

Safety Data Sheet

Section 1: Identification

Product Name: Pot-Mag all grades

Chemical Name: Potassium Magnesium Sulfate.

Chemical Family: Inorganic Salt

Synonyms: Potassium Magnesium Sulfate, SPM, Langbeinite Sulfate of Potash Magnesia, DYNAMATE

Chemical Formula: K₂SO₄ . 2MgSO₄

Product Use: Potash Crop Nutrient, Animal Feed Ingredient

Company Identification:

Origination Inc.

1300 McKnight Road North

Maplewood, MN 55119

For information, call: 1-800-625-6079

Emergency Number: 1-800-625-6079

For CHEMTREC assistance, call: 1-800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Health Hazards: Irritant. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Physical Hazards: None known

Physical Form: Solid

Appearance: White to gray, crystalline or granular

Odor: None

NFPA HAZARD CLASS

Health: 1 (Slight)

Flammability: 0 (Least)

Instability: 0 (Least)

Special Hazard: None

HMIS HAZARD CLASS

Health: 1 (Slight)

Flammability: 0 (Least)

Reactivity: 0 (Least)

Section 2: Hazard(s) Identification

Component	% Weight	Exposure Guideline		
Potassium Magnesium Sulfate (Langbeinite) CAS No. 14977-37-8	88 - 99.5	NE	OSHA ACGIH	All

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Sodium Chloride CAS No. 7647-14-5	0.5 - 12	NE	OSHA ACGIH	All
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NE = Not established, but the following particulate limits apply to all inert inorganic dusts.

Particulates Not Otherwise Classified (PNOC)	10 mg/m ³ 3 mg/m ³	ACGIH ACGIH	TWA - Inhalable TWA - Respirable
Particulates Not Otherwise Classified (PNOC)	15 mg/m ³ 5 mg/m ³	OSHA OSHA	TWA - Total Dust TWA - Respirable

Notes: State, local or other agencies or advisory groups may have published more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Section 3: Composition / Information on Ingredients

Potential Health Effects	
Eye:	Contact may cause mild eye irritation including stinging, watering and redness.
Skin:	Contact may cause mild irritation including redness and a burning sensation. No harmful effects from skin absorption have been reported.
Inhalation (Breathing):	No information available. Studies by other exposure routes suggest a low degree of hazard by inhalation.
Ingestion (Swallowing):	Low to moderate degree of toxicity by ingestion.
Signs and Symptoms:	Effects of overexposure may include irritation of the nose, throat and digestive tract, nausea, vomiting, diarrhea, abdominal cramping, irregular heartbeats (arrhythmias), dehydration, and hypertension.
Cancer:	Inadequate data available to evaluate the cancer hazard of this material.
Target Organs:	No data available.
Developmental:	Inadequate data available for this material.
Other Comments:	To the best of our knowledge, the chemical and toxicological properties of potassium magnesium sulfate have not been thoroughly investigated.
Pre-Existing Medical Conditions:	Respiratory diseases (asthma-like disorders) and high blood pressure (hypertension).

Section 4: First Aid Measures

Eye: If irrigation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water for at least 15 minutes. If symptoms persist, seek medical attention.

Skin: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops and persists, seek medical attention.

Eye Contact: Immediately flush contaminated eyes with a directed stream of water for as long as possible.

Remove contact lenses, if present and easy to do. Continue rinsing. GET MEDICAL ATTENTION IMMEDIATELY.

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 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.

Section 5: Fire Fighting Measures

Flammable Properties: Pot-Mag 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: None known

Extinguishing Media: Use extinguishing agent suitable for type of surrounding fire.

Fire Fighting Instructions: 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. 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.

Section 6: Accidental Release Measures

Pot-Mag is a naturally-occurring crop nutrient and plant food however; large spills can harm or kill vegetation.

- 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
- Minimize dust generation.
- Sweep up and package appropriately for disposal.

Section 7: Handling and Storage

Handling: The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8). Wash thoroughly after handling. Wash contaminated clothing or shoes. Use good personal hygiene practices.

Storage: Stable under normal storage conditions.

Section 8: Exposure Controls, Personal Protection

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional ventilation or exhaust systems may be required.

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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 (see Section 2). 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.

