

# Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 05.03.2013

Printing date 01.07.2013

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

### 1.1 Product identifier

Trade name

**Lithium niobium methoxide, 5% w/v in methanol**

Stock number:

39154

### 1.2 Relevant identified uses of the substance

or mixture and uses advised against.

Identified use:

No further relevant information available.

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.



GHS06 skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 health hazard

STOT SE 1 H370 Causes damage to the eyes and the brain. Route of exposure: Oral and Inhalative, Dermal.



GHS05 corrosion

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

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



T; Toxic

R23/24/25-39/23/24/25: Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.



Xi; Irritant

R36/38: Irritating to eyes and skin.



F; Highly flammable

R11: Highly flammable.  
**Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

**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

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

GHS02, GHS05, GHS06, GHS08

Danger

**Hazard-determining components of labelling:**

Methanol

Lithium niobium methoxide

H225 Highly flammable liquid and vapour.

H311 Toxic in contact with skin.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

H370 Causes damage to the eyes and the brain. Route of exposure: Oral and Inhalative, Dermal.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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.

P361 Remove/Take off immediately all contaminated clothing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3 Other hazards

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Dangerous components:

CAS: 67-56-1	Methanol	95,0%
EINECS: 200-659-6	T R23/24/25-39/23/24/25;  F R11 Flam. Liq. 2, H225;  Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331;  STOT SE 1, H370	
CAS: 21864-11-9	Lithium niobium methoxide	5,0%
	C R34;  F R11 Flam. Sol. 2, H228;  Skin Corr. 1B, H314	

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None known.

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

Instantly remove any clothing soiled by the product.  
Remove breathing apparatus only after soiled clothing has been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.  
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

**After inhalation**

Seek immediate medical advice.  
Instantly wash with water and soap and rinse thoroughly.

**After skin contact**

Seek immediate medical advice.  
Rinse opened eye for several minutes under running water. Then consult doctor.  
Do not induce vomiting; instantly call for medical help.

**After eye contact****After swallowing****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.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents**

Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.

**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  
Metal oxide  
Lithium 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

**6.2 Environmental precautions:**

Keep away from ignition sources  
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:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of contaminated material as waste according to item 13.  
Ensure adequate ventilation.

**Prevention of secondary hazards:****6.4 Reference to other sections**

Keep away from ignition sources.  
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.  
Open and handle container with care.

**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 water.  
Store away from oxidizing agents.

**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.  
No further relevant information available.

**7.3 Specific end use(s)****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:****67-56-1 Methanol (95,0%)**

AGW (Germany)	270 mg/m <sup>3</sup> , 200 ppm 4(II);DFG, EU, H, Y
PEL (USA)	260 mg/m <sup>3</sup> , 200 ppm
REL (USA)	Short-term value: 325 mg/m <sup>3</sup> , 250 ppm Long-term value: 260 mg/m <sup>3</sup> , 200 ppm Skin
TLV (USA)	Short-term value: 328 mg/m <sup>3</sup> , 250 ppm Long-term value: 262 mg/m <sup>3</sup> , 200 ppm Skin; BEI

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**Ingredients with biological limit values:****67-56-1 Methanol (95,0%)**

BGW (Germany)	30 mg/l U c,b Methanol
BEI (USA)	15 mg/L urine end of shift Methanol (background, nonspecific)

**Additional information:** No data**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.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Use self-contained respiratory protective device in emergency situations.

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

Safety glasses

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:	Colorless to pale yellow
Smell:	Not determined
Odour threshold:	Not determined.

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

Melting point/Melting range:	-98 °C
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Inflammability (solid, gaseous)	Not determined.
Ignition temperature:	455 °C
Decomposition temperature:	Not determined
Self-inflammability:	Product is not selfigniting.
Critical values for explosion:	
Lower:	5,5 Vol %
Upper:	44 Vol %
Steam pressure at 20 °C:	128 hPa
Density at 20 °C	0,791 g/cm³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.

**Solvent content:****Organic solvents:** 95,0 %**Solids content:****9.2 Other information** 5,0 %  
No further relevant information available.**SECTION 10: Stability and reactivity****10.1 Reactivity****10.2 Chemical stability****Thermal decomposition / conditions to be avoided:****10.3 Possibility of hazardous reactions****10.5 Incompatible materials:****10.6 Hazardous decomposition products:**

No information known.

Stable under recommended storage conditions.

No decomposition if used and stored according to specifications.

Reacts with strong oxidizing agents

Water/moisture

Oxidizing agents

Carbon monoxide and carbon dioxide

Metal oxide

Lithium oxide

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity:**

Danger by skin resorption.

Fatal if inhaled.

