# Material Safety Data Sheet

**Muriatic Acid 60 Kg** (RXSOL-22-2205-060)

## 1. Product and Company Identifaction

| | |
|---|---|
| Product Name | RXSOL-22-2205-025 |
| Product Type | Muriatic Acid |

Company Details:

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

| | |
|---|---|
| Phone | +91 22 65113333 / 5555 / 9999 |
| Fax | +91 22 2781 1318 :::AOH :0091 9821214367 |
| Email | mail@rxmarine.com |


## 2. Composition / informationon ingredients

| Ingredient | CAS No | Percent |
|---|---|---|
| Muriatic Acid | 7647-01-0 | 30 – 36 |
| The balances of chemical ingredients are not identified as hazardous under OSHA's Hazard Communication Rule 29 CFR 1910.1200. | ---------- | 64-70 |

## 3. Hazards Identification

NFPA RATINGS (SCALE 0-4)

HEALTH = 3
FIRE = 0
REACTIVITY = 0

HMIS RATINGS (SCALE 0-4)

HEALTH = 3
FLAMMABILITY = 0
REACTIVITY = 0

EMERGENCY OVERVIEW

| | |
|---|---|
| COLOR | colorless |
| PHYSICAL FORM | liquid |
| ODOR | pungent odor |
| SIGNAL WORD | DANGER |
| MAJOR HEALTH HAZARDS | CAUSES BURNS TO THE RESPIRATORY TRACT, SKIN, EYES AND |
| GASTROINTESTINAL TRACT | CAUSES PERMANENT EYE DAMAGE. MAY BE HARMFUL OR FATAL IF SWALLOWED. |
| PHYSICAL HAZARDS | May spatter or generate heat when mixed with water. Contact with metals may evolve flammable hydrogen gas. |
| PRECAUTIONARY STATEMENTS | Do not breathe vapor or mist. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Wash thoroughly after handling. Use only with adequate ventilation. |

| | |
|---|---|
| SHORT TERM EXPOSURE | burns, eye damage, blindness |
| LONG TERM EXPOSURE | to our knowledge, no effects are known |
| INGESTION | |
| SHORT TERM EXPOSURE | burns |
| LONG TERM EXPOSURE | ingestion of harmful amounts is unlikely |
| CARCINOGEN STATUS | |
| OSHA | no |
| NTP | no |
| IARC | no |

## 4. First Aid Measures

| | |
|---|---|
| Inhalation | If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. If respiration or pulse has stopped, have a trained person administer Basic Life Support (Cardio-Pulmonary Resuscitation/Automatic External Defibrillator) and CALL FOR EMERGENCY SERVICES IMMEDIATELY. |
| Skin Contact | Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry, and shoes immediately. Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing and shoes before reuse. Discard footwear which cannot be decontaminated. GET MEDICAL ATTENTION IMMEDIATELY. |
| EYE CONTACT | Immediately flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissues. Washing eyes within several seconds is essential to achieve maximum effectiveness. GET MEDICAL ATTENTION IMMEDIATELY. |
| INGESTION | Never give anything by mouth to an unconscious or convulsive person. If swallowed, do not induce vomiting. Give large amounts of water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops. GET MEDICAL ATTENTION IMMEDIATELY. |
| NOTE TO PHYSICIAN | The absence of visible signs or symptoms of burns does NOT reliably exclude the presence of actual tissue damage. Probable mucosal damage may contraindicate the use of gastric lavage. |

## 5. Fire-fighting Measures

| | |
|---|---|
| FIRE AND EXPLOSION HAZARDS | May release toxic gases. |
| EXTINGUISHING MEDIA | Use extinguishing agents appropriate for surrounding fire. |

| | |
|---|---|
| FIRE FIGHTING | Keep unnecessary people away, isolate hazard area and deny entry. Wear NIOSH approved positive-pressure self-contained breathing apparatus. Move containers from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Cool containers with water. |
| SENSITIVITY TO MECHANICAL IMPACT | Not sensitive |
| FLASH POINT | not flammable |
| HAZARDOUS COMBUSTION PRODUCTS | Thermal decomposition products or combustion: hydrogen chloride |

