

according to Regulation (EC) No. 1907/2006

Revision Date 29.05.2018

Version 9.0

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

1.1 Product identifier

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-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)

Acute toxicity, Category 3, Oral, H301

Acute toxicity, Category 4, Inhalation, H332

Acute toxicity, Category 3, Dermal, H311

Specific target organ toxicity - repeated exposure, Category 2, thyroid, H373

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 2, H411

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

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-1

2.2 Label elements

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

Hazard pictograms







Signal word

Danger

Hazard statements

H301 + H311 Toxic if swallowed or in contact with skin.

H332 Harmful if inhaled.

H373 May cause damage to organs (thyroid) through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

EUH032 Contact with acids liberates very toxic gas.

Precautionary statements

Prevention

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing.

Response

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

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

H301 + H311 Toxic if swallowed or in contact with skin.

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

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EUH032 Contact with acids liberates very toxic gas.

Precautionary statements

P280 Wear protective gloves/ protective clothing.

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

Contains: Potassium cyanide

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

Potassium cyanide (>= 2,5 % - < 7 %)

151-50-8 01-2119486407-29-

xxxx Acute toxicity, Category 2, H300

Acute toxicity, Category 2, H330 Acute toxicity, Category 1, H310

Specific target organ toxicity - repeated exposure, Category 1,

H372

Acute aquatic toxicity, Category 1, H400 Chronic aquatic toxicity, Category 1, H410

M-Factor: 10

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

according to Regulation (EC) No. 1907/2006

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Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

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General advice

General information: Immediately call in physician (mention hydrocyanic acid poisoning). Rapid action is called for.

First aider needs to protect himself.

After inhalation: fresh air. Call in physician.

If breathing stops: mouth-to-mouth breathing or artificial respiration.

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. Call in ophthalmologist. Remove contact lenses.

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

4.2 Most important symptoms and effects, both acute and delayed

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.

irritant effects, Headache, Dizziness, Nausea, Vomiting, agitation, Convulsions, Shortness of breath, Unconsciousness, respiratory paralysis, cardiovascular disorders, death

4.3 Indication of any immediate medical attention and special treatment needed

Keep antidotes ready: dimethylaminophenol Cobalt-EDTA sodium thiosulphate

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, Carbon dioxide (CO2), 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

Mixture with combustible ingredients.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

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

Fire may cause evolution of:

Sulphur oxides

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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:

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 carefully 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.

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

Tightly closed in a well-ventilated place. Accesible only for authorised persons.

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.

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant® Product name

Pb-1

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

Potassium cvanide (151-50-8)

Worker DNEL, acute Systemic effects dermal 4,03 mg/kg Body weight

Worker DNEL, acute Systemic effects inhalation 12,5 mg/m³

Worker DNEL, Systemic effects dermal 0,14 mg/kg Body weight

longterm

Worker DNEL, Systemic effects inhalation 0,94 mg/m³

longterm

Predicted No Effect Concentration (PNEC)

Potassium cyanide (151-50-8)

PNEC Aquatic intermittent release

PNEC Fresh water sediment

PNEC Fresh water 0,001 mg/l PNEC Marine water

0,001 mg/l

PNEC Sewage treatment plant 0,05 mg/l

PNEC Marine sediment

PNEC Soil 0,007 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.

0,005 mg/l

0,004 mg/kg

0,004 mg/kg

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:

polychloroprene Glove material:

Glove thickness: 0.65 mm > 480 min Break through time:

splash contact:

according to Regulation (EC) No. 1907/2006

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Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

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Glove material: natural latex
Glove thickness: 0,6 mm
Break through time: > 240 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 720 Camapren® (full contact), KCL 706 Lapren® (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 ABEK

The entrepeneur 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 liquid

Colour dark orange

Odour No strong odour known.

Odour Threshold No information available.

pH ca. 13

at 20 °C

Melting point No information available.

Boiling point No information available.

Flash point > 100 °C

Information taken from reference works and the literature.

Evaporation rate No information available.

Flammability (solid, gas) No information available.

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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.1,09 g/cm3

at 20 °C

Relative density No information available.

Water solubility No information available.

