

MATERIAL SAFETY DATA SHEET

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Version 1.4

Section 1 - Product and Company Information

Product Name	POTASSIUM SUPEROXIDE, POWDER
Product Number	278904
Brand	ALDRICH
Company	Sigma-Aldrich
Address	3050 Spruce Street
	SAINT LOUIS MO 63103 US
Technical Phone:	800-325-5832
Fax:	800-325-5052
Emergency Phone:	314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
POTASSIUM SUPEROXIDE	12030-88-5	No
Formula	KO ₂	
Synonyms	Potassium dioxide	
RTECS Number:	TT6053000	

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Oxidizing. Corrosive.

Contact with combustible material may cause fire. Causes burns.

Reacts violently with water.

HMIS RATING

HEALTH: 3

FLAMMABILITY: 0

REACTIVITY: 3

SPECIAL HAZARD(S): Water reactive

NFPA RATING

HEALTH: 3

FLAMMABILITY: 0

REACTIVITY: 3

SPECIAL HAZARD(S): Water reactive

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s): Emits toxic fumes under fire conditions.

Contact with other material may cause fire. May accelerate combustion.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame. Store in a cool dry place.

Incompatible Materials: Do not allow contact with water

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Remove and wash contaminated clothing promptly.

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid Color: Light yellow Form: Powder	
Property	Value	At Temperature or Pressure
Molecular Weight	71.1 AMU	
pH	N/A	
BP/BP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Conditions to Avoid: Do not allow water to enter container because of violent reaction.

Materials to Avoid: Strong acids, Alcohols, Strong reducing agents, Finely powdered metals.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Oxygen, Potassium oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes burns.

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

CHRONIC EXPOSURE - MUTAGEN

Species: Human

Dose: 10 MG/L

Cell Type: Other cell types

Mutation test: DNA damage

Species: Human

Dose: 100 UG/L

Cell Type: lymphocyte

Mutation test: Cytogenetic analysis

Species: Hamster

Dose: 12500 UG/L

Cell Type: ovary

Mutation test: DNA damage

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Potassium superoxide

UN#: 2466

Class: 5.1

Packing Group: Packing Group I

Hazard Label: Oxidizer

PIH: Not PIH

IATA

Proper Shipping Name: Potassium superoxide
IATA UN Number: 2466
Hazard Class: 5.1
Packing Group: I
Not Allowed - Aircraft: Cargo aircraft only. Not permitted on passenger aircraft.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: O-C
Indication of Danger: Oxidizing. Corrosive.
R: 8-34-14
Risk Statements: Contact with combustible material may cause fire. Causes burns. Reacts violently with water.
S: 17-27-36/37/39
Safety Statements: Keep away from combustible material. Take off immediately all contaminated clothing. Wear suitable protective clothing, gloves, and eye/face protection.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Oxidizing. Corrosive.
Risk Statements: Contact with combustible material may cause fire. Causes burns. Reacts violently with water.
Safety Statements: Keep away from combustible material. Take off immediately all contaminated clothing. Wear suitable protective clothing, gloves, and eye/face protection.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No
NDSL: Yes

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

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 Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2006 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.