

## Chemical Safety Data Sheet MSDS / SDS

## Barite

Revision Date:2024-12-21 Revision Number:1

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

Product name : Barite  
CBnumber : CB8881195  
CAS : 13462-86-7  
EINECS Number : 236-664-5  
Synonyms : BARIUM SULPHATE,Barite

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

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## SECTION 2: Hazards identification

**Classification of the substance or mixture**

Not classified.

**Label elements****Pictogram(s)**

Signal word : No signal word

**Hazard statement(s)**

none

**Precautionary statement(s)****Prevention**

none

**Response**

none

**Storage**

none

**Disposal**

none

#### Other hazards

no data available

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## SECTION 3: Composition/information on ingredients

### Substance

Product name	: Barite
Synonyms	: BARIUM SULPHATE, Barite
CAS	: 13462-86-7
EC number	: 236-664-5
MF	: BaO4S
MW	: 233.39

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## SECTION 4: First aid measures

### Description of first aid measures

#### If inhaled

Fresh air, rest.

#### Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower.

#### 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.

### Most important symptoms and effects, both acute and delayed

Exposure Routes: inhalation, skin and/or eye contact Symptoms: Irritation eyes, nose, upper respiratory system; benign pneumoconiosis (baritosis) Target Organs: Eyes, respiratory system (NIOSH, 2016)

### Indication of any immediate medical attention and special treatment needed

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. Barium and Related Compounds

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## SECTION 5: Firefighting measures

### Extinguishing media

Use dry chemical, carbon dioxide, water spray, or alcohol foam extinguishers ... If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Notify local health and fire officials and pollution control agencies. From a secure, explosion-proof location, use water spray to cool exposed containers. If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors or shows any signs of deforming), withdraw immediately to a secure position ... The only respirators recommended for fire fighting are self-contained breathing apparatuses that have full facepieces and are operated in a pressure-demand or other positive-pressure mode.

### **Specific Hazards Arising from the Chemical**

Excerpt from ERG Guide 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For electric vehicles or equipment, ERG Guide 147 (lithium ion batteries) or ERG Guide 138 (sodium batteries) should also be consulted. (ERG, 2016)

### **Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

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## SECTION 6: Accidental release measures

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

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### **Environmental precautions**

Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Personal protection: particulate filter respirator adapted to the airborne concentration of the substance.

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

Spill handling: evacuate and restrict persons not wearing protective equipment from area of spill or leak until cleanup is complete. Remove all ignition sources. Collect powdered material in the most convenient and safe manner and deposit in sealed containers. Ventilate area of spill or leak after clean-up is complete. It may be necessary to contain and dispose of this chemical as a hazardous waste. If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Contact your Department of Environmental Protection or your regional office of the federal EPA for specific recommendations.

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## SECTION 7: Handling and storage

### **Precautions for safe handling**

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.

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

Store at 25 deg C (77 deg F); excursions permitted to 15 to 30 deg C (59 to 86 deg F)

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## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Occupational Exposure limit values

<b>Component</b>	Barite (Ba(SO <sub>4</sub> ))
<b>CAS No.</b>	13462-86-7
	Recommended Exposure Limit: 10 Hour Time-Weighted Average: 10 mg/cu m, total particulate. Recommended Exposure Limit: 10 Hour Time-Weighted average: 5 mg/cu m, respirable fraction.

#### Biological limit values

no data available

### Exposure controls

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

### Individual protection measures

#### Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flamm resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Physical state	Barium sulfate is a white or yellowish odorless powder or small crystals. Mp: 1580°C (with decomposition). Density: 4.25 -4.5 g cm <sup>-3</sup> . Insoluble in water, dilute acids, alcohol. Soluble in hot concentrated sulfuric acid. Used as a weighting mud in oil-drilling, in paints, paper coatings, linoleum, textiles, rubber. Administered internally ("barium cocktail") as a radio-opaque diagnostic aid.
Colour	Fine, heavy powder or polymorphous crystals
Odour	Odorless
Melting point/freezing point	1580°C
Boiling point or initial boiling point and boiling range	330°C at 760 mmHg
Flammability	Noncombustible Solid
Lower and upper explosion limit/flammability limit	no data available

Flash point	no data available
Auto-ignition temperature	no data available
Decomposition temperature	1600°C
pH	5% suspension in water is neutral to litmus paper
Kinematic viscosity	no data available
Solubility	0.0002 % at 64° F (NIOSH, 2016)
Partition coefficient n-octanol/water	no data available
Vapour pressure	0 mm Hg (approx) (NIOSH, 2016)
Density and/or relative density	4.25 to 4.5 (NIOSH, 2016)
Relative vapour density	no data available
Particle characteristics	no data available

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## SECTION 10: Stability and reactivity

### Reactivity

Reacts violently with aluminium powder.

### Chemical stability

no data available

### Possibility of hazardous reactions

Not combustible. BARIUM SULFATE is non-combustible and non-toxic. Emits toxic sulfur oxides when heated to decomposition. Can act as an oxidizing agent, but usually does not. Reacts with reducing agents such as potassium, phosphorus or aluminum (heating with aluminum can cause an explosion).

### Conditions to avoid

no data available

### Incompatible materials

Phosphorus, aluminum [Aluminum in the presence of heat can cause an explosion.]

### Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /sulfur oxides/.

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 Rat oral approx 307,000 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**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

no data available

**STOT-repeated exposure**

no data available

**Aspiration hazard**

no data available

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**SECTION 12: Ecological information****Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water Flea); Conditions: freshwater, static, 11.5-14.5 deg C, pH 7.2-7.8, dissolved oxygen 5.2-6.5 mg/L; Concentration: 52820 ug/L (43200-68140 ug/L) for 24 hr; Effect: intoxication, immobilization

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**Other adverse effects**

no data available

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## SECTION 13: Disposal considerations

### 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

### UN Number

ADR/RID: no data available

IMDG: no data available

IATA: no data available

### UN Proper Shipping Name

ADR/RID: no data available

IMDG: no data available

IATA: no data available

### Transport hazard class(es)

ADR/RID: no data available

IMDG: no data available

IATA: no data available

### Packing group, if applicable

ADR/RID: no data available

IMDG: no data available

IATA: no data available

### Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

### Special precautions for user

no data available

### Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

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

#### **European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

#### **EC Inventory**

Listed.

#### **United States Toxic Substances Control Act (TSCA) Inventory**

Not Listed.

#### **China Catalog of Hazardous chemicals 2015**

Not Listed.

#### **New Zealand Inventory of Chemicals (NZIoC)**

Listed.

#### **PICCS**

Not Listed.

#### **Vietnam National Chemical Inventory**

Listed.

#### **IECSC**

Listed.

#### **Korea Existing Chemicals List (KECL)**

Listed.

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## SECTION 16: Other information

### **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?pagelD=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pagelD=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/>

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