## 6. Accidental Release Measures

OCCUPATIONAL RELEASE: Evacuation of surrounding area may be necessary for large spills. Wear appropriate personal protective equipment recommended in Section 8 of the MSDS. Completely contain spilled material with dikes, sandbags, etc. Shut off ventilation system if needed. Reprocess or reuse if possible. Neutralize with soda ash or dilute caustic soda. Collect with appropriate absorbent and place into suitable container. Liquid material may be removed with a vacuum truck. Keep out of water supplies and sewers. This material is acidic and may lower the pH of the surface waters with low buffering capacity. Releases should be reported, if required, to appropriate agencies. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800) 424-8802 (USA) or (202) 426-2675 (USA).

## 7. Handling and Storage

| | |
|---|---|
| STORAGE | Store and handle in accordance with all current regulations and standards. Store in rubber-lined steel, acid-resistant plastic or glass containers. Keep containers tightly closed and properly labeled. Store in a cool, dry place. Store in a well-ventilated area. Do not store in aluminum container or use aluminum fittings or transfer lines. Dike and vent storage tanks. Keep separated from incompatible substances (see Section 10 of the MSDS). |
| HANDLING | Avoid breathing vapor or mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. When mixing, slowly add to water to minimize heat generation and spattering. |

## 8. Exposure controls and personal protection

| | |
|---|---|
| EXPOSURE LIMITS | Muriatic Acid, ANHYDROUS |
| HYDROGEN CHLORIDE (HYROCHLORIC ACID) | 5 ppm (7 mg/m3) OSHA ceiling, 2 ppm ACGIH ceiling |
| VENTILATION | Use closed systems when possible. Provide local exhaust ventilation where vapor or mist may be generated. Ensure compliance with applicable exposure limits. |
| EYE PROTECTION | Wear safety glasses with side shields. Wear chemical safety goggles with a faceshield or chemical splash hood. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. |
| CLOTHING | Wear chemical resistant clothing and rubber boots when potential for contact with the material exists. Always place plants legs over boots. |
| GLOVES | Wear appropriate chemical resistant gloves. |

| | |
|---|---|
| PROTECTIVE MATERIAL TYPES | neoprene, nitrile, polyvinyl chloride (PVC), rubber, Kappler ® CPF3, Tychem |
| IMMEDIATELY DANGEROUS TO LIFE OR HEALTH | 50 ppm |
| RESPIRATOR | Where vapor concentration exceeds or is likely to exceed applicable exposure limits, a NIOSH approved respirator with acid gas canister is required. When an air-purifying respirator is not adequate for spills and/or emergencies of unknown concentrations, a NIOSH approved self-contained breathing apparatus or airline respirator with full-face piece is required. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator. |

## 9. Physical and chemical properties

| | |
|---|---|
| PHYSICAL STATE | liquid |
| Appearance | Clear. |
| COLOR | colorless |
| Odor | pungent odor |
| MOLECULAR WEIGHT | 36.46 |
| MOLECULAR FORMULA | HCl |
| BOILING POINT | 140-221F (60.0 – 105 C) |
| FREEZING POINT | -29 to 5 F (-34 to –15 C) |
| VAPOR PRESSURE | 14.6 – 80 mmHg @ 20 C |
| VAPOR DENSITY (air = 1) | 1.3 @ 20 C |
| SPECIFIC GRAVITY (water = 1) | 1.05 – 1.18 |
| BULK DENSITY | 8.75 – 9.83 lbs/gal |
| WATER SOLUBILITY | 100% |
| PH | 2 (0.2% solution) |
| VOLATILITY | 9 – 36% by volume |
| ODOR THRESHOLD | 0.3 ppm (causes olfactory fatigue) |
| EVAPORATION RATE | 1.00 (butyl acetate = 1) |

