



صنعت پتاش اسیا
ASIA POTASH INDUSTRY

Safety Data Sheet (SDS)- Potassium Chloride

403-AD-RE-101-V01

2026-01-27

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Section 1: Product and Company Information

- **Product Name:** Potassium Chloride
- **Chemical Name:** Potassium Chloride
- **Chemical Formula:** KCl

Company Information

- **Company:** Asia Potash Industry
- **Address:** Unit 1, No.8, 17th Alley, South Gandhi St., Tehran, Iran.
- **Phone:** +98 21-88886036 / +98 21-88661968
- **Fax:** +98 21-88660379
- **Email:** info@apic.ir

Section 2: Composition and Information on Ingredients

Name	CAS Number	Weight Percentage
Potassium Chloride	7447-40-7	95%

Toxicological Data:

- **Oral LD50 (Lethal Dose 50%):**
 - Guinea pig: 2500 mg/kg
 - Rat: 2600 mg/kg
 - Mouse: 1500 mg/kg

Section 3: Potential Health Effects

Acute Health Effects

- **Skin Contact:** Slightly hazardous (irritant)
- **Eye Contact:** Slightly hazardous (irritant)
- **Ingestion:** Slightly hazardous
- **Inhalation:** Slightly hazardous

Chronic Health Effects

- **Carcinogenic Effects:** No data available
- **Mutagenic Effects:**
 - Mutagenic for mammalian somatic cells
 - Mutagenic for bacteria and/or yeast
- **Teratogenic Effects:** No data available
- **Developmental Toxicity:** No data available
- **Potential Toxicity:** May affect blood and cardiovascular system
- **Repeated or prolonged exposure:** May cause organ damage

Section 4: First Aid Measures

- **Eye Contact:** Remove contact lenses if present. Rinse eyes with plenty of water for at least 15 minutes. Use cold water if needed. Seek medical attention if irritation persists.
- **Skin Contact:** Wash affected area with soap and water. Apply a skin softener if irritation occurs. Seek medical attention if irritation persists.
- **Inhalation:** Move to fresh air. If breathing is difficult, provide oxygen. If the person is not breathing, perform artificial respiration. Seek medical attention if necessary.
- **Ingestion:** Do not induce vomiting unless instructed by a doctor. Do not give anything by mouth to an unconscious person. Loosen tight clothing and seek medical attention if symptoms occur.

Section 5: Fire and Explosion Data

- **Flammability:** Non-flammable
- **Auto-Ignition Temperature:** Not applicable
- **Flash Points:** Not applicable
- **Flammable Limits:** Not applicable
- **Fire Hazards:** Not applicable
- **Explosion Hazards:**
 - No data available for mechanical impact or electrostatic discharge
 - Slight explosion risk in the presence of oxidizing materials

Firefighting Measures:

- Potassium chloride is not flammable and can be used as a fire retardant.
- It is commonly used in dry chemical fire extinguishers.
- **Special Explosion Hazard:** May explode in contact with potassium permanganate and sulfuric acid.

Section 6: Accidental Release Measures

- **Small Spills:** Collect solid material using appropriate tools and place in a designated waste container. Wash the contaminated area with water.
- **Large Spills:** Use a shovel to collect material and place it in an appropriate container. Wash the contaminated surface and dispose of waste as per local regulations.

Section 7: Handling and Storage

- **Precautions:**
 - Avoid ingestion and inhalation of dust.
 - If swallowed, seek immediate medical attention.
 - Keep away from incompatible materials such as oxidizing agents, acids, and moisture.

- **Storage Conditions:**
 - Keep container tightly closed.
 - Store in a cool, well-ventilated place.
 - Hygroscopic (absorbs moisture).

Section 8: Personal Protection

- **Ventilation:** Use appropriate ventilation to maintain airborne dust below permissible limits.
- **Personal Protective Equipment (PPE):**
 - **Eye Protection:** Safety glasses
 - **Skin Protection:** Laboratory coat
 - **Respiratory Protection:** Dust mask
 - **Hand Protection:** Protective gloves
- **PPE for Large Spills:**
 - Splash-resistant safety goggles
 - Full protective clothing
 - Dust mask
 - Safety boots
 - Protective gloves

Section 9: Physical and Chemical Properties

- **Physical State:** Solid
- **Odor:** Odorless
- **Taste:** Strong salty taste
- **Molecular Weight:** 74.55 g/mol
- **Color:** White
- **pH (1% solution in water):** 5.5 - 8
- **Boiling Point:** 1420°C (2588°F)
- **Melting Point:** 770°C (1418°F)
- **Critical Temperature:** 660°C
- **Specific Gravity:** 1.987 (Water = 1)
- **Vapor Pressure:** Not applicable
- **Solubility:** Soluble in cold and hot water; slightly soluble in methanol-octanol

Section 10: Stability and Reactivity

- **Stability:** Stable
- **Incompatibilities:** Reacts with oxidizing agents and acids
- **Special Considerations:**
 - Hygroscopic
 - Incompatible with potassium permanganate (KMnO₄), sulfuric acid (H₂SO₄), bromine trifluoride (BrF₃), and bromine chloride (BrCl₃)
 - May react violently with BrF₃
- **Polymerization:** Will not occur

Section 11: Toxicological Information

- **Routes of Entry:** Inhalation, ingestion
- **Acute Toxicity (LD50 - Oral):** 1500 mg/kg (mouse)
- **Chronic Toxicity:** May affect blood and cardiovascular system
- **Other Toxic Effects:**
 - **Skin Contact:** May cause irritation
 - **Eye Contact:** Dust may cause eye irritation
 - **Inhalation:** Dust may cause respiratory tract irritation
 - **Ingestion Effects:**
 - May cause behavioral changes (coma, altered motor activity, dizziness, confusion)
 - Electrolyte imbalance
 - Blood clotting factor changes
 - Cardiovascular effects (hypotension, circulatory disturbances, arrhythmia)
 - Gastrointestinal distress (nausea, vomiting, diarrhea)
- **Potassium poisoning is rare in healthy individuals due to rapid renal excretion.**

Section 12: Ecological Information

- **Environmental Toxicity:** No data available
- **Biodegradation Products:** Not expected to be hazardous in the short term but may produce harmful degradation products over time

Section 13: Disposal Considerations

- Waste must be disposed of according to national environmental regulations.

Section 14: Transport Information

- **Regulatory Considerations:** Must be transported according to local regulations for chemical substances.

Section 15: Regulatory Information

- Potassium chloride is regulated under various national safety standards, including:
 - **USA:** Environmental Protection Agency (EPA)
 - **EU:** European Food Safety Authority (EFSA)
 - **Canada:** Canadian Environmental Protection Act (CEPA)
 - **Australia:** Australian Pesticides and Veterinary Medicines Authority (APVMA)
 - **India:** Food Safety and Standards Authority of India (FSSAI)

Section 16: Other Information

- **Preparation Date:** 2026-01-27

