SAFETY DATA SHEET - KMS

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Section I – Product and Company Identification

Diamond K Gypsum
1720 South Redhills Drive
Richfield, Utah 84701
(435) 896-8870
Fax: (435) 896-8893
www. diamondkgypsum.com
Product Safety: 1-800-497-7861

HEALTH EMERGENCIES: CONTACT YOUR LOCAL POSION CENTER

Common Name KMS	Formula: $K_2SO_4 \cdot 2MgSO_4$	Synonym: Langbeinite, Potassium Magnesium Sulfate	Use: Crop Nutrient and Animal Feed

Section II – Hazard Identification

GHS07	Not Applicable	Not Applicable
Lab Elements:		
Prevention:	Not Applicable	
Response:	Not Applicable	Not Applicable
Storage:	Not Applicable	Not Applicable
Disposal:	Not Applicable	Not Applicable

Section III – Composition/Information on Ingredients

Chemical Name(s)	CAS No.	Exposure Limits								% by Weight
		OSHA PEL		TLV - TWA		STEL		CEIL		
		mg/m^3	ppm	mg/m^3	ppm	mg/m^3	ppm	mg/m^3	ppm	
Potassium Magnesium Sulfate (Langbeinite)	14977-37-8	15 / 5*		10**						95.0 - 99.5
Sodium Chloride	7647-14-5	15 / 5*		10**						0.5-2.0

** Total Dust / Respirable dust

* Based on ACGIH nuisance dust limits

Section IV – First Aid Measures

Eyes:	Rinse cautiously with water for several minutes. Flush with water, including under upper & lower lids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention/advice if pain and irritation persists.
Skin:	Wash thoroughly with water. Obtain medical advice/attention if irritation persists.
Ingestion:	A large bodily load may cause vomiting, diarrhea, cramps, tingling in hands and feet, weak pulse, and circulatory disturbances. Administer water to the patient. Ingesting will usually cause purging of the stomach by vomiting. Get medical attention.
Inhalation:	If individual is experiencing respiratory discomfort or irritation remove to fresh air. If discomfort or irritation persists, get medical attention/advice.

Section V – Fire Fighting Measures

Flash Point: None **Auto-ignition Temperature:** Not Applicable **Lower Explosive Limit:** Not Applicable
Upper Explosive Limit: Not Applicable

Extinguishing Media: As required for surrounding fire. Sulfate of Potash Magnesia is non-flammable and does not support combustion.

Special Firefighting Procedures and Equipment:	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 exposed to soluble fertilizer. Discharge to sewer system(s) or environment may be restricted, requiring containment and proper disposal of water.

Section VI – Accidental Release Measures

Small Spill:	Sweep up and use as fertilizer if non-contaminated by foreign materials.
Large Spill:	Collect with appropriate equipment. If on a hard surface, sweep up residue with brooms. If on soil, remove and collect the top 5 cm of soil.
Release Notes:	Sulfate of Potash Magnesia is moderately soluble. Prevent spilled materials from entering sewers, storm drains and other unauthorized treatment drainage systems. Sulfate of Potash Magnesia which has entered a small non-permanent pond should be removed by pumping the pond dry. If spill could potentially enter any waterway, including intermittent dry creeks, contact the local authorities. If in the U.S., contact the US COAST GUARD NATIONAL RESPONSE CENTER toll free number, 800-424-8802. In case of accident or road spill notify: CHEMTREC IN USA AT 800-424-9300; CANUTEC in Canada at 613-996-6666 CHEMTREC in other countries at (International code) +1-703-527-3887.
Comments:	See Section XIII for disposal information and Section XV for regulatory requirements. Large and small spills may have a broad definition depending on the user's handling system. Therefore, the spill category must be defined at the point of release by technically qualified personnel.

Section VII – Handling and Storage

Ventilation:	Local exhaust to reduce dust concentrations below recommended levels.
Handling:	Avoid generating dust by excessive or unnecessary movement.
Storage:	Store in a dry location. Avoid contact with aluminum or carbon steel to minimize corrosion.

Section VIII – Exposure Controls/Personal Protection

Engineering Controls:	May be necessary to minimize dust levels.
Personal Protection:	
Eye Protection:	Use tight-fitting safety goggles in areas of high dust concentration.
Protective Clothing:	Gloves, long sleeve shirts and long pants. Launder work clothing regularly
Respiratory Protection:	Minimum NIOSH approved N95 filter type dust respirators until engineering controls are implemented.
Other Protective Clothing or Equipment:	Optional

Section IX – Physical and Chemical Properties

Appearance/Color/Odor: White to gray, pale pink, crystalline or granular.

