Magruder 250851

K-Mg-SO4

Results due September 15, 2025

Guaranteed Analysis

Soluble Potassium (K2O)	21.5 %
Magnesium (Mg)	10.8 %
Sulfur (S)	22.0 %
Chloride (Cl)	1.5 %

Also analyze for:
As (ppm), Cd (ppm), Cr (ppm), Co (ppm), Pb (ppm),
Hg (ppm), Mo (ppm), Ni (ppm), Se (ppm), Cu (%) and Zn (%)

The units above are those required for reporting data from this Magruder sample. They may not be the units required on a commercial fertilizer label.

Note: This Magruder Check Sample material is not to be used in the manufacture of products nor applied to any crops or for other fertilizer uses. It is intended for analytical testing purposes only.

SDS for this product can be found at:
https://www.magrudercheckssample.org/SDS/250851GuarSDS.pdf

SDS For Magruder 250851

Date Issued: January 1, 2014	Version 1.0	Revision Issued: May 1, 2015

Section I – Product and Company Identification

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

Section II – Hazard Identification

Classification of the substance or mixture:

GHS07	Hazard	Category	Hazard Code	Health Hazard Statement
	Eye Irritation	2A	H319	Can cause serious eye irritation.
	Skin Irritation	3	H316	Can cause mild skin irritation.
	Respiratory Irritation	3	H335	May cause respiratory irritation.
	Ingestion	5	H303	May be harmful if swallowed

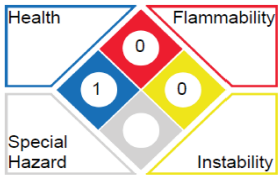
Label Elements:

GHS07

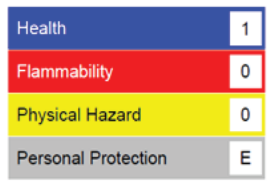
Signal Word: WARNING

Hazard Statements	H315 H320	Causes skin and eye irritation (especially in open wounds).
	H335	May cause respiratory irritation.
	H303	May be harmful if swallowed.
Precautionary Statements	P280	Wear protective clothing (see Section VII).
	P305 P351 P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

NFPA



HMIS



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**						88-99.8
Sodium Chloride	7647-14-5	15 / 5*		10**						0.5-12

**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 body load may cause vomiting, diarrhea, cramps, tingling in hands and feet, weak pulse, and circulatory disturbances. Administer water if patient is conscious. 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
Unusual Fire and Explosion Hazards:	When subjected to extremely high temperatures, it may release small quantities of chlorine gas.		
Extinguishing Media:	As required for surrounding fire. Potash is non-flammable and does not support combustion.		
Special Firefighting Procedures and Equipment:	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 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.
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 highly soluble and can be quickly diluted below the toxic level by relatively large amounts of water. 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, crystalline to granular.		
Melting Point/Range:	1700ºF	**Boiling Point:**	1500ºC(sublimates)
Solubility in Water:	Approximately 24.4% @ 77ºF (25ºC)	**Boiling Point/Range:**	1420 - 1500ºC
Specific Gravity:	1.988 (H_2O = 1)	**Vapor Pressure (mmHg):**	Not Applicable
Vapor Density:	Not Applicable	**Molecular Weight:**	415 (for potassium magnesium sulfate)
Bulk Density:	2.81-2.85	**% Volatiles:**	< 0.5
pH:	7 – 9 (in 5% solution)	**Evaporation Rate:**	Not Applicable
Viscosity:	Not applicable		

Section X – Stability and Reactivity

Stability:	Stable
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	
Toxicity to Animals (Sodium Chloride):	Rat, oral, LD50 =3 g/kg; Mouse, oral, LD50 = 4g/kg Rat, LC50 > 42 g/m^3 /1hour Rabbit, Eye: 100 mg/24 hour, moderate irritant Rabbit, Eye: 500 mg/ 24 hour, mild irritant No skin irritation data located for sodium chloride	
Acute Inhalation Toxicity:	No data available	
Acute Toxicity: Other Routes:	No data available	
Acute Dermal Toxicity:	No data available	
Repeated Dose Toxicity:	No data available	
Eye & Skin Irritation/Corrosion:	No data available	
Special Remarks on Toxicity to Animals:	Based on toxicity data for another salt compound (i.e. potassium nitrate). Not expected to be toxic by dermal exposure as defined by OSHA	
	Developmental Toxicity/Teratogenicity:	No data available
	Bacterial Genetic Toxicity In-Vitro Gene Mutation:	(Saccaromyces cerevisiae) - Mitotic recombination: NOAEL = 300 mM.
	Non-Bacterial Genetic Toxicity In-Vitro Chromosomal Aberration:	No data available
	Toxicity to Reproduction:	No data available
	Carcinogenicity:	No data available
Other Effects on Humans:	Large doses by mouth can cause gastrointestinal irritation, purging, weakness and circulatory disturbances. Potassium chloride used as a dietary supplement in food for human consumption is generally recognized as safe (GRAS).	
Special Remarks on Chronic Effects on Humans:	Not reported to be carcinogenic mutagenic, teratogenic or allergenic.	
Special Remarks on Other Effects on Humans:	None	

Section XII – Ecological Information

Ecotoxicity:	**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

Ecotoxicity:	**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 to aquatic organisms as defined by USEPA	
Degradation	Chloride and potassium ions.	

Section XIII – Disposal Considerations

Product Disposal:	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.
General Comments:	Because of its solubility, potash should not be disposed of in a location where run-off will escape.

Section XIV – Transportation Information

	USDOT	**TDG - Canada**
Proper Shipping Name:	Not Regulated	Not Regulated
Hazard Class:		
Identification Number:		
Packing Group (Technical Name)		
Labeling/Placarding:		
Authorized Packaging:		
Notes:		
European Transportation:		

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:** Yes **Chronic:** No.

40 CFR Part 355 – Extremely Hazardous Substances:
40 CFR Part 370 – Hazardous Chemical Reporting:
All intentional ingredients listed on the TSCA inventory.

SARA Title III Information: This product contains the following substances subject to the reporting requirements of Title III(EPCRA) of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

Chemical	**CAS No.**	**Percent by Weight**	**CERCLA RQ (lbs.)**	**SARA (1986) Reporting**		
				311	**312**	**313**
Potassium Magnesium Sulfate (Langbeinite)	14977-37-8	88-99.8	NA	No	No	No
Sodium Chloride	7647-14-5	0.5-12	NA	No	No	No

CA Proposition 65: (Health & Safety Code Section 25249.5)	Warning: This product contains substanes known to the State of California to cause cancer and/or birth defects or other repoructive harm.
CERCLA/Superfund, 40 CFR Parts 117,302:	If this product contains components subject to substances designated a **CERCLA Reportable Quantity (RQ) Substances,** it will be designated in the above table with the **RQ** value in pounds. If there is a release of **RQ Substance** to the environment, notification to the National Response Center, Washington D.C. (1-800-424-8802) is required.
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:	
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	**Fire**	0	**Reactivity**	0	**Special Hazards**

0 = Insignificant **1 = Slight** **2 = Moderate** **3 = High** **4 = Extreme**

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 ricks 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.