Partition coefficient: n-

Decomposition temperature

octanol/water

No information available.

No information available.

Auto-ignition 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

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Generates dangerous gases or fumes in contact with:

Acids, Possible formation of:

Hydrogen cyanide (hydrocyanic acid)

Risk of explosion with:

acetylidene, organic halides, perchlorates, Acid chlorides, nonmetallic halides, iron(III) compounds, nitrates, fluorides, chlorates, hydrides, perchloric acid, Oxides of phosphorus, Nitric acid, silver compounds, silicon compounds, silanes, acid halides

Exothermic reaction with:

according to Regulation (EC) No. 1907/2006

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boron compounds, oxyhalogenic compounds, Potassium, sodium, Strong oxidizing agents, phosphorus halides, strong reducing agents, Acid chlorides, Strong acids, silver salt, nitrogen dioxide

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

potassium permanganate

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

various plastics, Metals

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects Mixture

Acute oral toxicity

Acute toxicity estimate: 187,99 mg/kg

Calculation method

Acute inhalation toxicity

Acute toxicity estimate: 1,92 mg/l; 4 h; dust/mist

Calculation method

Acute dermal toxicity

Acute toxicity estimate: 537,22 mg/kg

Calculation method

Skin irritation

This information is not available.

Eye irritation

This information is not available.

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.

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant® Product name

Pb-1

Specific target organ toxicity - repeated exposure

Mixture may cause damage to organs through prolonged or repeated exposure.

Target Organs: Thyroid

Aspiration hazard

This information is not available.

11.2 Further information

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.

Systemic effects:

After absorption:

Nausea, Vomiting, Shortness of breath, Dizziness, agitation, Convulsions, respiratory paralysis, cardiovascular disorders, tachycardia, Unconsciousness, death

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

Potassium cyanide

Acute oral toxicity

LD50 Rat: 7,49 - 10 mg/kg (ECHA)

Acute inhalation toxicity

Acute toxicity estimate: 0,051 mg/l; dust/mist

Expert judgement

Acute dermal toxicity

LD50 Rabbit: 14,29 mg/kg (ECHA)

Germ cell mutagenicity Genotoxicity in vitro In vitro mammalian cell gene mutation test

Chinese hamster lung cells

Result: negative

(ECHA)

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.

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-1

12.6 Other adverse effects

Discharge into the environment must be avoided.

Components

Potassium cyanide

Toxicity to fish

flow-through test LC50 Fish: 0,0988 mg/l; 96 h (ECHA) (referred to cyanide ions) The value is given in analogy to the following substances:

Toxicity to daphnia and other aquatic invertebrates

static test LC50 Daphnia pulex (Water flea): 0,11 mg/l; 48 h (ECHA)

Toxicity to algae

IC5 Scenedesmus quadricauda (Green algae): 0,03 mg/l; 8 d (referred to cyanide ions) (IUCLID) (maximum permissible toxic concentration)

Toxicity to bacteria

EC5 Pseudomonas putida: 0,001 mg/l; 16 h (referred to the anion) (IUCLID) (maximum permissible toxic concentration)

static test EC50 activated sludge: 0,6 - 2,3 mg/l; 30 min (IUCLID)

Biodegradability

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

M-Factor

10

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 3316

14.2 Proper shipping name CHEMICAL KIT

14.3 Class914.4 Packing groupII14.5 Environmentally hazardous--14.6 Special precautions foryes

user

Tunnel restriction code E

Inland waterway transport (ADN)

Not relevant

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-1

Air transport (IATA)

14.1 UN number UN 3316

14.2 Proper shipping name CHEMICAL KIT

14.3 Class 9

14.4 Packing group

14.5 Environmentally hazardous --

14.6 Special precautions for no

user

Sea transport (IMDG)

14.1 UN number UN 3316

14.2 Proper shipping name CHEMICAL KIT

14.3 Class 9

14.4 Packing group

14.5 Environmentally hazardous --

14.6 Special precautions for

user

EmS F-A S-P

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

yes

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

2 Quantity 1: 50 t Quantity 2: 200 t

96/82/EC

96/82/EC

Toxic

Dangerous for the environment

9a

Quantity 1: 100 t Quantity 2: 200 t

SEVESO III

ENVIRONMENTAL HAZARDS

E1

Quantity 1: 100 t Quantity 2: 200 t

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-1

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

work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where

applicable.

