

POTASSIUM

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1. Product Identification

Synonyms: Kalium, Potassium metal

CAS No.: 7440-09-7

Molecular Weight: 39.10

Chemical Formula: K

Product Codes: CHEM-111 and others

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Potassium	7440-09-7	100	Yes

3. Hazards Identification

Emergency Overview

Potassium LD50: Not available. LC50: Not available.

SAF-T-DATA^(tm) Ratings

SAF-T-DATA^(tm) Ratings

Health Rating: 3 - Severe (Life)

Flammability Rating: 3 - Severe (Flammable)

Reactivity Rating: 3 - Severe (Water Reactive)

Contact Rating: 4 - Extreme (Corrosive)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS D EXTINGUISHER

Storage Color Code: Red Stripe (Store Separately)

Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (corrosive), of eye contact (corrosive). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the

eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, lungs, upper respiratory tract. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

4. First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

5. Fire Fighting Measures

Flammability of the Product: Flammable.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Some metallic oxides.

Fire Hazards in Presence of Various Substances:

Highly flammable in presence of open flames and sparks, of heat. Flammable in presence of moisture.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of

explosion of the product in presence of static discharge: Not available. Explosive in presence of moisture.

Fire Fighting Media and Instructions:

Flammable solid. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards:

Produces flammable gases on contact with water. May ignite on contact with water or moist air. May ignite spontaneously in air or oxygen. May be ignited by heat, sparks, or flame. Fire will produce irritating, corrosive and/or toxic gases. Burns violently, accompanied by explosions which cause spattering.

Special Remarks on Explosion Hazards:

Can react vigorously or explosively on contact with water. Mixture of solid forms of potassium and carbon dioxide (as dry ice) explodes when subjected to shock. Potassium and its alloys form explosive mixtures with carbon tetrachloride and chlorinated hydrocarbons.

6. Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:

Corrosive solid. Flammable solid that, in contact with water, emits flammable gases. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Cover with dry earth, sand or other non-combustible material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

7. Handling and Storage

Precautions:

Keep container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, organic materials, metals, acids, moisture.

Storage:

Keep container tightly closed. Keep container in a cool, well-ventilated area. Keep from any possible contact with water. Do not allow water to get into container because of violent reaction. Moisture sensitive. Air Sensitive

8. Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

9. Physical and Chemical Properties

Physical state and appearance: Solid. (Soft Metal solid.)

Odor: Not available.

Taste: Not available.

Molecular Weight: 39.102 g/mole

Color: Silvery-White (when freshly cut), Grey to Bluish-Grey.

pH (1% soln/water): Not available.

Boiling Point: 765.5°C (1409.9°F)

Melting Point: 63.2°C (145.8°F)

Critical Temperature: Not available.

Specific Gravity: 0.856 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility:

Soluble in liquid ammonia, ethylenediamine, aniline, several metals, forming alloys. Soluble in acid, mercury.

10. Stability and Reactivity

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Water, moisture, moist air, incompatible materials, heat, ignition sources

Incompatibility with various substances:

Highly reactive with moisture. Reactive with oxidizing agents, organic materials, metals, acids. The product reacts violently with water to emit flammable but non toxic gases.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Air sensitive. Moisture sensitive. Oxidizes (tarnishes) when exposed to air. Peroxide formation may occur in containers that have been opened and remain in storage. May produce corrosive solutions on contact with water. Extremely dangerous in contact with water or moisture, releasing hydrogen with sufficient heat to cause ignition or explosion. Reacts violently with water, carbon dioxide, carbon tetrachloride. Also incompatible with acids, metal and non-metal halides, halogens, halocarbons, hydrogen iodide, silicates, sulfates, nitrates, carbonates, phosphates, oxides and hydroxides of heavy metals, organics, and Telfon.

Special Remarks on Corrosivity: Corrosive

Polymerization: Will not occur.

11. Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact. Inhalation. Ingestion.

Toxicity to Animals: LD50: Not available. LC50: Not available.

Chronic Effects on Humans: May cause damage to the following organs: blood, lungs, upper respiratory tract.

Other Toxic Effects on Humans:

Very hazardous in case of skin contact (irritant), of ingestion, . Hazardous in case of skin contact (corrosive), of eye contact (corrosive), of inhalation (lung corrosive).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Potential Health Effects: Skin: Causes severe skin irritation and burns. Eyes: Causes severe eye irritation and burns. Inhalation: Exposure to Potassium fumes can irritate the nose, and throat with sneezing, coughing and sore throat. Potassium fumes can irritate the lungs. Repeated inhalation of Potassium fumes may cause sores of the inner nose, and bronchitis to develop with cough, phlegm, and/or shortness of breath. Ingestion: May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause systemic toxic effects of the heart, liver, and kidneys. It may affect the blood.

12. Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

13. Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport Information

DOT Classification: CLASS 4.3: Dangerous when wet material.

Identification: : Potassium UNNA: 2257 PG: I

Special Provisions for Transport: Not available.

15. Regulatory Information

Federal and State Regulations:

Connecticut hazardous material survey.: Potassium Rhode Island RTK hazardous substances: Potassium Pennsylvania RTK: Potassium Massachusetts RTK: Potassium Massachusetts spill list: Potassium New Jersey: Potassium California Director's List of Hazardous Substances: Potassium TSCA 8(b) inventory: Potassium

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS B-6: Reactive and very flammable material. CLASS E: Corrosive solid.

DSCL (EEC):

R14/15- Reacts violently with water, liberating extremely flammable gases. R34- Causes burns. S8- Keep container dry. S45-In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 3

Reactivity: 3

Personal Protection: j

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 3

Reactivity: 2

Specific hazard:

Protective Equipment:

Gloves. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

16. Other Information

NFPA Ratings: Health: 2 Flammability: 0 Reactivity: 0

Label HReferences: Not available.

Other Special Considerations: Not available.

Product Use:

Laboratory Reagent and Consumer Hobby

Revision Information:

No Changes.

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