acc. to Safe Work Australia - Code of Practice





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article number: **8236** Version: **GHS 3.0 en** Replaces version of: 2017-02-03 Version: (GHS 2)

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

1.1 Product identifier

Identification of the substance

Article number

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

Relevant identified uses:

Uses advised against:

Laboratory chemical Laboratory and analytical use

Kjeldahl tablets CX (5,5 g)

8236

Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

Telephone:+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 **e-mail:** sicherheit@carlroth.de **Website:** www.carlroth.de

Competent person responsible for the safety data :Department Health, Safety and Environment sheet:

e-mail (competent person):

sicherheit@carlroth.de

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 West- mead, NSW	131126	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318

For full text of abbreviations: see SECTION 16

2.2 Label elements

Labelling

Signal word Danger

acc. to Safe Work Australia - Code of Practice

Kjeldahl tablets CX (5,5 g)

article number: 8236



Pictograms

GHS05



Hazard statements

H318 Causes serious eye damage

Precautionary statements

Precautionary statements - prevention

P280 Wear eye protection/face protection

Precautionary statements - response

	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact
P310	lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor/physician
P310	

Hazardous ingredients for labelling:

Copper(II) sulphate pentahydrate

2.3 Other hazards

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of sub- stance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Potassium sulphate	CAS No 7778-80-5	≥80			
Copper(II) sulphate pentahydrate	CAS No 7758-99-8	5 - < 10	Acute Tox. 4 / H302 Eye Dam. 1 / H318		

For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

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Kjeldahl tablets CX (5,5 g)



article number: 8236

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Risk of blindness, Risk of serious damage to eyes

4.3 Indication of any immediate medical attention and special treatment needed none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Non-combustible.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe dust.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

acc. to Safe Work Australia - Code of Practice

Kjeldahl tablets CX (5,5 g)

article number: 8236

Advice on how to contain a spill

Covering of drains. Take up mechanically.

Advice on how to clean up a spill

Take up mechanically. Control of dust.

Other information relating to spills and releases

Place in appropriate containers for disposal.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid dust formation.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

Incompatible substances or mixtures

Observe hints for combined storage.

Protect against external exposure, such as

high temperatures, humidity

Consideration of other advice:

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

Relevant DNELs of components of the mixture							
Name of sub- stance	CAS No	End- point	Threshol d level	Protection goal, route of exposure	Used in	Exposure time	
Potassium sulphate	7778-80-5	DNEL	21.3 mg/kg	human, dermal	worker (industry)	chronic - systemic effects	
Potassium sulphate	7778-80-5	DNEL	37.6 mg/ m³	human, inhalat- ory	worker (industry)	chronic - systemic effects	
Copper(II) sulphate pentahydrate	7758-99-8	DNEL	1 mg/m³	human, inhalat- ory	worker (industry)	chronic - systemic effects	

acc. to Safe Work Australia - Code of Practice

Kjeldahl tablets CX (5,5 g)



article number: 8236

Relevant DNELs	of compone	ents of th	e mixture			
Name of sub- stance	CAS No	End- point	Threshol d level	Protection goal, route of exposure	Used in	Exposure time
Copper(II) sulphate pentahydrate	7758-99-8	DNEL	1 mg/m ³	human, inhalat- ory	worker (industry)	chronic - local ef- fects
Copper(II) sulphate pentahydrate	7758-99-8	DNEL	137 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Relevant PNECs	of compone	ents of th	e mixture			
Name of sub- stance	CAS No	End- point	Threshol d level	Organism	Environmental compartment	Exposure time
Potassium sulphate	7778-80-5	PNEC	0.68 ^{mg} / _l	aquatic organ- isms	freshwater	short-term (single instance)
Potassium sulphate	7778-80-5	PNEC	0.068 ^{mg} / _l	aquatic organ- isms	marine water	short-term (single instance)
Potassium sulphate	7778-80-5	PNEC	10 ^{mg} / _l	aquatic organ- isms	sewage treatment plant (STP)	short-term (single instance)
Potassium sulphate	7778-80-5	PNEC	6.8 ^{mg} / _l	aquatic organ- isms	water	intermittent re- lease
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	7.8 ^{µg} / _l	aquatic organ- isms	freshwater	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	5.2 ^{µg} / _l	aquatic organ- isms	marine water	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	230 ^{µg} / _l	aquatic organ- isms	sewage treatment plant (STP)	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	87 ^{mg} / _{kg}	aquatic organ- isms	freshwater sedi- ment	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	676 ^{mg} / _{kg}	aquatic organ- isms	marine sediment	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	65 ^{mg} / _{kg}	terrestrial organ- isms	soil	short-term (single instance)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



