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

1.1. Product identifier

Name of product Air current tubes; Strömungsprüfröhrchen

Prod-Nr CH00216, CH25301

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

Identified uses

Sector of uses [SU]

SU2 - mining (including offshore industries).

SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

SU24 - Scientific research and development

SU0-2 - Other activity related to manufacture and services.

Product categories [PC]

PC0 - Other

Quality control reagent

Process categories [PROC]

Industrial:

Professional:

PROC15 - Use as laboratory reagent

PROC0 - Other Process or activity:

Article categories for substances in articles without intended release

not applicable

Article categories for substances in articles with intended release

not applicable

Environmental release categories [ERC]

not determined

Remark

Uses advised against

Sector of uses [SU]

not determined

Product categories [PC]

not determined

Process categories [PROC]

not determined

Article categories for substances in articles without intended release

not applicable

Article categories for substances in articles with intended release

not applicable

Remark

Do not use for private purposes (household).

Recommended intended purpose(s)

Draeger tubes for air current tests.

Effect of the substance / the mixture

not applicable

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1.3. Details of the supplier of the safety data sheet

Dräger Safety AG & Co. KGaA Distributor

Revalstr. 1, D-23560 Lübeck

Phone +49 (0) 451/882-0, Fax +49 (0) 451/882-2080

E-Mail info@draeger.com Internet www:draeger.com

Advice Dräger Umweltmanagement Phone +49 (0) 451 / 882-3125

Fax +49 (0) 451 / 882-73125 E-mail (competent person): msds@draeger.com

1.4. Emergency telephone number

Emergency advice Giftinformationszentrum Nord, Göttingen; Tel. (0551) 1 92 40

Phone +49 (0) 451/ 882-2395 (Dräger Werkschutz)

Dräger Safety AG & Co. KGaA Manufacture

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1.4. Emergency telephone number

Giftinformationszentrum Nord, Göttingen: Tel. (0551) 1 92 40 Emergency advice

Phone +49 (0) 451/ 882-2395 (Dräger Werkschutz)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to 67/548/EEC or 1999/45/EC

C: R35

R-phrases 35

Causes severe burns

Additional hints

This article contains hazardous substances or mixtrues intended to be released under normal or reasonably foreseeable conditions of use

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard classes and Hazard Hazard Statements Classification procedure

categories

Met. Corr. 1 H290

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Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard classes and Hazard

Hazard Statements Classification procedure

categories

Skin Corr. 1A H314

Hazard statements for physical hazards May be corrosive to metals.

Hazard statements for health hazards

H314 Causes severe skin burns and eye damage.

Hazard statements for environmental hazards

Additional hints

2.2. Label elements

This article contains hazardous substances or mixtrues intended to be released under normal or reasonably

foreseeable conditions of use

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]



GHS05

Signal word Danger

Hazard statements for physical hazards May be corrosive to metals

Hazard statements for health hazards

H314 Causes severe skin burns and eye damage

Hazard statements for environmental hazards

Precautionary Statements

General

P102 Keep out of reach of children. P103 Read label before use

Prevention

Keep only in original container. P234

Do not breathe dust/fume/gas/mist/vapours/spray. P260

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

Response

P301 + P330 +

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P331

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

P338 present and easy to do. Continue rinsing.

IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. P309 + P311

Immediately call a POISON CENTER/doctor/.... P310 Absorb spillage to prevent material damage. P390

Storage

P402 Store in a dry place

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

P403 + P235 Store in a well-ventilated place. Keep cool.

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P420 Store away from other materials

Disposal

P501 Contents / container to properly dispose and recycle

Hazardous ingredients for labeling

Sulphuric acid >95%

Supplemental Hazard information (EU)

Physical properties

not applicable

Health properties

Corrosive to the respiratory tract.

Environmental properties

not determined

Special rules for supplemental label elements for certain mixtures

not applicable

Additional information

Special rules on packaging

not applicable

Special rules for labelling of plant protection products

not applicable

Remark

no

2.3. Other hazards

Adverse physicochemical effects

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and

basements in higher concentration.

Adverse human health effects and symptoms

Due to its pH-value (see chapter 9), irritation of the skin and eyes cannot be ruled out.

Adverse environmental effects

not determined

Other adverse effects

Process vapours can irritate airways, skin and eyes.

