

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 08.11.2017

Version 18.1

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

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-1

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

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

Identified uses Reagent for analysis
For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).

1.3 Details of the supplier of the safety data sheet

Company Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number Please contact the regional company representation in your country.

SECTION 2. Hazards identification**2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Corrosive to metals, Category 1, H290

Skin corrosion, Category 1B, H314

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements**Labelling.(REGULATION (EC) No 1272/2008)***Hazard pictograms*

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Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
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Signal word

Danger

Hazard statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

Precautionary statements

Prevention

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H314 Causes severe skin burns and eye damage.

Precautionary statements

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Contains: sodium hydroxide

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2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature Aqueous solution of inorganic and organic compounds.

3.1 Substance

Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
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sodium hydroxide ($\geq 2\%$ - $< 5\%$)

PBT/vPvB: Not applicable for inorganic substances

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Corrosive to metals, Category 1, H290

Skin corrosion, Category 1A, H314

1-hydroxyethane-1,1-diphosphonic acid ($\geq 3\%$ - $< 5\%$)

2809-21-4	*)	
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Acute toxicity, Category 4, H302

Serious eye damage, Category 1, H318

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

General advice

First aider needs to protect himself.

After inhalation: fresh air. Call in physician.

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In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

Risk of blindness!

Irritation and corrosion, Cough, Shortness of breath
collapse, death

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

Oxides of phosphorus

5.3 Advice for firefighters

Special protective equipment for firefighters

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

Further information

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

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

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Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® OH⁻, Merck Art. No. 101596). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

No metal containers.

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

The data applies to the entire pack.

7.3 Specific end use(s)

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

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

sodium hydroxide (1310-73-2)

Worker DNEL,
longterm

Local effects

inhalation

1 mg/m³

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Consumer DNEL, Local effects inhalation 1 mg/m³
longterm

Predicted No Effect Concentration (PNEC)

sodium hydroxide (1310-73-2)

PNEC no data available

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Tightly fitting safety goggles

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

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).

Other protective equipment

protective clothing

Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be

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properly documented.

Environmental exposure controls

Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	odourless
Odour Threshold	Not applicable
pH	ca. 13 at 20 °C
Melting point	No information available.
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	ca. 1,20 g/cm ³ at 20 °C
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.

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Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

Corrosion	May be corrosive to metals.
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SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapours with:

Metals, Light metals

Possible formation of:

Hydrogen

Violent reactions possible with:

Nitriles, ammonium compounds, Cyanides, magnesium, organic nitro compounds, organic combustible substances, phenols, powdered alkaline earth metals, acids

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Aluminium, various plastics, brass, Metals, metal alloys, Zinc, Tin, Light metals, glass, quartzes/silicate ceramics, animal/vegetable tissues

Metals

10.6 Hazardous decomposition products

in the event of fire: See section 5.

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SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity

Acute toxicity estimate: > 2.000 mg/kg

Calculation method

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Acute inhalation toxicity

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Acute dermal toxicity

This information is not available.

Skin irritation

Necrosis

Mixture causes burns.

Eye irritation

Risk of blindness!

Mixture causes serious eye damage.

Necrosis

Sensitisation

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

After absorption:

Systemic effects:

Cough, Shortness of breath, collapse, death

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Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

Components

sodium hydroxide

Skin irritation

Rabbit
Result: Causes burns.
(External MSDS)

Eye irritation

Rabbit
Result: Irreversible effects on the eye
(ECHA)

Sensitisation

Patch test: human
Result: negative
(ECHA)

Germ cell mutagenicity

Genotoxicity in vitro

Mutagenicity (mammal cell test): micronucleus.
Result: negative
(Lit.)

Ames test

Result: negative
(IUCLID)

1-hydroxyethane-1,1-diphosphonic acid

Acute oral toxicity

LD50 Rat: 1.878 mg/kg (ECHA)

Acute dermal toxicity

LD50 Rabbit: > 6.000 mg/kg (ECHA)

Eye irritation

Rabbit
Result: Corrosive
Draize Test
(ECHA)

Sensitisation

Sensitisation test (Magnusson and Kligman): Guinea pig
Result: negative
(ECHA)

Repeated dose toxicity

Rat
male
Oral
OECD Test Guideline 408

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SECTION 12. Ecological information

Mixture

12.1 Toxicity

No information available.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Additional ecological information

Harmful effect due to pH shift. Death of fish possible. Does not cause biological oxygen deficit.

