



Section 1. Identification

Product identifier : White Soluble Muriate of Potash

Chemical name : Potassium chloride

SDS # : 102

Other means of identification

Synonyms : KCl; MOP

This safety data sheet applies to the following:

SOL - Muriate of Potash - Soluble 0-0-62

SOL - Muriate of Potash - Soluble, Fines <1.0% NaCl

IW2 - Muriate of Potash - Soluble, Fines <0.2% NaCl

Product code(s) : SOL, IW2

Product type : Solid.

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

Identified uses

Fertilizer. Industrial use.

Uses advised against

None.

Reason

Non-dangerous substance

Supplier's details



Prairie Mud Service

738 6th Street

Estevan, SK.

S4A 1A4

(306) 634-3411

Emergency telephone number (with hours of operation)

CANUTEC, (613) 996-6666, 24/7

Section 2. Hazard identification

- Classification of the substance or mixture** : Not classified.
- 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** : **Not Applicable.**
No Aplicable.
Non applicable.
- Signal word** : No signal word.
- Hazard statements** : No known significant effects or critical hazards.
- Precautionary statements**
- General** : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
- Prevention** : Not applicable.
- Response** : Not applicable.
- Storage** : Not applicable.
- Disposal** : Not applicable.
- 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	98.1 - 99.8	7447-40-7
Sodium chloride	0.1 - 1	7647-14-5

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** : May cause irritation due to mechanical action. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. 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** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Section 4. First-aid measures

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards. 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. Animal feed: Potassium chloride is listed in 21 CFR Part 582.5622 as generally recognized as safe when used in accordance with good manufacturing and feeding practice.

Over-exposure signs/symptoms

- Eye contact** : No specific data. Adverse symptoms may include the following:
irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : No specific data. Adverse symptoms may include the following:
dryness
cracking
- 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. For professional, multilingual, medical support, in case of medical emergencies involving Nutrien products, telephone the 24 hour Emergency Number: From Canada or the U.S., English: 1-303-389-1653; French or Spanish: 1-303-389-1654. From all other countries, English: 00-1-303-389-1653; French or Spanish: 00-1-303-389-1654.
- Specific treatments** : No specific treatment.
- 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 : 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. Do not touch or walk through spilled material. 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. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid prolonged contact with eyes, skin and clothing.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. 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 transported or stored in bulk. This may damage equipment and endanger workers. The risk of cliffing and sudden collapse increases if product is loaded or stored when hot or in high humidity conditions. Avoid forming steep slopes when removing product. If product has caked, cliffed, or has adhered to the storage or transport container, stay out of the potential engulfment zone in case the material collapses. Do not enter bins, railcars or trucks without conducting a risk assessment and following all confined space entry requirements. Ensure that consideration is given to fall protection and mobile equipment securement if applicable. Carefully loosen the set product from outside the container using mechanical vibration, sledge hammers, or other devices.

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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Canadian Regulations Muriate of Potash	CA Alberta Provincial (Canada). Alberta TWA: 10 mg/m ³ Inhalable, 3 mg/m ³ Respirable, for Particles Not Otherwise Regulated.: 10 mg/m ³ 8 hours. CA Quebec Provincial. Quebec TWAEV: for Particles Not Otherwise Regulated: 10 mg/m ³ 8 hours as Total Dust.
U.S. Federal Regulations Muriate of Potash	OSHA PEL (United States). TWA: 15 mg/m ³ , (Particulates not otherwise regulated (PNOR) Total particulates) 8 hours.

- 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**
- 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** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. 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.
- Thermal hazards** : When handling hot material, wear heat-resistant protective gloves and clothing.

Section 9. Physical and chemical properties

Appearance

Physical state	: Solid. [Crystalline solid.]
Color	: Off-white.
Odor	: Odorless.
Odor threshold	: Not available.
pH	: 7 [Conc. (% w/w): 10%]
Melting point	: 770°C (1418°F)
Boiling point	: 1420°C (2588°F)
Flash point	: [Product does not sustain combustion.]
Evaporation rate	: Not applicable.
Flammability (solid, gas)	: Non-combustible.
Lower and upper explosive (flammable) limits	: Not applicable.
Vapor pressure	: Not available.
Vapor density	: Not applicable
Relative density	: 62 - 78 lbs/ft ³ 993 - 1,245 kg/m ³
Solubility	: Easily soluble in the following materials: cold water and hot water.
Solubility in water	: 347 g/l
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: Not available.
Viscosity	: Not available.

