



Safety Data Sheet

Section 1- Product and Company Identification

Product Name: Dyna-K®
Chemical Name: Potassium Chloride
CAS Number: 7447-40-7
Chemical Family: Inorganic Salt
Synonyms: Dyna-K, Dyna-K White, Potassium Chloride, Potassium Monochloride, Potash, Muriate of Potash, MOP, Potassium Muriate, KCl
Primary Use: Animal Feed ingredient. This product is not intended for direct consumption but as part of a formulation.
Distributed by: Pestell Minerals & Ingredients, New Hamburg, ON - N3A 2H1 Canada.
www.pestell.com
Emergency Response: CANUTEC: (24 Hrs) 613:996-6666

Section 2. Hazards Identification

Emergency Overview

Health Hazard: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Potassium chloride is generally recognized as safe (GRAS) - A substance which is generally recognized as safe by experts qualified to evaluate the safety of the substance for its intended use (AAFCO 2012).

Physical Hazards: None Expected

Physical Form: Solid

Appearance: White to reddish-brown, crystalline or granular

Odor: None

Toxicity: None expected under normal use.

NFPA HAZARD CLASS	HMIS HAZARD CLASS	WHMIS HAZARD CLASS
Health: 1	Health: 1	Symbols: Not
WHMIS controlled		
Flammability: 0	Flammability: 0	
Instability: 0	Physical Hazard: 0	Classification
N/A		
Special Hazard: None	PPE: Section8	Sub Class(N/A)
N/A		

POTENTIAL HEALTH EFFECTS:

Skim: Contact may cause mild irritation including redness and a burning sensation. No information available on skin absorption.

Inhalation (Breathing): No toxicology data available.

Ingestion (Swallowing): May be harmful if swallowed. Do not take

Signs and Symptoms:	internally. Do not taste or swallow. Effects of overexposure may include irritation of the nose, throat and digestive tract, nausea, vomiting, diarrhea, abdominal cramping, irregular heartbeats (arrhythmias), dehydration, and hypertension. Repeated overexposure to dusts may result in irritation of the respiratory tract, coughing and shortness of breath.
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 and abnormal blood pressure.
Potential environment effects:	DYNA-K ® is a naturally-occurring mineral used as an animal feed nutrient. Potassium Chloride is also a crop nutrient and plant food however; large spills can harm or kill vegetation.

Section 3. Composition/Information on Ingredients

Formula:	KCl	
Composition:	Potassium Chloride	
	CAS No. 7447-40-7	95-99.5%
	Sodium Chloride	
	CAS No. 7647-14-5	0.3-3.7%
	Calcium and Magnesium Chlorides and Sulfates	
	CAS No. Various	0.2-1.3%

Section 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.
Skim	Cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops and persists, seek medical attention.
Ingestion	If large amounts are 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.
Inhalation	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.

Note to Physician:

None Known

Section 5. Fire Fighting Measures

**FLAMMABLE
PROPERTIES:**

Flash Point: Not applicable

OSHA Flammability Class: Not applicable

LEL/UEL: LEL: Not applicable / UEL: Not applicable

Auto-Ignition Temperature: Not applicable

**EXTINGUISHING
MEDIA:**

Use extinguishing agent suitable for type of surrounding fire.

**PROTECTION OF
FIREFIGHTERS:**

No unusual fire or explosion hazards are expected. When this material is subjected to high temperatures, it may release small amounts of chloride gas. 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 (see Section 6).

Section 6. Accidental Release Measures

**RESPONSE
TECHNIQUES:**

DYNA-K ® is a naturally-occurring mineral used as an animal feed nutrient. Potassium Chloride is also 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 (see Section 13).

Minimize dust generation.

Sweep up and package appropriately for disposal.

RELEASE NOTES :

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 North America at 800-424-9300; CHEMTREC in other countries at (International code) +1 -703-527-3887 (collect)

Section 7. Handling and Storage

Safe Handling:

The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits. Wash thoroughly after handling. Wash contaminated clothing. Use good personal hygiene practice.

Safe Storage:

Keep container(s) tightly closed. When possible use and store this material in cool, dry, well ventilated areas. Store only in approved containers. Keep away

from any incompatible material (see Section 10). Protect container(s) against physical damage.

Section 8. Exposure Controls/Personal Protection

ENGINEERING CONTROLS: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

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.

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).

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. 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.

Others: A source of clean water should be available in the work area for flushing eyes and skin.

Impervious clothing should be worn as needed

GENERAL HYGIENE Wash thoroughly after handling. Wash contaminated clothing.

CONSIDERATIONS: Use adequate ventilation. Use good personal hygiene practice.