Neutralisation possible in waste water treatment plants.

Discharge into the environment must be avoided.

Components

sodium hydroxide

Toxicity to fish

LC50 *Gambusia affinis* (Mosquito fish): 125 mg/l; 96 h (External MSDS)

Toxicity to daphnia and other aquatic invertebrates

EC50 *Ceriodaphnia* (water flea): 40,4 mg/l; 48 h (ECHA)

Toxicity to bacteria

EC50 *Photobacterium phosphoreum*: 22 mg/l; 15 min (External MSDS)

Biodegradability

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

PBT/vPvB: Not applicable for inorganic substances

1-hydroxyethane-1,1-diphosphonic acid

Toxicity to fish

flow-through test LC50 *Oncorhynchus mykiss* (rainbow trout): 195 mg/l; 96 h

Analytical monitoring: yes

OECD Test Guideline 204

Toxicity to daphnia and other aquatic invertebrates

static test EC50 *Daphnia magna* (Water flea): 527 mg/l; 48 h

OECD Test Guideline 202

Toxicity to fish (Chronic toxicity)

flow-through test NOEC *Oncorhynchus mykiss* (rainbow trout): 60 mg/l; 14 d

Analytical monitoring: yes

OECD Test Guideline 204

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
semi-static test NOEC Daphnia magna (Water flea): 6,75 mg/l; 28 d

US-EPA

Biodegradability
; 5 d; aerobic
OECD Test Guideline 301D
Not readily biodegradable.

Partition coefficient: n-octanol/water
log Pow: -0,81
EPI Suite™

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
Tunnel restriction code E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --

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14.6 Special precautions for user no

Sea transport (IMDG)

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
EmS F-A S-B

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard 96/82/EC
Legislation Directive 96/82/EC does not apply

SEVESO III
Not applicable

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) 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).

National legislation

Storage class 3
The data applies to the entire pack.

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15.2 Chemical safety assessment

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

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Danger

Hazard statements

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary statements

Prevention

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

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lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Contains: sodium hydroxide

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

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

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®

NH₄-2

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

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

Identified uses Reagent for analysis
For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).

1.3 Details of the supplier of the safety data sheet

Company Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number Please contact the regional company representation in your country.

SECTION 2. Hazards identification**2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Chronic aquatic toxicity, Category 3, H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements**Labelling.(REGULATION (EC) No 1272/2008)***Hazard statements*

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

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Reduced labelling (≤125 ml)

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature Mixture of inorganic and organic compounds

3.1 Substance

Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
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troclosene sodium, dihydrate ($\geq 0,25\%$ - $< 1\%$)

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Acute toxicity, Category 4, H302

Eye irritation, Category 2, H319

Specific target organ toxicity - single exposure, Category 3, H335

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 1, H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water. Remove contact lenses.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

4.3 Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

Hydrogen chloride gas, Sulphur oxides

5.3 Advice for firefighters

Special protective equipment for firefighters

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

Further information

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

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

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Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

The data applies to the entire pack.

7.3 Specific end use(s)

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

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm

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Break through time: 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

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).

Respiratory protection

required when dusts are generated.

Recommended Filter type: Filter P 1 (acc. to DIN 3181) for solid particles of inert substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	solid
Colour	white
Odour	of chlorine
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.

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Catalogue No.	114752
Product name	Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH ₄ -N Spectroquant® NH ₄ -2

Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

none

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Risk of explosion/exothermic reaction with:

Alkali metals

Exothermic reaction with:

Lithium

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	114752
Product name	Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH ₄ -N Spectroquant® NH ₄ -2

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity

Symptoms: Possible damages: Irritation of mucous membranes

Acute inhalation toxicity

This information is not available.

Acute dermal toxicity

This information is not available.

Skin irritation

Possible damages: slight irritation

Eye irritation

Possible damages: slight irritation

Sensitisation

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

After uptake of large quantities:

cardiovascular disorders, Nausea, Vomiting

However, when the product is handled appropriately, hazardous effects are unlikely to occur.

Handle in accordance with good industrial hygiene and safety practice.