| | |
|---|---|
| COEFFICIENT OF WATER/OIL DISTRIBUTION | n/a |

## 10. Stability and reactivity

| | |
|---|---|
| REACTIVITY | Stable at normal temperatures and pressure. |
| CONDITIONS TO AVOID | Avoid heat, flames, sparks and other sources of ignition. Contact with water may produce a strong exothermic reaction with spattering. Contact with metals may evolve flammable hydrogen gas. Hydrogen chloride may react with cyanide, forming lethal concentrations of hydrocyanic acid. |
| INCOMPATIBILITIES | metals, alkalis (such as sodium hydroxide), mercuric sulfate, perchloric acid, carbides of calcium, cesium, rubidium, acetylides of cesium and rubidium, phosphides of calcium and uranium, lithium silicide. |
| HAZARDOUS DECOMPOSITION | Thermal decomposition products or combustion: hydrogen chloride |
| POLYMERIZATION | will not polymerize |

## 11. Toxicological information

MURIATIC ACID (ALL GRADES)

| | |
|---|---|
| TOXICITY DATA | Muriatic Acid: 900 mg/kg oral-rabbit LD50; 1108 ppm/1 hour(s) inhalation-rat; 3124 ppm/1 hour(s) inhalation-rat LC50. Rinsed Draize Test: 5 mg/30 second(s) rabbit-eye mild. Standard Draize Test: 4% / 24 hour(s) skin-human mild. Inhalation will cause severe irritation and possible burns with coughing and choking. If inhaled deeply, edema and hemorrhage of the lungs may occur. Levels of 10-35 ppm may cause irritation of throat and 50-100 ppm is unbearable for 1 hour. Inflammation, destruction of nasal passages and breathing difficulties may occur with higher concentration and/or erosion of teeth. Contact with eyes causes immediate severe irritation with possible burns, permanent visual impairment, or total loss of sight. Contact with fumes or liquid may produce corrosive burns. Dermal exposure also results in irritation, pain, dermatitis, and ulceration. Ingestion may cause immediate burns of the mouth, esophagus, and stomach. Ingestion may cause intense pain, nausea, vomiting, bleeding, circulating collapse, shock and death. |
| MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE | RE: respiratory system (including asthma and other breathing disorders) |

## 12. Ecological information

ECOTOXICITY DATA

| | |
|---|---|
| FISH TOXICITY | Muriatic Acid: 178 mg/L LC50 Goldfish (1 to 2 hour survival time); 100-300 mg/L LC50 Shrimp. 3.6 mg/L 48 hour(s) (static) LC50 Bluegill. This material is believed to be toxic to aquatic life. |
| FATE AND TRANSPORT | |

| | |
|---|---|
| BIODEGRADATION | This material is inorganic and not subject to biodegradation. |
| PERSISTENCE | This material is believed not to persist in the environment. This material is believed to exist in the disassociated state in the environment. SOIL: Hydrogen chloride will sink into the soil. The acid will dissolve some soil material (in particular, anything with a carbonate base) and will be somewhat neutralized. The remaining portion is thought to transport downward to the water table. WATER: Dissociates almost completely and will be neutralized by natural alkalinity and carbon dioxide. |
| BIOCONCENTRATION | This material is believed not to bioaccumulate. |

## 13. Disposal considerations

Reuse or reprocess if possible. Dispose in accordance with all applicable regulations.

| | |
|---|---|
| Subject to disposal regulations | regulations: U.S. EPA 40 CFR 262. |
| Hazardous Waste Number(s) | D002. |

## 14. Transport information

U.S. DOT 49 CFR 172.101

| | |
|---|---|
| PROPER SHIPPING NAME | Muriatic Acid solution |
| ID NUMBER | UN1789 |
| HAZARD CLASS OR DIVISION | 8 |
| PACKING GROUP | II |
| LABELING REQUIREMENTS | 8 |
| DOT HAZARDOUS SUBSTANCE(S) | Muriatic Acid 5000 lb(s) (2270 kg(s) |

