

1. Product and Company Identification

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Product Name Potassium Hydroxide 0.1N in isopropanol
Part Number RXSOL-60-1557-001

Chemical Formula: KOH in Isopropanol

Company Details:

RX MARINE INTERNATIONAL
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2. Composition / Information on ingredients

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| Chemical Name | CAS Number | EC Number |
|---------------------|------------|-----------|
| Potassium Hydroxide | 1310-58-3 | 215-181-3 |
| Iso propanol | 67-63-0 | 200-661-7 |

*See Section 16

3. Hazards Identification

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| Physical hazards | Causes severe skin burns and eye damage |
| Health hazards | Harmful if swallowed |
| Environmental Hazards | Aquatic Chronic 2 - H411 |
| Potential Acute Health Effects | Very hazardous in case of skin contact (corrosive, irritant), of eye contact (irritant, corrosive), of ingestion, of inhalation. The degree of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can result in inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening and blistering. |
| Potential Chronic Health Effects | CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. REPRODUCTIVE EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to upper respiratory tract. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the substance as dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation can produce varying degree of respiratory irritation or lung damage. |

4. First Aid Measures

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| Contact with skin | In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean skin. Get medical attention immediately. |
| Contact with eyes | Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Water may be used. Get medical attention immediately. |
| Ingestion | Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a shirt or waistband. |

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| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately. |
| General | Serious Inhalation: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or stockings. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: Do not become hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or irritating. Seek immediate medical attention. |

5. Fire-fighting Measures

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| Flammability of the Product | : | Non-flammable |
| Auto-Ignition Temperature | : | Not applicable. |
| Flash Points | : | Not applicable. |
| Flammable Limits | : | Not applicable. |
| Products of Combustion | : | Not applicable. |
| Fire Hazards in Presence of Various Substances | : | Metal , Acid |
| Explosion Hazards in Presence of Various Substances | : | Risks of explosion of the product in the presence of impact: Not available. Risk of explosion in the presence of static discharge: Not available. |
| Fire Fighting Media and Instructions | : | Not applicable. |
| Special Remarks on Fire Hazards | : | Violent reaction or ignition with strong oxidizing agents, acids, alcohols, p-hydroquinone, cyclopentadiene, germanium tetrachloride, anhydride, nitroalkanes, peroxodisulfate, sugars, 2,4-dinitrophenol, dicarbide. Molten ortho -chlorophenol and potassium hydroxide. When heated, tetrachloroethane are heated, tetrachloroacetylene, is formed. When heated, solution of potassium hydroxide in water, which is spontaneously flammable. Potassium hydroxide reaction with organic materials is spontaneously flammable. Potassium hydroxide attacks metals such as aluminum, zinc, and iron, forming flammable hydrogen gas. |
| Special Remarks on Explosion Hazards | : | Potentially explosive reaction with chlorine dioxide, nitrobenzene, trichloride, peroxidized tetrahydrofuran. Reaction with ammonium hydroxide is heat sensitive explosive product. Potassium hydroxide cause explosive decomposition will occur when potassium nitroso urea and methylene chloride explodes on contact with potassium hydroxide. |

6. Accidental Release Measures

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| Personal Precautions | Wear protective clothing as per section 8. |
| Environmental Precautions | Avoid discharge into drains or watercourses or onto the ground. Contain spillage with sand, earth or other suitable absorbent material. The product contains substances which are water-soluble and may spread in water systems. The product is highly flammable. |

Immediate Actions

Small Spill

Large Spill

substances which may spread in the atmosphere

Shut off source of leak if safe to do so.

Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid.

Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water to clean up. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize with a dilute solution of acetic acid. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

7. Handling and Storage

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Handling

Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, use suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. A self-contained breathing apparatus should be used in case of skin and eyes. Keep away from incompatibles such as organic materials, metals, acids, moisture.

Storage

Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F)

8. Exposure controls and personal protection

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Engineering Control

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below recommended limits.

Personal Protection

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent.

Personal Protection in case of Large Spill

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used in case of inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling.

