



SAFETY DATA SHEET

| SECTION 1 | PRODUCT AND COMPANY IDENTIFICATION |
|----------------------|--|
| Trade Name: | K-Mag®, all grades |
| Chemical Name: | Potassium Magnesium Sulfate |
| CAS Number: | 14977-37-8 |
| Chemical Family: | Inorganic Salt |
| Synonyms: | Potassium Magnesium Sulfate SPM Langbeinite Sulfate of Potash Magnesia |
| Primary Use: | Crop nutrient |
| Company Information: | THE MOSAIC COMPANY 3033 Campus Drive Plymouth, MN 55441 www.mosaicco.com 800-918-8270 or 763-577-2700 8 AM to 5 PM Central Time US |
| Emergency Telephone: | EMERGENCY OVERVIEW 24 Hour Emergency Telephone Number: For Chemical Emergencies: Spill, Leak, Fire or Accident Call CHEMTREC North America: (800) 424-9300 (reference CCN201871) Others: (703) 527-3887 (collect) |

| SECTION 2 | HAZARD IDENTIFICATION | |
|--|---|----------------|
| GHS Classification: | Not Applicable | Not Applicable |
| | Signal Word: not applicable Hazard Statement(s) Not applicable | |
| Label Elements: | | |
| Prevention: | Not applicable | |
| Response: | Not applicable | Not applicable |
| | Not applicable | Not applicable |
| Storage: | Not applicable | Not applicable |
| Disposal: | Not applicable | Not applicable |
| Other Hazards which do not require classification: | Handling and/or processing of this material may generate dust which can cause mechanical irritation of the eyes, skin, nose and throat. | |

| SECTION 3 | COMPOSITION INFORMATION ON INGREDIENTS | | | |
|--------------|---|----------------|------------|--|
| Formula: | K ₂ SO ₄ · 2MgSO ₄ | | | |
| Composition: | Potassium Magnesium Sulfate (Langbeinite) | CAS 14977-37-8 | 94.5-99.5% | |
| | Sodium Chloride | CAS 7647-14-5 | 0.5-2.0% | |



| SECTION 4 | | FIRST AID MEASURES | |
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| First Aid Procedures: | Eyes: | Move victim away from exposure and into fresh air. Flush eyes with plenty of clean water for at least 15 minutes. If symptoms persist, seek medical attention. | |
| | Skin: | Wash contaminated area thoroughly with mild soap and water. If chemical or solution soaks through clothing, remove clothing and wash contaminated skin. If irritation develops and persists after washing, seek medical attention. | |
| | Inhaled: | If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. | |
| | Ingestion: | If large amounts are swallowed, seek emergency medical attention. If possible, do not leave victim unattended and observe closely for adequacy of breathing. | |
| Note to Physician: | None Known | | |

| SECTION 5 | | FIRE FIGHTING MEASURES | |
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| Extinguishing Media: | Use extinguishing agent suitable for type of surrounding fire. | | |
| Protection of Firefighters: | <p>No unusual fire or explosion hazards are expected. Combustion can yield oxides of sulfur when heated above 1000°F (537°C).</p> <p>Positive pressure, self-contained breathing apparatus is required for all firefighting activities involving hazardous materials. Full structural firefighting (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 firefighting safety professional.</p> <p>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).</p> | | |

| SECTION 6 | | ACCIDENTAL RELEASE MEASURES | |
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| Response Techniques: | <p>Stay upwind and away from spill (dust hazard). Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Notify appropriate federal, state, and local agencies as may be required (see Section 15). Minimize dust generation. Sweep up and package appropriately for disposal. Large spills can harm or kill vegetation.</p> | | |

| SECTION 7 | | HANDLING AND STORAGE | |
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| Handling: | <p>The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Section 8). Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Wash contaminated clothing or shoes. Use good personal hygiene practices.</p> | | |