CANADIAN TRANSPORTATION OF DANGEROUS GOODS

| | |
|---|---|
| SHIPPING NAME | Muriatic Acid solution |
| UN NUMBER | UN1789 |
| CLASS | 8 |
| PACKING GROUP/RISK GROUP | II |

## 15. Regulatory information

U.S. REGULATIONS

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4)

| | |
|---|---|
| Muriatic Acid HYDROGEN CHLORIDE | 5000 LBS RQ (liquid) |
| CHLORINE | 10 LBS RQ |

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30)

| | |
|---|---|
| Muriatic Acid HYDROGEN CHLORIDE | 500 LBS TPQ (gas) |

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21)

| | |
|---|---|
| ACUTE | yes |
| CHRONIC | no |
| FIRE | no |
| REACTIVE | no |
| SUDDEN RELEASE | no |

SARA TITLE III SECTION 313 (40 CFR 372.65)

| | |
|---|---|
| Muriatic Acid HYDROGEN CHLORIDE | aerosol form only |

This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372. Refer to Section 3.

| | |
|---|---|
| OSHA PROCESS SAFETY (29 CFR 1910.119) | Muriatic Acid HYDROGEN CHLORIDE: 5000 LBS TO (gas) |
| CHLORINE | 1500 LBS TQ |
| FDA | This material has Generally Recognized as Safe (GRAS) status under specific FDA regulations. Additional information is available from the Code of Federal Regulations (CFR) which is accessible on the FDA's website. |

STATE REGULATIONS

| | |
|---|---|
| California Proposition 65 | This product may contain contaminants known to the State of California to cause cancer or reproductive toxicity as listed under Proposition 65 State Drinking Water and Toxic Enforcement Act. |

NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW

REPORTING REQUIREMENT

| | |
|---|---|
| WATER | 7732-18-5 63 – 91% |
| HYDROGEN CHLORIDE 7647-01-0 | 936% |

| | |
|---|---|
| RIGHT TO KNOW HAZARDOUS SUBSTANCE LIST | Muriatic Acid HYDROGEN CHLORIDE 7647-01-0 9-36% CHLORINE 7782-50-5 0 – 50 ppm |
| SPECIAL HEALTH HAZARD SUBSTANCE LIST | Muriatic Acid HYDROGEN CHLORIDE 7647-01-0 9-36% |
| PENNSYLVANIA RIGHT TO KNOW | |
| REPORTING REQUIREMENT | WATER 7732-18-5 63 – 91%<br>Muriatic Acid HYDROGEN CHLORIDE 7647-01-0 0 36% |
| HAZARDOUS SUBSTANCE LIST | Muriatic Acid HYDROGEN CHLORIDE 7647-01-0 9-36% |
| ENVIRONMENTAL HAZARDOUS SUBSTANCE LIST | Muriatic Acid HYDROGEN CHLORIDE 7647-01-0 9-36% |
| SPECIAL HAZARDOUS SUBSTANCE LIST | not regulated |
| CANADIAN REGULATIONS | WHMIS CLASSIFICATION: E |
| NATIONAL INVENTORY STATUS | |
| U.S. INVENTORY (TSCA) | All the components of this substance are listed on or are exempt from the inventory. |
| TSCA 12(b) EXPORT NOTIFICATION | not listed |
| CANADA INVENTORY (DSL/NDSL) | All components of this product are listed on the DSL. |

## 16. Other information

IMPORTANT: The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GAURANTY OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, SUITABILITY, STABILITY OR OTHERWISE. The information included herein is not intended to be all-inclusive as to the appropriate manner and/or conditions of use, handling and/or storage. Factors pertaining to certain conditions of storage, handling, or use of this product may involve other or additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, safe handling and use remains the responsibility of the customer. No suggestions for use are intended to, and nothing herein shall be construed as a recommendation t, infringe any existing patents or violate any laws, rules, regulations or ordinances of any governmental entity.

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.