

Ammonia solution (30-33%)

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Issue date: 9/11/2018 Revision date: 7/11/2023

Supersedes version of: 6/27/2023 Version: 3.0

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

1.1. Product identifier

Product form	: Mixture
Trade name	: Ammonia solution (30-33%)
EC Index-No.	: 007-001-01-2
EC-No.	: 215-647-6
CAS-No.	: 1336-21-6
REACH registration No	: 01-2119488876-14-XXXX
Product code	: NC-0901
Type of product	: Synthesis Reagent
Formula	: NH ₄ OH
Synonyms	: Ammonium hydroxide, Ammonia water, Ammonia aqueous
Product group	: End product

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

1.2.1. Relevant identified uses

Main use category	: Industrial use, Laboratory chemical
Industrial/Professional use spec	: Industrial For professional use only
Use of the substance/mixture	: Laboratory chemicals Substance manufacture
Function or use category	: Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

emp Biotech GmbH
Robert-Rössle-Str. 10
13125 Berlin - Deutschland
T +49 (0)30 94 89 22 01 (Monday-Friday, 9:00 am-5:00 pm) - F +49 (0)30 94 89 32 01
info@empbiotech.com - www.empbiotech.com

1.4. Emergency telephone number

Emergency number	: Giftnotruf Berlin +49 30 30686700 (Beratung in Deutsch), 24 Stunden, 7 Tage/Woche; International: INFOTRAC +1-352-323-3500 (Phone) or in the US 800-535-5053 (toll-free), 24 hours/day, 7 days/week
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Corr. 1B	H314
Eye Dam. 1	H318
STOT SE 3	H335
Aquatic Acute 1	H400
Aquatic Chronic 2	H411

Full text of hazard classes, H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

Ammonia solution (30-33%)

Safety Data Sheet



www.empbiotech.com

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) :

P261 - Avoid breathing dust, fume, gas, mist, vapours, spray.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

Other hazards which do not result in classification

: This substance / mixture does not contain any components of 0.1% or higher that are either classified as persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

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]
Ammonia solution (30-33%)	(CAS-No.) 1336-21-6 (EC-No.) 215-647-6 (EC Index-No.) 007-001-01-2 (REACH-no) 01-2119488876-14-XXXX	100	Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Ammonia solution (30-33%)	(CAS-No.) 1336-21-6 (EC-No.) 215-647-6 (EC Index-No.) 007-001-01-2 (REACH-no) 01-2119488876-14-XXXX	(5 \leq C < 100) STOT SE 3, H335

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. Consult a doctor. Show this safety data sheet to the doctor in attendance.
First-aid measures after inhalation	: Move person to fresh air and ensure comfortable breathing. Immediately call a POISON CENTER/doctor.
First-aid measures after skin contact	: Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Immediately call a POISON CENTER/doctor. Remove contact lenses, if possible. Continue rinsing.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. No attempts at neutralization.

Ammonia solution (30-33%)

Safety Data Sheet



www.empbiotech.com

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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

Symptoms/effects : The most important known symptoms and effects are described on the label (see 2.2) and / or in section 11.

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 : Making extinguishing agents environment-friendly.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Non- combustible.

Reactivity in case of fire : Ambient fire may liberate hazardous vapours.

Hazardous decomposition products in case of fire : Nitrous gases (NO_x).

5.3. Advice for firefighters

Firefighting instructions : Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Protection during firefighting : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : For personal protection see section 8.

Emergency procedures : Do not breathe vapours, mist, gas, spray. Avoid substance contact. Ensure adequate ventilation, observe emergency procedures, consult an expert. Evacuate area.

6.1.2. For emergency responders

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Do not allow to enter drains or water courses. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4. Reference to other sections

Information on exposure controls/personal protective equipment and on Instructions for disposal can be found in sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Always open containers slowly to allow any excess pressure to vent.
. For precautions see section 2.2.

Hygiene measures : Apply preventive skin protection. Take off immediately all contaminated clothing and wash it 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 in a well-ventilated, dry place. Store in cool place. May develop pressure. Refrigerate before opening. Handle and open container with care.

Storage temperature : 2 – 8 °C

Storage area : Storage class (TRGS 510): See section 15.1.2.