Components

troclosene sodium, dihydrate

Acute oral toxicity

LD50 Rat: 550 - 1.600 mg/kg (External MSDS)

Acute dermal toxicity

LD50 Rabbit: > 5.000 mg/kg (External MSDS)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-2

Eye irritation
Rabbit
Result: Corrosive
US-EPA

Sensitisation
Sensitisation test (Magnusson and Kligman): Guinea pig
Result: negative
Method: OECD Test Guideline 406

Germ cell mutagenicity
Genotoxicity in vivo
Rat
male
Oral
Result: negative
Method: OECD Test Guideline 475

Genotoxicity in vitro
Ames test
Escherichia coli
Result: negative
Method: OECD Test Guideline 471

SECTION 12. Ecological information

Mixture

12.1 Toxicity

No information available.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Discharge into the environment must be avoided.

Components

troclosene sodium, dihydrate

Toxicity to fish
LC50 Oncorhynchus mykiss (rainbow trout): 0,25 mg/l; 96 h (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates
EC50 Daphnia magna (Water flea): 0,28 mg/l; 48 h (ECOTOX Database)

Toxicity to algae
EC50 algae: > 5.000 mg/l; 96 h
OECD Test Guideline 201

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-2

Toxicity to bacteria

NOEC activated sludge: 2.700 mg/l; 3 h
OECD Test Guideline 209

Toxicity to fish (Chronic toxicity)

NOEC: 756 mg/l; 28 d
(ECHA)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

Daphnia magna (Water flea): 2.600 mg/l; 21 d

OECD Test Guideline 211

Biodegradability

4 %; 60 d
OECD Test Guideline 306

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
Tunnel restriction code E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-2

14.6 Special precautions for user no

Sea transport (IMDG)

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
EmS F-A S-B

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard 96/82/EC
Legislation Directive 96/82/EC does not apply

SEVESO III
Not applicable

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) 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).

National legislation

Storage class 3
The data applies to the entire pack.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-2

15.2 Chemical safety assessment

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

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 08.11.2017

Version 18.1

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

1.1 Product identifier

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®

NH₄-3

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

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

Identified uses Reagent for analysis
For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).

1.3 Details of the supplier of the safety data sheet

Company Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number **Please contact the regional company representation in your country.**

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquid, Category 2, H225

Skin irritation, Category 2, H315

Serious eye damage, Category 1, H318

Specific target organ toxicity - single exposure, Category 3, Central nervous system, H336

Chronic aquatic toxicity, Category 3, H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

2.2 Label elements

Labelling.(REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 Ground/bond container and receiving equipment.
P273 Avoid release to the environment.
P280 Wear eye protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and 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.
P313 Get medical advice/ attention.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 Wear eye 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.

P313 Get medical advice/ attention.

Contains: 2-Propanol, thymol

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature Aqueous solution of organic compounds.

3.1 Substance

Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
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2-Propanol (≥ 25 % - < 50 %)		
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Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

67-63-0	01-2119457558-25-	
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

XXXX

Flammable liquid, Category 2, H225
Eye irritation, Category 2, H319
Specific target organ toxicity - single exposure, Category 3, H336

thymol ($\geq 2,5\%$ - $< 5\%$)

89-83-8 *)

Acute toxicity, Category 4, H302
Skin corrosion, Category 1B, H314
Chronic aquatic toxicity, Category 2, H411

Sodium nitroprusside ($\geq 3\%$ - $< 10\%$)

14402-89-2 *)

Acute toxicity, Category 3, H301

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air. Call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Irritation and corrosion, respiratory paralysis, Headache, Drowsiness, Dizziness, inebriation, somnolence, narcosis, Unconsciousness, Coma
Risk of serious damage to eyes.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	114752
Product name	Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH ₄ -N Spectroquant® NH ₄ -3

Drying-out effect resulting in rough and chapped skin.

The following applies to cyanogen compounds/ nitriles in general: utmost caution! Release of hydrocyanic acid is possible - blockade of cellular respiration. Cardiovascular disorders, dyspnoea, unconsciousness.

The following applies to soluble iron compounds: nausea and vomiting after swallowing. The absorption of large quantities is followed by cardiovascular disorders. Toxic effect on liver and kidneys.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible.

Pay attention to flashback.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

Fire may cause evolution of:

nitrogen oxides, Hydrogen cyanide (hydrocyanic acid)

5.3 Advice for firefighters

Special protective equipment for firefighters

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

Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

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

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

The data applies to the entire pack.