Exposure Limits

CEIL: 2 (mg/m³) from OSHA (PEL) [United States] CEIL: 2 (mg/m³) from ACGIH (TLV) [United States] Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties

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| Odour | : | Odourless |
| Taste | : | Sweetish, astringent. |
| Appearance | : | White |
| Molecular Weight | : | 56.11 g/mole |
| pH (1% soln/water) | : | 13 |
| Boiling Point | : | Decomposition temperature |
| Melting Point | : | 380°C (716°F) |
| Critical Temperature | : | Not available. |
| Specific Gravity | : | 2.044 (Water = 1) |
| Vapor Pressure | : | Not available. |
| Vapor Density | : | Not available. |
| Volatility | : | Not available. |
| Odor Threshold | : | Not available. |
| Water/Oil Coeff | : | Not available. |
| Ionicity (in Water): | : | Not available. |
| Solubility | : | Easily soluble in cold water and ether. |

10. Stability and reactivity

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| Stability | : | The product is stable. |
| Instability Temperature | : | Not available |
| Conditions of Instability | : | Incompatible materials, dust or water. |
| Incompatibility with various substances | : | Highly reactive with acids. R metals, moisture. |
| Corrosivity | : | Extremely corrosive in presence of water. Slightly corrosive in presence of organic materials. Non-corrosive in presence of inorganic materials. |
| Special Remarks on Reactivity | : | Hygroscopic (absorbs moisture from water or alcohol or when the heat is generated. Reacts with halogenated hydrocarbons, anhydrides, isocyanates, aldehydes, alcohols, glycols, acids, amines, ketones, esters, solution. Also incompatible with (nitrobenzene, nitromethane, organic peroxides, strong oxidizing materials, acid anhydrides, acid chlorides, magnesium, peroxide, dioxides, maleic dicarbide, such as aluminum, tin, lead, etc.) |
| Polymerization | : | Will not occur. |

11. Toxicological information

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| Routes of Entry | Absorbed through skin. Inhalation. Ingestion. |
| Toxicity to Animals | Acute oral toxicity (LD50): 273 mg/kg [Rat]. |
| Chronic Effects on Humans | MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. May cause damage to the following organs: upper respiratory tract, skin, eyes. |
| Other Toxic Effects on Humans | Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (corrosive, irritant). (corrosive), of ingestion, . |
| Special Remarks on Toxicity to Animals | Not available. |
| Special Remarks on Chronic Effects on Humans | Acute Potential Health Effects: Skin: Causes severe skin irritation and burns. Eyes: Causes severe eye irritation and irreversible eye injury. Inhalation: Causes severe irritation and burns of the respiratory tract and mucous membranes. Leads to chemical pneumonitis Ingestion: Harmful if swallowed. May cause severe and permanent damage to the digestive tract with irritation and burns of the gastrointestinal (digestive) tract with abdominal pain, vomiting and possible death. May cause damage to the digestive tract. Chronic Potential Health Effects: Chronic contact with dilute solutions of potassium hydroxide can cause irritation. Inhalation can produce chronic productive cough, and shortness of breath |

12. Ecological information

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| Ecotoxicity | Ecotoxicity in water (LC50): 80 mg/l 24 hours [Mosquito Fish]. |
| Mobility | Completely soluble in water |
| BOD5 and COD | Not available |

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| Products of Biodegradation | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise |
| Special Remarks on the Products of Biodegradation | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise |

13. Disposal considerations

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| Disposal considerations | Waste must be disposed of in accordance with federal, state and local environmental control regulations. |
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14. Transport information

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- **DOT Classification:** Class 8: Corrosive material
- **Identification:** Potassium hydroxide, solid UNNA: 1813 PG: II
- **Special Provisions for Transport:** Not available.

15. Regulatory information

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| Federal and State Regulations | USA release reporting list: Potassium hydroxide Pennsylvania RTK: Potassium hydroxide Florida: Potassium hydroxide Potassium hydroxide Massachusetts RTK: Potassium hydroxide New Jersey: Potassium hydroxide California Hazardous Substances: Potassium hydroxide TSCA 8(b) inventory: Potassium hydroxide CERCLA: Hazardous substances.: Potassium hydroxide: 453.6 kg |
| Other Regulations | OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product i Inventory of Existing Commercial Chemical Substances. |
| HMIS (U.S.A.): | Other Classifications: WHMIS (Canada): CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS E: Corrosive solid. |
| National Fire Protection Association | Health Hazard: 3 Fire Hazard: 0 Reactivity: 2 Personal Protection: j |
| Protective Equipment: | Health: 3 Flammability: 0 Reactivity: 1 Specific hazard: NA Gloves. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. respirator when ventilation is inadequate. Splash goggles. |

16. Other information

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