Melting Point/Range:	972^{0}C (1700ºF)	**Boiling Point:**	Not Applicable
Solubility in Water:	260-280 grams per liter	**Boiling Point/Range:**	Not Applicable
Specific Gravity:	2.83	**Vapor Pressure (mmHg):**	Not Applicable
Vapor Density:	Not Applicable	**% Volatiles:**	<0.5
Bulk Density:	88-99 lbs/ft^3 (1400-1600 kg/m^3)	**Evaporation Rate:**	No Data Available
pH:	Approximately 7	**Viscosity:**	Not applicable

Section X – Stability and Reactivity

Stability:	Stable In the presence of moisture; it may be mildly corrosive to metals.
Hazardous Polymerization:	Will not occur
Conditions to Avoid:	None
Materials to Avoid (Incompatibilities):	Strong oxidizing agents, strong acids & protect from moisture.
Hazardous Decomposition Products:	Combustion can yield oxides of sulfur when heated above 1000ºF (537ºC).

Section XI Toxicological Information

Significant Routes of Exposure:	Eyes, skin, inhalation, ingestion
Substance:	Sodium Chloride
Acute Oral Toxicity:	Rat, oral, LD50 >3000 mg/kg Mouse, oral, LD50 > 4000 mg/kg
Acute Inhalation Toxicity:	Rat, LC50 > 42 g/m^3 /1hour
Acute Dermal Toxicity:	No data available
Eye & Skin Irritation:	Rabbit, Eye: 100 mg/24 hour, moderate irritant Rabbit, Eye: 500 mg/ 24 hour, mild irritant
Substance:	Potassium Magnesium Sulfate
Acute Oral Toxicity:	No data available
Acute Inhalation Toxicity:	No data available
Acute Dermal Toxicity:	No data available
Eye & Skin Irritation:	No data available

Section XII – Ecological Information

Ecotoxicology:	**Acute Toxicity to Fish:**	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.
	Chronic Toxicity to Fish:	No data available
	Acute Toxicity to Aquatic Invertebrates:	No data available
	Chronic Toxicity to Aquatic Invertebrates:	No data available
	Toxicity to Aquatic Plants:	No data available
	Toxicity to Bacteria: (activated sludge):	No data available
	Toxicity to Soil Dwelling Organisms:	No data available
	Toxicity to Terrestrial Plants:	No data available
Environmental Fate:	**Stability in Water:**	When dissolved in water, sodium chloride creates an elevated level of salinity that maybe harmful to fresh water aquatic species and to plants that are not salt-tolerant.
	Stability in Soil:	No data available
Toxicity:	Non-toxic	
Degradation	May hydrate to form magnesium sulfate ($MgSO_4$)	

Section XIII – Disposal Considerations

Product Disposal:	This material, if discarded as produced, is not a 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.
General Comments:	Because of its solubility, Sulfate of Potash Magnesia should not be disposed of in a location where run-off will escape.

Section XIV – Transportation Information

Proper Shipping Name:	Not Applicable
Hazard Class:	Not Applicable
Identification Number:	HTS 3104.90.01
Packing Group (Technical Name)	Not Applicable

Section XV – Regulatory Information

UNITED STATES:

SARA Hazard Category: This product has been reviewed according to the EPA Hazard Categories promulgated under Section 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire: No **Pressure Generating:** No **Reactivity:** No **Acute:** No **Chronic:** 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).
CANADA:	DSL: Yes NSDL: Not Listed
WHMIS Hazard Symbol and Classification:	Not controlled
Ingredient Disclosure List:	This product does not contain ingredient(s) on this list
Environmental Protection:	All intentional ingredients are listed on the DSL (Domestic Substance List).

Section XVI – Other Information				
NFPA Hazard Rating:	Health: 1	Flammability: 0	Instability: 0	Special Hazard: N/A
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme				
HMIS Hazard Rating:	Health: 1	Flammability: 0	Physical Hazard: 0	PP: E
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme E = safety glasses, gloves and dust respirator				
Comments: None				

Section(s) changed since last revision: SDS is designed to comply with U.S. DOL: OSHA and MSHA HazCom standards in effect on the revision date.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief as of the revision date noted below. This information is not a warranty or quality specification. The user of the product is solely responsible for determining the suitability of use in each particular situation. This information relates only to the specific material designated and may not be valid for the material used in combination with any other materials or in any process. The user of the product assumes all risks and responsibilities in connection with the use of the product, and Diamond K will not be responsible for any damages relating to the use of the product.