Personal Protective Equipment (PPE)

Skin: The use of cloth or leather work gloves is advised to prevent skin contact; possible irritation and absorption (see glove manufacturer literature for information on permeability).

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended.

Other PPE: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

Section 9: Physical and Chemical Properties

Flash Point: Not applicable

Flammable/ Explosive Limits (%): LEL/UEL - Not applicable

Auto-ignition Temperature: Not applicable

Appearance: White to gray, crystalline or granular

Physical State: Crystalline to granular solid

Odor/Taste: None

Molecular Weight of Pure Material: 415 (for potassium magnesium sulfate)

pH: 7.04 in a 5% solution

Vapor Pressure MM Hg): Not applicable

Vapor Density (air = 1): Not applicable

Boiling Point: Not available

Freezing/Melting Point: 972°C (1700°F)

Solubility in Water: Approximately 24.4% @ 77°F (25°C)

Specific Gravity: 2.81 – 2.85

Volatility: No data available

Bulk Density: Loose - 83 to 94 lbs/ft³ (1300 - 1505 kg/m³)

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: Avoid contact with hot nitric acid, may cause evolution of toxic nitrosyl chloride. Contact with other strong acids may produce irritating hydrogen chloride gas. NaCl reacts with most noble metals, such as iron or steel, building materials (such as cement) bromine, or trifluoride. A potentially explosive reaction may occur

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if NaCl is mixed with dichloromaleic anhydride and urea. Electrolysis of mixtures containing NaCl and nitrogen compounds may form explosive nitrogen trichloride.

Hazardous Decomposition Products: Combustion can yield oxides of sulfur when heated above 1000°F (537°C).

Hazardous Polymerization: Will not occur

Section 11: Toxicological Information

Potassium Magnesium Sulfate: No LD50 or LC50 data located for potassium Magnesium sulfate.

No eye or skin irritation data located for potassium magnesium sulfate.

Sodium Chloride: Rat, oral LD50 = 3 g/kg; Mouse, oral LD50 = 4 g/kg

Rat LC50 >42 g/m³ / 1 hour

Rabbit, Eye: 100 mg/24 hour, moderate irritant

Rabbit, Eye: 500 mg/24 hour, mild irritant

No skin irritation data located for sodium chloride.

No definitive information available for this product on skin irritation, carcinogenicity, mutagenicity, target organs or developmental toxicity.

Section 12: Ecological Information

Ecotoxicity: 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.

BOD AND COD: No data found

Section 13: Disposal Considerations (non-mandatory)

This material, if discarded as produced, is not an RCRA "listed" or "characteristic" hazardous waste. Contamination may subject it to hazardous waste regulations. Properly characterize all waste materials. Consult state and local regulations regarding the proper disposal of this material.

Section 14: Transport Information

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

Section 15: Regulatory Information

Potassium Magnesium



CERCLA: Not listed.

RCRA 261.33: Not listed.

SARA 313: No.

SARA Title III: Exemptions at 40 CFR, Part 370 may apply for agricultural use, or quantities of less than 10,000 pounds on site.

SARA 311/312: Acute: Yes; Chronic: No; Fire: No; Pressure: No; Reactivity: No

SARA 302/304: No

TSCA: Sodium chloride is listed in the TSCA Inventory. 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).

Proposition 65: (CA Health and Safety Code Section 25249.5) Warning: This product contains substances that are known to the State of California to cause cancer and/or reproductive harm.

NTP, IARC, OSHA: None of the ingredients in this product has been identified as a carcinogen by NTP, IARC, or OSHA.

Canada DSL: Sodium chloride is listed on the Domestic Substances List (DSL). As potassium magnesium sulfate (langbeinite) is a naturally occurring substance processed only by mechanical means, it is considered to be on the DSL per the Canadian Environmental Protection Act (CEPA), New Substances Notification Regulations, Section 3.

Canada NDSL: No

WHMIS: This MSDS has been prepared accordingly to the hazard criteria of the controlled Product Regulations (CPR) and the MSDS contains all of the information required by the CPR.

Section 16: Additional Information

Prepared by: Origination, Inc.

Prepared: May, 2015

Disclaimer:

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Origination be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Origination has been advised of the possibility of such damages.