

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 26.03.2020

Version 11.6

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

Catalogue No.	110958
Product name	Kjeldahl tablets for Wieninger method 5g/tablet
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).
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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)**

Skin irritation, Category 2, H315

Eye irritation, Category 2, H319

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

Long-term (chronic) aquatic hazard, 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 pictograms*

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Catalogue No. 110958
Product name Kjeldahl tablets for Wieninger method 5g/tablet

Signal word
Warning

Hazard statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention
P273 Avoid release to the environment.
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.

Reduced labelling (≤ 125 ml)

Hazard pictograms



Signal word
Warning

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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Copper(II) sulphate (≥ 1 % - $< 2,5$ %)

7758-98-7	01-2119520566-40-xxxx	
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Acute toxicity, Category 4, H302
Skin irritation, Category 2, H315
Eye irritation, Category 2, H319
Short-term (acute) aquatic hazard, Category 1, H400

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Selenium ($\geq 1\%$ - $< 2,5\%$)
7782-49-2 *)

Long-term (chronic) aquatic hazard, Category 1, H410
M-Factor: 10

Acute toxicity, Category 3, H301
Acute toxicity, Category 3, H331
Specific target organ toxicity - repeated exposure,
Category 2, H373
Long-term (chronic) aquatic hazard, Category 4, H413

*) 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.

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. 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

irritant effects, Headache, Vomiting, Dizziness, Diarrhoea, gastric pain, Shortness of breath, muscular weakness, somnolence, conjunctivitis, Risk of corneal clouding., CNS disorders, cardiovascular disorders, Unconsciousness, collapse, death

4.3 Indication of any immediate medical attention and special treatment needed

Laxative: Sodium sulfate (1 tablespoon/1/4 l water).

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.

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Ambient fire may liberate hazardous vapours.
Fire may cause evolution of:
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. 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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.

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. Dry.

Recommended storage temperature see product label.

7.3 Specific end use(s)

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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
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).

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

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.

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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	tablets
Colour	grey
Odour	odourless
Odour Threshold	Not applicable
pH	ca. 5 at 200 g/l 20 °C
Melting point	No information available.
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	200 g/l at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.

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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

Exothermic reaction with:

hydroxylamine, Strong oxidizing agents, powdered magnesium, powdered aluminium, Beryllium, bromates, chromium(VI) oxide, chlorates, Nickel, Oxidizing agents, phosphorus, platinum, Nitric acid, silver oxide, Zinc, Alkali metals

Generates dangerous gases or fumes in contact with:

hydrochloric acid, Sulphuric acid

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

carbides, peroxi compounds, halogen-halogen compounds, halogen oxides, Fluorine, lithium silicide, barium peroxide, Uranium

Risk of explosion with:

alkali amides, metals, Oxygen, amides, cadmium, Potassium, sodium, SODIUM PEROXIDE, nitrogen oxides, Tin

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.

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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

Acute toxicity estimate: > 2.000 mg/kg

Calculation method

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

Acute inhalation toxicity

Acute toxicity estimate: > 5 mg/l; 4 h ; dust/mist

Calculation method

Acute toxicity estimate: > 5 mg/l; 4 h ; dust/mist

Calculation method

Symptoms: Possible symptoms:, mucosal irritations

Acute dermal toxicity

This information is not available.

Skin irritation

Mixture causes skin irritation.

Eye irritation

Mixture causes serious eye 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

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

This information is not available.

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11.2 Further information

After absorption:

Headache, Cough, Vomiting, Dizziness, Diarrhoea, gastric pain, Shortness of breath, muscular weakness, somnolence, cardiovascular disorders, drop in blood pressure, tachycardia, acidosis, Unconsciousness, collapse

After a latency period:

death

Metal-fume fever after inhalation of large quantities.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

Copper(II) sulphate

Acute oral toxicity

LD50 Rat: 481 mg/kg

OECD Test Guideline 401

The value is given in analogy to the following substances: Copper(II) sulphate pentahydrate

Acute dermal toxicity

LD50 Rat: > 2.000 mg/kg

OECD Test Guideline 402

Sensitisation

Maximisation Test Guinea pig

Result: negative

Method: OECD Test Guideline 406

The value is given in analogy to the following substances: Copper(II) sulphate pentahydrate

Germ cell mutagenicity

Genotoxicity in vivo

Micronucleus test

Mouse

male and female

Oral

Result: negative

(ECHA) The value is given in analogy to the following substances: Copper(II) sulphate pentahydrate

unscheduled DNA synthesis assay

Rat

male

Oral

Result: negative

Method: OECD Test Guideline 486

The value is given in analogy to the following substances: Copper(II) sulphate pentahydrate

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

The value is given in analogy to the following substances: Copper(II) sulphate pentahydrate

Selenium

Germ cell mutagenicity

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Genotoxicity in vitro
reverse mutation assay
Salmonella typhimurium
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

Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII, or a PBT/vPvB assessment was not conducted.

12.6 Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

Components

Copper(II) sulphate

Biodegradability

Not applicable for inorganic substances

Partition coefficient: n-octanol/water

Not applicable for inorganic substances

M-Factor

10

Selenium

Toxicity to fish

semi-static test LC50 *Oncorhynchus mykiss* (rainbow trout): > 100 mg/l; 96 h

Analytical monitoring: yes

OECD Test Guideline 203

(above the solubility limit in the test medium)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 *Daphnia magna* (Water flea): > 100 mg/l; 48 h

Analytical monitoring: yes

OECD Test Guideline 202

(above the solubility limit in the test medium)

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Toxicity to algae

static test ErC50 *Pseudokirchneriella subcapitata* (algae): > 100 mg/l; 72 h
Analytical monitoring: yes
OECD Test Guideline 201
(above the solubility limit in the test medium)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

semi-static test NOEC *Daphnia magna* (Water flea): >= 100 mg/l; 21 d

Analytical monitoring: yes

OECD Test Guideline 211
(above the solubility limit in the test medium)

Biodegradability

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

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 3077
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER(II)-SULPHATE)
14.3 Class	9
14.4 Packing group	III
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	yes
Tunnel restriction code	-
Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9	

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 3077
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER(II)-SULPHATE)
14.3 Class	9
14.4 Packing group	III
14.5 Environmentally hazardous	yes

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14.6 Special precautions for user no

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

Sea transport (IMDG)

14.1 UN number UN 3077

14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER(II)-SULPHATE)

14.3 Class 9

14.4 Packing group III

14.5 Environmentally hazardous yes

14.6 Special precautions for user yes

EmS F-A S-F

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

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

Not relevant

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard SEVESO III
Legislation Not applicable

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

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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 10 - 13

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.

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
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.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

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.

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