1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Potassium bromate
Product Number: 60085
Brand: Sigma-Aldrich
Supplier: Sigma-Aldrich Corporation
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5052
Emergency Phone #: (314) 776-6555
Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Oxidizer, Carcinogen, Target Organ Effect, Toxic by ingestion

Target Organs
Kidney, ears, Liver, Central nervous system

GHS Classification
Oxidizing solids (Category 1)
Acute toxicity, Oral (Category 3)
Carcinogenicity (Category 1B)

GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)
H271 May cause fire or explosion; strong oxidiser.
H301 Toxic if swallowed.
H350 May cause cancer.

Precautionary statement(s)
P201 Obtain special instructions before use.
P220 Keep/Store away from clothing/ combustible materials.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

HMIS Classification
Health hazard: 2
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 2
NFPA Rating

- Health hazard: 2
- Fire: 0
- Reactivity hazard: 2
- Special hazard: OX

Potential Health Effects

- Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
- Skin: May be harmful if absorbed through skin. May cause skin irritation.
- Eyes: May cause eye irritation.
- Ingestion: Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

- Formula: BrKO₃
- Molecular Weight: 167.00 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium bromate</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>7758-01-2</td>
</tr>
<tr>
<td>EC-No.</td>
<td>231-829-8</td>
</tr>
<tr>
<td>Index-No.</td>
<td>035-003-00-6</td>
</tr>
</tbody>
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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**
  Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

- **In case of eye contact**
  Flush eyes with water as a precaution.

- **If swallowed**
  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**
  Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

- **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. - Hydrogen bromide gas, Potassium oxides

- **Further information**
  Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

- **Personal precautions**
  Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. 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). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking.

**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
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<td>7758-01-2</td>
<td>TWA</td>
<td>0.1 mg/m3</td>
<td>USA. Workplace Environmental Exposure Levels (WEEL)</td>
</tr>
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</table>

**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.

**Immersion protection**
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 480 min
Material tested:Dermatril® (Aldrich Z677272, Size M)

**Splash protection**
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 30 min
Material tested:Dermatril® (Aldrich Z677272, Size M)

**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. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.
9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form solid
Colour no data available

Safety data
pH 5.0 - 9.0 at 50 g/l at 20 °C (68 °F)
Melting point/freezing point:
Boiling point no data available
Flash point not applicable
Ignition temperature no data available
Autoignition temperature no data available
Lower explosion limit no data available
Upper explosion limit no data available
Vapour pressure no data available
Density 3.270 g/cm³
Water solubility ca.16.7 g/l at 20 °C (68 °F)
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
no data available

Conditions to avoid
no data available

Materials to avoid
Strong reducing agents, Powdered metals

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

Thermal decomposition
370 °C

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 157 mg/kg
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Olfaction: Other changes. Diarrhoea
**Inhalation LC50**
no data available

**Dermal LD50**
no data available

**Other information on acute toxicity**
no data available

**Skin corrosion/irritation**
no data available

**Serious eye damage/eye irritation**
no data available

**Respiratory or skin sensitization**
no data available

**Germ cell mutagenicity**
no data available

**Carcinogenicity**
This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Possible human carcinogen

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Potassium bromate)

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

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Signs and Symptoms of Exposure
Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

Synergistic effects  
no data available

Additional Information  
RTECS: EF8725000

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: 1484   Class: 5.1   Packing group: II
Proper shipping name: Potassium bromate
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN number: 1484   Class: 5.1   Packing group: II
Proper shipping name: POTASSIUM BROMATE
EMS-No: F-H, S-Q
Marine pollutant: No

IATA
UN number: 1484   Class: 5.1   Packing group: II
Proper shipping name: Potassium bromate
15. REGULATORY INFORMATION

OSHA Hazards
Oxidizer, Carcinogen, Target Organ Effect, Toxic by ingestion

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
The following components are subject to reporting levels established by SARA Title III, Section 313:

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SARA 311/312 Hazards
Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

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Pennsylvania Right To Know Components

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New Jersey Right To Know Components

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California Prop. 65 Components
WARNING! This product contains a chemical known to the State of California to cause cancer.

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16. OTHER INFORMATION

Further information
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