

**BARIUM OXIDE**

0778

October 1999

CAS No: 1304-28-5  
 RTECS No: CQ9800000  
 UN No: 1884  
 EC No: 056-002-00-7

Barium monoxide  
 Barium protoxide  
 Calcined baryta  
 BaO  
 Molecular mass: 153.3

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
<b>FIRE</b>	Not combustible.		In case of fire in the surroundings: NO water.
<b>EXPLOSION</b>			

EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE!	
<b>Inhalation</b>	Cough. Sore throat.	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
<b>Skin</b>	Redness. Pain.	Protective gloves.	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
<b>Eyes</b>	Redness. Pain.	Safety spectacles, or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Ingestion</b>	Abdominal pain. Diarrhoea. Nausea. Vomiting. Muscle paralysis. Cardiac arrhythmia. Hypertension. Death.	Do not eat, drink, or smoke during work.	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Give plenty of water to drink. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Sweep spilled substance into containers. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment. Personal protection: P2 filter respirator for harmful particles.	Xn Symbol R: 20/22 S: (2-)28 Note: A UN Hazard Class: 6.1 UN Pack Group: III Airtight. Do not transport with food and feedstuffs.

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-61GT5-III	Separated from food and feedstuffs. Dry. Well closed.

### IMPORTANT DATA

**Physical State; Appearance**

YELLOWISH-WHITE SOLID IN VARIOUS FORMS

**Chemical dangers**

The solution in water is a medium strong base. Reacts violently with water, dinitrogen tetraoxide, hydroxylamine, sulfur trioxide, and hydrogen sulfide causing fire and explosion hazard.

**Occupational exposure limits**

TLV: (as Ba) 0.5 mg/m<sup>3</sup> as TWA; A4 (not classifiable as a human carcinogen); (ACGIH 2004).  
MAK: (as Ba) (Inhalable fraction) 0.5 mg/m<sup>3</sup>; Peak limitation category: II(2); (DFG 2004).

**Routes of exposure**

The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

**Inhalation risk**

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

**Effects of short-term exposure**

The substance is irritating to the eyes, the skin and the respiratory tract. The substance may cause effects on the nervous system. Exposure could cause hypokalaemia, resulting in cardiac disorders and muscular disorders. Exposure may result in death.

### PHYSICAL PROPERTIES

Boiling point: about 2000°C  
Melting point: 1923°C

Density: 5.7 g/cm<sup>3</sup>  
Solubility in water, g/100 ml at 20°C: 3.8

### ENVIRONMENTAL DATA

The substance is harmful to aquatic organisms.

### NOTES

Reacts violently with fire extinguishing agents such as water.  
Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available.  
NEVER pour water into this substance; when dissolving or diluting always add it slowly to the water.  
Card has been partly updated in April 2005. See sections Occupational Exposure Limits, Emergency Response.

### ADDITIONAL INFORMATION

**LEGAL NOTICE**

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible