

Safety Data Sheet

according to UK REACH Regulation

Revision date: 24.05.2023

Ammoniak 25 %
Product code: 10135.xxxxx

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

1.1. Product identifier

Ammoniak 25 %

UFI: W52W-V06P-600Y-086X

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

Use of the substance/mixture

Use as laboratory reagent. Intended for scientific research and development.

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name: MORPHISTO GmbH
Street: Schumannstr. 142/144
Place: D-63069 Offenbach
Telephone: +49 (0) 69 / 400 3019-60 Telefax: +49 (0) 69 / 400 3019-64
e-mail: info@morphisto.de
Contact person: Morphisto GmbH
e-mail: gefahrstoffmanagement@morphisto.de
Internet: http://www.morphisto.de

1.4. Emergency telephone number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Skin Corr. 1; H314
Eye Dam. 1; H318
STOT SE 3; H335
Aquatic Acute 1; H400

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

Ammonia ... %

Signal word: Danger

Pictograms:



Hazard statements

H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.

Precautionary statements

P260 Do not breathe mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

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P303+P361+P353 P305+P351+P338 P310 P391	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Collect spillage.
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Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Pictograms:


Hazard statements

H314

Precautionary statements

P303+P361+P353-P305+P351+P338-P310

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain any components that are considered to be hazardous according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in amounts of 0.1 % or more have endocrine disrupting properties. Toxicological information: The substance/mixture does not contain any components that are to be classified according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1 % or more have endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
1336-21-6	Ammonia %			25 - < 30 %
	215-647-6	007-001-01-2	01-2119488876-14	
	Skin Corr. 1B, STOT SE 3, Aquatic Acute 1; H314 H335 H400			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
1336-21-6	215-647-6	Ammonia %	25 - < 30 %
	STOT SE 3; H335: >= 5 - 100		

Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

SECTION 4: First aid measures

4.1. Description of first aid measures

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General information

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Provide fresh air. Medical treatment necessary.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. Remove contaminated, saturated clothing immediately.

After contact with eyes

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

After ingestion

Observe risk of aspiration if vomiting occurs. Adverse human health effects and symptoms: Gastric perforation. Do not allow a neutralisation agent to be drunk. Rinse mouth thoroughly with water. Call a physician immediately. Let water be drunk in little sips (dilution effect). Do NOT induce vomiting. Never give anything by mouth to an unconscious person or a person with cramps.

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

By swallowing danger of perforation of the esophagus and the stomach exists (strong corrosive effects).

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

Treat symptomatically.

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

The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-flammable. In case of fire may be liberated: Nitrogen oxides (NOx).

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Ventilate affected area.

Wear personal protection equipment. (See section 8.)

Remove all sources of ignition.

For non-emergency personnel

Clear danger zone. Follow emergency plan. Consult an expert.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Discharge into the environment must be avoided.

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6.3. Methods and material for containment and cleaning up

For containment

Cover drains.

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Clear contaminated areas thoroughly.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Wear suitable protective clothing. (See section 8.)

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Avoid contact with eyes and skin.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. Unsuitable container/equipment material: Metal. Keep only in the original container in a cool, well-ventilated place.

Hints on joint storage

Do not store together with: Food and fodder, Oxidizing substances. Explosives

Further information on storage conditions

 Keep away from heat. Protect from sunlight. Ensure adequate ventilation of the storage area.
 storage temperature 15-25 °C

7.3. Specific end use(s)

Use as laboratory reagent.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
7664-41-7	Ammonia, anhydrous	25	18		TWA (8 h)	WEL
		35	25		STEL (15 min)	WEL

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DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
1336-21-6	Ammonia %			
Worker DNEL, long-term		inhalation	systemic	47,6 mg/m ³
Worker DNEL, acute		inhalation	systemic	47,6 mg/m ³
Worker DNEL, long-term		inhalation	local	14 mg/m ³
Worker DNEL, acute		inhalation	local	36 mg/m ³
Worker DNEL, long-term		dermal	systemic	6,8 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	6,8 mg/kg bw/day

PNEC values

CAS No	Substance	Value
1336-21-6	Ammonia %	
Freshwater		0,001 mg/l
Freshwater (intermittent releases)		mg/l
Marine water		0,001 mg/l

8.2. Exposure controls



Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Use extractor hood (laboratory). Additional information: If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: Tightly sealed safety glasses. EN 166

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Pull-over gloves of rubber. EN ISO 374

Suitable material:

(penetration time (maximum wearing period): >= 8h)

Butyl rubber. (0,5 mm)

FKM (fluororubber). (0,4 mm)

(penetration time (maximum wearing period): >= 2h)

CR (polychloroprenes, Chloroprene rubber). (0,5 mm)

Before using check leak tightness / impermeability.

Skin protection

Protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Respiratory protection necessary at: generation/formation of aerosols

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exceeding exposure limit values

Suitable respiratory protective equipment: Combination filtering device (EN 14387) Type: K

Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid	
Colour:	colourless	
Odour:	stinging	
Melting point/freezing point:		-44,5 °C
Boiling point or initial boiling point and boiling range:		37,7 °C
Flammability:		not applicable
Lower explosion limits:		16 vol. %
Upper explosion limits:		30 vol. %
Flash point:		not determined
Auto-ignition temperature:		630 °C
Decomposition temperature:		not determined
pH-Value (at 20 °C):		12-14
Viscosity / kinematic:		not determined
Water solubility:		completely miscible
Solubility in other solvents		not determined
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		447 hPa
(at 20 °C)		
Density:		0,91 g/cm ³
Relative vapour density:		not determined

9.2. Other information**Information with regard to physical hazard classes**

Self-ignition temperature

Solid:

not applicable

Gas:

not applicable

Oxidizing properties

Corrosive to metals

Other safety characteristics

Evaporation rate:

not determined

Solvent content:

75,00 %

Solid content:

not determined

SECTION 10: Stability and reactivity**10.1. Reactivity**

Corrosive to metals.

