

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.07.2013

Revision: 17.06.2013

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

Trade name

**Ammonia, 7M in methanol**

Stock number:

H30382

**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.



C; Corrosive

R34: Causes burns.



Xi; Irritant

R37: Irritating to respiratory system.



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  
Ammonia**Hazard statements**H225 Highly flammable liquid and vapour.  
H311 Toxic in contact with skin.  
H331 Toxic if inhaled.**Precautionary statements**

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.

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**SECTION 3: Composition/information on ingredients****3.2 Mixtures****Dangerous components:**

CAS: 67-56-1 EINECS: 200-659-6	Methanol 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	84,92%
CAS: 7664-41-7 EINECS: 231-635-3	Ammonia T R23; C R34; N R50 Flam. Liq. 3, H226; Press. Gas, H280; Acute Tox. 3, H331; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Flam. Gas 2, H221	15,08%

**Additional information**

None known.

**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.

**After skin contact**

Instantly wash with water and soap and rinse thoroughly.

**After eye contact**

Seek immediate medical advice.

**After swallowing**

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

**4.2 Most important symptoms and effects, both acute and delayed**

Do not induce vomiting; instantly call for medical help.

**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

No further relevant information available.

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

CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

**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  
Nitrogen oxides (NOx)  
Ammonia

**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.

**6.2 Environmental precautions:**

Ensure adequate ventilation  
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).

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

Use neutralizing agent.  
Dispose of contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
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.  
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:**  
**Information about storage in one common storage facility:**

Refrigerate

**Further information about storage conditions:**

Protect from heat.  
Store away from water.  
Do not store together with acids.  
Store away from oxidizing agents.

**7.3 Specific end use(s)**

Store under dry inert gas.  
This product is hygroscopic.  
Keep container tightly sealed.  
Protect from humidity and keep away from water.  
Store in a locked cabinet or with access restricted to technical experts or their assistants.  
Refrigerate  
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.

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**8.1 Control parameters****Components with critical values that require monitoring at the workplace:****67-56-1 Methanol (84,92%)**

AGW (Germany)	270 mg/m <sup>3</sup> , 200 ppm 4(l);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

**7664-41-7 Ammonia (15,08%)**

AGW (Germany)	14 mg/m <sup>3</sup> , 20 ppm 2(l);DFG, EU, Y
MAK (TRGS 900) (Germany)	35 mg/m <sup>3</sup> , 50 ppm Y; DFG
PEL (USA)	35 mg/m <sup>3</sup> , 50 ppm
REL (USA)	Short-term value: 27 mg/m <sup>3</sup> , 35 ppm Long-term value: 18 mg/m <sup>3</sup> , 25 ppm
TLV (USA)	Short-term value: 24 mg/m <sup>3</sup> , 35 ppm Long-term value: 17 mg/m <sup>3</sup> , 25 ppm

**Ingredients with biological limit values:****67-56-1 Methanol (84,92%)**

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.

Do not inhale dust / smoke / mist.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Use self-contained respiratory protective device in emergency situations.

**Breathing equipment:****Recommended filter device for short term use:**

Use self-contained breathing apparatus (SCBA) as a backup to engineering controls. Risk assessment should be performed. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).

**Protection of hands:**

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.

**Material of gloves**

Nitrile rubber, NBR

**Penetration time of glove material**

Not determined

**Eye protection:**

Tightly sealed safety glasses.

**Body protection:**Full face protection  
Protective work clothing.**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Liquid
Colour:	Colourless
Smell:	Not determined
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:	14 °C
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:	44,0 Vol %
Steam pressure at 20 °C:	128 hPa
Density at 20 °C	0,779 g/cm <sup>3</sup>
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.

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**Solvent content:**  
Organic solvents: 84,9 %  
**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** Reacts with strong oxidizing agents  
**10.5 Incompatible materials:** Acids  
Water/moisture  
Oxidizing agents  
Heat  
**10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide  
Nitrogen oxides (NOx)  
Ammonia

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**  
**Acute toxicity:** Danger by skin resorption.  
Fatal if inhaled.  
Toxic in contact with skin.  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.  
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)

**7664-41-7 Ammonia**

Oral	LD50	350 mg/kg (rat)
Inhalative	LC50/4H	2000 mg/m3/4H (rat)

**Skin irritation or corrosion:** Causes severe skin burns.  
**Eye irritation or corrosion:** Causes serious eye damage.  
**Sensitization:** No sensitizing effect known.  
**Germ cell mutagenicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for components in this product.  
**Carcinogenicity:** No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this product.  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for components in this product.  
**Reproductive toxicity:** No effects known.  
**Specific target organ system toxicity - repeated exposure:** Causes damage to the eyes and the brain. Route of exposure: Oral and Inhalative, Dermal.  
**Specific target organ system toxicity - single exposure:** May cause respiratory irritation.  
No effects known.  
**Aspiration hazard:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for components in this product.  
**Experience with humans:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.  
**Additional toxicological information:** 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  
Corrosive  
Irritant

**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 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.  
**General notes:**  
**12.5 Results of PBT and vPvB assessment** Not applicable.  
**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**  
**Recommendation** 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.  
**Uncleaned packagings:**  
**Recommendation:** Disposal must be made according to official regulations.  
**Recommended cleaning agent:** Water, if necessary with cleaning agent.

**SECTION 14: Transport information**

<b>UN-Number</b> <b>ADR, IMDG, IATA</b>	UN3286
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14.2 UN proper shipping name

ADR

IMDG, IATA

3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (METHANOL, AMMONIA, ANHYDROUS)  
FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (METHANOL, AMMONIA, ANHYDROUS)

14.3 Transport hazard class(es)

ADR



Class

Label

IMDG, IATA



Class

Label

3 (FTC) Flammable liquids.  
3+6.1+83 Flammable liquids.  
3+6.1+8

Packing group

ADR, IMDG, IATA

II

14.5 Environmental hazards:

Marine pollutant:

No

14.6 Special precautions for user

Kemler Number:

EMS Number:

Segregation groups

Warning: Flammable liquids.

368

F-E,S-C

Alkalis

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):

Limited quantities (LQ)

Transport category

Tunnel restriction code

E2

1L

2

D/E

UN "Model Regulation":

UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (METHANOL, AMMONIA, ANHYDROUS), 3 (6.1+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

All ingredients are listed.

Standard for the Uniform Scheduling of Drugs and Poisons

67-56-1 | Methanol

S5, S6

National regulations

Information about limitation of use:

Employment restrictions concerning young persons must be observed.  
For use only by technically qualified individuals.

B

Classification according to VbF:

Technical instructions (air):

Class	Share in %
I	84,92

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

All ingredients are 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.

Relevant phrases

H221	Flammable gas.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
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.
H400	Very toxic to aquatic life.
R10	Flammable.
R11	Highly flammable.
R23	Toxic by inhalation.
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.
R50	Very toxic to aquatic organisms.

Department issuing data specification sheet:

Abbreviations and acronyms:

Health, Safety and Environmental Department.

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

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Trade name <b>Ammonia, 7M in methanol</b>	
	<div>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</div> <div>(Contd. of page 5)</div> <div>DE/E</div>