



# MATERIAL SAFETY DATA SHEET DYNA-K®

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name:</b>	DYNA-K®
<b>Chemical Name:</b>	Potassium Chloride
<b>Chemical Family:</b>	Inorganic Salt
<b>Synonyms/Brands:</b>	Potash MOP Potassium Muriate Potassium Monochloride
<b>Chemical Formula:</b>	KCl
<b>Primary Use:</b>	Feed Ingredient
<b>Responsible Party:</b>	IMC Feed Ingredients 100 South Saunders Road, Suite 300 Lake Forest, Illinois 60045
<b>Non-Emergency Technical Contact:</b>	8:00am – 4:00pm Central Time USA, Mon - Fri: 800-944-6610 or 847-739-1432

### 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)

<b>Health Hazards:</b>	Irritant. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Potassium chloride is generally recognized as safe (GRAS) when used in accordance with good manufacturing practice.		
<b>Physical Hazards:</b>	None expected.		
<b>Physical Form:</b>	Solid crystals.		
<b>Appearance:</b>	Fine white and pink crystals.		
<b>Odor:</b>	None.		
<b>NFPA HAZARD CLASS</b>		<b>HMIS HAZARD CLASS</b>	
Health:	1 (Slight)	Health:	1 (Slight)
Flammability:	0 (Least)	Flammability:	0 (Least)
Instability:	0 (Least)	Reactivity:	0 (Least)
Special Hazard:	None	PPE:	Section 8



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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	% Weight	Exposure Guideline		
		Limits	Agency	Type
Potassium Chloride CAS No. 7447-40-7	97	NE	OSHA ACGIH	All
Sodium Chloride CAS No. 7647-14-5	2	NE	OSHA ACGIH	All
Calcium and Magnesium Chlorides and Sulfates CAS No. (Various)	1	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 <sup>3</sup>	ACGIH	TWA-Inhalable
	3 mg/m <sup>3</sup>	ACGIH	TWA-Respirable
Particulates Not Otherwise Regulated (PNOR)	15 mg/m <sup>3</sup>	OSHA	TWA-Total Dust
	5 mg/m <sup>3</sup>	OSHA	TWA-Respirable

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

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<b>Eye:</b>	Contact may cause mild eye irritation including stinging, watering and redness.
<b>Skin:</b>	Contact may cause mild irritation including redness and a burning sensation. No harmful effects from skin absorption have been reported.
<b>Inhalation (Breathing):</b>	No information available.
<b>Ingestion (Swallowing):</b>	Low to moderate degree of toxicity by ingestion.
<b>Signs and Symptoms:</b>	Effects of overexposure may include irritation of the nose, throat and digestive tract, nausea, vomiting, diarrhea, abdominal cramping, irregular heartbeats (arrhythmia), dehydration, and hypertension. Repeated overexposure to dusts may result in irritation of the respiratory tract, coughing and shortness of breath.
<b>Cancer:</b>	Inadequate data available to evaluate the cancer hazard of this material.
<b>Target Organs:</b>	No data available.
<b>Developmental:</b>	Inadequate data available for this material.
<b>Other Comments:</b>	None
<b>Pre-Existing Medical Conditions:</b>	Conditions aggravated by exposure may include kidney disorders.



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### 4. FIRST AID MEASURES

<b>Eye:</b>	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.
<b>Skin:</b>	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.
<b>Inhalation (Breathing):</b>	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.
<b>Ingestion (Swallowing):</b>	If large amounts are swallowed, seek emergency medical attention. If possible, do not leave victim unattended and observe closely for adequacy of breathing.
<b>Note to Physicians:</b>	No information found.

### 5. FIRE FIGHTING MEASURES

<b>Flammable Properties:</b>	<b>DYNA-K® is non-flammable</b> Flash Point—Not applicable OSHA Flammability Class—Not applicable LEL/UEL—Not applicable Autoignition Temperature—Not applicable
<b>Unusual Fire &amp; Explosion Hazards:</b>	No unusual fire or explosion hazards are expected. When this material is subjected to high temperatures, it may release small amounts of chloride gas.
<b>Extinguishing Media:</b>	Use extinguishing agent suitable for type of surrounding fire.
<b>Fire Fighting Instructions:</b>	Positive pressure, self-contained breathing apparatus is required for all fire fighting activities involving hazardous materials. Full structural fire fighting (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 fire fighting 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.



