

Potassium Chloride

1. General information

The information contained herein was obtained from sources believed to be reliable; Electrochemical Devices, Inc. (EDI) disclaims all liability for the content. This information applies to material in bulk form and may not be relevant to the small quantities of material used in our products. Potassium chloride is present in EDI reference electrodes with **AGG** in the second grouping of the model designation. The material is entirely contained within the electrode housing.

Synonyms: Sylvite; Monopotassium chloride; Potassium monochloride

CAS#: 7447-40-7

2. Hazard Overview

Appearance: White crystals. Hygroscopic.

Warning! Causes mild eye irritation. May cause skin irritation. May cause respiratory tract irritation.

Target Organs: Eyes.

Potential Health Effects

Eye: Causes eye irritation. May cause chemical conjunctivitis.

Skin: May cause skin irritation.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause gastric disturbances and electrolytic imbalance.

Inhalation: May cause respiratory tract irritation. Can produce delayed pulmonary edema.

Chronic: Effects may be delayed. Laboratory experiments have resulted in mutagenic effects.

3. First Aid

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

4. Fire Fighting

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

5. Accidental Release

General Information: Use proper personal protective equipment as indicated in Section 7.

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation.

6. Handling and Storage

Handling: Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid prolonged or repeated contact with skin. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

7. Exposure Control

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits:

ACGIH: none listed

NIOSH: none listed

OSHA - Final PELs: none listed

OSHA Vacated PELs: none listed

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR §1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

8. Physical and Chemical Characteristics

Physical State: Crystals

Appearance: White crystals

Odor: Odorless

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Sublimes at 1500 deg C

Freezing/Melting Point: 773 deg C

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Decomposition Temperature: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Reactivity: 0

Explosion Limits, Lower: Not available.

Upper: Not available.

Solubility: Soluble.

Specific Gravity/Density: 1.984

Molecular Formula: KCl

Molecular Weight: 74.5

9. Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Incompatible materials, dust generation, excess heat, exposure to moist air or water.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, bromine trifluoride, moisture, sulfuric acid + permanganates.

Hazardous Decomposition Products: Chlorine, oxides of potassium.

Hazardous Polymerization: Will not occur.

10. Toxicological Information

LD50/LC50: CAS# 7447-40-7:

Draize test, rabbit, eye: 500 mg/24H Mild;

Oral, mouse: LD50 = 1500 mg/kg;

Oral, rat: LD50 = 2600 mg/kg;<BR.

Carcinogenicity: CAS# 7447-40-7: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: Unscheduled DNA Synthesis: Oral, rat = 1500 ug/kg.;

Mutation in Microorganisms = Mouse, Lymphocyte = 2048 mg/L.;

DNA Damage = Hamster, Ovary = 260 mmol/L.;

Cytogenetic Analysis: Hamster, Lung = 12 gm/L.

Other Studies: Standard Draize Test: Administration into the eye (rabbit) = 500 mg/24H (Mild).

11. Ecological Information

No information available.