



SAFETY DATA SHEET

Potassium Chloride

Safety Data Sheet according to OSHA-GHS (29 CFR part 1910.1200 HCS 2012)

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier: Potassium chloride
Muriate of potash

Recommended uses:

Industrial use of the product for formulation of preparations or mixtures of fertilizers and other agricultural chemicals.
Consumer end-use of fertilizers, plant protection products.

Restrictions on uses:

Food raw material / food additive

Distributor

Chemistry Connection
253 Sturgis Road
Conway, AR 72034

Company Telephone

(501) 470-9689

Emergency Telephone Number

(800) 424 9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification of the chemical in accordance with 29CFR §1910.1200

Hazard classes and Hazard categories	Hazard statements
Not classified as hazardous.	

Label elements:

Hazard pictograms None applicable

Signal word None applicable

Hazard Statements None applicable

Precautionary Statements None applicable

Other hazards

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name	CAS No	EC No	Concentration
Potassium chloride	7447-40-7	231-211-8	> 95%

4. FIRST AID MEASURES

Description of first aid measures

General information

In case of persisting adverse effects consult a physician.

Never give anything by mouth to an unconscious person or a person with cramps.

In case of inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

In case of skin contact

Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.

In case of eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation occurs: Get medical advice/attention.

In case of ingestion

Rinse mouth and drink plenty of water.

Call a POISON CENTER or doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

The following symptoms may occur:

- In case of inhalation May cause irritation to respiratory tract
- In case of skin contact May cause redness or irritation
- In case of eye contact May cause redness or irritation
- In case of ingestion Ingestion of large amounts may cause: Gastrointestinal disturbances

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing media

- Suitable extinguishing media: Use any suitable mean for extinguishing surrounding fire.
- Unsuitable material: None, but attention should be paid to compatibility with chemicals surrounding.

Specific hazards arising from the chemical

Thermal decomposition can lead to the escape of toxic/irritating gases and vapours.

Thermal decomposition products: Potassium oxides.

Protective equipment and precautions for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Provide adequate ventilation. Wear personal protection equipment.

Environmental precautions

Do not allow to enter into surface water or drains. Ensure waste is collected and contained.

Methods for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal or recovery.

Unsuitable material for taking up: None specified

Other information

None

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid generation of dust. Provide adequate ventilation. Wear personal protective equipment, when required.

Keep away from food, drink and animal feeding stuff. Good hygiene practices and housekeeping measures.

Wash hands before breaks and at the end of workday

Conditions for safe storage, including any incompatibilities

Reseal carefully any opened container and set upright to avoid leakages.

Keep/store only in original container. Keep the product tightly closed in a dry, well-ventilated and cool place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Occupational exposure limits

Potassium chloride:

OSHA	PEL	Not Established	
	STEL/ceiling	Not Established	
ACGIH	TWA	Not Established	(2012 TLVs® and BEIs®)
	STEL/ceiling	Not Established	(2012 TLVs® and BEIs®)

Personal protective equipment

Eye / face protection	Chemical goggles.
Hand protection	Wear suitable gloves.
Respiratory protection	Dust mask required in dusty environments or exceeding total dust limits.

General Hygiene Considerations

Do not eat, drink or smoke when using this product.
Wash hands before breaks and at the end of workday

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Appearance	White crystals, brown-yellowish granules, red granules.	
Odour	Odourless	
Odour Threshold	Not applicable	
Physical state	Solid	
pH value	6.0 - 9.0 (5% solution)	
Melting point / freezing point	771-773°C / 1420-1423°F at 1013 hPa	(Literature information)
Boiling temperature / boiling range	Not applicable	
Flash point	Not applicable	
Vapourisation rate / Evaporation rate	Not applicable	
Flammability	Non flammable	(Based on chemical structure)
Explosion limits (LEL, UEL)	Not applicable	
Vapour pressure	Negligible	(Based on chemical nature)
Vapour density	No data available	
Density (bulk)	1.1 - 1.32 ton (metric)/m ³	
Solubility	347 g/L at 20°C / 68°F (water)	(Literature information)
Partition coefficient n-octanol /water	Not applicable	(Based on chemical nature)
Auto Ignition temperature (AIT)	Not applicable	
Decomposition temperature	1420-1500°C / 2588-2732°F at 1013 hPa	(Literature information)
Viscosity	Not applicable	
Explosive properties	Not explosive	(Based on chemical structure)
Oxidising properties	Not oxidising	(Based on chemical structure)

Other information

None

10. STABILITY AND REACTIVITY**Reactivity**

No hazardous reaction when handled and stored according to provisions.

Chemical stability

Stable under normal storage and temperature conditions.

Possibility of hazardous reactions

Reacts with concentrated sulfuric acid to generate fumes of hydrogen chloride.

Conditions to avoid

Contact with concentrated solutions of strong acids may produce gaseous hydrogen chloride

Incompatible materials

None identified.

Hazardous decomposition products

Thermal decomposition products: potassium oxides

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure (inhalation, ingestion, skin and eye contact)

Eye contact, skin contact and inhalation.

Exposure by ingestion is not expected to occur through normal industrial or professional use.

