



MATERIAL SAFETY DATA SHEET

Muriate of Potash

Business Unit: IMC Kalium

Page 1 of 8

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Grade:	Fine; Ag White; Standard; Special Standard; Coarse; Turf Coarse; Granular; Granular Superblend; Special Granular; High Quality Granular; Water Softener
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:	IMC Kalium 2345 Waukegan Road; Suite E-200 Bannockburn, Illinois 60015-5516
Non-Emergency Technical Contact:	8:00am – 4pm 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:	Irritant: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.		
Physical Hazards:	None expected		
Physical Form:	Solid		
Appearance:	White to reddish-brown, crystalline or granular		
Odor:	None		
NFPA HAZARD CLASS		HMIS HAZARD CLASS	
Health:	1 (Slight)	Health:	1 (Slight)
Flammability:	0 (Least)	Flammability:	0 (Least)
Instability:	0 (Least)	Reactivity:	0 (Least)
Special Hazard:	None	PPE	Section 8

Status: Final
Revised Sections: New 16 Section Format

Issue Date: May 25, 2000
MSDS Number: IGL002



MATERIAL SAFETY DATA SHEET

Muriate of Potash

Business Unit: IMC Kalium

Page 2 of 8

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	% Weight	Exposure Guideline		
		Limits	Agency	Type
Potassium Chloride CAS No. 7447-40-7	95 – 99.5	NE	OSHA ACGIH	All All
Sodium Chloride CAS No. 7647-14-5	0.3 – 3.7	NE	OSHA ACGIH	All All
Calcium and Magnesium Chlorides and Sulfates CAS No. Various	0.2 – 1.3	NE	OSHA ACGIH	All All

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	TWA – Inhalable TWA - Respirable
Particulates Not Otherwise Regulated (PNOR)	15 mg/m ³ 5 mg/m ³	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.

Status: Final
Revised Sections: New 16 Section Format

Issue Date: May 25, 2000
MSDS Number: IGL002



MATERIAL SAFETY DATA SHEET

Muriate of Potash

Business Unit: IMC Kalium

Page 3 of 8

3. HAZARDS IDENTIFICATION

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 information available on skin absorption.
Inhalation (Breathing):	No information available.
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:	None
Pre-Existing Medical Conditions:	Conditions aggravated by exposure may include kidney disorders.



MATERIAL SAFETY DATA SHEET

Muriate of Potash

Business Unit: IMC Kalium

Page 4 of 8

4. FIRST AID MEASURES

Eye:	If irritation 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.
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 the 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 about half a 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 Autoignition 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:	For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential hazard is unknown, in enclosed or confined spaces, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid excessive water to minimize runoff.

Status: Final
Revised Sections: New 16 Section Format

Issue Date: May 25, 2000
MSDS Number: IGL002



MATERIAL SAFETY DATA SHEET

Muriate of Potash

Business Unit: IMC Kalium

Page 5 of 8

6. ACCIDENTAL RELEASE MEASURES

Muriate of Potash is a 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.

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 practice.
Storage:	When possible, store and use this material in cool, dry, well ventilated areas to protect product quality. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

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.
------------------------------	---

Personal Protective Equipment (PPE)

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.
---------------------	---

Status: Final
Revised Sections: New 16 Section Format

Issue Date: May 25, 2000
MSDS Number: IGL002



MATERIAL SAFETY DATA SHEET

Muriate of Potash

Business Unit: IMC Kalium

Page 6 of 8

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. Depending on conditions of use, a face shield may be necessary.
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.

9. PHYSICAL AND CHEMICAL PROPERTIES

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

Flash Point:	Not applicable
Flammable/ Explosive Limits (%):	LEL/UEL— Not applicable
Autoignition Temperature:	Not applicable
Appearance:	White to reddish-brown, crystalline or granular
Physical State:	Solid
Odor:	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

Status: Final
Revised Sections: New 16 Section Format

Issue Date: May 25, 2000
MSDS Number: IGL002



MATERIAL SAFETY DATA SHEET

Muriate of Potash

Business Unit: IMC Kalium

Page 7 of 8

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Potassium Chloride:	LD50 (rat, oral) = 2.6 g/kg Eye (rabbit): 500 mg/24 H, mild irritant	LD50 (mouse, oral) = 1.5 g/kg
Sodium Chloride:	LD50 (rat, oral) = 3 g/kg LC50 (rat, 1 hour) = 42 g/m ³ Eye (rabbit) = 100 mg/24 H, moderate irritant Skin (rabbit) = 500 mg/24 H, mild irritant	LD50 (mouse, oral) = 4 g/kg
No definitive information available for this product on carcinogenicity, mutagenicity, target organs or developmental toxicity.		

12. ECOLOGICAL INFORMATION

Ecotoxicity:	When dissolved in water, a component 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

13. DISPOSAL CONSIDERATIONS

This material, if discarded as produced, is not an RCRA "listed" or "characteristic" hazardous waste.

Status: Final
Revised Sections: New 16 Section Format

Issue Date: May 25, 2000
MSDS Number: IGL002



MATERIAL SAFETY DATA SHEET

Muriate of Potash

Business Unit: IMC Kalium

Page 8 of 8

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.

14. TRANSPORT INFORMATION

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

15. REGULATORY INFORMATION

CERCLA:	No
RCRA 261.33:	No
SARA Title III:	SARA 302: RQ: No; TPQ: No
	SARA 311/312: Acute: yes; 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
Proposition 65: (CA Health & Safety Code Section 25249.5)	(CA Health & 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:	This material has not been identified as a carcinogen by NTP, IARC, or OSHA.
Canada DSL:	Yes
Canada NDSL:	No
WHMIS:	This MSDS has been prepared according to the hazard criteria of the Controlled Product Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. OTHER INFORMATION

The information in this document is believed to be correct as of the date issued. **HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE.** This information and product are furnished on the condition that the person receiving them shall make his own determination as to suitability of the product for his particular purpose and



MATERIAL SAFETY DATA SHEET

Muriate of Potash

Business Unit: IMC Kalium

Page 9 of 8

on the condition that he assume the risk of his use thereof.

Status: Final
Revised Sections: New 16 Section Format

Issue Date: May 25, 2000
MSDS Number: IGL002