

# Potassium Metal

**United Nuclear**

Scientific Equipment & Supplies

## Company Identification:

United Nuclear Scientific  
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**24 HR EMERGENCY Telephone Number:**

VelocityEHS (USA): 800-255-3924

## 1. Product Identification

**Synonyms:** Metallic potassium; Potassium, metallic

**CAS No.:** 7440-09-7

**Molecular Weight:** 39.10

**Chemical Formula:** K

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Potassium	7440-09-7	99 - 100%	Yes

## 3. Hazards Identification

### Emergency Overview

**FLAMMABLE SOLID. CORROSIVE. WATER REACTIVE. CATCHES FIRE IF EXPOSED TO AIR. HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CONTACT MAY CAUSE BURNS TO ALL BODY TISSUE.**

J.T. Baker SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Poison)

Flammability Rating: 3 - Severe (Flammable)

Reactivity Rating: 3 - Severe (Water Reactive)

Contact Rating: 4 - Extreme (Corrosive)

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

Storage Color Code:

Red Stripe (Store Separately)

### Potential Health Effects

#### Inhalation:

Inhalation produces damaging effects on the mucous membranes and upper respiratory tract. Symptoms may include irritation of the nose and throat, and labored breathing. May cause lung edema, a medical emergency.

#### Ingestion:

Extremely dangerous, corrosive material. Will react immediately with saliva to cause serious burns and possible local combustion and even explosion of hydrogen in the mouth or esophagus. The metal's low melting point can cause further complications.

#### Skin Contact:

Corrosive, can cause serious burns due to almost immediate reaction with water, especially on moist skin. If metal ignites, very deep burns and tissue destruction can occur.

#### Eye Contact:

Corrosive. May cause redness, pain, blurred vision, and damage from severe alkali burns.

#### Chronic Exposure:

Continued or repeated skin contact may cause dermatitis, mucous membrane irritation, and lung damage..

#### Aggravation of Pre-existing Conditions:

No information found.

## 4. First Aid Measures

### Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep patient quiet in half upright position. Get medical attention immediately.

**Ingestion:**

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Contact:**

Wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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## 5. Fire Fighting Measures

**Fire:**

Flammable solid, water reactive. Can react vigorously with water, steam, acids to release flammable/explosive hydrogen. Dangerous in presence of oxidants. May ignite spontaneously in moist air or oxygen. May re-ignite after fire is extinguished.

**Explosion:**

May produce explosive hydrogen in contact with water or acids. Oxide coating, even if formed during storage under oil, may contain contact-explosive peroxides.

**Fire Extinguishing Media:**

Use dry soda ash, dry salt, sand, graphite powder or metal-fire-extinguishing dry powder such as Met-L-X(tm). Do not use water, foam, carbon dioxide, dry chemical, or chlorinated fire extinguishers.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## 6. Accidental Release Measures

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Keep away from water or locations where water may be needed for fire. Avoid high temperatures. Store under nitrogen or kerosene. Never store under halogenated hydrocarbons. A detached fire-resistive building is recommended for quantity storage. Isolate from air, acids, and oxidizing materials. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**

None established.

**Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to the dust or mist is apparent, a full-face dust/mist respirator should be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

**Appearance:**

Soft, silvery-gray metal sticks.

**Odor:**

Odorless.

**Solubility:**

Reacts vigorously with water.

**Specific Gravity:**

0.856 @20C.

**pH:**  
Water solution alkaline (pH >7).

**% Volatiles by volume @ 21C (70F):**  
0

**Boiling Point:**  
765.5C (1411F)

**Melting Point:**  
63.2C (145F)

**Vapor Density (Air=1):**  
No information found.

**Vapor Pressure (mm Hg):**  
No information found.

**Evaporation Rate (BuAc=1):**  
No information found.

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## 10. Stability and Reactivity

**Stability:**  
Water reactive. CAUTION: Potassium metal will form explosive peroxides at room temperature even when stored under oil. Oxidized metal in storage under oil may explode violently when handled or cut; handle potassium metal with extreme care, minimizing any shocks.

**Hazardous Decomposition Products:**  
Does not decompose but can form hydrogen and potassium oxides and hydroxide in contact with air.

**Hazardous Polymerization:**  
Will not occur.

**Incompatibilities:**  
Water, oxygen, carbon dioxide, halogens, acetylene, metal halides, ammonium salts, oxides, oxidizing agents, acids, alcohols, chlorinated organic compounds, many other substances.

**Conditions to Avoid:**  
Air, heat, flames, ignition sources and incompatibles.

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## 11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Potassium (7440-09-7)	No	No	None

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## 12. Ecological Information

**Environmental Fate:**  
No information found.

**Environmental Toxicity:**  
No information found.

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## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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## 14. Transport Information

Not regulated.

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## 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Potassium (7440-09-7)	Yes	NE*	NE*	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	DSL	NDSL	Phil.
Potassium (7440-09-7)	Yes	Yes	No	Yes

\*NE - Not Evaluated

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-SARA 313-	
	RQ	TPQ	List	Chemical Catg.
Potassium (7440-09-7)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----				
Ingredient	CERCLA	-RCRA-	-TSCA-	
		261.33	8 (d)	
Potassium (7440-09-7)	No	No	No	

Chemical Weapons Convention: No TSCA 12 (b): No CDTA: No  
 SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No  
 Reactivity: Yes (Pure / Solid)

**Australian Hazchem Code:** 4W  
**Poison Schedule:** No information found.

**WHMIS:**  
 This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**Health:** 3 **Flammability:** 3 **Reactivity:** 2 **Other:** Water reactive

**Label Hazard Warning:**  
 DANGER! FLAMMABLE SOLID. CORROSIVE. WATER REACTIVE. CATCHES FIRE IF EXPOSED TO AIR. HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CONTACT MAY CAUSE BURNS TO ALL BODY TISSUE.

**Label Precautions:**  
 Do not get in eyes, on skin, or on clothing. Do not breathe vapor. Use only with adequate ventilation. Store in a tightly closed container. Do not get wet. Keep away from heat, sparks and flame. Wash thoroughly after handling. Remove and wash contaminated clothing promptly.

**Label First Aid:**  
 If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately. In case of contact, wipe off excess material from skin then immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases get medical attention immediately.

**Product Use:**  
 Laboratory Reagent

**Revision Information:**  
 New 16 section MSDS format, all sections have been revised.

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 The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall United Nuclear Scientific be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.  
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