Regulation (EC) No 1005/2009 on substances that not regulated

deplete the ozone layer

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 \geq 0.1 % (w/w).

National legislation

Storage class 6.1A
The data applies to the entire pack.

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.

H300	Fatal if swallowed.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated
	exposure.
H373	May cause damage to organs through prolonged or repeated
	exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-1

Training advice

Provide adequate information, instruction and training for operators.

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.



according to Regulation (EC) No. 1907/2006

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Version 9.0

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

1.1 Product identifier

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-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)

Corrosive to metals, Category 1, H290

Acute toxicity, Category 4, Oral, H302

Skin irritation, Category 2, H315

Serious eye damage, Category 1, H318

Skin sensitisation, Category 1, H317

Carcinogenicity, Category 2, H351

Specific target organ toxicity - repeated exposure, Category 2, H373

Acute aquatic toxicity, Category 1, H400

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

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-2

2.2 Label elements

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

Hazard pictograms









Signal word

Danger

Hazard statements

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

Precautionary statements

Prevention

P273 Avoid release to the environment.

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

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-2

Reduced labelling (≤125 ml)

Hazard pictograms









Signal word

Danger

Hazard statements

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H351 Suspected of causing cancer.

Precautionary statements

P280 Wear protective gloves.

P280 Wear eye protection.

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.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Contains: Hydroxylammonium chloride, ammonia solution

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature

Aqueous solution

3.1 Substance

Not applicable

3.2 Mixture

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-2

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

Chemical name (Concentration)

CAS-No. Registration number Classification

Hydroxylammonium chloride (>= 20 % - < 25 %)

5470-11-1 *)

Corrosive to metals, Category 1, H290

Acute toxicity, Category 4, H302
Acute toxicity, Category 4, H312
Skin irritation, Category 2, H315
Eye irritation, Category 2, H319
Skin sensitisation, Category 1, H317
Carcinogenicity, Category 2, H351

Specific target organ toxicity - repeated exposure, Category 2,

H373

Acute aquatic toxicity, Category 1, H400

ammonium chloride (>= 3 % - < 10 %)

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

12125-02-9 01-2119487950-27-

XXXX Acute toxicity, Category 4, H302

Eye irritation, Category 2, H319

ammonia solution (>= 2,5 % - < 5 %)

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

1336-21-6 01-2119488876-14-

xxxx Corrosive to metals, Category 1, H290

Skin corrosion, Category 1B, H314

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

Acute aquatic toxicity, Category 1, H400

^{*)} 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.

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-2

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. Consult a physician.

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

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Dermatitis, Cyanosis

The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhoea. Systemic effect: after the uptake of very large qantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.

Irritation and corrosion, Allergic reactions

Risk of serious damage to eyes.

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:

nitrogen oxides

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-2

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:

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 carefully 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.

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

Tightly closed in a well-ventilated place. Accesible only for authorised persons.

Recommended storage temperature see product label.

The data applies to the entire pack.

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-2

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)