Information pertaining to special dangers for human and environment

Causes severe burns

Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.1. Substances

not applicable

3.2. Mixtures Description





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Hazardous ingredients CAS No FC No [% Classification according to 67/548/EEC Name weight] 7664-93-9 231-639-5 Sulphuric acid >95% ca. 100 C R35 CAS No EC No ٢% Classification according to Name Regulation (EC) No 1272/2008 ICLP/ GHS1 7664-93-9 231-639-5 Skin Corr. 1A. H314 Sulphuric acid >95% ca. 100

Additional advice

no

Labelling for contents according to regulation (EC) No 648/2004, annex VII

not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately.

In case of inhalation

Ensure of fresh air.

If intensive inhalation of fumes seek medical treatment immediately

In case of skin contact

In case of contact with skin wash off immediately with plenty of water.

Remove contaminated clothing immediately, even underwear and shoes.

Seek medical treatment immediately.

Consult a doctor if skin irritation persists.

In case of eye contact

In case of contact with eyes rinsing with plenty of lukewarm water carefully and seek for medical treatment.

Call for a doctor immediately.

In case of ingestion

Do not induce vomiting.

Call for a doctor immediately.

Rinse out mouth thoroughly with water.

Give plenty of water to drink in small sips.

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

Physician's information / possible symptoms

not determined

Physician's information / possible dangers

Risk of stomach perforation

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

Treatment (Advice to doctor)

not determined

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Product does not burn, fire-extinguishing activities according to surrounding.

Unsuitable extinguishing media

no

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released:

Sulfur oxide

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply. Do not inhale explosion and/or combustion gases.

Additional information

Collect contaminated firefighting water separately, must not be discharged into the drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Ensure adequate ventilation.

Use breathing apparatus if exposed to vapours/dust/aerosol.

For emergency responders

Use personal protective clothing.

Use breathing apparatus if exposed to vapours/dust/aerosol.

Wear acid-resistent boots.

6.2. Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

Dilute with plenty of water.

Do not use organic absorbent material.

Take up with absorbent material (e.g. acid binder).

Flush away residues with water.

Additional Information

Informations for disposal see chapter 13.

6.4. Reference to other sections

not determined

SECTION 7: Handling and storage

7.1. Precautions for safe handling

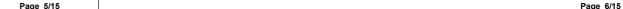
Advice on safe handling

In case of free handling thoroughly sucking off vapours is necessary.

Treatment only in suitable rooms and systems.

No special measures necessary if used correctly.

Use only acid-proof equipment.





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Use only in well-ventilated areas.

Take the usual precautions when handling with chemicals.

General protective measures

Avoid contact with eyes and skin

Do not inhale aerosols

Hygiene measures

At work do not eat, drink and smoke.

Remove soiled or soaked clothing immediately.

Work in rooms with good ventilation.

Wash hands and skin before breaks and after work.

Advice on protection against fire and explosion

The product is not combustible

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in closed original container.

Ventilate store-rooms thoroughly.

Advice on storage compatibility

Do not store together with metals.

Store at cool and aired place and at distance to alkalies

Further information on storage conditions

Keep container tightly closed and store at cool and aired place.

Keep barrel tightly closed.

Do not store at temperature above 25°C (=77°F).

Information on storage stability

Limited stability, look up product instructions.

7.3. Specific end use(s)

Recommendation(s) for intended use

See section 1.2

Particular industry solution(s) for intended use

not applicable

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
7664-93-9	sulphuric-acid	8 hours	0,05	-	EU,
		Short-term	-	-	thoracic fraction
7664-93-9	sulphuric-acid	8 hours	(1)	-	UK
		Short-term	-	-	

Indicative occupational exposure limit values (91/322/EEC, 2000/39/EC, 2006/15/EC or 2009/161/EU)

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
7664-93-9	Sulphuric acid (mist)	8 hours	0,05		

Additional advice

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8.2. Exposure controls

Respiratory protection

Breathing apparatus in the event of aerosol or mist formation

Particle-filtering half mask, filter P2

Hand protection

Gloves (acid-resistant)

Eye protection

safety goggles

Other protection measures

Light protective clothing.

