

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

Trade name

Barium ethoxide, 10% w/v in ethanol

Stock number:

36588

CAS Number:

2914-19-4

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

Identified use:

SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com

Informing department:

Product safety Tel + +049 (0) 7275 988687-0

1.4 Emergency telephone number:

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)

Poison Information Center Mainz

www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS05 corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

C; Corrosive

R34: Causes burns.

Xn; Harmful

R20/22: Harmful by inhalation and if swallowed.

F; Highly flammable

R11: Highly flammable.

Information concerning particular hazards for human and environment:

Not applicable

Other hazards that do not result in classification

No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Hazard statements

The substance is classified and labelled according to the CLP regulation.

GHS02, GHS05, GHS07

Danger

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P210

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin

with water/shower.

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P302+P352

IF ON SKIN: Wash with plenty of soap and water.

P310

Immediately call a POISON CENTER or doctor/physician.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

SECTION 3: Composition/information on ingredients**3.1 Substances**

CAS# Designation:

2914-19-4 Barium ethoxide, 10% w/v in ethanol

SECTION 4: First aid measures**4.1 Description of first aid measures**

General information

After inhalation

Instantly remove any clothing soiled by the product.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

After skin contact

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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SECTION 5: Firefighting measures

- 5.1 Extinguishing media**
Suitable extinguishing agents CO₂, sand, extinguishing powder. Do not use water.
- 5.2 Special hazards arising from the substance or mixture**
If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide
Barium oxide
- 5.3 Advice for firefighters**
Protective equipment: Wear self-contained breathing apparatus.
Wear full protective suit.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
- 6.2 Environmental precautions:** Do not allow material to be released to the environment without proper governmental permits.
Do not allow product to reach sewage system or water bodies.
Do not allow to enter the ground/soil.
- 6.3 Methods and material for containment and cleaning up:** Keep away from ignition sources.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
- Prevention of secondary hazards:** Keep away from ignition sources.
- 6.4 Reference to other sections** See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling** Handle under dry protective gas.
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.
- Information about protection against explosions and fires:** Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.
- 7.2 Conditions for safe storage, including any incompatibilities**
Storage
Requirements to be met by storerooms and containers: Store in cool location.
Information about storage in one common storage facility: Store away from oxidizing agents.
Store away from water.
- Further information about storage conditions:** Store under dry inert gas.
This product is moisture sensitive.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and keep away from water.
Store in a locked cabinet or with access restricted to technical experts or their assistants.
- 7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters
Components with critical values that require monitoring at the workplace:

Ethyl alcohol	
	ppm
ACGIH TLV	1000-STEL; Confirmed animal carcinogen with unknown relevance to humans.
Austria MAK	1000
Belgium TWA	1000
Denmark TWA	1000
Finland TWA	1000; 1250-STEL
France VME	1000; 5000-VLE
Germany MAK	1000
Hungary TWA	1000; 3000-STEL
Korea TLV	1000; Not classifiable as a human carcinogen
Netherlands MAC-TGG	500
Norway TWA	500
Poland TWA	1000 mg/m ³ ; 300 mg/m ³ -STEL
Russia	1000 mg/m ³ -STEL
Sweden NGV	500; 1000-KTV
Switzerland MAK-W	1000
United Kingdom TWA	1000
OSHA PEL	1000
Barium, and soluble compounds, as Ba	
	mg/m ³
ACGIH TLV	0.5; Not classified as a human carcinogen
Austria MAK	0.5
Belgium TWA	0.5
Denmark TWA	0.5
Finland TWA	0.5
Germany MAK	0.5 (total dust)
Hungary	0.5-STEL
Ireland TWA	0.5
Korea TLV	0.5
Netherlands MAC-TGG	0.5
Norway TWA	0.5
Poland TWA	0.5; 1.5-STEL
Sweden TWA	0.5

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Switzerland MAK-W 0.5
United Kingdom LTEL 0.5
USA PEL 0.5
No data

Additional information:**8.2 Exposure controls****Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Use breathing protection with high concentrations.

Check protective gloves prior to each use for their proper condition.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Impervious gloves

Not determined

Tightly sealed safety glasses.

Full face protection

Protective work clothing.