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## 6. ACCIDENTAL RELEASE MEASURES

DYNA-K® is a feed ingredient, 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 (see Section 15).
- Minimize dust generation.
- Sweep up and package appropriately for disposal.

## 7. HANDLING AND STORAGE

<b>Handling:</b>	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.
<b>Storage:</b>	Stable under normal storage conditions.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Engineering Controls:</b>	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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### Personal Protective Equipment (PPE)

<b>Respiratory:</b>	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.
<b>Skin:</b>	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).

Status: New MSDS  
Revised Sections: Not applicable

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<b>Eye/Face:</b>	Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended.
<b>Other PPE:</b>	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).

<b>Flash Point:</b>	Not applicable
<b>Flammable/ Explosive Limits (%):</b>	LEL/UEL: Not applicable
<b>Autoignition Temperature:</b>	Not applicable
<b>Appearance:</b>	Fine white and pink crystals
<b>Physical State:</b>	Solid crystals
<b>Odor:</b>	None
<b>Molecular Weight of Pure Material:</b>	KCl – 74.6; NaCl – 58.5
<b>pH:</b>	5.4 – 8.6 in a 5% solution
<b>Vapor Pressure (mm Hg):</b>	Approximately zero
<b>Vapor Density (air=1):</b>	2.6
<b>Boiling Point:</b>	Sublimes at 1,500°C (2,732°F)
<b>Freezing / Melting Point:</b>	772 to 776°C (1423 to 1428°F)
<b>Solubility in Water:</b>	99.5 – 99.999%; 33 g/100mL at 20°C
<b>Specific Gravity:</b>	1.986 – 1.990
<b>Volatility:</b>	No data available
<b>Bulk Density:</b>	Loose 66 – 68 lbs/ft <sup>3</sup> (1057 – 1089 kg/m <sup>3</sup> )

### 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable under normal conditions of storage and handling. Material is hygroscopic (May absorb moisture from air when relative humidity > 72%).
<b>Conditions to Avoid:</b>	None known
<b>Incompatible</b>	Avoid contact with hot nitric acid, may cause evolution of toxic nitrosyl chloride.

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<b>Materials:</b>	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.
<b>Corrosivity:</b>	Similar to salt. Mildly corrosive to metals in the presence of moisture.
<b>Hazardous Decomposition Products:</b>	Combustion can yield oxides of sulfur when heated above 1000°F (538°C)
<b>Hazardous Polymerization:</b>	Will not occur

### 11. TOXICOLOGICAL INFORMATION

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

### 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity:</b>	Dissolution of large quantities of sodium chloride in water may create an elevated level of salinity that may be harmful to fresh water aquatic species and to plants that are not salt-tolerant. No data was located regarding potassium chloride.
<b>BOD and COD:</b>	No data found.

### 13. DISPOSAL CONSIDERATIONS

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.

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### 14. TRANSPORT INFORMATION

<b>Hazard Class or Division:</b>	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 Canada.
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### 15. REGULATORY INFORMATION

<b>FDA:</b>	<ol style="list-style-type: none"> <li>Potassium Chloride used as a dietary supplement in food for human consumption is generally recognized as safe (GRAS) when used in accordance with good manufacturing practice [21 CFR 182.5622].</li> <li>Substance added directly to human food affirmed as GRAS [21 CFR 184.1622].</li> </ol>
<b>CERCLA:</b>	Not listed.
<b>RCRA 261.33:</b>	Not listed.
<b>SARA Title III:</b> (Exemptions at 40 CFR, Part 370 may apply for agricultural use, or quantities of less than 10,000 pounds on-site)	<b>SARA 302:</b> RQ: No; TPQ: No
	<b>SARA 311/312:</b> Acute: yes; Chronic: No; Fire: No; Pressure: No; Reactivity: No
	<b>SARA 313:</b> No
<b>TSCA:</b>	All ingredients are listed in the TSCA Inventory
<b>Proposition 65:</b> (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.
<b>NTP, IARC, OSHA:</b>	This material has not been identified as a carcinogen by NTP, IARC, or OSHA.
<b>Canada DSL:</b>	This product is registered in Canada under the Feeds Act and is thus exempt from the New Substances Notification Requirements in the Canadian Environmental Protection Act (CEPA) per subsection 26(3).
<b>Canada NDSL:</b>	No
<b>WHMIS:</b>	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**

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