

**1 Identification**

**Product identifier**

**Product name:** Potassium bromate

**Stock number:** 40013

**CAS Number:**

7758-01-2

**EC number:**

231-829-8

**Index number:**

035-003-00-6

**Details of the supplier of the safety data sheet**

**Manufacturer/Supplier:**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
Email: tech@alfa.com  
www.alfa.com


**Information Department:** Health, Safety and Environmental Department

**Emergency telephone number:**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

**2 Hazard(s) identification**

**Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)**

 GHS03 Flame over circle

Ox. Sol. 1 H271 May cause fire or explosion; strong oxidizer.

 GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

 GHS08 Health hazard

Carc. 1A H350 May cause cancer.

**Hazards not otherwise classified** No information known.

**Label elements**

**GHS label elements** The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

**Hazard pictograms**



GHS03 GHS06 GHS08

**Signal word** Danger

**Hazard statements**

H271 May cause fire or explosion; strong oxidizer.

H301 Toxic if swallowed.

H350 May cause cancer.

**Precautionary statements**

P221 Take any precaution to avoid mixing with combustibles.

P283 Wear fire/flame resistant/retardant clothing.

P210 Keep away from heat. - No smoking.

P201 Obtain special instructions before use.

P220 Keep/Store away from clothing/combustible materials.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P306+P360 If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

P371+P380+P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**WHMIS classification**

C - Oxidizing materials

D1B - Toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects



**Classification system**

**HMIS ratings (scale 0-4)**

**(Hazardous Materials Identification System)**

HEALTH 2 Health (acute effects) = 2

FIRE 0 Flammability = 0

REACTIVITY 3 Physical Hazard = 3

**Other hazards**

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

Product name: **Potassium bromate**

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### 3 Composition/information on ingredients

**Chemical characterization: Substances**

**CAS# Description:**

7758-01-2 Potassium bromate

**Concentration:** ≤100%

**Identification number(s):**

**EC number:** 231-829-8

**Index number:** 035-003-00-6

### 4 First-aid measures

**Description of first aid measures**

**General information**

Immediately remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

**After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing** Do not induce vomiting; immediately call for medical help.

**Information for doctor**

**Most important symptoms and effects, both acute and delayed**

Toxic if swallowed.

May cause cancer.

Suspected of causing cancer by inhalation.

**Indication of any immediate medical attention and special treatment needed** No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents** Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.

**For safety reasons unsuitable extinguishing agents** Halocarbon extinguisher

**Special hazards arising from the substance or mixture**

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

If this product is involved in a fire, the following can be released:

Hydrogen bromide (HBr)

Potassium oxide

**Advice for firefighters**

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

### 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**Environmental precautions:** Do not allow product to reach sewage system or any water course.

**Methods and material for containment and cleaning up:** Dispose of contaminated material as waste according to section 13.

**Prevention of secondary hazards:**

Acts as an oxidizing agent on organic materials such as wood, paper and fats

Keep away from combustible material.

**Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**Protective Action Criteria for Chemicals**

**PAC-1:** 0.3 mg/m<sup>3</sup>

**PAC-2:** 3.1 mg/m<sup>3</sup>

**PAC-3:** 89 mg/m<sup>3</sup>

### 7 Handling and storage

**Handling**

**Precautions for safe handling**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Open and handle container with care.

**Information about protection against explosions and fires:**

Substance/product can reduce the ignition temperature of flammable substances.

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

**Conditions for safe storage, including any incompatibilities**

**Storage**

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:**

Store away from flammable substances.

Store away from reducing agents.

Do not store with organic materials.

Store away from metal powders.

**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

**Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

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USA

**Product name: Potassium bromate**

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**Control parameters**

**Components with limit values that require monitoring at the workplace:**

**7758-01-2 Potassium bromate (100.0%)**

WEEL (USA) Long-term value: 0.1 mg/m<sup>3</sup>

**Additional information:** No data

**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

**Recommended filter device for short term use:**

Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

**Protection of hands:**

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

**Material of gloves:** Nitrile rubber, NBR

**Penetration time of glove material (in minutes):** 480

**Glove thickness:** 0.11 mm

**Eye protection:** Safety glasses with side shields / NIOSH (US) or EN 166(EU)

**Body protection:** Protective work clothing.

**9 Physical and chemical properties**

**Information on basic physical and chemical properties**

**General information**

**Appearance:**

**Form:** Solid

**Odor:** Odorless

**Odor threshold:** Not determined.

**pH-value:** Not applicable.

**Change in condition**

**Melting point/Melting range:** ca 370 °C (ca 698 °F) (dec)

**Boiling point/Boiling range:** Not determined

**Sublimation temperature / start:** Not determined

**Flammability (solid, gaseous):** Contact with combustible material may cause fire.

**Ignition temperature:** Not determined

**Decomposition temperature:** Not determined

**Auto igniting:** Not determined.

**Danger of explosion:** Explosive when mixed with combustible material.

**Explosion limits:**

**Lower:** Not determined

**Upper:** Not determined

**Vapor pressure:** Not applicable.

**Density at 20 °C (68 °F):** 3.27 g/cm<sup>3</sup> (27.288 lbs/gal)

**Relative density:** Not determined.

**Vapor density:** Not applicable.

**Evaporation rate:** Not applicable.

**Solubility in / Miscibility with**

**Water:** Soluble

**Partition coefficient (n-octanol/water):** Not determined.

**Viscosity:**

**dynamic:** Not applicable.

**kinematic:** Not applicable.

**Other information:** No further relevant information available.

**10 Stability and reactivity**

**Reactivity**

May intensify fire; oxidizer.