Breathing equipment:**Protection of hands:****Material of gloves****Penetration time of glove material****Eye protection:****Body protection:****SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

Form: Liquid
Colour: Yellow
Smell: Alcohol-like
Odour threshold: Not determined.

pH-value: Not determined.**Change in condition**

Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flash point: 9 °C**Inflammability (solid, gaseous)** Not determined.**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Self-inflammability:** Not determined.**Critical values for explosion:****Lower:** Not determined**Upper:** Not determined**Steam pressure:** Not determined**Density** Not determined**Relative density** Not determined.**Vapour density** Not determined.**Evaporation rate** Not determined.**Solubility in / Miscibility with****Water:** Reacts**Partition coefficient (n-octanol/water):** Not determined.**Viscosity:****dynamic:** Not determined.**kinematic:** Not determined.**9.2 Other information** No further relevant information available.**SECTION 10: Stability and reactivity****10.1 Reactivity** No information known.**10.2 Chemical stability** Stable under recommended storage conditions.**Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.**10.3 Possibility of hazardous reactions** No dangerous reactions known**10.5 Incompatible materials:** Oxidizing agents

Water/moisture

Carbon monoxide and carbon dioxide

Barium oxide

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity:** Harmful if inhaled.
Harmful if swallowed.
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.**LD/LC50 values that are relevant for classification:**

Ethanol (CAS# 64-17-5)
ORL-RAT LD50: 7060 MG/KG
ORL-MUS LD50: 3450 MG/KG
IHL-RAT LC50: 20000 PPM/10H

Skin irritation or corrosion: Causes severe skin burns.**Eye irritation or corrosion:** Causes serious eye damage.**Sensitization:** No sensitizing effect known.**Germ cell mutagenicity:** No effects known.**Carcinogenicity:** ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.**Reproductive toxicity:** No effects known.**Specific target organ system toxicity - repeated exposure:** No effects known.**Specific target organ system toxicity - single exposure:** No effects known.**Aspiration hazard:** No effects known.**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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SECTION 12: Ecological information

12.1 Toxicity	No further relevant information available.
Aquatic toxicity:	No further relevant information available.
12.2 Persistence and degradability	No further relevant information available.
12.3 Bioaccumulative potential	No further relevant information available.
12.4 Mobility in soil	No further relevant information available.
Additional ecological information:	Do not allow material to be released to the environment without proper governmental permits.
General notes:	Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Avoid transfer into the environment.
12.5 Results of PBT and vPvB assessment	
PBT:	Not applicable.
vPvB:	Not applicable.
12.6 Other adverse effects	No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods	Hand over to disposers of hazardous waste.
Recommendation	Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal.
Uncleaned packagings:	
Recommendation:	Disposal must be made according to official regulations.

SECTION 14: Transport information

UN-Number	UN3274
ADR, IMDG, IATA	
14.2 UN proper shipping name	3274 ALKOHOLATES SOLUTION, N.O.S. (Barium ethoxide/ Ethanol)
ADR	ALKOHOLATES SOLUTION, N.O.S. (Barium ethoxide/ Ethanol)
IMDG, IATA	
14.3 Transport hazard class(es)	
ADR	
	
Class	3 (FC) Flammable liquids.
Label	3+8
IMDG, IATA	
	
Class	3 Flammable liquids.
Label	3+8
Packing group	II
ADR, IMDG, IATA	
14.5 Environmental hazards:	Not applicable.
14.6 Special precautions for user	Warning: Flammable liquids.
Kemler Number:	33
EMS Number:	F-E,S-C
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
ADR	
Excepted quantities (EQ):	E2
Limited quantities (LQ)	1L
Transport category	2
Tunnel restriction code	D/E
UN "Model Regulation":	UN3274, ALKOHOLATES SOLUTION, N.O.S. (Barium ethoxide/ Ethanol), 3 (8), II

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
Australian Inventory of Chemical Substances	Substance is not listed.
Standard for the Uniform Scheduling of Drugs and Poisons	Substance is not listed.
National regulations	
Information about limitation of use:	For use only by technically qualified individuals. Employment restrictions concerning young persons must be observed.
Water hazard class:	Water hazard class 1 (Self-assessment): slightly hazardous for water.
Other regulations, limitations and prohibitive regulations	
ELINCS (European List of Notified Chemical Substances)	Substance is not listed.
Substances of very high concern (SVHC) according to REACH, Article 57	Substance is not listed.
REACH - Pre-registered substances	Substance is listed.
15.2 Chemical safety assessment:	A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet:	Health, Safety and Environmental Department.
Abbreviations and acronyms:	RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO: International Civil Aviation Organization

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DE/E

Safety data sheet
according to 1907/2006/EC, Article 31

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ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

DE/E