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

1.1. Product identifier

Ammonii hydroxidi sol 25%

Item No. 20826000

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

Use of the substance/preparation

Manufacture of pharmaceutical products, Manufacture of cosmetics

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Hänseler AG
Industriestrasse 35
9100 Herisau

Telephone no.	0041 (0)71 353 58 58
E-mail address of person responsible for this SDS	sdb@haenseler.ch

1.4. Emergency telephone number

Switzerland :145 / Abroad +41 (0)44 251 51 51

SECTION 2: Hazards identification ***

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

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

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008
For explanation of abbreviations see section 16.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

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

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor.

Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)

contains ammonia ….%

2.3. Other hazards

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

Hazardous ingredients

ammonia ….%

CAS No.	1336-21-6				
EINECS no.	215-647-6				
Registration no.	01-2119488876-14-XXXX				
Concentration	>=	25	<	50	%

Classification (Regulation (EC) No. 1272/2008)

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

Concentration limits (Regulation (EC) No. 1272/2008)

STOT SE 3	H335	>= 5
Aquatic Acute 1	H400	M = 10

ATE oral 43 mg/kg

Additional remarks:

CLP Regulation (EC) No 1272/2008, Annex VI, Note B

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Adhere to personal protective measures when giving first aid

After inhalation

Ensure supply of fresh air. Summon a doctor immediately.

After skin contact

Remove contaminated clothing. After contact with skin, wash immediately with plenty of water. Summon a doctor immediately.

After eye contact

Separate eyelids, wash the eyes thoroughly with water (15 min.). Remove contact lenses. Summon a doctor immediately.

After ingestion

Drink water in small gulps. Never give anything by mouth to an unconscious person. Do not induce vomiting. No trials on neutralisation.

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

Irritaion of respiratory organs, Coughing, Shortness of breath, Unconsciousness, Vomiting, Nausea, Convulsions, Death, Danger of blindness.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Extinguishing measures to suit surroundings

Non suitable extinguishing media

not applicable

5.2. Special hazards arising from the substance or mixture

The product is not combustible. Forms esplosive mixture with air are possible. In the event of fire the following can be released: Nitrogen oxides (NOx)

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Use self-contained breathing apparatus. Use personal protective clothing.

Other information

Cool endangered containers with water spray jet. Suppress gases/vapours/mists with water spray jet. Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Do not inhale vapours. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Do not empty into drains.

6.3. Methods and material for containment and cleaning up

Take up with absorbent material (eg sand, kieselguhr, universal binder). When picked up, treat material as prescribed under Section 13 "Disposal".

6.4. Reference to other sections

Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin, eyes and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Do not use metal containers and metal pinings.

Storage classes

Storage class according to TRGS 510	8B	Non-combustible corrosive hazardous substances
Storage category (Switzerland)	8	Caustic and corrosive substances

Further information on storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Observe label precautions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Derived No/Minimal Effect Levels (DNEL/DMEL)

ammonia ….%

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	6.8	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	6.8	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	47.6	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	36	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	47.6	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	14	mg/m³

Type of value	Derived No Effect Level (DNEL)
Reference group	Consumer

Duration of exposure	Acute	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	68	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	68	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	23.8	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	7.2	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	23.8	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	2.8	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Acute	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	6.8	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	6.8	mg/kg

Predicted No Effect Concentration (PNEC)

ammonia ….%

Type of value	PNEC	
Type	Freshwater	
Concentration	0.0011	mg/l

Type of value	PNEC	
Type	Saltwater	
Concentration	0.00011	mg/l

8.2. Exposure controls

Respiratory protection

necessary; Full mask, filter K

Hand protection

The glove material must be sufficient impermeable and resistant to the substance. Check the tightness before wear. Gloves should be well cleaned before being removed, then stored in a well ventilated location.

