

**BARIUM ISOPROPOXIDE, 20% in isopropanol**

Safety Data Sheet AKB121

Date of issue: 31/12/2015 Version: 1.0

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

Product form	: Mixture
Physical state	: Liquid
Product name	: BARIUM ISOPROPOXIDE, 20% in isopropanol
Product code	: AKB121
Formula	: C6H14BaO2
Synonyms	: BARIUM ISOPROPYLATE, BARIUM 2-PROPOXIDE
Chemical family	: METAL ALCOHOLATE

**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**

T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM

[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 liquids, Category 2	H225
Skin corrosion/irritation, Category 1B	H314
Serious eye damage/eye irritation, Category 1	H318
Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336
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

GHS07

Signal word (CLP) : Danger

Hazardous ingredients : Isopropanol; Barium isopropoxide

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Hazard statements (CLP)	: H225 - Highly flammable liquid and vapour. H314 - Causes severe skin burns and eye damage. H336 - May cause drowsiness or dizziness.
Precautionary statements (CLP)	: 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. P240 - Ground/bond container and receiving equipment. P260 - Do not breathe vapours. 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

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Isopropanol	(CAS-No.) 67-63-0 (EC-No.) 200-661-7 (EC Index-No.) 603-117-00-0	> 75	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Barium isopropoxide	(CAS-No.) 24363-37-9	< 25	Flam. Sol. 2, H228 Self-heat. 2, H252 Skin Corr. 1B, H314 Eye Dam. 1, H318

Full text of H-statements: see section 16

## 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. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash with plenty of water/.... Get immediate 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.

### 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 drowsiness or dizziness. Inhalation will cause sneezing, irritation and burns.
Symptoms/effects after skin contact	: Causes (severe) skin burns. Worker will notice a slippery feeling on washing.
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	: Highly flammable liquid and vapour. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.
Explosion hazard	: May form flammable/explosive vapour-air mixture.

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### 5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Protect against caustic dust, smoke and water.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapour and mist. Wear pressure demand self-contained breathing apparatus with full facepiece and full protective clothing.

## SECTION 6: Accidental release measures

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

- General measures : Eliminate every possible source of ignition. Use special care to avoid static electric charges.

#### 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 liquid 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 : Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal. Use only non-sparking tools.

### 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

- Additional hazards when processed : Handle empty containers with care because residual vapours are flammable. Keep away from heat, open flames, sparks. No smoking.
- Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapour and mist. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Use only non-sparking tools.
- 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

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.
- Storage conditions : Keep container tightly closed. Keep in a cool place. Store locked up. Store under dry nitrogen or argon in sealed containers.
- Incompatible materials : Acids. alcohols. Carbon dioxide. Esters. Halogens. Ketones. Moist air. Water.
- 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

Isopropanol (67-63-0)		
Austria	MAK (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup> (short time value for large casting)
Austria	MAK (ppm)	200 ppm (short time value for large casting)
Austria	MAK Short time value (mg/m <sup>3</sup> )	2000 mg/m <sup>3</sup> 2000 mg/m <sup>3</sup> (STEL for large casting valid till 12/31/2013)
Austria	MAK Short time value (ppm)	800 ppm 800 ppm (STEL for large casting valid till 12/31/2013)
Belgium	Limit value (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	200 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	1000 mg/m <sup>3</sup>
Belgium	Short time value (ppm)	400 ppm

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Isopropanol (67-63-0)		
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	980 mg/m <sup>3</sup>
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	1225 mg/m <sup>3</sup>
France	VLE (mg/m <sup>3</sup> )	980 mg/m <sup>3</sup>
France	VLE (ppm)	400 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup> (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	TRGS 900 Occupational exposure limit value (ppm)	200 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	TRGS 903 Biological limit value	25 mg/l (Medium: whole blood - Time: end of shift - Parameter: Acetone) 25 mg/l (Medium: urine - Time: end of shift - Parameter: Acetone)
Greece	OEL TWA (mg/m <sup>3</sup> )	980 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	400 ppm
Greece	OEL STEL (mg/m <sup>3</sup> )	1225 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	500 ppm
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200 ppm
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	400 ppm
Latvia	OEL TWA (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
USA IDLH	US IDLH (ppm)	2000 ppm (10% LEL)
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	980 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (ppm)	400 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	1225 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (STEL) (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	980 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	400 ppm
Spain	VLA-ED (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup> (it is prohibited the partial or complete commercialization or use of this substance as a phytosanitary or biocide compound)
Spain	VLA-ED (ppm)	200 ppm (it is prohibited the partial or complete commercialization or use of this substance as a phytosanitary or biocide compound)
Spain	VLA-EC (mg/m <sup>3</sup> )	1000 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	400 ppm
Switzerland	KZGW (mg/m <sup>3</sup> )	1000 mg/m <sup>3</sup>
Switzerland	KZGW (ppm)	400 ppm
Switzerland	MAK (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
Switzerland	MAK (ppm)	200 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	999 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	400 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	1250 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	500 ppm
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	490 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	200 ppm
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	200 ppm
Finland	HTP-arvo (15 min)	620 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	250 ppm
Hungary	AK-érték	500 mg/m <sup>3</sup>
Hungary	CK-érték	2000 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	200 ppm
Ireland	OEL (15 min ref) (ppm)	400 ppm
Lithuania	IPRV (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>

