

**BARIUM ISOPROPOXIDE**

Safety Data Sheet AKB120

Date of issue: 28/12/2016 Version: 1.0

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product form	: Substance
Physical state	: Solid
Substance name	: BARIUM ISOPROPOXIDE
Product code	: AKB120
Formula	: C6H14BaO2
Synonyms	: BARIUM 2-PROPOXIDE
Chemical family	: METAL COMPOUND

**1.2. Relevant identified uses of the substance or mixture and uses advised against****1.2.1. Relevant identified uses**

Use of the substance/mixture : Chemical intermediate

**1.2.2. Uses advised against**

No additional information available

**1.3. Details of the supplier of the safety data sheet****GELEST, INC.**11 East Steel Road  
Morrisville, PA 19067**USA**

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

[info@gelest.com](mailto:info@gelest.com) - [www.gelest.com](http://www.gelest.com)**GELEST INC.**Fritz-Klatte-Strasse 8  
65933 Frankfurt**Germany**

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[info@gelestde.com](mailto:info@gelestde.com) - [www.gelestde.com](http://www.gelestde.com)**1.4. Emergency telephone number**

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Flammable solids, Category 2	H228
Self-Heating Substances and Mixtures, Category 2	H252
Skin corrosion/irritation, Category 1B	H314
Serious eye damage/eye irritation, Category 1	H318
Full text of H statements : see section 16	

**Adverse physicochemical, human health and environmental effects**

No additional information available

**2.2. Label elements****Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS02

GHS05

Signal word (CLP) :

: Danger

Hazard statements (CLP) :

: H228 - Flammable solid.  
H252 - Self-heating in large quantities; may catch fire.

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### Precautionary statements (CLP)

H314 - Causes severe skin burns and eye damage.  
: P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P235+P410 - Keep cool. Protect from sunlight.  
P240 - Ground/bond container and receiving equipment.  
P264 - Wash hands thoroughly after handling.  
P310 - Immediately call a POISON CENTER or doctor/physician

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : Mono-constituent  
Name : BARIUM ISOPROPOXIDE  
CAS-No. : 24363-37-9

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Barium isopropoxide	(CAS-No.) 24363-37-9	95 - 100	Flam. Sol. 2, H228 Self-heat. 2, H252 Skin Corr. 1B, H314 Eye Dam. 1, H318

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Get immediate medical advice/attention.  
First-aid measures after skin contact : Wash with plenty of water/.... Get medical advice/attention.  
First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.  
First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

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

Symptoms/effects : Causes severe skin burns and eye damage.  
Symptoms/effects after inhalation : May cause irritation to the respiratory tract. Barium vapors and dust have moderate toxicity.  
Symptoms/effects after skin contact : Causes (severe) skin burns.  
Symptoms/effects after eye contact : Causes serious eye damage.  
Symptoms/effects after ingestion : In general, soluble barium salts, such as the chloride and sulfide, have been reported as poisonous when taken orally. The insoluble salt, barium sulfate, is used in radiography and is not acutely toxic.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Dry chemical. Dry soda ash.  
Unsuitable extinguishing media : Do not use straight streams.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable solid. Self-heating in large quantities; may catch fire. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

### 5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.

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Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.  
Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.  
Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Provide local exhaust or general room ventilation to minimize exposure to dust.  
Hygiene measures : Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

Storage conditions : Keep container tightly closed. Store locked up. Keep cool. Protect from sunlight.  
Storage area : Store in a well-ventilated place. Store away from heat.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Barium isopropoxide (24363-37-9)		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup> soluble compounds as Ba

#### 8.2. Exposure controls

##### Appropriate engineering controls:

Provide local exhaust or general room ventilation.

##### Personal protective equipment:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

##### Hand protection:

Neoprene or nitrile rubber gloves

##### Eye protection:

Chemical goggles. Contact lenses should not be worn

##### Skin and body protection:

Wear suitable protective clothing

##### Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified dust and mist (orange cartridge) respirator.

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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystals.
Molecular mass	: 255.52 g/mol
Colour	: Off-white to amber.
Odour	: characteristic.
Odour threshold	: No data available
Refractive index	: No additional information available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: > 130 °C decomposes
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable solid, Self-heating in large quantities; may catch fire.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Insoluble in water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No additional information available

#### 10.2. Chemical stability

Stable in sealed containers.

#### 10.3. Possibility of hazardous reactions

Decomposes in contact with moist air. Material decomposes slowly in contact with air by reaction with water, liberating isopropanol and barium hydroxide.

#### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Organic acid vapors. Barium oxide fumes.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified

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Carcinogenicity	: Not classified None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract. Barium vapors and dust have moderate toxicity.
Symptoms/effects after skin contact	: Causes (severe) skin burns.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: In general, soluble barium salts, such as the chloride and sulfide, have been reported as poisonous when taken orally. The insoluble salt, barium sulfate, is used in radiography and is not acutely toxic.
Reason for classification	: Expert judgment

### SECTION 12: Ecological information

#### 12.1. Toxicity

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Sewage disposal recommendations	: Do not dispose of waste into sewer.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Ecology - waste materials	: Avoid release to the environment.

