

1. Product and Company Identification

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Product Name Battery Acid 20 LTR
Product Type RXSOL-15-1103-020 Batteries Liquid (Electrolyte) for vehicle

Company Details:

RX MARINE INTERNATIONAL
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2. Composition / Information on ingredients

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| Hazardous Ingredients | Sulphuric Acid | 38-48% |
| | D.I.Water | 52-62% |
| CAS Number | Sulphuric Acid | 7664-93-9 |
| Other Ingredient | Not classified as hazardous | |
| Synonym (s) | Battery electrolyte, battery fluid, fertilizer acid, electrolyte acid, hydrogen sulfate, oil of vitriol, spirit of sulphur. | |

3. Hazards Identification

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| Inhalation | Mists and vapours are corrosive and can cause sever irritation and damage to mouth, nose, lungs, and throat. Exposure symptoms are from coughing, sneezing, tickling sensations in nose and throat to larngelaedma, bronchitis,and pulmonary edema. Prolonged exposure can result in erosion and discoloration of teeth, chronic irritation of the nose eyes throat and respiratory tract. |
| Skin Contact / Absorption | Severe irritation and burns to all human tissue. Repeated skin contact may cause dermatitis. |
| Eye Contact | Contact with even small amounts can result in severe damage (corneal burns and/or necrosis and conjunctivitis) which may result in sight loss. Dilute solution of sulphuric acid may produce temporary effects from which recovery is possible. |
| Ingestion | Severe irritation or burning of the mouth, throat, and stomach walls. May be fatal. Prolonged exposure can result in erosion and discoloration of teeth, chronic irritation of the nose eyes throat and respiratory tract. |
| Exposure Limits | ACGIH: 1mg/m3; 3mg/m3 NIOSH: TWA = 1mg/m3; IDLH = 15mg/m3 OSHA: TWA = 1mg/m3 |

4. First Aid Measures

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| 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 15 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate |

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| Ingestion | medical attention Do not induce vomiting. If vomiting occurs, lean victim forward to prevent breathing in vomitus. Give large amounts of water. Do not give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention. |
| Additional Information | Medical conditions that may be aggravated by exposure include asthma, bronchitis, emphysema, and other lung diseases, chronic nose, sinus or throat conditions. In the event of skin, eye contact, rapid and thorough flushing is essential. |

5. Fire-fighting Measures

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| Conditions of Flammability: | Non-flammable |
| Means of Extinction: | Product does not burn. Do not add water to the acid. Use dry chemical to extinguish the surrounding fire. |
| Flash Point: | Not applicable. |
| Auto-ignition Temperature: | Not applicable |
| Upper Flammable Limit | Not applicable |
| Lower Flammable Limit | Not applicable |
| Hazardous Combustible Products | Sulphur dioxide, sulphur trioxide, sulphuric acid fumes. |
| Special Fire Fighting Procedures | Wear NIOSH-approved self-contained breathing apparatus and protective clothing. |
| Explosion Hazards | Evolution of explosive hydrogen gas on contact with most metals. May ignite combustible material. Not sensitive to mechanical impact or static discharge |

6. Accidental Release Measures

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| Leak /Spill | Wear appropriate personal protective equipment. Ventilate area. Stop or reduce leak if safe to do so. Prevent material from entering sewers. |
| Deactivating Materials | Lime, limestone, sodium carbonate (soda ash), sodium bicarbonate, dilute sodium hydroxide. |

7. Handling and Storage

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| 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. |

8. Exposure controls and personal protection

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| 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 cartridges (acid-gas and mists) or self-contained breathing apparatus. |
| Gloves | Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. |

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| 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

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| Physical State | Liquid |
| Odor and Appearance | Clear colorless liquid. No odour. |
| Odor Threshold | 1.0 mg/m ³ measured as mist |
| Specific Gravity (Water=1) | ~ 1.25 - 1.26 at 20oC |
| Vapor Pressure (mm Hg, 20C) | 2.952 at 35.4% (0oC) |
| Vapor Density (Air=1) | 3.4 |
| Evaporation Rate | Not available |
| Boiling Point | ~ 110oC |
| Freeze/Melting Point | ~ -60oC (36%) |
| pH | 1 (5% w/w) |
| Water/Oil Distribution Coefficient | Not available |
| Bulk Density | Not applicable |
| % Volatiles by Volume | Not applicable |
| Solubility in Water | Miscible in water, liberates much heat |
| Molecular Formula | H ₂ SO ₄ |
| Molecular Weight | 98.08 |

10. Stability and reactivity

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| Stability | Stable under normal conditions. |
| Incompatibility | Highly reactive with materials such as metals, metal oxides, hydroxides, nitrates, amines, carbonates, and other alkaline materials. |
| Hazardous Products of Decomposition | Toxic fumes of oxides of sulfur when heated to decomposition. Will react with water or steam to produce toxic and corrosive fumes. Reacts with carbonates to generate carbon dioxide gas, and with cyanides and sulfides to form poisonous hydrogen cyanide and hydrogen sulfide respectively. |
| Polymerization | Will not occur. |

11. Toxicological information

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| Irritancy | Severe irritant. Skin and eye irritant. |
| Sensitization | Not available |
| Chronic/Acute Effects | Not available |
| Synergistic Materials | Not available |
| Animal Toxicity Data | LD ₅₀ (Oral, Rat)= 2140mg/kg LC ₅₀ (Inhalation, Rat)= 510mg/m ³ |
| Carcinogenicity | IARC has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions. |

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| Reproductive Toxicity | Investigated as a reproductive effector |
| Teratogenicity | Not available |
| Mutagenicity | Investigated as a mutagen |

12. Ecological information

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| Fish Toxicity | LC50 Flounder (48 hr, aerated water) = 100 to 330mg/L Conditions of bioassay not specified; LC50 Shrimp (48 hr, aerated water) = 80 to 90mg/L Conditions of bioassay not specified; LC50 Prawn (48 hr, salt water) = 42.5ppm Conditions of bioassay not specified. This material may be toxic to aquatic life |
| Biodegradability | Not available |
| Environmental Effects | When released into the soil, this material may leach into groundwater. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air, this material may be removed from the atmosphere to a moderate extent by dry deposition |

13. Disposal considerations

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| Waste Disposal: | Dispose in accordance with all federal, provincial, and/or local regulations. |
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14. Transport information

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GROUND ☑ US-DOT/CAN-TDG/EU-ADR/APEC-ADR:

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| Proper Shipping Name | Batteries, Wet, Filled with Acid | ID Number | UN2794 |
| Hazard Class | 8 | Labels | Corrosive |
| Packing Group | III | | |

AIRCRAFT ☑ ICAO-IATA:

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| Proper Shipping Name | Batteries, Wet, Filled with Acid | ID Number | UN2794 |
| Hazard Class | 8 | Labels | Corrosive |
| Packing Group | III | | |

Reference IATA packing instructions 870

VESSEL ☑ IMO-IMDG:

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| Proper Shipping Name | Batteries, Wet, Filled with Acid | ID Number | UN2794 |
| Hazard Class | 8 | Labels | Corrosive |
| Packing Group | III | | |

15. Regulatory information

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Classified as hazardous according to the criteria of NOHSC, Schedule 6 poison according to SUSDP, Class 8 according to ADG

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| R-phrases: | R35 Causes severe burns, and R41 Risk of Serious damage to eyes. |
| S-phrases: | S2 Keep out of reach of children. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S30 Never add water to this product. S37/39 Wear suitable gloves and eye/face protection. |

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