

Material Safety Data Sheet

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Version 1.4
Regulation (EC) No 1907/2006

1 - Product and Company Information

Product Name POTASSIUM BROMATE PURE
Product Number 02108

Company Sigma-Aldrich Company Ltd.
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2 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
May cause cancer. Explosive when mixed with combustible material.
Also toxic if swallowed.
Carc. Cat.2

3 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
POTASSIUM BROMATE	7758-01-2	231-829-8	035-003-00-6
Formula	KBrO3		
Molecular Weight	167.01 AMU		
Synonyms	EEC No. E924 * Potassium bromate		

4 - First Aid Measures

AFTER INHALATION

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

AFTER SKIN CONTACT

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

AFTER EYE CONTACT

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.

AFTER INGESTION

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

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

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

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions. Contact with other material may cause fire. May accelerate combustion.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

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

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES 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.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

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

GENERAL HYGIENE MEASURES

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

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: 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 Protection: Compatible chemical-resistant gloves.
Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance

Physical State: Solid

Property	Value	At Temperature or Pressure
pH	5.0 - 8.0	
BP/BP Range	N/A	
MP/MP Range	350 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	3.27 g/cm ³	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	1.4 kg/l	
Decomposition Temp.	370 °C	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water:complete, colorless 0.1 M in H ₂ O, 20°C	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

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

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Hydrogen bromide gas, Oxygen.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: EF8725000

ACUTE TOXICITY

LD50

Oral

Rat

157 mg/kg

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Other changes. Gastrointestinal:Hypermotility, diarrhea.

LD50

Intraperitoneal

Rat

50 MG/KG

LD50

Oral

Mouse
289 mg/kg

LD50
Intraperitoneal
Mouse
177 MG/KG

LD50
Oral
Hamster
388 mg/kg
Remarks: Behavioral:Altered sleep time (including change in righting reflex). Lungs, Thorax, or Respiration:Respiratory stimulation. Gastrointestinal:Hypermotility, diarrhea.

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.

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: Toxic if swallowed.

TARGET ORGAN INFORMATION

Kidneys. Ears. Liver. Central nervous system.

CHRONIC EXPOSURE - CARCINOGEN

Result: 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.

Rat
Route of Application: Oral
Exposure Time: 13W
Result: Tumorigenic:Carcinogenic by RTECS criteria.
Gastrointestinal:Tumors.

Rat
Route of Application: Oral
Exposure Time: 2Y
Result: Kidney, Ureter, Bladder:Kidney tumors.
Tumorigenic:Carcinogenic by RTECS criteria.

Rat
Route of Application: Oral
Exposure Time: 2Y
Result: Tumorigenic:Carcinogenic by RTECS criteria.
Endocrine:Thyroid tumors. Kidney, Ureter, Bladder:Kidney tumors.

Rat
Route of Application: Oral
Exposure Time: 2Y
Result: Tumorigenic:Carcinogenic by RTECS criteria. Kidney, Ureter, Bladder:Kidney tumors.

Rat

Route of Application: Oral
Exposure Time: 39W
Result: Tumorigenic:Carcinogenic by RTECS criteria.
Gastrointestinal:Tumors. Kidney, Ureter, Bladder:Kidney tumors.

Rat
Route of Application: Oral
Exposure Time: 2Y
Result: Tumorigenic:Carcinogenic by RTECS criteria. Kidney,
Ureter, Bladder:Kidney tumors. Endocrine:Thyroid tumors.

Rat
Route of Application: Oral
Exposure Time: 2Y
Result: Tumorigenic:Carcinogenic by RTECS criteria. Kidney,
Ureter, Bladder:Kidney tumors.

Rat
Route of Application: Oral
Exposure Time: 2Y
Result: Tumorigenic:Neoplastic by RTECS criteria. Kidney,
Ureter, Bladder:Kidney tumors.

IARC CARCINOGEN LIST

Rating: Group 2B

CHRONIC EXPOSURE - MUTAGEN

Rat
60 MG/KG
Intraperitoneal
Micronucleus test

Rat
80 MG/KG
Intraperitoneal
DNA damage

Rat
251 MG/KG
Intraperitoneal
Cytogenetic analysis

Rat
3 MMOL/KG
Oral
Cytogenetic analysis

Rat
20 UMOL/L
Cell Type: leukocyte
Sister chromatid exchange

Mouse
25 MG/KG
Intraperitoneal
Micronucleus test

Mouse
200 MG/KG
Oral

24H
Micronucleus test

Mouse
7500 UMOL/L
Cell Type: leukocyte
DNA damage

Hamster
125 MG/L
Cell Type: lung
Micronucleus test

Hamster
85 MG/L
Cell Type: lung
Cytogenetic analysis

Pig
7500 UMOL/L
Cell Type: kidney
DNA damage
CMR CAT.: Carc. Cat.2

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

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

14 - Transport Information

RID/ADR

UN#: 1484
Class: 5.1
PG: II
Proper Shipping Name: Potassium bromate

IMDG

UN#: 1484
Class: 5.1
PG: II
Proper Shipping Name: Potassium bromate
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 1484
Class: 5.1
PG: II
Proper Shipping Name: Potassium bromate
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 035-003-00-6

NOTA: E

INDICATION OF DANGER: O-T

Oxidizing. Toxic.

R-PHRASES: 45-9-25

May cause cancer. Explosive when mixed with combustible material. Also toxic if swallowed.

S-PHRASES: 53-45

Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 3

Self-Classification

16 - Other Information

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 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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