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| Storage: | Use and store this material in dry, well-ventilated areas. Store only in approved containers. Keep container(s) tightly closed. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Material may absorb moisture from the air. |
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| SECTION 8 | | EXPOSURE CONTROLS / PERSONAL PROTECTION | |
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| Engineering Controls: | Use process enclosure, general dilution ventilation or local exhaust systems where necessary to maintain airborne dust concentration below the OSHA standards or in accordance with applicable regulations. | | |
| Personal Protective Equipment (PPE): | Eye/Face: | Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. | |
| | Skin: | The use of cloth or leather work gloves is advised to prevent skin contact, possible irritation and absorption. | |
| | Respiratory: | A NIOSH approved air purifying respirator with a type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed if workplace conditions warrant a respirator. | |
| | Other: | A source of clean water should be available in the work area for flushing eyes and skin. | |
| General Hygiene Considerations: | Wash thoroughly after handling Use adequate ventilation | | |
| Exposure Guidelines: | OSHA Permissible Exposure Limits (PEL): | Particulates Not Otherwise Regulated: 5 mg/m ³ TWA (respirable); 15 mg/m ³ TWA (total) | |
| | ACGIH Threshold Limit Value (TLV): | Particulates Not Otherwise Specified: 3 mg/m ³ TWA (respirable); 10 mg/m ³ TWA (inhalable) | |

| SECTION 9 | | PHYSICAL AND CHEMICAL PROPERTIES | |
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| Note: Unless otherwise stated, values in this section are determined at 20°C (68°F) and 760 mm Hg (1 atm). | | | |
| Appearance: | White and pink to gray, crystalline or granular | Vapor Pressure (mm Hg): | Not applicable |
| Odor: | None | Vapor Density (air=1): | Not applicable |
| Odor Threshold: | No data available | Specific Gravity or Relative Density: | 2.81 – 2.85 |
| Physical state: | Crystalline or granular solid | Bulk Density: | Loose 83 - 94 lbs/ft ³ (1300 - 1505 kg/m ³); |
| pH: | Approx. 7 in a 5% solution | Solubility in Water: | Approximately 24.4% @ 77°F (25°C) |
| Melting Point/ Freezing Point: | 972°C (1700°F) | Partition coefficient: | No data available |
| Boiling Point: | Not applicable | Auto-Ignition Temperature: | Not applicable |
| Flash Point: | Not applicable | Decomposition Temperature: | No data available |

Status: Revised
Section(s) Revised: 15
Revision Date: 09/18/2019



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|--|-------------------|-------------|-------------------|
| Evaporation Rate: | No data available | Viscosity: | No data available |
| Flammability: | Not applicable | Volatility: | Not applicable |
| Upper/lower Flammability or explosive limits | Not applicable | | |

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| SECTION 10 | STABILITY AND REACTIVITY |
| Chemical Stability: | Stable under normal conditions of storage and handling. |
| Conditions to Avoid: | Mildly corrosive to metals in the presence of moisture. |
| Incompatible Materials: | Strong oxidizing agents, strong acids |
| Hazardous Decomposition Products: | Combustion can yield oxides of sulfur when heated above 1000°F (537°C). |
| Corrosiveness: | Mildly corrosive to metals in the presence of moisture. |
| Hazardous Polymerization: | Will not occur |


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| SECTION 11 | TOXICOLOGICAL INFORMATION | | |
| Substance: | Potassium Magnesium Sulfate | | |
| Acute Oral Toxicity: | No data available | | |
| Acute Inhalation Toxicity: | No data available | | |
| Acute Dermal Toxicity: | No data available | | |
| Substance: | Sodium Chloride | | |
| Acute Oral Toxicity: | LD ₅₀ (rat, oral) > 3000 mg/kg LD ₅₀ (mouse, oral) > 4000 mg/kg | | |
| Acute Inhalation Toxicity: | LC ₅₀ (rat) > 42 g/m ³ / 1 hour | | |
| Acute Dermal Toxicity: | No data available | | |
| Mutagenesis: | No data available | Target Organ | No data available |
| Developmental Toxicity: | No data available | Carcinogenicity | No data available |

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| SECTION 12 | ECOLOGICAL INFORMATION |
| Ecotoxicology: | When dissolved in water, sodium chloride creates an elevated level of salinity that may be harmful to fresh water aquatic species and to plants that are not salt-tolerant. |

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| SECTION 13 | DISPOSAL CONSIDERATIONS |
| | Recover or recycle if possible. Properly characterize all waste materials. Consult federal, state/provincial and local regulations regarding the proper disposal of this material. Prevent material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. |



| SECTION 14 | TRANSPORT INFO | |
|---|----------------|--|
| Regulatory Status: | Not regulated | |
| Identification Number: | HTS 3104.90.01 | |
| Hazard Class: | Not applicable | |
| Proper Shipping Name | Not applicable | |
| Packing Group | Not applicable | |
| DOT Emergency Response Guide Number: | Not applicable | |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: | Not applicable | |
| MARPOL Annex V: | Non-HME | |
| IMO/IMDG: | Not applicable | |