### SECTION 14: Transport information

#### 14.1. UN number

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR)	: 3205
UN-No. (IMDG)	: 3205
UN-No. (IATA)	: 3205
UN-No. (ADN)	: 3205
UN-No. (RID)	: 3205

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: ALKALINE EARTH METAL ALCOHOLATES, N.O.S.
Proper Shipping Name (IMDG)	: ALKALINE EARTH METAL ALCOHOLATES, N.O.S.
Proper Shipping Name (IATA)	: Alkaline earth metal alcoholates, n.o.s.
Proper Shipping Name (ADN)	: ALKALINE EARTH METAL ALCOHOLATES, N.O.S.
Proper Shipping Name (RID)	: ALKALINE EARTH METAL ALCOHOLATES, N.O.S.
Transport document description (ADR)	: UN 3205 ALKALINE EARTH METAL ALCOHOLATES, N.O.S. (BARIUM ISOPROPOXIDE), 4.2, III, (E)

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Transport document description (IMDG)	: UN 3205 ALKALINE EARTH METAL ALCOHOLATES, N.O.S. (BARIUM ISOPROPOXIDE), 4.2, III
Transport document description (IATA)	: UN 3205 Alkaline earth metal alcoholates, n.o.s. (BARIUM ISOPROPOXIDE), 4.2, III
Transport document description (ADN)	: UN 3205 ALKALINE EARTH METAL ALCOHOLATES, N.O.S. (BARIUM ISOPROPOXIDE), 4.2, III
Transport document description (RID)	: UN 3205 ALKALINE EARTH METAL ALCOHOLATES, N.O.S. (BARIUM ISOPROPOXIDE), 4.2, III

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR)	: 4.2
Danger labels (ADR)	: 4.2



#### IMDG

Transport hazard class(es) (IMDG)	: 4.2
Danger labels (IMDG)	: 4.2



#### IATA

Transport hazard class(es) (IATA)	: 4.2
Hazard labels (IATA)	: 4.2



#### ADN

Transport hazard class(es) (ADN)	: 4.2
Danger labels (ADN)	: 4.2



#### RID

Transport hazard class(es) (RID)	: 4.2
Danger labels (RID)	: 4.2



### 14.4. Packing group

Packing group (ADR)	: III
Packing group (IMDG)	: III
Packing group (IATA)	: III

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Packing group (ADN) : III  
Packing group (RID) : III

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : S4  
Special provisions (ADR) : 183, 274  
Limited quantities (ADR) : 0  
Excepted quantities (ADR) : E1  
Packing instructions (ADR) : P002, IBC08, LP02, R001  
Mixed packing provisions (ADR) : MP14  
Portable tank and bulk container instructions (ADR) : T1  
Portable tank and bulk container special provisions (ADR) : TP33  
Tank code (ADR) : SGAN  
Vehicle for tank carriage : AT  
Transport category (ADR) : 3  
Special provisions for carriage - Packages (ADR) : V1  
Hazard identification number (Kemler No.) : 40  
Orange plates :

40  
3205

Tunnel restriction code (ADR) : E  
EAC code : 1Y

#### - Transport by sea

Special provisions (IMDG) : 183, 223, 274  
Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E1  
Packing instructions (IMDG) : P002, LP02  
Special packing provisions (IMDG) : PP31  
IBC packing instructions (IMDG) : IBC08  
IBC special provisions (IMDG) : B3  
Tank instructions (IMDG) : T1  
Tank special provisions (IMDG) : TP33  
EmS-No. (Fire) : F-A  
EmS-No. (Spillage) : S-J  
Stowage category (IMDG) : B  
Properties and observations (IMDG) : Free-flowing hygroscopic powder. Irritating to skin, eyes and mucous membranes.

#### - Air transport

PCA Excepted quantities (IATA) : E1  
PCA Limited quantities (IATA) : Forbidden  
PCA limited quantity max net quantity (IATA) : Forbidden  
PCA packing instructions (IATA) : 469  
PCA max net quantity (IATA) : 25kg  
CAO packing instructions (IATA) : 471  
CAO max net quantity (IATA) : 100kg  
Special provisions (IATA) : A3, A85  
ERG code (IATA) : 4L

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### - Inland waterway transport

Classification code (ADN)	: S4
Special provisions (ADN)	: 183, 274
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E1
Equipment required (ADN)	: PP
Number of blue cones/lights (ADN)	: 0

### - Rail transport

Classification code (RID)	: S4
Special provisions (RID)	: 183, 274
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P002, IBC08, LP02, R001
Special packing provisions (RID)	: B3
Mixed packing provisions (RID)	: MP14
Portable tank and bulk container instructions (RID)	: T1
Portable tank and bulk container special provisions (RID)	: TP33
Tank codes for RID tanks (RID)	: SGAN
Transport category (RID)	: 3
Special provisions for carriage – Packages (RID)	: W1
Colis express (express parcels) (RID)	: CE11
Hazard identification number (RID)	: 40

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

BARIUM ISOPROPOXIDE is not on the REACH Candidate List

BARIUM ISOPROPOXIDE is not on the REACH Annex XIV List

BARIUM ISOPROPOXIDE is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

BARIUM ISOPROPOXIDE is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

#### 15.1.2. National regulations

##### Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

##### Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

### 15.2. Chemical safety assessment

No additional information available



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### SECTION 16: Other information

#### Abbreviations and acronyms:

	Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor
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Other information : Prepared by safety and environmental affairs.

#### Full text of H- and EUH-statements:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Sol. 2	Flammable solids, Category 2
Self-heat. 2	Self-Heating Substances and Mixtures, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H228	Flammable solid.
H252	Self-heating in large quantities; may catch fire.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

SDS EU (REACH Annex II) - Custom

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