		,		
	ammonium chloride Worker DNEL,	(12125-02-9) Systemic effects	inhalation	43,97 mg/m³
	longterm Worker DNEL,	Systemic effects	dermal	128,9 mg/kg Body weight
	longterm Consumer DNEL,	Systemic effects	inhalation	9,4 mg/m³
	longterm Consumer DNEL,	Systemic effects	dermal	55,2 mg/kg Body weight
	longterm Consumer DNEL,	Systemic effects	oral	55,2 mg/kg Body weight
	longterm	•	ora.	oo,2 mg/ng body wolgin
	ammonia solution (Worker DNEL, acute	Systemic effects	dermal	6,8 mg/kg Body weight
	Worker DNEL,	Systemic effects	dermal	6,8 mg/kg Body weight
	longterm Worker DNEL, acute	Systemic effects	inhalation	47,6 mg/m³
	Worker DNEL, acute	Local effects	inhalation	36 mg/m³
	Worker DNEL,	Systemic effects	inhalation	47,6 mg/m³
	longterm Worker DNEL,	Local effects	inhalation	14 mg/m³
	longterm Consumer DNEL,	Systemic effects	dermal	68 mg/kg Body weight
	acute Consumer DNEL,	Systemic effects	dermal	68 mg/kg Body weight
	longterm Consumer DNEL, acute	Systemic effects	inhalation	23,8 mg/m³
	Consumer DNEL,	Local effects	inhalation	7,2 mg/m³
	acute Consumer DNEL,	Systemic effects	inhalation	23,8 mg/m³
	longterm Consumer DNEL,	Local effects	inhalation	2,8 mg/m³
	longterm Consumer DNEL, acute	Systemic effects	oral	6,8 mg/kg Body weight
	Consumer DNEL, longterm	Systemic effects	oral	6,8 mg/kg Body weight
	ammonium chloride PNEC Fresh water	(12125-02-9)	0,25 mg/l	
	PNEC Fresh water sediment		0,9 mg/kg	
PNEC Marine water		0,025 mg/l		
	PNEC Marine sediment		0,09 mg/kg	

according to Regulation (EC) No. 1907/2006

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PNEC Aquatic intermittent release 0,43 mg/l

PNEC Soil 50,7 mg/kg

PNEC Sewage treatment plant 13,1 mg/l

ammonia solution (1336-21-6)

PNEC Fresh water 0,0011 mg/l

PNEC Aquatic intermittent release 0,0068 mg/l

PNEC Marine water 0,00011 mg/l

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: Nitrile rubber
Glove thickness: 0,40 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 730 Camatril® -Velours (full contact), KCL 730 Camatril® -Velours (splash contact).

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).

Other protective equipment protective clothing

according to Regulation (EC) No. 1907/2006

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Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: filter ABEK

The entrepeneur 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 liquid

Colour colourless

Odour No strong odour known.

Odour Threshold No information available.

pH No information available.

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 Not applicable

Upper explosion limit Not applicable

Vapour pressure No information available.

Relative vapour density No information available.

Density ca.1,11 g/cm3

at 20 °C

Relative density No information available.

Water solubility No information available.

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

No information available.

Pb-2

Partition coefficient: n-

octanol/water

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.

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

A risk of explosion and/or of toxic gas formation exists with the following substances:

Oxidizing agents, Mercury, Oxygen, silver compounds, nitrogen trichloride, hydrogen peroxide, silver, antimony hydride, halogens, Acids, Calcium, Chlorine, Chlorites, auric salts, perchlorates, sodium hypochlorite, mercury compounds, halogen oxides

Heavy metals, Heavy metal salts, Acid chlorides, Acid anhydrides

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

Boranes, Boron, Oxides of phosphorus, Nitric acid, silicon compounds, chromium(VI) oxide, chromyl chloride

Exothermic reaction with:

Acetaldehyde, Acrolein, Barium, boron compounds, Bromine, halogen-halogen compounds, hydrogen bromide, silane, Hydrogen chloride gas, halogen compounds, dimethylsulfate, nitrogen oxides, Fluorine, Hydrogen fluoride, chlorates, carbon dioxide

Ethylene oxide, polymerisable

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Metals

Aluminium, Lead, Nickel, silver, Zinc, Copper, metal alloys

10.6 Hazardous decomposition products

according to Regulation (EC) No. 1907/2006

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in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects Mixture

Acute oral toxicity

Acute toxicity estimate: 1.970 mg/kg

Calculation method

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and

gastrointestinal tract.

Acute inhalation toxicity

Symptoms: Possible symptoms:, mucosal irritations

Acute dermal toxicity

Acute toxicity estimate: > 2.000 mg/kg

Calculation method

Skin irritation

Mixture causes skin irritation.

Eye irritation

Mixture causes serious eye damage.

Sensitisation

Mixture may cause an allergic skin reaction.

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.

CMR effects

Carcinogenicity:

Evidence of a carcinogenic effect.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

Mixture may cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

This information is not available.

11.2 Further information

according to Regulation (EC) No. 1907/2006

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After absorption:

drop in blood pressure, Cyanosis, Risk of methaemoglobin formation.

