



From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865



24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

POTASSIUM BROMATE

1. Product Identification

Synonyms: Bromic Acid; Potassium Salt

CAS No.: 7758-01-2

Molecular Weight: 167.00

Chemical Formula: KBrO₃

Product Codes:

J.T. Baker: 2992

Mallinckrodt: 0488

2. Composition/Information on Ingredients

| Ingredient | CAS No | Percent | Hazardous |
|-------------------|-----------|-----------|-----------|
| Potassium Bromate | 7758-01-2 | 90 - 100% | Yes |

3. Hazards Identification

Emergency Overview

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE OR FORM SHOCK SENSITIVE MATERIALS. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY CAUSE KIDNEY DAMAGE.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate (Cancer)

Flammability Rating: 0 - None

Reactivity Rating: 3 - Severe (Oxidizer)

Contact Rating: 2 - Moderate (Life)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

Storage Color Code: Yellow (Reactive)

Potential Health Effects

Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.

Ingestion:

Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. May cause abdominal pain, reduced urinary output, low blood pressure, methemoglobinemia, convulsions, liver and kidney damage, and coma. Cyanosis may occur as a later symptom. Death may occur from renal failure, within 1 to 2 weeks. Estimated lethal dose is 4 grams.

Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain. In the presence of moisture, it is slowly absorbed in toxic amounts. Prolonged exposure may cause burns.

Eye Contact:

Causes irritation with redness, pain. May cause eye damage.

Chronic Exposure:

Overexposure may cause kidney damage.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

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.

5. Fire Fighting Measures

Fire:

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Forms very flammable mixtures with combustible materials and may be explosive if the combustible material is very finely divided. Can be ignited by friction.

Explosion:

Sealed containers may rupture when heated. Sensitive to mechanical impact.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. Do not allow water runoff to enter sewers or waterways.

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. Water spray may be used to keep fire exposed containers cool.

6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage and moisture. Isolate from any source of heat or ignition. Avoid storage on wood floors. Separate from incompatibles, combustibles, organic or other readily oxidizable 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.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

- AIHA Workplace Environmental Exposure Level (WEEL):
0.1 mg/m³, 8-hour, TWA

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. 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):

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece 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 and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White powder or granules.

Odor:

Odorless.

Solubility:

8g/100g water @ 20C (68F).

Specific Gravity:

3.27

pH:

No information found.

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

0

Boiling Point:

370C (698F)

Melting Point:

434C (813F)

Vapor Density (Air=1):

5.8

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Contact with oxidizable substances may cause extremely violent combustion. Explosion risk as a result of shock or friction from mixtures with combustible substances. Containers may rupture in a fire.

Hazardous Decomposition Products:

Emits oxygen and toxic fumes of bromine when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Acids, reducing agents, organic material, aluminum, arsenic, calcium hydride, carbon, copper, powder metals, metal sulfides, phosphonium iodine, phosphorus, lead acetate, selenium, and sulfur.

Conditions to Avoid:

Heat, flame, moisture, dusting, sources of ignition and shock, and incompatibles.

11. Toxicological Information

Oral rat LD50: 321 mg/kg. Investigated as a tumorigen and mutagen.

| Ingredient | ---NTP Carcinogen--- | | IARC Category |
|-------------------------------|----------------------|-------------|---------------|
| | Known | Anticipated | |
| Potassium Bromate (7758-01-2) | No | No | 2B |

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

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.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: POTASSIUM BROMATE

Hazard Class: 5.1

UN/NA: UN1484

Packing Group: II

Information reported for product/size: 500G

International (Water, I.M.O.)

Proper Shipping Name: POTASSIUM BROMATE

Hazard Class: 5.1

UN/NA: UN1484

Packing Group: II

Information reported for product/size: 500G

International (Air, I.C.A.O.)

Proper Shipping Name: POTASSIUM BROMATE

Hazard Class: 5.1

UN/NA: UN1484

Packing Group: II

Information reported for product/size: 500G

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----
Ingredient TSCA EC Japan Australia

Potassium Bromate (7758-01-2) Yes Yes Yes Yes

-----\Chemical Inventory Status - Part 2\-----
Ingredient Korea DSL --Canada-- NDSL Phil.

Potassium Bromate (7758-01-2) Yes Yes No Yes

-----\Federal, State & International Regulations - Part 1\-----
Ingredient -SARA 302- -SARA 313-----
RQ TPQ List Chemical Catg.

Potassium Bromate (7758-01-2) No No Yes No

-----\Federal, State & International Regulations - Part 2\-----
Ingredient CERCLA -RCRA- -TSCA-
261.33 8(d)

Potassium Bromate (7758-01-2) 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: No (Pure / Solid)

WARNING:

THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

Australian Hazchem Code: 1YE

Poison Schedule: None allocated.

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

NFPA Ratings: Health: **2** Flammability: **0** Reactivity: **0** Other: **Oxidizer**

Label Hazard Warning:

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE OR FORM SHOCK SENSITIVE MATERIALS. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY CAUSE KIDNEY DAMAGE.

Label Precautions:

Keep from contact with clothing and other combustible materials.

Do not breathe dust.

Keep container closed.

Use only with adequate ventilation.

Do not get in eyes, on skin, or on clothing.

Remove and wash contaminated clothing promptly.

Wash thoroughly after handling.

Store in a tightly closed container.

Do not store near combustible materials.

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, 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.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 14.

Disclaimer:

Mallinckrodt Baker, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. MALLINCKRODT BAKER, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MALLINCKRODT BAKER, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR

RELIANCE UPON THIS INFORMATION.

Prepared by: Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)