Appropriate Material	Butyl rubber - Butyl		
Material thickness		0.7	mm
Breakthrough time	>	480	min
Appropriate Material	nitrile rubber - NBR		
Material thickness		0.40	mm
Breakthrough time	>	240	min

Eye protection

Tightly fitting safety glasses

Body protection

Protective clothing

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	pungent

Melting point

Value	-57.5	°C

Boiling point or initial boiling point and boiling range

Value	37.7		°C
Pressure	1013	hPa	

Upper and lower explosive limits

Lower explosion limit	15.4	%(V)
Upper explosion limit	33.6	%(V)

Flash point

Value	°C
Remarks	Not applicable

pH value

Temperature	20	°C
Remarks	strongly alkaline	

Partition coefficient n-octanol/water (log value)

log Pow	-1.38

Vapour pressure

Value	483	hPa

Temperature		20	°C		

Density and/or relative density

Value		0.903			g/cm³
Temperature		20	°C		

9.2. Other information

Odour threshold

Value		0.02	to	70.7	µg/l

Solubility in water

Temperature		20	°C		
Remarks	soluble				

Minimum ignition energy

Minimum ignition energy		380	to	680	MJ

Other information

The product is not dangerous for explosions.

SECTION 10: Stability and reactivity

10.1. Reactivity

Risk of explosion with: Oxidising agents, Mercury, oxigen, Silvercompounds, hydrogen peroxide (H2O2), Halogens, Acids, Sodium hypochlorite, Salts of heavy metals, Reactions with reducing agents, heavy metals. Risk of ignition or formation of inflammable gases or vapours with: Boron, phosphorus, Reaction with nitric acid.

10.2. Chemical stability

Vapours can form an explosive mixture with air.

10.3. Possibility of hazardous reactions

Vapours can form an explosive mixture with air.

10.4. Conditions to avoid

Protect from heat/overheating.

10.5. Incompatible materials

aluminium (Al), lead, Silvercompounds, Zinc, copper (Cu), Metals

10.6. Hazardous decomposition products

Toxic gases/vapours

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity

ATE		143.381	mg/kg
		1	
Method	calculated value (Regulation (EC) No. 1272/2008)		

Acute oral toxicity (Components)

ammonia ….%

Species	rat		
LD50		350	mg/kg
Source	GESTIS-Stoffdatenbank		

ammonia ….%

Species	Human		
LDLo		43	mg/kg

Acute dermal toxicity (Components)

ammonia ….%

Remarks	No data available.

Acute inhalative toxicity (Components)

ammonia ….%

Remarks	No data available.

Skin corrosion/irritation

Species	rabbit
evaluation	strongly irritant

Skin corrosion/irritation (Components)

ammonia ….%

Species	rabbit
evaluation	strongly irritant
Method	OECD 404

Serious eye damage/irritation

evaluation	strongly irritant
Remarks	Influence of the product with the eyes can lead to blindness.
Source	RTECS
Source	29%

Serious eye damage/irritation (Components)

ammonia ….%

Species	rabbit
evaluation	strongly irritant
Remarks	Influence of the product with the eyes can lead to blindness.

Sensitization

Remarks	No data available

Sensitization (Components)

ammonia ….%

Species	guinea pig
evaluation	non-sensitizing

Subacute, subchronic, chronic toxicity (Components)

ammonia ….%

Route of exposure	inhalative		
Species	rat		
NOAEL	0.035		mg/l
Duration of exposure	50	Days	

Mutagenicity

Remarks	No data available

Mutagenicity (Components)

ammonia ….%

Species	mouse
evaluation	No experimental indications on genotoxicity in vivo found.
Method	OECD 474

ammonia ….%

Species	Salmonella typhimurium
evaluation	No experimental information on genotoxicity in vitro available.
Method	Ames test

Reproductive toxicity

Remarks No data available

Reproduction toxicity (Components)

ammonia ….%

Route of exposure	oral	
Species	rat	
Dose	408	mg/kg
evaluation	No negative effects	
Method	OECD 422	

Carcinogenicity

Remarks No data available

Carcinogenicity (Components)

ammonia ….%

Route of exposure	oral	
Species	rat	
Dose	67	mg/kg
Duration of exposure	104	Weeks
Method	OECD 453	
Remarks	negative	

Specific Target Organ Toxicity (STOT)

Remarks No data available

Specific Target Organ Toxicity (STOT) (Components)

ammonia ….%

Single exposure

evaluation May cause respiratory irritation.
Route of exposure inhalative

ammonia ….%

Repeated exposure

Source Nicht eingestuft, basierend auf der Berechnungsmethode der CLP Verordnung.