Symptoms related to the physical, chemical and toxicological characteristics

Large doses of this chemical usually induce vomiting, so acute intoxication by mouth is rare. If no pre-existing kidney damage, it is rapidly excreted. Poisoning disturbs the rhythm of heart. Large doses by mouth can cause gastrointestinal irritation, purging, weakness, and circulatory disturbances.

Information on toxicological effects from short and long term exposure

Acute toxicity

Acute oral toxicity	LD50:	2600 mg/kg bw	Species:	Method:
Assessment / classification:			Rat.	Not described

Based on available data, the classification criteria is not met

Irritant and corrosive effects

Primary irritation to the skin/eyes

No data available

Assessment / classification: Not classified (data lacking)

Respiratory or skin sensitisation

Skin sensitization: No information available.

Respiratory sensitisation: No information available.

Assessment / classification: Not classified (data lacking)

Germ cell mutagenicity / Genotoxicity

In-vitro mutagenicity

Gene-mutations microorganisms	Method:	Result:
Gene-mutations mammalian cells	Salmonella mutagenicity test	negative
Chromosome aberrat. mammalian cells	TK+/-L5178Y mouse lymphoma cells	negative

Equivocal

Effects are attributed to a high osmotic pressure

Assessment / classification: Based on available data, the classification criteria is not met

Reproductive toxicity

Adverse effects on reproduction

No fertility study has been located. Based on the extensive amount of knowledge on KCl intake, regulation and effects in the human body, no effects on reproduction are considered.

Adverse effects on developmental toxicity

No effects observed at the highest dose level 235 mg/kg/day (mice) and 310 mg/kg/day (rats)

Assessment / classification: Based on available data, the classification criteria is not met

Specific target organ toxicity (single exposure)

Practical experience / human evidence

Gastro-intestinal irritant effects in humans have been reported after ingestion of large doses.

Assessment / classification: Based on available data, the classification criteria is not met

Specific target organ toxicity (repeated exposure)

No adverse effects observed up to 1820 mg/Kg bw/day, and 80 mmol KCl/day (approx. 85 mg/kg bw/day) in humans.

Assessment / classification: Based on available data, the classification criteria is not met

Aspiration hazard

Physicochemical and toxicological data does not indicate a potential aspiration hazard.

Assessment / classification: Based on available data, the classification criteria is not met

Carcinogenicity

In a chronic toxicity test with KCl and NaCl in F344/SIc rats, no carcinogenic effects were found.

International Agency for Research on Cancer (IARC): Not listed

National Toxicology Program (NTP): Not listed

29 CFR part 1910, subpart Z: Not listed

Prop 65 (California): Not listed

Assessment / classification: Based on available data, the classification criteria is not met

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic toxicity

96-h LC50	2,010 mg/L	<i>Lepomis macrochirus</i> (Bluegill)	(literature information)
48-h EC50	337 - 825 mg/L	<i>Daphnia magna</i> (Big water flea).	(literature information)
3-4 months NOEL	600 mg/L	<i>Chlorella vulgaris</i> .	(literature information)

Assessment / classification

Based on available data, the classification criteria are not met

Persistence and degradability

Potassium chloride completely dissociates into respective ions. Ions do not undergo further degradation but are ubiquitously found in all environmental compartments and naturally form part of several human and animal structures.

Bioaccumulative potential

Potassium chloride has a low potential for bioaccumulation based on physicochemical properties.

Mobility in soil

Potassium not taken up by plants may become ion exchanged with clays or organic matter near the surface and thus may not be very mobile. Chloride binds only weakly to soil particles, and therefore follows water movement.

Other adverse effects

None described.

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with applicable federal and state laws.

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal method in compliance with applicable regulations.

Potassium chloride is not listed as a dangerous waste in Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

14. TRANSPORTATION INFORMATION

US DOT (ground)

UN-No.	Non dangerous good
UN Proper Shipping Name	Not applicable
Hazard class	Not applicable
Packing group	Not applicable
Marine pollutant	No
Hazard label	Not applicable

International Maritime Organization (IMDG Code)

UN-No.	Non dangerous good
UN Proper Shipping Name	Not applicable
Hazard class	Not applicable
Packing group	Not applicable
Marine pollutant	No
Hazard label	Not applicable

International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA)

UN-No.	Non dangerous good
UN Proper Shipping Name	Not applicable
Hazard class	Not applicable
Packing group	Not applicable
Hazard label	Not applicable

Special handling procedure

None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Other special precautions

None

15. REGULATORY INFORMATION

US Federal

SARA Title III Rules

Section 311/312 Hazard Classes

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Release of Pressure	No
Reactive Hazard	No

Section 313 Toxic Chemicals

No components listed

Section 302 Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances

No components listed

NFPA 704/2012: National Fire Protection Association

Health	1
Fire	0
Instability	0
Special	None

US State Regulations

California Proposition 65 No components listed

Canada

Ingredient Disclosure List: No components listed

WHMIS Classification: Not classified

This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

European Union

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Not classified as hazardous.

16. OTHER INFORMATION

This SDS complies with 29 CFR part 1910 subpart Z (2012), Canada Controlled Products Regulations (2010) and ANSI Standard Z400.1-2004

Last revision date

November 2012

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Indication of changes

All sections were reviewed and modified to comply with 29CFR part 1910 subpart Z (2012).