7.3 Specific end use(s)

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

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

2-Propanol (67-63-0)

Worker DNEL, longterm	Systemic effects	inhalation	500 mg/m ³
Worker DNEL, longterm	Systemic effects	dermal	888 mg/kg Body weight
Consumer DNEL, longterm	Systemic effects	inhalation	89 mg/m ³
Consumer DNEL, longterm	Systemic effects	dermal	319 mg/kg Body weight

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

Consumer DNEL, Systemic effects oral 26 mg/kg Body weight
longterm

Predicted No Effect Concentration (PNEC)

2-Propanol (67-63-0)

PNEC Fresh water	140,9 mg/l
PNEC Fresh water sediment	552 mg/kg
PNEC Marine water	140,9 mg/l
PNEC Marine sediment	552 mg/kg
PNEC Soil	28 mg/kg

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Tightly fitting safety goggles

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,40 mm
Break through time:	> 480 min

splash contact:

Glove material:	polychloroprene
Glove thickness:	0,65 mm
Break through time:	> 120 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 730 Camatril® -Velours (full contact), KCL 720 Camapren® (splash contact).

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).

Other protective equipment

Flame retardant antistatic protective clothing.

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according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not let product enter drains.

Risk of explosion.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	beige
Odour	characteristic odour
Odour Threshold	No information available.
pH	6 - 7 at 20 °C
Melting point	No information available.
Boiling point	No information available.
Flash point	22,9 °C
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	0,94 g/cm ³ at 20 °C

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	114752
Product name	Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH ₄ -N Spectroquant® NH ₄ -3

Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

none

SECTION 10. Stability and reactivity

10.1 Reactivity

Vapours may form explosive mixture with air.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapours with:

Alkali metals, Alkaline earth metals, Aluminium, chromium(VI) oxide

Exothermic reaction with:

Oxidizing agents, Nitric acid, Aldehydes, Amines, fuming sulfuric acid, Iron, Aluminium, Chlorine, PHOSPHORUS TRICHLORIDE, Strong acids

Risk of explosion with:

chlorates, Phosgene, organic nitro compounds, hydrogen peroxide, nitrogen oxides, perchlorates

10.4 Conditions to avoid

Warming.

10.5 Incompatible materials

various plastics, rubber, oils

10.6 Hazardous decomposition products

Peroxides

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity

Symptoms: Nausea, Vomiting, Risk of aspiration upon vomiting., Aspiration may cause pulmonary oedema and pneumonitis.

Acute toxicity estimate: > 2.000 mg/kg

Calculation method

Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity

Symptoms: Possible damages:, mucosal irritations

Acute dermal toxicity

This information is not available.

Skin irritation

Mixture causes skin irritation.

Eye irritation

Mixture causes serious eye damage.

Sensitisation

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

Mixture may cause drowsiness or dizziness. Target Organs: Central nervous system

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

After absorption:

Systemic effects:

Headache, Dizziness, respiratory paralysis, inebriation, narcosis, Unconsciousness

After uptake of large quantities:

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

respiratory paralysis, Coma

The following applies to cyanogen compounds/ nitriles in general: utmost caution! Release of hydrocyanic acid is possible - blockade of cellular respiration. Cardiovascular disorders, dyspnoea, unconsciousness.

The following applies to soluble iron compounds: nausea and vomiting after swallowing. The absorption of large quantities is followed by cardiovascular disorders. Toxic effect on liver and kidneys.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

2-Propanol

Acute oral toxicity

LDLO human: 3.570 mg/kg (RTECS)

LD50 Rat: 5.045 mg/kg (RTECS)

Acute inhalation toxicity

LC50 Rat: 37,5 mg/l; 4 h ; vapour

OECD Test Guideline 403

Acute dermal toxicity

LD50 Rabbit: 12.800 mg/kg (RTECS)

Skin irritation

Rabbit

Result: No skin irritation

OECD Test Guideline 404

Eye irritation

Rabbit

Result: Eye irritation

OECD Test Guideline 405

Sensitisation

Buehler Test Guinea pig

Result: negative

Method: OECD Test Guideline 406

Repeated dose toxicity

Rat

male and female

Inhalation

vapour

90 d

daily

NOAEL: 12,5 mg/l

OECD Test Guideline 413

Central nervous system

Subchronic toxicity

Germ cell mutagenicity

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

Genotoxicity in vivo

In vivo micronucleus test
Mouse
male and female
Intraperitoneal injection
Result: negative
Method: OECD Test Guideline 474

Genotoxicity in vitro

Ames test
Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 471

In vitro mammalian cell gene mutation test

Result: negative
Method: OECD Test Guideline 476

Carcinogenicity

Method: OECD Test Guideline 451
Did not show carcinogenic effects in animal experiments.