The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhoea. Systemic effect: after the uptake of very large qantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Components

Hydroxylammonium chloride

Acute dermal toxicity

Acute toxicity estimate: 1.100,1 mg/kg

Expert judgement

Skin irritation

Rabbit

Result: slight irritation

(IUCLID)

In vitro study

Result: Irritating to skin. OECD Test Guideline 439

Sensitisation

Human experience

Result: positive

(Lit.)

ammonium chloride

Acute oral toxicity LD50 Rat: 1.410 mg/kg OECD Test Guideline 401

Acute dermal toxicity

LD50 Rat: > 2.000 mg/kg (ECHA)

Skin irritation

Rabbit

Result: No skin irritation

Draize Test

Eye irritation

Rabbit

Result: Eye irritation

OECD Test Guideline 405

Sensitisation

Maximisation Test Guinea pig

Result: negative

(ECHA)

Repeated dose toxicity

Rat

male and female

Oral

90 d

according to Regulation (EC) No. 1907/2006

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Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

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daily

NOAEL: 1.695,7 mg/kg OECD Test Guideline 408 Subchronic toxicity

Germ cell mutagenicity Genotoxicity in vivo Micronucleus test Mouse

male

Intraperitoneal injection Result: negative

Method: OECD Test Guideline 474

Genotoxicity in vitro

HGPRT (cell forward mutation assay)

Result: negative

Method: OECD Test Guideline 476

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

*ammonia solution*No information available.

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

Hydroxylammonium chloride

Partition coefficient: n-octanol/water
Not applicable for inorganic substances

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

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Surface tension 71,8 mN/m at 20 °C

Method: OECD Test Guideline 115

ammonium chloride

Toxicity to fish LC50 Oncorhynchus mykiss (rainbow trout): 42,91 mg/l; 96 h Analytical monitoring: yes US-EPA

Toxicity to daphnia and other aquatic invertebrates static test EC50 Daphnia magna (Water flea): > 100 mg/l; 48 h Analytical monitoring: yes(ECHA)

Toxicity to bacteria static test EC50 activated sludge: 1.310 mg/l; 0,5 h OECD Test Guideline 209

Toxicity to fish (Chronic toxicity) flow-through test EC10 Lepomis macrochirus (Bluegill sunfish): 4,28 mg/l; 30 d

Analytical monitoring: yes(ECHA)

Biodegradability

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

Partition coefficient: n-octanol/water
Not applicable for inorganic substances

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

ammonia solution

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

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-2

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 3316

14.2 Proper shipping name CHEMICAL KIT

14.3 Class 9
14.4 Packing group II

14.5 Environmentally hazardous --14.6 Special precautions for yes

user

Tunnel restriction code E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number UN 3316

14.2 Proper shipping name CHEMICAL KIT

14.3 Class914.4 Packing groupII14.5 Environmentally hazardous--14.6 Special precautions forno

user

Sea transport (IMDG)

14.1 UN number UN 3316

14.2 Proper shipping name CHEMICAL KIT

14.3 Class914.4 Packing groupII14.5 Environmentally hazardous--14.6 Special precautions foryes

user

EmS F-A S-P

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!

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-2

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

Dangerous for the environment

9a

Quantity 1: 100 t Quantity 2: 200 t

SEVESO III

ENVIRONMENTAL HAZARDS

E1

Quantity 1: 100 t Quantity 2: 200 t

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

work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where

applicable.

Regulation (EC) No 1005/2009 on substances that not regulated

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

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 6.1A
The data applies to the entire pack.

15.2 Chemical safety assessment

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

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-2

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.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated
	exposure.
H400	Very toxic to aquatic life.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms









Signal word

Danger

Hazard statements

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H315 Causes skin irritation.

according to Regulation (EC) No. 1907/2006

Catalogue No. 109717

Product name Lead Test Method: photometric 0.010 - 5.00 mg/l Pb Spectroquant®

Pb-2

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

Precautionary statements

Prevention

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.

P314 Get medical advice/ attention if you feel unwell.

Contains: Hydroxylammonium chloride, ammonia solution

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.