

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationsen

Revision date: 17.05.2023

Product code: 31792

Page 1 of 12

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

1.1. Product identifier

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationsen

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name:	AnalytiChem GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
E-mail:	info@analytichem.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
E-mail:	produktsicherheit@analytichem.de	
Internet:	www.analytichem.de	
Responsible Department:	Abteilung Produktsicherheit	

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

This product is a mixture. REACH Registration Number see section 3.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin Irrit. 2; H315

Eye Dam. 1; H318

Aquatic Acute 1; H400

Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

Ammonia

Signal word: Danger

Pictograms:



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationen

Revision date: 17.05.2023

Product code: 31792

Page 2 of 12

Hazard statements

- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H400 Very toxic to aquatic life.
- H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

- P273 Avoid release to the environment.
- P280 Wear protective gloves and eye/face protection.
- 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/doctor.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
1336-21-6	Ammonia			1 - < 5 %
	215-647-6	007-001-01-2	01-2119488876-14	
	Skin Corr. 1B, Aquatic Acute 1, Aquatic Chronic 2; H314 H400 H411			
12125-02-9	ammonium chloride			1 - < 5 %
	235-186-4	017-014-00-8	01-2119487950-27	
	Acute Tox. 4, Eye Irrit. 2; H302 H319			

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	1 - < 5 %
	inhalation: LC50 = 4230 mg/l (vapours); oral: LD50 = 350 mg/kg STOT SE 3; H335: >= 5 - 100 Aquatic Acute 1; H400: M=10		
12125-02-9	235-186-4	ammonium chloride	1 - < 5 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 1410 mg/kg		

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationen

Revision date: 17.05.2023

Product code: 31792

Page 3 of 12

After inhalation

Provide fresh air.
Call a doctor if you feel unwell.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
In case of skin irritation, consult a physician.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water.
Call a physician immediately.

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

Irritant

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible liquids
Hazardous combustion products
In case of fire may be liberated:
Nitrogen oxides (NO_x)
Hydrogen chloride (HCl)

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Use water spray jet to protect personnel and to cool endangered containers.
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

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationen

Revision date: 17.05.2023

Product code: 31792

Page 4 of 12

6.3. Methods and material for containment and cleaning up

For containment

- Cover drains.
- Prevent spread over a wide area (e.g. by containment or oil barriers).
- Collect in closed and suitable containers for disposal.
- Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

- Clean contaminated articles and floor according to the environmental legislation.

Other information

- Provide adequate ventilation.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.

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

- Handle and open container with care.
- Keep container tightly closed.
- Do not breathe vapour/aerosol.
- Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

- Usual measures for fire prevention.

Advice on general occupational hygiene

- Wash contaminated clothing prior to re-use.
- Do not breathe vapour/aerosol.
- Avoid contact with skin, eyes and clothes.

Further information on handling

- Wash contaminated clothing before reuse.
- Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

- Keep container tightly closed.

Hints on joint storage

- No data available

Further information on storage conditions

- Store in a dry place.

7.3. Specific end use(s)

- Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationen

Revision date: 17.05.2023

Product code: 31792

Page 5 of 12

Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
7664-41-7	Ammonia, anhydrous	20	14		TWA (8 h)	
		50	36		STEL (15 min)	
12125-02-9	Ammonium chloride, fume	-	10		TWA (8 h)	
		-	20		STEL (15 min)	

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
Consumer DNEL, long-term		inhalation	systemic	23,8 mg/m ³
Consumer DNEL, acute		inhalation	systemic	23,8 mg/m ³
Consumer DNEL, long-term		inhalation	local	2,8 mg/m ³
Consumer DNEL, acute		inhalation	local	7,2 mg/m ³
Consumer DNEL, long-term		dermal	systemic	68 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	68 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	6,8 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	6,8 mg/kg bw/day
12125-02-9	ammonium chloride			
Consumer DNEL, long-term		inhalation	systemic	9,9 mg/m ³
Consumer DNEL, long-term		dermal	systemic	114 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	11,4 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	33,5 mg/m ³
Worker DNEL, long-term		dermal	systemic	190 mg/kg bw/day

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationen

Revision date: 17.05.2023

Product code: 31792

Page 6 of 12

PNEC values

CAS No	Substance	Value
Environmental compartment		
1336-21-6	Ammonia	
Freshwater		0,001 mg/l
Freshwater (intermittent releases)		0,007 mg/l
Marine water		0,001 mg/l
12125-02-9	ammonium chloride	
Freshwater		1,2 mg/l
Freshwater (intermittent releases)		1,2 mg/l
Marine water		11,2 mg/l
Micro-organisms in sewage treatment plants (STP)		16,2 mg/l
Soil		0,163 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

Recommended glove articles: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11mm
Wearing time with permanent contact: >480min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11mm
Wearing time with occasional contact (splashes): >480min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet (>,<) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.
Wash hands before breaks and after work.