Section 10. Stability and reactivity

Reactivity	: Not considered to be reactive.
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 dry place and/or closed container. May form steep piles that can collapse without warning when stored in bulk. Avoid forming steep slopes when removing product.
Incompatible materials	: A mixture of salts. May be corrosive to metals. Contact your sales representative or a metallurgical specialist to ensure compatibility with your equipment.
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	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
	LDLo Intra-arterial	Guinea pig	300 mg/kg	-
	LDLo Intraperitoneal	Rat	3720 mg/kg	-
	LDLo Oral	Man - Male	1 g/kg	-

Conclusion/Summary : Not considered to be acutely toxic.

Irritation/Corrosion

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

Conclusion/Summary

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

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

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

Sensitization

Not available.

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Respiratory : No known significant effects or critical hazards.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Potash	-	Subject: Bacteria	Negative
Potassium chloride	-	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative

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	-
Sodium chloride	Negative - Oral - TDLo	Rat - Male	-	-

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	-

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Inhalation
Skin contact
Oral

Potential acute health effects

Eye contact : No known significant effects or critical hazards. 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. Animal feed: Potassium chloride is listed in 21 CFR Part 582.5622 as generally recognized as safe when used in accordance with good manufacturing and feeding practice.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data. Adverse symptoms may include the following:
irritation
watering
redness

Inhalation : No specific data.

Skin contact : No specific data. Adverse symptoms may include the following:
dryness
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 : See above.

Potential delayed effects : See above.

Long term exposure

Potential immediate effects : See above.

Potential delayed effects : See below.

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 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 EC50 9.24 g/L Fresh water	Algae - Desmodesmus subspicatus	72 hours
Sodium chloride	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
	Acute LC50 435000 µg/l Fresh water	Fish - Gambusia affinis - Adult	96 hours
	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 28.85 mg/dm ³ Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
Chronic NOEC 6 g/L Fresh water	Chronic NOEC 0.314 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 100 mg/l Fresh water	Daphnia - Daphnia pulex	21 days
		Fish - Gambusia holbrooki - Adult	8 weeks

Conclusion/Summary : Practically non-toxic to aquatic organisms. May be harmful to the environment if released in large quantities.

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Potassium chloride	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Potassium chloride	<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. 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. Incineration or landfill should only be considered when recycling is not feasible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	TDG Classification	DOT Classification	Mexico Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	Classification per the current revision, Transportation of Dangerous Goods Regulation, Part 2, Sec 2.1.	-	-	-	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : All components are listed or exempted.

Section 15. Regulatory information

China	: All components are listed or exempted.
Europe	: This material is listed or exempted.
Japan	: Japan inventory (ENCS) : All components are listed or exempted. Japan inventory (ISHL) : Not determined.
Malaysia	: Not determined.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Turkey	: Not determined.
<u>U.S. Federal Regulations</u>	: TSCA 8(a) CDR Exempt/Partial exemption : Not determined TSCA 8(b) Active inventory : TSCA 8(b) Active inventory : All components are listed or exempted.
Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)	: Not listed
Clean Air Act Section 602 Class I Substances	: Not listed
Clean Air Act Section 602 Class II Substances	: Not listed
DEA List I Chemicals (Precursor Chemicals)	: Not listed
DEA List II Chemicals (Essential Chemicals)	: Not listed
<u>SARA 302/304 Composition/information on ingredients</u>	
SARA 304 RQ	: Not applicable.
<u>SARA 311/312 Classification</u>	: Not applicable.
<u>State regulations</u>	
Massachusetts	: None of the components are listed.
New York	: None of the components are listed.
New Jersey	: None of the components are listed.
Pennsylvania	: None of the components are listed.
<u>California Prop. 65</u>	: This product, as manufactured, does NOT contain any substance in concentrations known to the state of California to cause cancer, birth defects or other reproductive harm. Nutrien cannot guarantee the downstream compliance of any product once out of Nutrien custody.

Section 16. Other information

History

Date of issue/Date of revision	: 11/05/2019
Version	: 2.3

📌 Indicates information that has changed from previously issued version.