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

Ammonia solution (30-33%)

Safety Data Sheet



www.empbiotech.com

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ammonia solution (30-33%) (1336-21-6)		
Germany	AGW (OEL TWA) [1]	14 mg/m ³
Germany	AGW (OEL TWA) [2]	20 ppm Remark: Skin resorptive: There is no reason to fear a risk of damage to the developing embryo or foetus when AGW and BGW are adhered to. Source: DFG, EU

8.2. Exposure controls

Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

. Full contact-Material: butyl-rubber

Minimum layer thickness: 0,7 mm

Break through time: 480 min. Splash contact-material: Nitrile rubber

Minimum layer thickness: 0,2 mm

Break through time: 38 min

Eye protection:

Wear closed safety glasses. EN 166

Skin and body protection:

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Flame retardant antistatic protective clothing

Respiratory protection:

Required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards:

DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type ABEK.



Environmental exposure controls:

Do not let product enter drains. Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear.
Colour	: Colourless.
Odour	: No data available
Odour threshold	: No data available
pH	: 12 at 20 °C.

Ammonia solution (30-33%)

Safety Data Sheet



www.empbiotech.com

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -69 °C
Freezing point	: No data available
Boiling point	: ≈ 24.7 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability	: Non flammable.
Vapour pressure	: 837 hPa at 20 °C.
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Water: Soluble at 20 °C.
Partition coefficient n-octanol/water (Log Pow)	: 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	: 108 – 240 g/m ³
Lower explosion limit	: 15.4 vol %
Upper explosion limit	: 33.6 vol %

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under the specified storage conditions.

10.3. Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

10.4. Conditions to avoid

Direct sunlight. Heat. Open flame. Sparks.

10.5. Incompatible materials

Aluminium. Lead. Nickel. Silver. Iron, Copper. Zinc. Several metals.

10.6. Hazardous decomposition products

In the event of fire: see section 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Ammonia solution (30-33%) (1336-21-6)	
LD50 oral rat	350 mg/kg Journal of Industrial Hygiene and Toxicology. Vol. 23, Pg. 259, 1941.
Skin corrosion/irritation	: Causes severe skin burns. pH: 12 at 20 °C.
Serious eye damage/irritation	: Mixture causes serious eye damage. Risk of blindness! pH: 12 at 20 °C.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified

Ammonia solution (30-33%)

Safety Data Sheet



www.empbiotech.com

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STOT-single exposure	: Mixture may cause respiratory irritation. Acute inhalation toxicity: Mucosal irritations, Cough, Shortness of breath Possible damages: damage of respiratory tract
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Cough, Shortness of breath, Bronchitis, Gastric pain, Bloody vomiting, Nausea, Collapse, Shock, Unconsciousness. Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.
Other information	: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Very toxic to aquatic life.

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

Component	
Ammonia solution (30-33%) (1336-21-6)	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Other adverse effects

Other adverse effects : Biological effects:
Harmful effect due to pH shift.
Forms toxic and corrosive mixtures with water even if diluted.
Discharge into the environment must be avoided.

Ammonium hydroxide : Toxicity to fish:
LC50 - Fish: 0,44 mg/l - 96 h
Remarks: (External MSDS)
Toxicity to daphnia and other aquatic invertebrates:
LC50 - Daphnia magna (Water flea): 25,4 mg/l - 48 h
Remarks: (ECOTOX Database)

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Product residues are to be disposed of in compliance with national and regional regulations dispose. Keep chemicals in original containers. Not with other waste mix. Uncleaned containers are to be treated according to the product. Pay attention to the waste policy 2008/98/EG.

Product/Packaging disposal recommendations : Contaminated packaging to be disposed as unused product.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
14.1. UN number		
2672	2672	2672
14.2. UN proper shipping name		
AMMONIA SOLUTION	AMMONIA SOLUTION	Ammonia solution
14.3. Transport hazard class(es)		
8	8	8

Ammonia solution (30-33%)

Safety Data Sheet



www.empbiotech.com

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

ADR	IMDG	IATA
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
No supplementary information available		

14.6. Special precautions for user

- Overland transport

Tunnel restriction code (ADR) : E

- Transport by sea

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-B

- Air transport

No data available

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

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

Seveso Information : Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : ENVIRONMENTAL HAZARDS

15.1.2. National regulations

Germany

Regulatory reference : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1)

Storage class (LGK, TRGS 510) : LGK 8B - Non-combustible corrosive substances

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

15.2. Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:

Aquatic Acute 1

Hazardous to the aquatic environment – Acute Hazard, Category 1

Ammonia solution (30-33%)

Safety Data Sheet



www.empbiotech.com

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

MSDS (Reach Anhang II) EMP

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.