

## Material Safety Data Sheet

Version 4.7  
Revision Date 05/08/2012  
Print Date 05/29/2012

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Potassium *tert*-butoxide

Product Number : 156671

Brand : Aldrich

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832

Fax : +1 800-325-5052

Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Unstable Reactive, Corrosive

##### GHS Classification

Flammable solids (Category 2)  
Self-heating substances (Category 2)  
Skin corrosion (Category 1A)  
Serious eye damage (Category 1)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H228 Flammable solid.  
H252 Self-heating in large quantities; may catch fire.  
H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P235 + P410 Keep cool. Protect from sunlight.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor/ physician.

##### Other hazards

Reacts violently with water.

##### HMIS Classification

Health hazard: 3  
Flammability: 0

**Physical hazards:** 2  
**NFPA Rating**  
**Health hazard:** 3  
**Fire:** 0  
**Reactivity Hazard:** 2

**Potential Health Effects**

**Inhalation** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.  
**Skin** May be harmful if absorbed through skin. Causes skin burns.  
**Eyes** Causes eye burns. Causes severe eye burns.  
**Ingestion** May be harmful if swallowed.

---

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Potassium t-butoxide  
Potassium tert-butylate

Formula : C<sub>4</sub>H<sub>9</sub>KO  
Molecular Weight : 112.21 g/mol

Component		Concentration
<b>Potassium tert-butanolate</b>		
CAS-No.	865-47-4	-
EC-No.	212-740-3	

---

**4. FIRST AID MEASURES**

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

---

**5. FIREFIGHTING MEASURES**

**Conditions of flammability**

Not flammable or combustible.

**Suitable extinguishing media**

Dry powder

**Special protective equipment for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Potassium oxides

---

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Avoid breathing dust.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water. Keep in suitable, closed containers for disposal.

---

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Never allow product to get in contact with water during storage.

Air and moisture sensitive. Handle and store under inert gas.

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	solid
Colour	light yellow

### Safety data

pH	no data available
Melting point/freezing point	Melting point/range: 256 - 258 °C (493 - 496 °F) - dec.
Boiling point	no data available
Flash point	no data available

Flammability (solid, gas)	The substance or mixture is a flammable solid with the category 2.
Ignition temperature	no data available
Autoignition temperature	The substance or mixture is classified as self heating with the category 2.
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	1 hPa (1 mmHg) at 220 °C (428 °F)
Density	no data available
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

---

## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

Reacts violently with water.

### Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight. Exposure to moisture.

### Materials to avoid

Water, acids, Reducing agents, Oxygen, Alcohols, Chlorinated solvents, Halogens, Ketones

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Potassium oxides  
Other decomposition products - no data available

---

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

no data available

#### Inhalation LC50

no data available

#### Dermal LD50

no data available

#### Other information on acute toxicity

no data available

### Skin corrosion/irritation

Skin - rabbit - Causes severe burns.

### Serious eye damage/eye irritation

Causes eye burns.

### Respiratory or skin sensitization

no data available

### **Germ cell mutagenicity**

no data available

### **Carcinogenicity**

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### **Reproductive toxicity**

no data available

### **Teratogenicity**

no data available

### **Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

### **Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

### **Aspiration hazard**

no data available

### **Potential health effects**

- |                   |   |
|-------------------|---|
| <b>Inhalation</b> | May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. |
| <b>Ingestion</b>  | May be harmful if swallowed.  |
| <b>Skin</b>       | May be harmful if absorbed through skin. Causes skin burns.   |
| <b>Eyes</b>       | Causes eye burns. Causes severe eye burns.  |

### **Signs and Symptoms of Exposure**

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

### **Synergistic effects**

no data available

### **Additional Information**

RTECS: Not available

---

## **12. ECOLOGICAL INFORMATION**

### **Toxicity**

no data available

### **Persistence and degradability**

no data available

### **Bioaccumulative potential**

no data available

### **Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

no data available

---

**13. DISPOSAL CONSIDERATIONS****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

---

**14. TRANSPORT INFORMATION****DOT (US)**

UN number: 3206 Class: 4.2 (8) Packing group: II  
Proper shipping name: Alkali metal alcoholates, self-heating, corrosive, n.o.s. (Potassium tert-butanolate)  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN number: 3206 Class: 4.2 (8) Packing group: II EMS-No: F-A, S-J  
Proper shipping name: ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S. (Potassium tert-butanolate)  
Marine pollutant: No

**IATA**

UN number: 3206 Class: 4.2 (8) Packing group: II  
Proper shipping name: Alkali metal alcoholates, self-heating, corrosive, n.o.s. (Potassium tert-butanolate)

---

**15. REGULATORY INFORMATION****OSHA Hazards**

Unstable Reactive, Corrosive

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Reactivity Hazard, Acute Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Potassium tert-butanolate	865-47-4	

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
Potassium tert-butanolate	865-47-4	

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

---

**16. OTHER INFORMATION**

**Further information**

Copyright 2012 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

---