any warranty with regard to the product's properties The data given here only applies when product used for proper application(s). The product is not sold as suitable for other applications - usage in such may cause risks not mentioned in this sheet. Do not use for other application(s) without seeking advice from manufacturer

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