acc. to Safe Work Australia - Code of Practice

Kjeldahl tablets CX (5,5 g)

article number: 8236



hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a consider-able reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• type of material

NBR (Nitrile rubber)

material thickness

>0,11 mm

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	solid
Form	tablets
Colour	blue
Odour	odourless
Melting point/freezing point	>30 °C (Release of crystal water)
Boiling point or initial boiling point and boiling range	not determined
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	not relevant

acc. to Safe Work Australia - Code of Practice

Kjeldahl tablets CX (5,5 g)

article number: 8236



	pH (value)	3 – 4 (in aqueous solution: 50 ^g / _l , 20 °C)
	Kinematic viscosity	not relevant
	Solubility(ies)	
	Water solubility	120 ^g / _l at 20 °C
	Partition coefficient	
	Partition coefficient n-octanol/water (log value):	not relevant (inorganic)
	Vapour pressure	not determined
		not determined
	Density	2.7 ^g / _{cm³} at 20 °C
	Relative vapour density	information on this property is not available
	Particle characteristics	No data available.
		No data avallable.
	Other safety parameters	
	Oxidising properties	none
2	Other information	
	Information with regard to physical hazard classes:	hazard classes acc. to GHS (physical hazards): not relevant
	Other safety characteristics:	There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

9.2

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: Alkalis

10.4 Conditions to avoid

Protect from moisture. Keep away from heat.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

acc. to Safe Work Australia - Code of Practice

Kjeldahl tablets CX (5,5 g)

article number: 8236

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity estimate (ATE) of components of the mixture					
Name of substance	CAS No	Exposure route	ATE		
Copper(II) sulphate pentahydrate	7758-99-8	oral	482 ^{mg} / _{kg}		

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Potassium sulphate	7778-80-5	dermal	LD50	>2,000 ^{mg} / _{kg}	rat
Potassium sulphate	7778-80-5	oral	LD50	6,600 ^{mg} / _{kg}	rat
Copper(II) sulphate pentahydrate	7758-99-8	oral	LD50	482 ^{mg} / _{kg}	rat
Copper(II) sulphate pentahydrate	7758-99-8	dermal	LD50	>2,000 ^{mg} / _{kg}	rat

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.



acc. to Safe Work Australia - Code of Practice

Kjeldahl tablets CX (5,5 g)

article number: 8236



Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

vomiting, nausea, gastrointestinal complaints

• If in eyes

Causes serious eye damage, risk of blindness

• If inhaled

Data are not available.

• If on skin

Data are not available.

Other information

none

11.2 Endocrine disrupting properties

None of the ingredients are listed.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture					
Name of sub- stance	CAS No	Endpoint	Value	Species	Exposure time
Potassium sulphate	7778-80-5	LC50	680 ^{mg} / _l	fish	96 h
Copper(II) sulphate pentahydrate	7758-99-8	LC50	38.4 ^{µg} / _l	fish	96 h