10.2. Chemical stability

Stable under normal storage and handling conditions.

10.3. Possibility of hazardous reactionsOxidizing agent, mercury (Hg). Hydrogen peroxide. Bromine. Acids. Nitrogen oxides (NOx). Hydrogen sulphide (H₂S). Reducing agent, strong

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10.4. Conditions to avoid

heat.

10.5. Incompatible materials

Keep away from: Metal. Materials to avoid: Alkali metals. Oxidizing agents. Strong acid

10.6. Hazardous decomposition products

No risks worthy of mention.

SECTION 11: Toxicological information
11.1. Information on hazard classes as defined in GB CLP Regulation
Acute toxicity

Based on available data, the classification criteria are not met.

Irritation and corrosivity

Causes severe skin burns and eye damage. (On basis of test data)

Causes serious eye damage. (On basis of test data)

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

May cause respiratory irritation. (Ammonia %)

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards
Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information
12.1. Toxicity

Very toxic to aquatic life.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
1336-21-6	Ammonia %					
	Acute crustacea toxicity	EC50	101 mg/l	48 h	Daphnia magna (Big water flea)	suppliers SDS.

12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential
Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
1336-21-6	Ammonia %	-1,38

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12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal.

List of Wastes Code - residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Handle contaminated packages in the same way as the substance itself. Non-contaminated packages may be recycled.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number or ID number:	UN 2672
14.2. UN proper shipping name:	AMMONIA SOLUTION
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8



Classification code:	C5
Special Provisions:	543
Limited quantity:	5 L
Excepted quantity:	E1

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 Transport category: 3
 Hazard No: 80
 Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 2672
14.2. UN proper shipping name: Ammonia solution
14.3. Transport hazard class(es): 8
14.4. Packing group: III
 Hazard label: 8



Classification code: C5
 Special Provisions: 543
 Limited quantity: 5 L
 Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 2672
14.2. UN proper shipping name: AMMONIA SOLUTION
14.3. Transport hazard class(es): 8
14.4. Packing group: III
 Hazard label: 8



Marine pollutant: P
 Special Provisions: -
 Limited quantity: 5 L
 Excepted quantity: E1
 EmS: F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 2672
14.2. UN proper shipping name: AMMONIA SOLUTION
14.3. Transport hazard class(es): 8
14.4. Packing group: III
 Hazard label: 8



Special Provisions: A64 A803
 Limited quantity Passenger: 1 L
 Passenger LQ: Y841
 Excepted quantity: E1
 IATA-packing instructions - Passenger: 852
 IATA-max. quantity - Passenger: 5 L
 IATA-packing instructions - Cargo: 856
 IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

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ENVIRONMENTALLY HAZARDOUS: Yes

**14.6. Special precautions for user**

Warning: strongly corrosive. Do not allow to enter into surface water or drains.

14.7. Maritime transport in bulk according to IMO instruments

No information available.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Information according to 2012/18/EU (SEVESO III): E1 Hazardous to the Aquatic Environment

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water hazard class (D):

2 - obviously hazardous to water

15.2. Chemical safety assessmentFor the following substances of this mixture a chemical safety assessment has been carried out:
Ammonia %**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 1,2,7,9,11,12,14,15,16.

Rev. 2,0; 13.02.2023; Individual safety data sheet based on 10135_collect

Rev. 2,1; 24.05.2023; general adjustment(s)

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations

Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed effect Level

DNEL: Derived No Effect Level

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PNEC: predicted no effect concentration
 CLP: Classification, labelling and Packaging
 REACH: Registration, Evaluation and Authorization of Chemicals
 GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
 UN: United Nations
 CAS: Chemical Abstracts Service
 DNEL: Derived No Effect Level
 DMEL: Derived Minimal Effect Level
 PNEC: Predicted No Effect Concentration
 ATE: Acute toxicity estimate
 LC50: Lethal concentration, 50%
 LD50: Lethal dose, 50%
 LL50: Lethal loading, 50%
 EL50: Effect loading, 50%
 EC50: Effective Concentration 50%
 ErC50: Effective Concentration 50%, growth rate
 NOEC: No Observed Effect Concentration
 BCF: Bio-concentration factor
 PBT: persistent, bioaccumulative, toxic
 vPvB: very persistent, very bioaccumulative
 ADR: Accord européen sur le transport des marchandises dangereuses par Route
 (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Regulations concerning the international carriage of dangerous goods by rail
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation
 intérieures)
 EmS: Emergency Schedules
 MFAG: Medical First Aid Guide
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships
 IBC: Intermediate Bulk Container
 SVHC: Substance of Very High Concern
 For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Skin Corr. 1; H314	On basis of test data
Eye Dam. 1; H318	On basis of test data
STOT SE 3; H335	Calculation method
Aquatic Acute 1; H400	Calculation method

Relevant H and EUH statements (number and full text)

H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)