EXPOSURE OSHA Permissible Exposure Limits (PEL): Particulates Not Otherwise
GUIDELINES Regulated (PNOR) :

5 mg/m³ TWA – Respirable

15 mg/m³ TWA - Total Dust

ACGIH Threshold Limit Value (TLV): Not Established

Section 9. Physical and Chemical Properties

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

Appearance: White to reddish-brown, crystalline or granular

Physical State: Solid

Odour: None , Strong Saline

Flash Point: Not Data Available

Evaporation Rate: Not Applicable

Flammability/ LEL: Not applicable / UEL: Not applicable

Explosive Limits (%):

Molecular Weight: KCl - 74.6; NaCl - 58.5

Melting Point/Range:	950 oC (1742 oF)
pH (as supplied):	5.4 - 10.0 in a 5% solution
Vapor Density (air=1):	None data Available
Vapor pressure (mm Hg):	None data Available
Boling 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
Volatility:	No data available
Bulk Density:	Loose - 64 to 75 lbs/ft ³ (1025 to 1200 kg/m ³)

Section 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%).
Possibility of Hazardous Reactions	Reacts with acids to form calcium salts while generating heat.
Conditions to avoid::	None known
Incompatibility:	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. None known.
Hazardous decomposition products:	
Corrosiveness:	Similar to salt. Mildly corrosive to metals in the presence of moisture.
Hazardous	Will not occurs
Polymerization:	

Section 11. Toxicological Information:

Acute Oral Toxicity:	Potassium Chloride: LD50 (rat, oral) = 2.6 g/kg LD50 (mouse, oral) = 1.5 g/kg Sodium Chloride: LD50 (rat, oral) = 3 g/kg LD50 (mouse, oral) = 4 g/kg
Acute Inhalation Toxicity:	No data available for Potassium Chloride: LC50 Sodium Chloride: LC50 (rat) >42 g/m ³ / 1 hour
Acute Dermal Toxicity:	No data available
Mutagenesis:	No data available
Target Organ:	No data available
Developmental Toxicity:	No data available
Carcinogenicity:	No data available

Section 12. Ecological Information

ECOTOXICOLOGY:	Dissolution of large quantities of potassium chloride and 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.
	Potassium Chloride:

Lepomis macrochirus LC50 - 2010 mg/l
 Physa heterostrophala LC50 - 940 mg/l
 Scenedesmus subspicatus EC50 - 2500 mg/l
Sodium Chloride:
 Ceriodaphnia dubia LC50 - 280,000 - 3,540,000 ug/l
 Daphnia magna LC50 - 3,144,000 - 10,000,000 ug/l
 Daphnia pulex EC50 - 56.40 mM
 Pimephales promelas LD50 - 6,020,000 - 10,000,000 ug/l.

Section 13. Disposal Considerations

Method of Disposal: This material, if discarded as produced, is not an RCRA "listed" or "characteristic" hazardous waste. Contamination may subject it to hazardous waste regulations. It is the generator's responsibility to properly characterize all waste materials. Consult federal, state/provincial and local regulations regarding the proper disposal of this material.

Section 14. Transport Information

Regulatory Status: 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.

Proper Shipping Name: Not applicable
Hazard Class: Not applicable
Packing Group: Not applicable
Identification Number: Not applicable
Guide Number: Not applicable
HTS (Harmonized Tariff Schedule) Code: 3104.20.00

Section 15. Regulatory Information

FDA: Potassium Chloride used as a nutrient and/or dietary supplement in food for human consumption. FDA Food Substances Generally Recognized as Safe 21 CFR 184.1 (2010).

CERCLA Hazardous Substances Not listed

RCRA 261.33: Not listed

SARA TITLE III: SARA – 311/312:
 (Exemptions at 40 CFR, Part Acute: Yes
 370 may apply for Chronic: Yes
 agricultural Fire: No
 use, or for quantities of less Pressure: No
 than 10,000 pounds on-site.) Reactivity: No
 SARA – 313: No
 SARA – 302/304:
 RQ: No
 TPQ: No

NTP, IARC, OSHA: This material has not been identified as a carcinogen by NTP, IARC, or OSHA.

Canada DSL and NDSL: DSL: Yes
 NDSL: No

TSCA TSCA 8 (b) Chemical Inventory: Yes
 TSCA 8 (d): No
 TSCA 8 (e): 8EHQ-0808-17242A

WHMIS: Not controlled. This MSDS has been prepared according to the hazard criteria of

the Controlled Product Regulations (CPR) and the MSDS contains all of the information requested by the CPR.

Section 16 – Other Information

Disclaimer:

The information contained herein is believed to be accurate and reliable as of the date hereof. However, Carmeuse makes no representation, warranty or guarantee as to results or as to the information's accuracy, reliability or completeness. Carmeuse has no liability for any loss or damage that may result from use of the information. Each user is responsible to review this information, satisfy itself as to the information's suitability and completeness, and circulate the information to its employees, customers and other appropriate third parties.

Preparation:

The preparation of this SDS was in accordance with ANSI Z400.1 -2010.

References:

Toxline, Tokes, ECHA, OECD SIDS, Association of American Feed Control Officials (AAFCO)

Section 17 Validity Information

Issuing Date: 14 May 2015

Expiry Date : 14 May 2018