Biodegradation

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

12.2 Process of degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment Data are not available.

12.6 Endocrine disrupting properties None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

acc. to Safe Work Australia - Code of Practice



Kjeldahl tablets CX (5,5 g)

article number: 8236

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number

1

1

1

1

	UN RTDG	UN 3077
	IMDG-Code	UN 3077
	ICAO-TI	UN 3077
14.2	UN proper shipping name	
	UN RTDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
	IMDG-Code	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
	ICAO-TI	Environmentally hazardous substance, solid, n.o.s.
	Technical name (hazardous ingredients)	Copper(II) sulphate pentahydrate
14.3	Transport hazard class(es)	
	UN RTDG	9
	IMDG-Code	9
	ICAO-TI	9
14.4	Packing group	
	UN RTDG	III
	IMDG-Code	III
	ICAO-TI	III
14.5	Environmental hazards	hazardous to the aquatic environment
	Environmentally hazardous substance (aquatic environment):	Copper(II) sulphate pentahydrate

acc. to Safe Work Australia - Code of Practice

Kjeldahl tablets CX (5,5 g)

article number: 8236

14.6 Special precautions for user There is no additional information.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport informationNational regulations	sAdditional information(UN RTDG)
UN number	3077
Class	9
Environmental hazards	Yes Hazardous to the aquatic environment
Packing group	III
Danger label(s)	9 Fish and tree
Special provisions (SP)	274, 331, 335, 375 UN RTDG
Excepted quantities (EQ)	E1 UN RTDG
Limited quantities (LQ)	5 kg UN RTDG
International Maritime Dangerous Goods C	Code (IMDG) - Additional information
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Particulars in the shipper's declaration	UN3077, ENVIRONMENTALLY HAZARDOUS SUB- STANCE, SOLID, N.O.S., (contains: Copper(II) sulphate pentahydrate), 9, III
Marine pollutant	Yes (hazardous to the aquatic environment), (Copper(II) sulphate pentahydrate)
Danger label(s)	9, "Fish and tree"
Special provisions (SP)	274, 335, 966, 967, 969
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
EmS	F-A, S-F
Stowage category	A

acc. to Safe Work Australia - Code of Practice

Kjeldahl tablets CX (5,5 g)





International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information		
Proper shipping name	Environmentally hazardous substance, solid, n.o.s.	
Particulars in the shipper's declaration	UN3077, Environmentally hazardous substance, solid, n.o.s., (contains: Copper(II) sulphate pen- tahydrate), 9, III	
Environmental hazards	Yes (hazardous to the aquatic environment)	
Danger label(s)	9, "Fish and tree"	
Special provisions (SP)	A97, A158, A179, A197, A215	
Excepted quantities (EQ)	E1	
Limited quantities (LQ)	30 kg	

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture There is no additional information.

National regulations(Australia)

Australian Inventory of Chemical Substances(AICS)

All ingredients are listed or exempt from listing.

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

Country	Inventory	Status
AU	AICS	all ingredients are listed
CA	DSL	not all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	not all ingredients are listed

acc. to Safe Work Australia - Code of Practice

Kjeldahl tablets CX (5,5 g)

article number: 8236

Legend	
AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Alignment to regulation: Globally Harmonized System of Classification and Labelling of Chemicals ("Purple book"). Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.1	Remarks: For full text of Hazard- and EU Hazard-state- ments: see SECTION 16.		yes
2.2		Pictograms: change in the listing (table)	yes
2.2		Hazard statements: change in the listing (table)	yes
2.2		Precautionary statements - prevention: change in the listing (table)	yes
2.2		Precautionary statements - response: change in the listing (table)	yes
2.2	Precautionary statements - disposal		yes
2.2		Precautionary statements - disposal: change in the listing (table)	yes
2.2	Labelling of packages where the contents do not exceed 125 ml: Signal word: Danger		yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes



acc. to Safe Work Australia - Code of Practice

Kjeldahl tablets CX (5,5 g)

article number: 8236



Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.2	contains: Copper(II) sulphate pentahydrate		yes
2.3	Other hazards: There is no additional information.	Other hazards	yes
2.3		Results of PBT and vPvB assessment: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Na- tions
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
РВТ	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative

acc. to Safe Work Australia - Code of Practice

Kjeldahl tablets CX (5,5 g)



article number: 8236

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H318	Causes serious eye damage.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.