| SECTION 15 | REGULATORY INFORMATION | | | | |
|---|--|-------------|----------|--------------|----------------|
| CERCLA: | Not listed | | | | |
| RCRA 261.33: | Not listed | | | | |
| SARA TITLE III: (Exemptions at 40 CFR, Part 370 may apply for agricultural use, or for quantities of less than 10,000 pounds on-site.) | Section 302/304: Not listed | RQ: No | | TPQ: No | |
| | Section 311/312: | | | | |
| | Acute: No | Chronic: No | Fire: No | Pressure: No | Reactivity: No |
| | Section 313: Not listed | | | | |
| NTP, IARC, OSHA: | This material has not been identified as a carcinogen by NTP, IARC, or OSHA. | | | | |
| Canada DSL and NDSL: | DSL: Yes NDSL: Not listed | | | | |
| TSCA: | Potassium Magnesium Sulfate (Langbeinite) is a naturally occurring chemical substance processed only by mechanical means that is exempted from TSCA listing per 40 CFR, Part 710.26(d). Sodium chloride is listed in the TSCA Inventory. | | | | |
| CA Proposition 65: (Health & Safety Code Section 25249.5) |  WARNING: Cancer and Reproductive Harm – www.P65Warnings.ca.gov | | | | |
| WHMIS: | WHMIS 2015 This SDS has been prepared according to the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by the HPR. | | | | |



| SECTION 16 | OTHER INFORMATION | | | | | | | | | | | | | | | | | | | | | |
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| Preparation: | The preparation of this SDS was in accordance with ANSI Z400.1-2010. | | | | | | | | | | | | | | | | | | | | | |
| Revision Date: | September 18, 2019 | | | | | | | | | | | | | | | | | | | | | |
| Sections Revised: | 15 (TSCA) | | | | | | | | | | | | | | | | | | | | | |
| SDS Number: | MOS 100042 | | | | | | | | | | | | | | | | | | | | | |
| References: | Globally Harmonized System of Classification and Labelling of Chemicals (GHS) – 4 th Edition 2011 OSHA Hazard Communication Standard, 2012 MARPOL Annex V; The Fertilizer Institute (TFI), 2003; TOXNET Tomes, Toxnet, Grant (4 th Ed.), RTECS | | | | | | | | | | | | | | | | | | | | | |
| Other Hazard Classifications: | <table border="1"> <thead> <tr> <th colspan="2">NFPA HAZARD CLASS</th> <th colspan="2">HMIS HAZARD CLASS</th> </tr> </thead> <tbody> <tr> <td>Health:</td> <td>1</td> <td>Health:</td> <td>1</td> </tr> <tr> <td>Flammability:</td> <td>0</td> <td>Flammability:</td> <td>0</td> </tr> <tr> <td>Instability:</td> <td>0</td> <td>Physical Hazard:</td> <td>0</td> </tr> <tr> <td>Special Hazard:</td> <td>None</td> <td>PPE:</td> <td>Section 8</td> </tr> </tbody> </table> | | NFPA HAZARD CLASS | | HMIS HAZARD CLASS | | Health: | 1 | Health: | 1 | Flammability: | 0 | Flammability: | 0 | Instability: | 0 | Physical Hazard: | 0 | Special Hazard: | None | PPE: | Section 8 |
| | NFPA HAZARD CLASS | | HMIS HAZARD CLASS | | | | | | | | | | | | | | | | | | | |
| | Health: | 1 | Health: | 1 | | | | | | | | | | | | | | | | | | |
| | Flammability: | 0 | Flammability: | 0 | | | | | | | | | | | | | | | | | | |
| | Instability: | 0 | Physical Hazard: | 0 | | | | | | | | | | | | | | | | | | |
| Special Hazard: | None | PPE: | Section 8 | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">WHMIS 2015 (HPR) HAZARD CLASS</th> </tr> </thead> <tbody> <tr> <td>Signal Word</td> <td>N/A</td> </tr> <tr> <td>Symbol</td> <td>N/A</td> </tr> <tr> <td>Classification</td> <td>Not WHMIS Controlled</td> </tr> <tr> <td>Hazard Statements</td> <td>N/A</td> </tr> </tbody> </table> | | WHMIS 2015 (HPR) HAZARD CLASS | | Signal Word | N/A | Symbol | N/A | Classification | Not WHMIS Controlled | Hazard Statements | N/A | | | | | | | | | | | |
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