May cause fire or explosion; strong oxidizer.

**Chemical stability:** Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:** Decomposition will not occur if used and stored according to specifications.

**Possibility of hazardous reactions**

Reacts with reducing agents

Reacts with flammable substances

**Conditions to avoid:** No further relevant information available.

**Incompatible materials:**

Flammable substances

Reducing agents

Organic materials

Metal powders

**Hazardous decomposition products:**

Hydrogen bromide

Potassium oxide

**11 Toxicological information**

**Information on toxicological effects**

**Acute toxicity:**

Toxic if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

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USA

**Product name: Potassium bromate**

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**LD/LC50 values that are relevant for classification:**

Oral LD50 157 mg/kg (rat)

**Skin irritation or corrosion:** May cause irritation

**Eye irritation or corrosion:** May cause irritation

**Sensitization:** No sensitizing effects known.

**Germ cell mutagenicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

**Carcinogenicity:**

May cause cancer.

IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.

**Reproductive toxicity:** No effects known.

**Specific target organ system toxicity - repeated exposure:** No effects known.

**Specific target organ system toxicity - single exposure:** No effects known.

**Aspiration hazard:** No effects known.

**Subacute to chronic toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

**12 Ecological information**

**Toxicity**

**Aquatic toxicity:** No further relevant information available.

**Persistence and degradability:** No further relevant information available.

**Bioaccumulative potential:** No further relevant information available.

**Mobility in soil:** No further relevant information available.

**Additional ecological information:**

**General notes:**

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Avoid transfer into the environment.

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**Other adverse effects:** No further relevant information available.

**13 Disposal considerations**

**Waste treatment methods**

**Recommendation:** Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

**UN-Number**

DOT, IMDG, IATA

UN1484

**UN proper shipping name**

DOT

Potassium bromate

ADR

1484 Potassium bromate

IMDG, IATA

POTASSIUM BROMATE

**Transport hazard class(es)**

DOT



Class  
Label  
ADR

5.1 Oxidizing substances

5.1



Class

Label

IMDG, IATA

5.1 (O2) Oxidizing substances

5.1



Class

Label

5.1 Oxidizing substances

5.1

**Packing group**

DOT, ADR, IMDG, IATA

II

**Environmental hazards:**

Not applicable.

**Special precautions for user**

EMS Number:

Warning: Oxidizing substances

Segregation groups

F-H, S-Q

Stowage Category

A

Segregation Code

SG38 Stow "separated from" ammonium compounds.

SG49 Stow "separated from" cyanides

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.

**Transport/Additional information:**

DOT

Quantity limitations

On passenger aircraft/rail: 5 kg

On cargo aircraft only: 25 kg

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**Product name: Potassium bromate**

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**Marine Pollutant (DOT):**

No

**IMDG**  
**Limited quantities (LQ)**  
**Excepted quantities (EQ)**

1 kg  
Code: E2  
Maximum net quantity per inner packaging: 30 g  
Maximum net quantity per outer packaging: 500 g

**UN "Model Regulation":**

UN 1484 POTASSIUM BROMATE, 5.1, II

## 15 Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**GHS label elements** The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)  
**Hazard pictograms**



GHS03 GHS06 GHS08

**Signal word** Danger

**Hazard statements**

H271 May cause fire or explosion; strong oxidizer.

H301 Toxic if swallowed.

H350 May cause cancer.

**Precautionary statements**

P221 Take any precaution to avoid mixing with combustibles.

P283 Wear fire/ flame resistant/retardant clothing.

P210 Keep away from heat. - No smoking.

P201 Obtain special instructions before use.

P220 Keep/Store away from clothing/combustible materials.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P306+P360 If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

P371+P380+P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

**SARA Section 313 (specific toxic chemical listings)**

7758-01-2 | Potassium bromate

**California Proposition 65**

**Prop 65 - Chemicals known to cause cancer**

7758-01-2 | Potassium bromate

**Prop 65 - Developmental toxicity** Substance is not listed.

**Prop 65 - Developmental toxicity, female** Substance is not listed.

**Prop 65 - Developmental toxicity, male** Substance is not listed.

**Information about limitation of use:**

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

For use only by technically qualified individuals.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

**Other regulations, limitations and prohibitive regulations**

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.** Substance is not listed.

**The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.**

Substance is not listed.

**Annex XIV of the REACH Regulations (requiring Authorisation for use)** Substance is not listed.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing SDS:** Global Marketing Department

**Date of preparation/Revision:** Print date, revision date and version number are in the header of each page.

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

ACGIH: American Conference of Governmental Industrial Hygienists (USA)

OSHA: Occupational Safety and Health Administration (USA)

NTP: National Toxicology Program (USA)

IARC: International Agency for Research on Cancer

EPA: Environmental Protection Agency (USA)

Ox. Sol. 1: Oxidizing solids - Category 1

Acute Tox. 3: Acute toxicity - Category 3

Carc. 1A: Carcinogenicity - Category 1A