Reproductive toxicity

No impairment of reproductive performance in animal experiments. (IUCLID)

Teratogenicity

Did not show teratogenic effects in animal experiments. (IUCLID)

thymol

Acute oral toxicity

LD50 Rat: 980 mg/kg (ECHA)

Acute dermal toxicity

LD50 Rat: > 2.000 mg/kg (ECHA)

Skin irritation

Rabbit
Result: Causes burns.
OECD Test Guideline 404

Eye irritation

Rabbit
Result: Irreversible effects on the eye
OECD Test Guideline 405

Sensitisation

Sensitisation test: Guinea pig
Result: Does not cause skin sensitisation.
(ECHA)

Germ cell mutagenicity

Genotoxicity in vivo

In vivo micronucleus test
Mouse
male and female
Oral
Result: negative
(ECHA)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

Genotoxicity in vitro

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

In vitro mammalian cell gene mutation test

Result: negative

Method: OECD Test Guideline 476

Sodium nitroprusside

Acute oral toxicity

LD50 Rat: 99 mg/kg (RTECS)

SECTION 12. Ecological information

Mixture

12.1 Toxicity

No information available.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

Components

2-Propanol

Toxicity to fish

flow-through test LC50 Pimephales promelas (fathead minnow): 9.640 mg/l; 96 h
US-EPA

Toxicity to daphnia and other aquatic invertebrates

EC5 E.sulcatum: 4.930 mg/l; 72 h (maximum permissible toxic concentration) (Lit.)

EC50 Daphnia magna (Water flea): 13.299 mg/l; 48 h (IUCLID)

Toxicity to algae

IC50 Desmodesmus subspicatus (green algae): > 1.000 mg/l; 72 h (IUCLID)

Toxicity to bacteria

EC5 Pseudomonas putida: 1.050 mg/l; 16 h (Lit.)

Biodegradability

95 %; 21 d; aerobic

OECD Test Guideline 301E

Readily biodegradable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

Theoretical oxygen demand (ThOD)

2.400 mg/g
(Lit.)

Ratio BOD/ThBOD

BOD₅ 49 %
(IUCLID)

Ratio COD/ThBOD

96 %
(Lit.)

Partition coefficient: n-octanol/water

log Pow: 0,05
OECD Test Guideline 107
Bioaccumulation is not expected.

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

thymol

Toxicity to fish

static test LC₅₀ Pimephales promelas (fathead minnow): 3,2 mg/l; 96 h
US-EPA

Toxicity to daphnia and other aquatic invertebrates

static test EC₅₀ Daphnia magna (Water flea): 3,2 mg/l; 96 h
US-EPA

Toxicity to algae

EC₅₀ Pseudokirchneriella subcapitata (green algae): 14 mg/l; 72 h
OECD Test Guideline 201

Toxicity to bacteria

static test EC₅₀ activated sludge: 40 mg/l; 3 h
OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

NOEC Daphnia magna (Water flea): 2 mg/l; 21 d

OECD Test Guideline 211

Biodegradability

83 %; 28 d; aerobic
OECD Test Guideline 301D
Readily biodegradable

Chemical Oxygen Demand (COD)

2.690 mg/g
(IUCLID)

Theoretical oxygen demand (ThOD)

2.760 mg/g
(IUCLID)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

Partition coefficient: n-octanol/water
log Pow: 3,30
(experimental)
(Lit.) Bioaccumulation is not expected.

Sodium nitroprusside
No information available.

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
Tunnel restriction code E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user no

Sea transport (IMDG)

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

14.6 Special precautions for user yes
EmS F-A S-B

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard Legislation 96/82/EC
Flammable.
6
Quantity 1: 5.000 t
Quantity 2: 50.000 t

SEVESO III
FLAMMABLE LIQUIDS
P5c
Quantity 1: 5.000 t
Quantity 2: 50.000 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) 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).

National legislation

Storage class 3
The data applies to the entire pack.

15.2 Chemical safety assessment

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 114752
Product name Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH₄-N
Spectroquant®
NH₄-3

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
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.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	114752
Product name	Ammonium Test Method: photometric 0.010 - 3.00 mg/l NH ₄ -N Spectroquant® NH ₄ -3

Precautionary statements

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P240 Ground/bond container and receiving equipment.

P273 Avoid release to the environment.

P280 Wear eye protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and 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.

P313 Get medical advice/ attention.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Contains: 2-Propanol, thymol

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.