

Monster K (Muriate of Potash) 0-0-60 Granular**Section 1. Identification**

Product identifier : Monster K Granular
Supplier identifier : Potassium Chloride (Muriate of Potash)
 : CAS # 7447-40-7
 : **Okangan Plant Products**
 : 1945 Kirschner Rd.
 Kelowna, BC V1Y 4N7

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Fertilizer. Manufacture of chemical products. Manufacture of specialty fertilizers.	
Uses advised against	Reason
Not to be used as an ingredient for human food.	Not approved

Emergency telephone number (with hours of operation) : BC Drug and Poison Information 1-800-567-8911

Section 2. Hazard identification

Classification of the substance or mixture : None
OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

GHS label elements

Hazard pictograms : None

Signal word : None

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Read label before use. If medical advice is needed, have product container or label at hand.

Prevention : Keep out of reach of children.

Response : None

Section 2. Hazard identification

- Storage** : None
- Disposal** : Dispose of contents and container in accordance with local, regional and national Regulations.

Supplemental label elements : None known.

Other hazards which do not result in classification : Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

Section 3. Composition/information on ingredients

Substance/mixture : Multi-constituent substance

Ingredient name	% (w/w)	CAS number
Potassium chloride	>95	7447-40-7
Sodium chloride	<4	7647-14-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove person to fresh air. No known significant effects. Seek medical attention for any signs of wheezing and/or breathing difficulties. For additional advice call the medical emergency number on this SDS or your poison center or medical provider.
- Skin contact** : No known significant effects. Rinse the affected areas with water. Remove contaminated clothing, jewelry, and shoes. Wash/clean items before reuse. Seek medical attention for persistent skin pain or irritation. For additional advice call the medical emergency number on this SDS or your poison center or doctor.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : May cause irritation due to mechanical action.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Inorganic salt. Prolonged or repeated exposure may dry the skin, causing irritation.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
dryness
redness
cracking

Section 4. First-aid measures

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment. Treat symptomatically.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. Mouth-to-mouth resuscitation of oral exposure patients is not recommended. First-aiders with contaminated clothing should be properly decontaminated.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Non-flammable. Material will not burn. Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Not applicable.

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark : No specific fire or explosion hazard. Contain and collect the water used to fight the fire for later treatment and disposal.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused adverse impacts (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Use appropriate equipment to put the spilled substance in a container for reuse or disposal.
or
Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : No additional information.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.

Advice on general occupational hygiene : Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. May form steep piles that can collapse without warning when stored in bulk. Avoid forming steep slopes when removing product. Ensure that bulk bags or smaller packaged products stored in tiers are stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, rolling, or collapse. Use caution when opening truck or railcar doors as product may have shifted during transport.

Must be stored in a dry location. Absorbs moisture on long-term storage under high humidity conditions. Store away from incompatible materials (see Section 10). When product is stored in sealable containers, keep container tightly closed and sealed until ready for use. Sealable containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Inorganic salt. May be corrosive to metals. Contact your sales representative or a metallurgical specialist to ensure compatibility with your equipment. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Potassium chloride	None known

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: sealed eyewear

Skin protection

Section 8. Exposure controls/personal protection

- Hand protection** : The personal protective equipment required varies, depending upon your risk assessment. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. No special measures are typically indicated.
- Body protection** : The personal protective equipment required varies, depending upon your risk assessment. Cotton or cotton/synthetic overalls or coveralls are normally suitable.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. For U.S. work sites where respiratory protection is required, ensure that a respiratory protection program meeting 29 CFR 1910.134 requirements is in place.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. Crystalline granules.
- Color** : Light Blue
- Odor** : Odorless.
- Odor threshold** : Not applicable.
- pH** : 9 [Conc. (% w/w): 10%]
- Melting point** : 773°C (1423.4°F)
- Boiling point** : 1411°C (2571.8°F)
- Flash point** : [Product does not sustain combustion.]
- Evaporation rate** : Not applicable.
- Flammability (solid, gas)** : Not applicable.
- Lower and upper explosive (flammable) limits** : Not applicable. Non-flammable. Non-combustible.
- Vapor pressure** : Not available.
- Vapor density** : Not applicable
- Relative density** : Refer to product specification information.
- Solubility** : Easily soluble in the following materials: cold water and hot water.
- Solubility in water** : 355g/l
- Partition coefficient: n-octanol/water** : <1
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : Not applicable.
- Viscosity** : Not applicable.

Section 10. Stability and reactivity

- Reactivity** : Not considered to be reactive according to our database.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Absorbs moisture on long-term storage under high humidity conditions. Store in a well-ventilated, dry place. Protect from moisture. May form steep piles that can collapse without warning when stored in bulk. Avoid forming steep slopes when removing product.

Section 10. Stability and reactivity

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	- -

Conclusion/Summary : No known significant effects or critical hazards.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Potassium chloride	Eyes	Rabbit	0	24 hours 500 milligrams -	- -

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Eyes : No significant irritation expected other than possible mechanical irritation.

Respiratory : No known significant effects or critical hazards.

Sensitization

Not available.

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Respiratory : No known significant effects or critical hazards.

Conclusion/Summary : Not mutagenic in Ames test.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Potassium chloride	Negative - Oral - TDLo	Rat - Male	1820 mg/kg -	- -

Conclusion/Summary : No evidence of risk to humans. No known significant effects or critical hazards.

Reproductive toxicity

Not available.

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Potassium chloride	Negative - Oral	Rat - Female	310 mg/m ³	-

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Inhalation.

Potential acute health effects

Eye contact : May cause irritation due to mechanical action.
Inhalation : No known significant effects or critical hazards.
Skin contact : Inorganic salt. Prolonged or repeated exposure may dry the skin, causing irritation.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
 dryness
 redness
 cracking
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary : Not considered to be toxic to humans.
General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Potassium chloride	Acute EC50 1337000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute LC50 30.1 mg/l Fresh water	Daphnia - Moinodaphnia macleayi - Neonate	48 hours
	Acute EC50 9.24 g/L Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 83000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 9.68 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	48 hours
Potassium chloride	Acute LC50 435000 µg/l Fresh water	Fish - Gambusia affinis - Adult	96 hours
	Chronic NOEC 240.45 mg/l Marine water	Crustaceans - Americamysis bahia	48 hours

Conclusion/Summary : No known significant effects or critical hazards.

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Potash, Granular, 0-0-60	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Potash, Granular, 0-0-60	<1	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