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Isopropanol (67-63-0)		
Lithuania	IPRV (ppm)	150 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	600 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	250 ppm
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	245 mg/m <sup>3</sup>
Norway	Grenseverdier (AN) (ppm)	100 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m <sup>3</sup> )	245 mg/m <sup>3</sup>
Norway	Grenseverdier (Korttidsverdi) (ppm)	100 ppm
Poland	NDS (mg/m <sup>3</sup> )	900 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	1200 mg/m <sup>3</sup>
Romania	OEL TWA (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	81 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	203 ppm
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	200 ppm
Slovakia	NPHV (Hraničná) (mg/m <sup>3</sup> )	1000 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	150 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	600 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	250 ppm
Canada (Quebec)	VECD (mg/m <sup>3</sup> )	1230 mg/m <sup>3</sup>
Canada (Quebec)	VECD (ppm)	500 ppm
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	985 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	400 ppm
Australia	TWA (mg/m <sup>3</sup> )	983 mg/m <sup>3</sup>
Australia	TWA (ppm)	400 ppm
Australia	STEL (mg/m <sup>3</sup> )	1230 mg/m <sup>3</sup>
Australia	STEL (ppm)	500 ppm
Portugal	OEL TWA (ppm)	200 ppm
Portugal	OEL STEL (ppm)	400 ppm
Portugal	OEL chemical category (PT)	A4 - Not Classifiable as a Human Carcinogen
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 or face shield. Contact lenses should not be worn

#### Skin and body protection:

Wear suitable protective clothing. Long-sleeved fire-resistant lab uniform or coverall is recommended.

#### Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified caustic organic vapor (black cartridge) respirator.

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### SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Solution.
Molecular mass	: 255.52 g/mol
Colour	: Pale yellow to amber.
Odour	: No data available
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	: < 0 °C
Freezing point	: No data available
Boiling point	: 82 °C initial (isopropanol)
Flash point	: 12 °C
Auto-ignition temperature	: 450 °C isopropanol
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapour.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: > 2
Relative density	: 0.89
% Volatiles	: > 75 %
Solubility	: Reacts with 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	: 2.5 - 12 vol % (lower; upper: isopropanol)

#### 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 under nitrogen or argon in sealed containers.

#### 10.3. Possibility of hazardous reactions

Material decomposes slowly in contact with moist air and rapidly in contact with water.

#### 10.4. Conditions to avoid

Heat. Sparks. Open flame.

#### 10.5. Incompatible materials

Acids. alcohols. Carbon dioxide. Esters. Halogens. Ketones. Moist air. Water.

#### 10.6. Hazardous decomposition products

Barium hydroxide. Caustic organic vapors. Isopropanol.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

#### Isopropanol (67-63-0)

LD50 oral rat	1870 mg/kg
LD50 dermal rabbit	4059 mg/kg
LC50 inhalation rat (mg/l)	72600 mg/m <sup>3</sup> (Exposure time: 4 h)
ATE CLP (oral)	4396 mg/kg bodyweight
ATE CLP (dermal)	12800 mg/kg bodyweight

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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
Carcinogenicity	: Not classified

<b>Isopropanol (67-63-0)</b>	
IARC group	3 - Not classifiable

Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause drowsiness or dizziness. Inhalation will cause sneezing, irritation and burns.
Symptoms/effects after skin contact	: Causes (severe) skin burns. Worker will notice a slippery feeling on washing.
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

<b>Isopropanol (67-63-0)</b>	
LC50 fish 1	9640 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	13299 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	11130 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

<b>Isopropanol (67-63-0)</b>	
Log Pow	0.05 (at 25 °C)