Acid-resistant protective clothing

Limitation and surveillance of the environment

not applicable

Appropriate engineering controls

not applicable

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance Colour Odour aerosol whitish pungent

Odour threshold

not determined

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value	< 1	not applicable	> 80 Gew-%		suspension in water
Acid number	not determined			not applicable	no
boiling range	ca. 335 °C		ca. 1 bar		no
melting point	ca20 °C				no
Flash point	not applicable			not applicable	no
Vapourisation rate	not determined			not determined	no
Flammable (solid)	not applicable			not applicable	no
Flammability (gas)	not applicable			not applicable	no
Ignition temperature	not determined			not applicable	no
Self ignition temperature	not determined			not determined	no
Lower explosion limit	not applicable			not applicable	no
Upper explosion limit	not applicable			not applicable	no



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		Value	Temperature	at	Method	Remark
Vapour pressure		ca. 0,0001 hPa	ca. 20 °C			no
Relative density		ca. 1,84 g/cm3	ca. 20 °C	ca. 1 bar		information concerns to liquid phase
Bulk density		not applicable			not applicable	not applicable
Vapour density		ca. 3,4	ab 20 °C	ca. 1 bar		no
Solubility in wate	r	not determined	not determined	not determined	not determined	
Solubility/other		not determined	not determined	not determined	not determined	no
Partition coefficie octanol/water (lo		not determined	not determined		not determined	no
Decomposition temperature		not determined			not determined	no
Viscosity not dete	ermined	not determined	not determined		not applicable	no
Viscosity not dete	ermined	not determined	not determined		not applicable	no
Solvent separation	n test	not determined			not determined	no
Solvent concentr	ation	not applicable			not determined	no
Water content		not determined			not determined	no
Solids content		not applicable			not determined	no
Combustion valu	е	not applicable			4 2 2	
Shock sensitivity		no			not applicable	
Oxidising proper	ties					

not determined

Explosive properties

not determined

9.2. Other information

Product effects hygroscopic.

In case of warming up in water hydrolyse.

Vapours are heavier than air.

SECTION 10: Stability and reactivity

10.1. Reactivity

Sulphuric acid, concentrated

Corrosive to metals.

Evolution of corrosive gases/vapours.

If diluting or dissolving in water always strong heating up appears.

In aqueous solution, evolves hydrogen with metals.

Reactions with damp air.

Plastics may be corroded.

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Reactions with strong alkalies.
Reactions with alkalies and metals.

10.2. Chemical stability

In case of addition of water warming up. Evolution of corrosive gases/vapours. Reactions with alkalies and metals.

10.3. Possibility of hazardous reactions

Reactions with light metals in the presence of moisture, with evolution of hydrogen.

Reactions with metals, with evolution of hydrogen.

Reactions with strong alkalies.

10.4. Conditions to avoid

Corrosive to metals.

Reactions with base metals, with evolution of hydrogen.

exothermic reaction

Reactions with reducing agents.

Evolution of corrosive gases/vapours.

If diluting or dissolving in water always strong heating up appears.

In aqueous solution, evolves hydrogen with metals.

As oxidising agent, attacks organic substances such as wood, paper, fats.

Violent vapour formation under influence of water.

Reactions with damp air.

Corrodes aluminium.

Reactions with alkalies and metals.

10.5. Incompatible materials

Materials to avoid

Reactions with light metals, with evolution of hydrogen.

Corrodes copper and brass.

Corrosive to metals.

Reactions with base metals, with evolution of hydrogen.

Reactions with organic substances.

If diluting put acid in water, not reverse.

If diluting or dissolving in water always strong heating up appears.

In aqueous solution, evolves hydrogen with metals.

As oxidising agent, attacks organic substances such as wood, paper, fats.

Corrodes aluminium.

Reactions with metals, with evolution of hydrogen.

Reactions with alkalies and metals.

10.6. Hazardous decomposition products

Corrosive gases/vapours Sulphurous oxides (SOx)

Sulphuric acid

Thermal decomposition

Method not determined

Remark No decomposition if used as directed

Additional information

no





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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity/Irritability/Sensitization

	Value/Validation	Species	Method	Remark
LD50 acute oral	not determined	not determined	not determined	no
LD50 acute dermal	not determined	not determined	not applicable	no
LC50 acute inhalation	510 mg/m3 (2 h)	rat	not applicable	no
Irritability skin	corrosive	not determined	not determined	no
Irritability eye	corrosive	not determined	not determined	no
Skin sensitization	not applicable	not determined	not applicable	no
Sensitization respiratory system	not applicable	not determined	not applicable	no

Subacute Toxicity - Carcinogenicity

	Value	Species	Method	Validation
Subacute Toxicity	not determined	not determined	not determined	no
Subchronic Toxicity	not determined	not determined	not determined	no
Chronic Toxicity	not determined	not determined	not determined	no
Mutagenicity	not determined	not determined	not determined	no
Reproduction- Toxicity	not determined	not determined	not determined	no
Carcinogenicity	not determined	not determined	not determined	no

Toxicity test (Additional information)Acute oral toxicity not determinable.

