



American International Chemical, Inc.

Corporate Offices: (800) 238-0001

Internet: www.aicma.com Email: info@aicma.com

MATERIAL SAFETY DATA SHEET

POTASSIUM BROMATE/MAGNESIUM CARBONATE

SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION

American International Chemical, Inc. 135 Newbury Street Framingham, MA 01701	Emergency Number: Chemtrec Information Number:	800-424-9300 703-527-3887 800-238-0001
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Date: August 2007

IDENTIFICATION OF THE SUBSTANCE & THE COMPANY

Chemical name	A mixture of potassium bromate and magnesium carbonate
Chemical formula	KBrO ₃ +MgCO ₃
CAS number	7758-01-2(KBrO ₃)+546-93-0(MgCO ₃)
Chemical family	Inorganic salts
Molecular weight	167(KBrO ₃)+84.32(MgCO ₃)
Type of product and use	An oxidizing agent for use in baking and brewing processes
Emergency telephone number:	Chemtrec (800) 424-9300
Potassium Bromate	UN 1484, Class 5.1, PG II, Oxidizer

COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous component(s)	Potassium Bromate - 95-99%
Ingredients	Magnesium carbonate - 1-5%

PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Off white crystalline powder, odorless
Melting point/range	434 ⁰ C (decomposes above 370 ⁰ C)
Boiling point/range	Not applicable under standard conditions
Specific gravity	3.3
Vapour pressure	Not applicable under standard conditions
Relative vapour density (air=1)	Not applicable under standard conditions
Evaporation rate (ether=1)	Not applicable under standard conditions
Solubility:	
-Solubility in water	7.4 gr/100ml at 25 ⁰ C 18.5 gr/100 ml at 60 ⁰ C
-Solubility in other solvents	Ethyl alcohol: 5.5 gr/100ml at 25 ⁰ C
Thermal decomposition	Above 350 ⁰ C

HAZARDS IDENTIFICATION

Important hazards	Strong oxidizing agent
Adverse human health effects	Irritant to eyes, skin and mucous membranes
	Toxic if swallowed

FIRE-FIGHTING MEASURES

Flash point	Not available
Auto ignition temperature	Not available
Flammable/Explosion limits	Not available
Extinguishing media	Water is the most effective extinguishing agent. It should be sprayed on because a jet may throw the powder about.
Fire fighting procedure	Move containers from fire area if possible to do so without risk. Cool containers with water spray. Fire fighters should wear full protective clothing and self-contained breathing apparatus in positive pressure mode.
Unusual fire and explosion hazards	Strong oxidizing agent Non-combustible but when involved in a fire it liberates oxygen which increases the rate of burning of the combustible materials involved and can cause explosion. Intimate mixtures with powdered materials such as metal powders, sulphur, or carbon may ignite spontaneously or when subjected to friction and burn with explosive violence. Will decompose from ca. 350 ⁰ C releasing poisonous and corrosive fumes of bromine. Containers may explode when involved in a fire.

TOXICOLOGICAL INFORMATION

-Rat oral LD50	321 mg/kg
Effects of overexposure:	
-Ocular	Irritant
-Dermal	Irritant
-Inhalation	Irritant to upper respiratory tract. Difficulty breathing may occur. Absorption from the lungs may cause symptoms similar to those of ingestion.
-Ingestion	The main symptoms of the acute phase of KBrO ₃ poisoning are vomiting, diarrhea and abdominal pain. Subsequently, headache, dizziness, shock symptoms, deafness, unconsciousness and convulsions are possible. KBrO ₃ is a nephrotoxin and an ototoxin. Cardiotoxicity and hepatotoxicity have also been reported. Methemoglobinemia may also occur.

TOXICOLOGICAL INFORMATION (Continued)

Chronic toxicity	No information available
Carcinogenicity	IARC Group 2B (animal sufficient evidence, human limited evidence). Potassium bromate induced kidney tumors in rats following administration of relatively high concentrations (250 or 500 ppm) in drinking water. In other laboratory animal species (mice and hamsters), the same significant, typical carcinogenic activity could not be demonstrated Not included in NTP 7th Annual Report on Carcinogens. Not classified as a carcinogen by USA OSHA.
Mutagenicity	Mutagenic by the Ames Test Was found clastogenic in chromosome aberration in vitro test with Chinese hamster cells. In vivo test with rats demonstrated a dose-response relationship in the increase of incidence of chromosome aberrations in bone marrow cells in both intraperitoneal and oral administrations.

FIRST-AID MEASURES

Eye Contact	Holding the eyelids apart, flush eyes promptly with copious flowing water for at least 20 minutes.
Skin contact	Get medical attention immediately. Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before re-use.
Inhalation	Get medical attention immediately. In case of dust inhalation or breathing fumes released from heated material, remove person to fresh air. Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately.
Ingestion	If swallowed, wash mouth thoroughly with plenty of water and give water or milk to drink. Get medical attention immediately. ***** NOTE: Never give an unconscious person anything to drink. *****

ECOLOGICAL INFORMATION

Information on ecological effects	No information available
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STABILITY AND REACTIVITY

Stability	Stable under normal conditions
Materials to avoid	Organic substances such as textiles, oil, wood, sugar and sawdust. Powdered materials such as metal powders, sulphur or carbon. Acids and strong reducing agents.
Conditions to avoid	Keep away from heat, sparks and open flame Avoid contact with combustibles.
Hazardous decomposition --products	Bromine
Hazardous polymerization	Will not occur

ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves.
After spillage / leakage	Keep combustibles away from spilled material. With clean shovel place material into clean, dry container and cover. Move containers from spill area and keep for waste disposal. After material pickup is complete, flush remainder with sodium bisulfite solution followed by large amounts of water and ventilate area.

DISPOSAL CONSIDERATIONS

Waste disposal	Add material to a large amount of water. Slowly add sodium bisulfite. Acidify if reaction does not proceed spontaneously. Bromine will be liberated during the reaction, which is complete when no bromine remains. Neutralize and dispose of by flushing down the drain with large quantities of water. Observe all federal, state and local environmental regulations when disposing of this material.
--USA	This substance is defined as hazardous waste by RCRA.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits:	
- TLV-TWA	Not established
Ventilation requirements	Ventilation must be sufficient to maintain dust below 10 mg/m ³ 8 hours TWA (ACGIH recommended Threshold Limit Value for total dust).
Personal protection equipment:	
- Respiratory protection	Dust respirator
- Gloves	Protective gloves
- Eye protection	Chemical safety goggles
- Others	Body covering clothes and boots
Industrial hygiene	Safety shower and eye bath should be provided. Do not eat, drink or smoke until after-work showering and changing clothes.

HANDLING AND STORAGE

Handling	Keep containers tightly closed. Avoid producing or diffusing dust into the air. Avoid bodily contact.
Storage	Store in a dry, cool, well-ventilated area away from incompatible materials (see “materials to avoid”).

TRANSPORTATION INFORMATION

Potassium Bromate
UN 1484
Class 5.1
PG II
Oxidizer
(IMDG CODE - page 5169, amdt.27-94)

ICAO/IATA
US DOT
Potassium Bromate
UN 1484
Class 5.1
PG II
Oxidizer

REGULATORY INFORMATION

USA	Potassium bromate (CAS #7758-01-2) is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.
EEC	Reported in the EPA TSCA Inventory Reported in EINECS (Nos. 2318298-KBr03 and 2089159-MgC03)

OTHER INFORMATION

Reason for Issue: Changed Date

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