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Environmental exposure controls

Do not allow to enter into surface water or drains.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationen

Revision date: 17.05.2023

Product code: 31792

Page 7 of 12

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Odour:	characteristic	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		No data available
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		No data available
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		No data available
No data available		
Partition coefficient n-octanol/water:		No data available
Vapour pressure:		No data available
Vapour pressure:		No data available
Density:		No data available
Bulk density:		No data available
Relative vapour density:		No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties	
No data available	
Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	No data available
Gas:	No data available
Oxidizing properties	
No data available	

Other safety characteristics

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	0
Solid content:	0
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	No data available

Further Information

No data available

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationen

Revision date: 17.05.2023

Product code: 31792

Page 8 of 12

SECTION 10: Stability and reactivity

10.1. Reactivity

There are no data available on the mixture itself.

10.2. Chemical stability

There are no data available on the mixture itself.

10.3. Possibility of hazardous reactions

There are no data available on the mixture itself.

10.4. Conditions to avoid

There are no data available on the mixture itself.

10.5. Incompatible materials

There are no data available on the mixture itself.

10.6. Hazardous decomposition products

There are no data available on the mixture itself.

Further information

There are no data available on the mixture itself.

SECTION 11: Toxicological information

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

Toxicokinetics, metabolism and distribution

There are no data available on the mixture itself.

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
1336-21-6	Ammonia				
	oral	LD50 350 mg/kg	Rat	Journal of Industrial Hygiene and Toxicology	OECD Guideline 401
	inhalation (1 h) vapour	LC50 4230 mg/l	Mouse	Bull. Environm. Contam. Toxicol, 1982, 2	Assessment of acute inhalation toxicity
12125-02-9	ammonium chloride				
	oral	LD50 1410 mg/kg	Rat	Other company data (1983)	other: not mentioned
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2010)	EU Method B.3

Irritation and corrosivity

Causes skin irritation.
Causes serious eye damage.

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.

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationsen

Revision date: 17.05.2023

Product code: 31792

Page 9 of 12

STOT-single exposure

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

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.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

There are no data available on the mixture itself.

11.2. Information on other hazards

Other information

There are no data available on the mixture itself.

Further information

There are no data available on the mixture itself.

SECTION 12: Ecological information

12.1. Toxicity

There are no data available on the mixture itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
1336-21-6	Ammonia					
	Acute fish toxicity	LC50 0,75 - 3,4 mg/l	96 h	Pimephales promelas	Trans Amer Fish Soc; 112 (5). 1983. 705-	Assessment of acute toxicity in the fath
	Acute crustacea toxicity	EC50 101 mg/l	48 h	Daphnia magna	Environ. Toxicol. Chem. 5: 443-447 (1986)	other: ASTM E729-80
	Fish toxicity	NOEC 1,2 mg/l	61 d	Oncorhynchus gorbuscha	Fish. Bull. 78(3): 641-648 (1980)	OECD Guideline 210
12125-02-9	ammonium chloride					
	Acute fish toxicity	LC50 209 mg/l	96 h	Cyprinus carpio	Indian J. Environ. Health, 17, 140-146,	other: E03-05:APHA, AWWA & WPCF
	Acute crustacea toxicity	EC50 101 mg/l	48 h	Daphnia magna	Env. Tox. Chem. 5, 443-447 (1986) (1986)	other: ASTM E729-80
	Fish toxicity	NOEC mg/l 11,8	28 d	Pimephales promelas	Env.Tox. Chem. 5, 437-442 (1986) (1986)	other: - American Society for Testing an
	Algae toxicity	NOEC mg/l 26,8	10 d	Navicula sp.	Mar. Biol. 43(4), 307-315, (1977) (1977)	no data
	Crustacea toxicity	NOEC mg/l 14,6	21 d	Daphnia magna	Env. Tox. Chem. 5, 443-447 (1986) (1986)	other: not mentioned
	Acute bacteria toxicity	(EC50 mg/l) 1618	0,5 h	activated sludge, domestic	Study report (1988)	OECD Guideline 209

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationen

Revision date: 17.05.2023

Product code: 31792

Page 10 of 12

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

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

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

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

There are no data available on the mixture itself.

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

There are no data available on the mixture itself.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not allow to enter into surface water or drains.

Contaminated packaging

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationen

Revision date: 17.05.2023

Product code: 31792

Page 11 of 12

- 14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

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

National regulatory information

Water hazard class (D): 2 - obviously hazardous to water

Additional information

No data available

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,4,5,9,13,15.

Abbreviations and acronyms

- Acute Tox: Acute toxicity
 Skin Corr: Skin corrosion
 Skin Irrit: Skin irritation
 Eye Dam: Eye damage
 Eye Irrit: Eye irritation
 Aquatic Acute: Acute aquatic hazard
 Aquatic Chronic: Chronic aquatic hazard

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Dam. 1; H318	Calculation method
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

- H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H400 Very toxic to aquatic life.
 H411 Toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Pufferlösung 43,2 g Ammoniumchlorid/l+200 ml Ammoniaklösung 25%/l für komplexometrische Titrationen

Revision date: 17.05.2023

Product code: 31792

Page 12 of 12

Further Information

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