Experiences made from practice

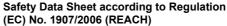
Causes corrosions.

Risk of strong eye injuries.

Product may cause irreversible eye injuries

Additional information

The product has not been tested. The information is derived from products of similar composition.



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SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological effects					
	Value	Species	Method	Validation	
Fish	not determined	not determined	not determined	no	
Daphnia	not determined	not determined	not determined	no	
Algae	not determined	not determined	not determined	no	
Bacteria	not determined	not determined	not determined	no	

12.2. Persistence and degradability Physico-chemical not determined degradability not determined

Biological not determined degradability not determined

Degradability not determined

not determined

Biological eliminability

Inorganic product, cannot be eliminated from the water by biological purification processes.

Degradability not applicable according to WRMG

12.3. Bioaccumulative potential

not determined

12.4. Mobility in soil

not determined

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Other adverse effects

not determined

Behaviour in sewage plant

The product is an acid. Neutralization is normally necessary before a waste water is discharged into sewage treatment plants.

Method

Respiration inhibition of activated sluge

EC 50	not determined	not determined	no
Additional ecological infe	ormation Value	Method	Remark
ос	not determined	not determined	no
COD	not determined	not determined	no

Remark

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Value Method Remark

BOD not determined not determined no

AOX not applicable

Contains following heavy metals and compounds of the 76/464/EWG

not applicable

General regulation

Product does not cause biological oxygen loss.

Ecological dates are not available

Do not allow uncontrolled leakage of product into the environment.

Product is not allowed to be discharged into aquatic environment, drains or sewage treatment plants.

The information to ecology refers to main component.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste code No.

Name of waste

16 03 03*

inorganic wastes containing dangerous substances

16 05 07* discarded inorganic chemicals consisting of or containing dangerous substances 17 02 04* glass, plastic and wood containing or contaminated with dangerous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 2008/98/EC on hazardous waste

Recommendations for the product

Collect waste separated in suitable, labeled and lockable containers

Remove in accordance with local official regulations.

Dispose of as hazardous waste.

There are no harmonised regulations on the disposal of chemicals in the member states of the EU. In Germany the Recycling and Waste Management Act (KrWG) stipulates recycling as a requirement.

Recommendations for packaging

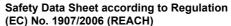
Totally emptied packaging may be taken for recycling. Barrel: return by DSD (Dualistic System Germany)

General information

The local / national waste disposal regulations are observed.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA-DGR
14.1. UN number	3260	3260	3260
14.2. UN proper shipping name	Corrosive solid, acidic, inorganic, n.o.s. (Sulphuric acid, mixture)	Corrosive solid, acidic, inorganic, n.o.s. (Sulphuric acid, mixture)	Corrosive solid, acidic, inorganic, n.o.s. (Sulphuric acid, mixture)
14.3. Transport hazard class(es)	8	8	8
14.4. Packing group	II	II	II



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	ADR/RID	IMDG	IATA-DGR
14.5. Environmental hazards	No	No	No

14.6. Special precautions for user

no

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

not applicable

Land and inland navigation transport ADR/RID

Hazard label(s) 8

tunnel restriction code E

Special provisions 274

Classification code C2

Transport/further information

Preferably shipment as Excepted Quantity (E2).

Regulations concerning free quantities are to be observed.

SECTION 15: Regulatory information

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

not applicable

Application restrictions

no

Other regulations (EU)

no

Observe regulation 98/24/EC for employee health protection against the threat of chemical substances in the workplace.

VOC standard

Remark

not applicable

15.2. Chemical Safety Assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Training advice

not determined

Recommended uses and restrictions

National and local regulations concerning chemicals shall be observed.

Further information

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

Indication of changes: "!" = Data changed compared with the previous version. Previous version: 1.0

Sources of key data used

not determined

Wording of the R/H-phrases specified in chapter 3 (not the classification of the mixture!)

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R 35 Causes severe burns.

H314 Causes severe skin burns and eye damage.