### 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

Other adverse effects	: This substance may be hazardous to the environment.
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## 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 licensed waste disposal facility.
Additional information	: Handle empty containers with care because residual vapours are flammable.
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)	: 3274
UN-No. (IMDG)	: 3274
UN-No. (IATA)	: 3274
UN-No. (ADN)	: 3274

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UN-No. (RID) : 3274

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : ALCOHOLATES SOLUTION, N.O.S.  
Proper Shipping Name (IMDG) : ALCOHOLATES SOLUTION, N.O.S.  
Proper Shipping Name (IATA) : Alcoholates solution, n.o.s.  
Proper Shipping Name (ADN) : ALCOHOLATES SOLUTION, N.O.S.  
Proper Shipping Name (RID) : ALCOHOLATES SOLUTION  
Transport document description (ADR) : UN 3274 ALCOHOLATES SOLUTION, N.O.S. (BARIUM ISOPROPOXIDE, 20% in isopropanol), 3 (8), II, (D/E)  
Transport document description (IMDG) : UN 3274 ALCOHOLATES SOLUTION, N.O.S. (BARIUM ISOPROPOXIDE, 20% in isopropanol), 3 (8), II  
Transport document description (IATA) : UN 3274 Alcoholates solution, n.o.s. (BARIUM ISOPROPOXIDE, 20% in isopropanol), 3 (8), II  
Transport document description (ADN) : UN 3274 ALCOHOLATES SOLUTION, N.O.S. (BARIUM ISOPROPOXIDE, 20% in isopropanol), 3 (8), II  
Transport document description (RID) : UN 3274 ALCOHOLATES SOLUTION (BARIUM ISOPROPOXIDE, 20% in isopropanol), 3 (8), II

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 3 (8)  
Danger labels (ADR) : 3, 8



#### IMDG

Transport hazard class(es) (IMDG) : 3 (8)  
Danger labels (IMDG) : 3, 8



#### IATA

Transport hazard class(es) (IATA) : 3 (8)  
Hazard labels (IATA) : 3, 8



#### ADN

Transport hazard class(es) (ADN) : 3 (8)  
Danger labels (ADN) : 3, 8



#### RID

Transport hazard class(es) (RID) : 3 (8)  
Danger labels (RID) : 3, 8



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### 14.4. Packing group

Packing group (ADR)	: II
Packing group (IMDG)	: II
Packing group (IATA)	: II
Packing group (ADN)	: II
Packing group (RID)	: II

### 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)	: FC
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001, IBC02
Mixed packing provisions (ADR)	: MP19
Tank code (ADR)	: L4BH
Vehicle for tank carriage	: FL
Transport category (ADR)	: 2
Special provisions for carriage - Operation (ADR)	: S2, S20
Hazard identification number (Kemler No.)	: 338
Orange plates	:

338

3274

Tunnel restriction code (ADR)	: D/E
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#### - Transport by sea

Special provisions (IMDG)	: 274
Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-C
Stowage category (IMDG)	: B
Properties and observations (IMDG)	: Colourless solution. Reacts violently with water. Causes burns to skin, eyes and mucous membranes.

#### - Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y340
PCA limited quantity max net quantity (IATA)	: 0.5L
PCA packing instructions (IATA)	: 352
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 363
CAO max net quantity (IATA)	: 5L
ERG code (IATA)	: 3C

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### - Inland waterway transport

Classification code (ADN)	: FC
Special provisions (ADN)	: 274
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E2
Equipment required (ADN)	: PP, EP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 1

### - Rail transport

Classification code (RID)	: FC
Special provisions (RID)	: 274
Limited quantities (RID)	: 1L
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001, IBC02
Mixed packing provisions (RID)	: MP19
Tank codes for RID tanks (RID)	: L4BH
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE7
Hazard identification number (RID)	: 338

### 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

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance 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.

Substance(s) are 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.

Contains no REACH Annex XIV substances

% Volatiles : > 75 %

#### 15.1.2. National regulations

##### Germany

Reference to AwSV : Water hazard class (WGK) 3, Highly hazardous to water (Classification according to AwSV, Annex 1)

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 : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

##### Denmark

Class for fire hazard : Class I-1

Store unit : 1 liter

Classification remarks : F <Flam. Liq. 2>; Emergency management guidelines for the storage of flammable liquids must be followed

# BARIUM ISOPROPOXIDE, 20% in isopropanol

## Safety Data Sheet

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

## 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

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
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
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
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour.
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.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

SDS EU (REACH Annex II) - Custom

*The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.*

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