11.2 Information on other hazards

Endocrine disrupting properties with respect to humans

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

SECTION 12: Ecological information

12.1. Toxicity

General information

No data available

Fish toxicity (Components)

ammonia ….%

Species	rainbow trout (Oncorhynchus mykiss)		
LC50	0.89		mg/l
Duration of exposure	96	h	

ammonia ….%

Species	rainbow trout (Oncorhynchus mykiss)		
LOEC	0.022		mg/l
Duration of exposure	73	d	
Method	Flow test; FIFRA Guideline 72-1		

ammonia ….%

Species	Ictalurus punctatus		
NOEC	0.06		mg/l
Duration of exposure	27	d	
Method	Flow test; FIFRA Guideline 72-1		

ammonia ….%

Species	Fathead minnow (Pimephales promelas)		
LC50	0.068		mg/l
Duration of exposure	96	h	
Method	Flow test; FIFRA Guideline 72-1		

ammonia ….%

Species	Ictalurus punctatus		
NOEC	0.048		mg/l
Duration of exposure	31	d	
Method	OECD 215		

Daphnia toxicity (Components)

ammonia ….%

Species	Daphnia magna		
LC50	101		mg/l
Duration of exposure	48	h	

ammonia ….%

Species	Daphnia magna		
NOEC	0.79		mg/l
Duration of exposure	96	h	

ammonia ….%

Species	Daphnia magna		
NOEC	0.42		mg/l
Duration of exposure	21	d	

ammonia ….%

Species	Daphnia magna		
LC50	4.07		mg/l
Duration of exposure	96	h	
Method	US-EPA		

ammonia ….%

Species	Daphnia magna		
NOEC	0.79		mg/l
Duration of exposure	96	h	
Method	US-EPA		

Algae toxicity (Components)

ammonia ….%

Species	Chlorella vulgaris		
EC50	2700		mg/l
Duration of exposure	18	d	

Bacteria toxicity (Components)

ammonia ….%

Remarks No data available.

12.2. Persistence and degradability

Biodegradability

evaluation not readily degradable

Biodegradability (Components)

ammonia ….%

evaluation Readily biodegradable

Ready degradability (Components)

ammonia ….%

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water (log value)

log Pow -1.38

12.4. Mobility in soil

General information

No data available

Mobility in soil (Components)

ammonia ….%

Adsorbs on soil.

12.5. Results of PBT and vPvB assessment

General information

There is no data available on the product apart from the information given in this subsection.

Results of PBT and vPvB assessment

The product contains no PBT substances
The product contains no vPvB substances.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the envrionment

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Disposal in compliance with local and national regulations.

Disposal recommendations for packaging

Dispose of as unused product.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
Tunnel restriction code	E		
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
Label			
14.4. Packing group	III	III	III
Limited Quantity	5 l		
Transport category	3		
14.5. Environmental hazards	 ENVIRONMENTALLY HAZARDOUS	Marine Pollutant 	 ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Water Hazard Class (Germany)

Water Hazard Class (Germany)	WGK 2
Remarks	Derivation of WGK according to Annex 1 No. 5.2 AwSV

SECTION 16: Other information

Hazard statements listed in Chapter 3

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.

CLP categories listed in Chapter 3

Aquatic Acute 1	Hazardous to the aquatic environment, acute, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic, Category 2
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic, Category 2
Eye Dam. 1	Serious eye damage, Category 1

Skin Corr. 1B	Skin corrosion, Category 1B
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.