



# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** Potassium bromate

### 1.2 Other means of identification

**Product number** -  
**Other names** Potassium bromate;

### 1.3 Recommended use of the chemical and restrictions on use

**Identified uses** Industrial and scientific research use.  
**Uses advised against** no data available

### 1.4 Supplier's details

**Company** Shanghai Yien Chemical Technology Co., Ltd  
**Address** Building 6, 28 Yingong Road, Fengxian District, Shanghai  
Chemical Industry Zone, Shanghai, 201400, China  
**Telephone** +86-400-133-2688

### 1.5 Emergency phone number

**Emergency phone number** +86-400-133-2688  
**Service hours** Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Oxidizing solids, Category 1  
Acute toxicity - Category 3, Oral  
Carcinogenicity, Category 1B

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word** Danger  
**Hazard statement(s)** H271 May cause fire or explosion; strong oxidizer  
H301 Toxic if swallowed  
H350 May cause cancer  
**Precautionary statement(s)**

<b>Prevention</b>	<p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P220 Keep away from clothing and other combustible materials.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...</p> <p>P283 Wear fire resistant or flame retardant clothing.</p> <p>P264 Wash ... thoroughly after handling.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P203 Obtain, read and follow all safety instructions before use.</p>
<b>Response</b>	<p>P306+P360 IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.</p> <p>P371+P380+P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.</p> <p>P370+P378 In case of fire: Use ... to extinguish.</p> <p>P301+P316 IF SWALLOWED: Get emergency medical help immediately.</p> <p>P321 Specific treatment (see ... on this label).</p> <p>P330 Rinse mouth.</p> <p>P318 IF exposed or concerned, get medical advice.</p>
<b>Storage</b>	<p>P420 Store separately.</p> <p>P405 Store locked up.</p>
<b>Disposal</b>	<p>P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.</p>

### 2.3 Other hazards which do not result in classification

no data available

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Potassium bromate	Potassium bromate	7758-01-2	231-829-8	100%

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

#### If inhaled

Fresh air, rest. Refer for medical attention.

#### Following skin contact

First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again. Refer for medical attention .

#### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### Following ingestion

Rinse mouth. Give a slurry of activated charcoal in water to drink. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention .

### 4.2 Most important symptoms/effects, acute and delayed

Excerpt from ERG Guide 140 [Oxidizers]: Inhalation, ingestion or contact (skin, eyes) with vapors or substance may cause severe injury, burns or death. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. (ERG, 2016)

### **4.3 Indication of immediate medical attention and special treatment needed, if necessary**

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Bromates and Related Compounds

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## **SECTION 5: Fire-fighting measures**

### **5.1 Suitable extinguishing media**

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### **5.2 Specific hazards arising from the chemical**

Excerpt from ERG Guide 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2016)

### **5.3 Special protective actions for fire-fighters**

Use water in large amounts. In case of fire: keep drums, etc., cool by spraying with water.

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## **SECTION 6: Accidental release measures**

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

Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT absorb in saw-dust or other combustible absorbents. Personal protection: P3 filter respirator for toxic particles.

### **6.2 Environmental precautions**

Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT absorb in saw-dust or other combustible absorbents. Personal protection: P3 filter respirator for toxic particles.

### **6.3 Methods and materials for containment and cleaning up**

ACCIDENTAL RELEASE MEASURES: Personal precautions, protective equipment and emergency procedures: 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 wetbrushing and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

NO contact with combustible substances or reducing agents. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

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

Separated from combustible substances, reducing agents, powdered metals and incompatible materials. See Chemical Dangers. Keep container tightly closed in a dry and well-ventilated place.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure limit values

no data available

#### Biological limit values

no data available

### 8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear safety goggles or eye protection in combination with breathing protection if powder.

#### Skin protection

Protective gloves.

#### Respiratory protection

Use local exhaust or breathing protection.

#### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties and safety characteristics

<b>Physical state</b>	Solid. Crystalline.
<b>Colour</b>	Off-white.
<b>Odour</b>	Odorless
<b>Melting point/freezing point</b>	> 409 - < 413 °C.
<b>Boiling point or initial boiling point and boiling range</b>	Atm. press.:Ca. 1 023 hPa. Remarks:No boiling was observed in the temperature range 25 - 450 °C. The measurements a hole showed no endothermic effects after the melting of the substance in the temperature range of 380 - 425 °C which is directly followed by the exothermic decomposition.
<b>Flammability</b>	Not combustible but enhances combustion of other substances. Gives off irritating or toxic fumes (or gases) in a fire.
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	no data available
<b>Auto-ignition temperature</b>	no data available
<b>Decomposition temperature</b>	370°C
<b>pH</b>	The pH of a 1:20 aqueous solution is between 5 and 9
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	Miscible with water
<b>Partition coefficient n-octanol/water</b>	no data available
<b>Vapour pressure</b>	no data available

<b>Density and/or relative density</b>	3.13. Temperature:20.7 °C.
<b>Relative vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Decomposes on heating. This produces toxic and corrosive fumes. The substance is a strong oxidant. It reacts violently with combustible and reducing materials. Reacts violently with aluminium, disulfur dibromide, arsenic, carbon, copper, metal sulfides, phosphorus and sulfur. This generates fire hazard.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Dangerous fire risk in contact with organic materials. POTASSIUM BROMATE is a strong oxidizing agent. Forms very flammable mixtures with combustible materials. Such mixtures may be explosive if the combustible material is finely divided and are often ignitable by friction. A mixture with finely divided aluminum can explode by heat, percussion, and friction [Mellor 2:310. 1946-47]. Reacts explosively with selenium [Mellor 2 Supp1:763. 1956].

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Incompatible materials: Strong reducing agents, powdered metals.

### 10.6 Hazardous decomposition products

370 deg C.

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 - rat (male/female) - 157 mg/kg bw.
- Inhalation: no data available
- Dermal: no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

Evaluation: There is inadequate evidence in humans for the carcinogenicity of potassium bromate. There is sufficient evidence in experimental animals for the carcinogenicity of potassium bromate. Overall evaluation: Potassium bromate is possibly carcinogenic to humans (Group 2B).

### Reproductive toxicity

no data available

#### **STOT-single exposure**

The substance is irritating to the eyes, skin and respiratory tract. Ingestion could cause effects on the kidneys and central nervous system. This may result in renal failure, respiratory depression and hearing loss. The effects may be delayed.

#### **STOT-repeated exposure**

This substance is possibly carcinogenic to humans.

#### **Aspiration hazard**

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed, especially if powdered.

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - > 100 mg/L - 48 h.
- Toxicity to algae: EC50 - Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) - > 100 mg/L - 72 h.
- Toxicity to microorganisms: no data available

### **12.2 Persistence and degradability**

no data available

### **12.3 Bioaccumulative potential**

no data available

### **12.4 Mobility in soil**

no data available

### **12.5 Other adverse effects**

no data available

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## **SECTION 13: Disposal considerations**

### **13.1 Disposal methods**

#### **Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### **Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## **SECTION 14: Transport information**

### **14.1 UN Number**

ADR/RID: UN1484 (For reference only, please check.)	IMDG: UN1484 (For reference only, please check.)	IATA: UN1484 (For reference only, please check.)
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### **14.2 UN Proper Shipping Name**

ADR/RID: POTASSIUM  
BROMATE (For reference  
only, please check.)

IMDG: POTASSIUM  
BROMATE (For reference  
only, please check.)

IATA: POTASSIUM  
BROMATE (For reference  
only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: 5.1 (For reference  
only, please check.)

IMDG: 5.1 (For reference  
only, please check.)

IATA: 5.1 (For reference  
only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: II (For reference  
only, please check.)

IMDG: II (For reference  
only, please check.)

IATA: II (For reference  
only, please check.)

### 14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Potassium bromate	Potassium bromate	7758-01-2	231-829-8
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

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## SECTION 16: Other information

#### Information on revision

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#### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

## References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

## Other Information

Will turn shock-sensitive if contaminated with organic substances. Rinse contaminated clothing with plenty of water because of fire hazard.

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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*Disclaimer: 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. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.*