



MATERIAL SAFETY DATA SHEET

Muriate of Potash

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

| | |
|----------------------------------|--|
| Product Name: | Muriate of Potash (MOP), all grades |
| Chemical Name: | Potassium Chloride |
| Chemical Family: | Inorganic Salt |
| Synonyms: | Potash; MOP; Potassium Chloride; Potassium Muriate; Potassium Monochloride |
| Chemical Formula: | KCl |
| Primary Use: | Crop nutrient; Industrial applications |
| Responsible Party: | Mosaic USA LLC 3033 Campus Drive Plymouth, MN 55441 |
| Non-Emergency Technical Contact: | 8:00 am - 4:00 pm Central Time, Mon - Fri: 800-323-5523 |

EMERGENCY OVERVIEW

24 Hour Emergency Telephone Number:
For Chemical Emergencies:
Spill, Leak, Fire or Accident
Call CHEMTREC
North America: (800) 424-9300
Others: (703) 527-3887 (collect)

| | | |
|--------------------------|---|----------------------------|
| Health Hazards: | Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Potassium chloride is generally recognized as safe (GRAS) when used in accordance with good manufacturing practice. | |
| Physical Hazards: | None expected | |
| Physical Form: | Solid | |
| Appearance: | White to reddish-brown, crystalline or granular | |
| Odor: | None | |
| NFPA HAZARD CLASS | | |
| Health: | 1 (Slight) | HMS HAZARD CLASS |
| Flammability: | 0 (Least) | Health: 1 (Slight) |
| Instability: | 0 (Least) | Flammability: 0 (Least) |
| Special Hazard: | None | Physical Hazard: 0 (Least) |

Status: Revised MSDS
Revised Section: 1

Issue Date: June 21, 2010
MSDS Number: MOS002



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4. FIRST AID MEASURES

| | |
|--------------------------------|---|
| Eye: | If irrigation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention. |
| Skin: | Cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops and persists, seek medical attention. |
| Inhalation (Breathing): | If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention. |
| Ingestion (Swallowing): | If large amounts are swallowed, seek emergency medical attention. If victim is drowsy or unconscious and vomiting, place on left side with the head down and do not give anything by mouth. If victim is conscious and alert and ingestion occurred within the last hour, vomiting should be induced for ingestion of large amounts (more than 5 ounces or a little more than 1/2 cup in an adult) preferably under direction from a physician or poison center. If possible, do not leave victim unattended and observe closely for adequacy of breathing. |
| Note to Physicians: | No information found. |

5. FIRE FIGHTING MEASURES

| | |
|--|---|
| Flammable Properties: | This product is non-flammable. Flash Point - Not applicable OSHA Flammability Class - Not applicable LEL/UEL - Not applicable Auto-ignition Temperature - Not applicable |
| Unusual Fire & Explosion Hazards: | No unusual fire or explosion hazards are expected. When this material is subjected to high temperatures, it may release small amounts of chloride gas. |
| Extinguishing Media: | Use extinguishing agent suitable for type of surrounding fire. |
| Fire Fighting Instructions: | Positive pressure, self contained breathing apparatus is required for all fire fighting activities involving hazardous materials. Full structural fire fighting (bunker) gear is the minimum acceptable attire. The need for proximity, entry, flashover and/or special chemical protective clothing (see Section 8) needs to be determined for each incident by a competent fire fighting safety professional. Water used for fire suppression and cooling may become contaminated. Discharge to sewer system(s) or the environment may be restricted, requiring containment and proper disposal of water (see Section 6). |

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9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm)

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|---------------------------------------|--|
| Flash Point: | Not applicable |
| Flammable/ Explosive Limits (%): | LEL/UEL - Not applicable |
| Auto-ignition Temperature: | Not applicable |
| Appearance: | White to reddish-brown, crystalline or granular |
| Physical State: | Solid |
| Odor/Taste: | None/Strong saline |
| Molecular Weight of Pure Material: | KCl - 74.6; NaCl - 58.5 |
| pH: | 5.4 - 10.0 in a 5% solution |
| Vapor Pressure MM Hg): | Approximately zero |
| Vapor Density (air = 1): | 2.57 |
| Boiling Point: | Sublimes at 1,500°C (2,732°F) |
| Freezing/Melting Point: | 772 to 776°C (1423 to 1428 °F) |
| Solubility in Water: | 99.5 - 99.999%; 34.2 g/100mL at 20°C |
| Specific Gravity: | 1.986 - 1.990 |
| Volatility: | No data available |
| Bulk Density: | Loose - 64 to 75 lbs/ft ³ (1025 to 1200 kg/m ³) |

10. STABILITY AND REACTIVITY

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| Chemical Stability: | Stable under normal conditions of storage and handling. Material is hygroscopic (May absorb moisture from air when relative humidity >72%). |
| Conditions to Avoid: | None known |
| Incompatible Materials: | Avoid contact with hot nitric acid, may cause evolution of toxic nitrosyl chloride. Contact with other strong acids may produce irritating hydrogen chloride gas. KCl may react violently with bromine trifluoride and may explode if mixed with potassium permanganate and sulfuric acid. NaCl can react with most noble metals, such as iron or steel, building materials (such as cement), bromine, or trifluoride. A potentially explosive reaction may occur if NaCl is mixed with dichloromaleic anhydride and urea. Electrolysis of mixtures containing NaCl and nitrogen compounds may form explosive nitrogen trichloride. |
| Corrosivity: | Similar to salt. Mildly corrosive to metals in the presence of moisture. |
| Hazardous Decomposition Products: | None known |
| Hazardous Polymerization: | Will not occur |



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14. TRANSPORT INFORMATION

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|---------------------------|---|
| Hazard Class or Division: | Not listed in the hazardous materials shipping regulation (49 CFR, Table 172.101) by the U.S. Department of Transportation, or in the Transport of Dangerous Goods (TDG) regulations in Canada. |
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15. REGULATORY INFORMATION

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| FDA: | 1. Potassium Chloride used as a dietary supplement in food for human consumption is generally recognized as safe (GRAS) when used in accordance with good manufacturing practice [21 CFR 182.5622]. |
| CERCLA: | 2. Substance added directly to human food affirmed as GRAS [21 CFR 184.1622]. |
| RCRA 261.33: | Not listed |
| SARA Title III: | SARA 302: RQ: No; TPO: No SARA 311/312: Acute: No; Chronic: No; Fire: No; Pressure: No; Reactivity: No - Exemptions at 40 CFR, Part 370 may apply for agricultural use, or quantities of less than 10,000 pounds on site. SARA 313 List: No |
| TSCA: | 8 (b) Chemical Inventory: Yes; TSCA 8 (d): No Warning: This product contains substances that are known to the State of California to cause cancer and/or reproductive harm. |
| Proposition 65: (CA Health and Safety Code Section 25249.5) | This material has not been identified as a carcinogen by NTP, IARC, or OSHA. |
| NTP, IARC, OSHA: | Yes |
| Canada DSL: | No |
| Canada NDSL: | No |
| WHMIS: | Not controlled |

16. OTHER INFORMATION

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