Toxic in contact with skin.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

**LD/LC50 values that are relevant for classification:****67-56-1 Methanol**

Oral	LD50	14200 mg/kg (rabbit)
Inhalative	LC50/6H	41000 ppm/6H (mouse)

**Skin irritation or corrosion:**

Causes skin irritation.

**Eye irritation or corrosion:**

Causes serious eye irritation.

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<b>Sensitization:</b>	No sensitizing effect known.
<b>Germ cell mutagenicity:</b>	The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for components in this product.
<b>Carcinogenicity:</b>	The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this product.
<b>Reproductive toxicity:</b>	The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for components in this product.
<b>Specific target organ system toxicity - repeated exposure:</b>	No effects known.
<b>Specific target organ system toxicity - single exposure:</b>	Causes damage to the eyes and the brain. Route of exposure: Oral and Inhalative, Dermal.
<b>Aspiration hazard:</b>	No effects known.
<b>Experience with humans:</b>	The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for components in this product.
<b>Additional toxicological information:</b>	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. Toxic in contact with skin. The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version: Toxic Irritant



**SECTION 12: Ecological information**

<b>12.1 Toxicity</b>	No further relevant information available.
<b>Aquatic toxicity:</b>	No further relevant information available.
<b>12.2 Persistence and degradability</b>	No further relevant information available.
<b>12.3 Bioaccumulative potential</b>	No further relevant information available.
<b>12.4 Mobility in soil</b>	No further relevant information available.
<b>Additional ecological information:</b>	
<b>General notes:</b>	Do not allow product to reach ground water, water bodies or sewage system. Do not allow material to be released to the environment without proper governmental permits. Water hazard class 2 (Self-assessment): hazardous for water. Danger to drinking water if even small quantities leak into soil. Avoid transfer into the environment.
<b>12.5 Results of PBT and vPvB assessment</b>	
<b>PBT:</b>	Not applicable.
<b>vPvB:</b>	Not applicable.
<b>12.6 Other adverse effects</b>	No further relevant information available.

**SECTION 13: Disposal considerations**

<b>13.1 Waste treatment methods</b>	
<b>Recommendation</b>	Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal.
<b>Uncleaned packagings:</b>	
<b>Recommendation:</b>	Disposal must be made according to official regulations.
<b>Recommended cleaning agent:</b>	Water, if necessary with cleaning agent.

**SECTION 14: Transport information**

<b>UN-Number</b>	UN1230
<b>ADR, IMDG, IATA</b>	
<b>14.2 UN proper shipping name</b>	1230 METHANOL
<b>ADR</b>	METHANOL
<b>IMDG, IATA</b>	
<b>14.3 Transport hazard class(es)</b>	
<b>ADR</b>	
	
<b>Class</b>	3 (FT1) Flammable liquids.
<b>Label</b>	3+6.1
<b>IMDG, IATA</b>	
	
<b>Class</b>	3 Flammable liquids.
<b>Label</b>	3+6.1
<b>Packing group</b>	II
<b>ADR, IMDG, IATA</b>	
<b>14.5 Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>14.6 Special precautions for user</b>	Warning: Flammable liquids.
<b>Kemler Number:</b>	336
<b>EMS Number:</b>	F-E,S-D
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC</b>	
<b>Code</b>	Not applicable.
<b>Transport/Additional information:</b>	
<b>ADR</b>	
<b>Excepted quantities (EQ):</b>	E2
<b>Limited quantities (LQ)</b>	1L
<b>Transport category</b>	2
<b>Tunnel restriction code</b>	D/E
<b>UN "Model Regulation":</b>	UN1230, METHANOL, 3 (6.1), II

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**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Chemical Substances**

67-56-1 | Methanol

**Standard for the Uniform Scheduling of Drugs and Poisons**

67-56-1 | Methanol

S5, S6

**National regulations****Information about limitation of use:**

For use only by technically qualified individuals.  
Employment restrictions concerning young persons must be observed.  
Not applicable

**Classification according to VbF:****Technical instructions (air):**

Class	Share in %
I	95,0

**Water hazard class:**

Water hazard class 2 (Self-assessment): hazardous for water.

**Other regulations, limitations and prohibitive regulations****ELINCS (European List of Notified Chemical Substances)**

None of the ingredients is listed.

**Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients are listed.

**REACH - Pre-registered substances**

67-56-1 | Methanol

**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.

**Relevant phrases**

H225 Highly flammable liquid and vapour.  
H228 Flammable solid.  
H301 Toxic if swallowed.  
H311 Toxic in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H331 Toxic if inhaled.  
H370 Causes damage to the eyes and the brain. Route of exposure: Oral and Inhalative, Dermal.  
R11 Highly flammable.  
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.  
R34 Causes burns.  
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

**Department issuing data specification sheet:** Health, Safety and Environmental Department.**Abbreviations and acronyms:**

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  
VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent

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