

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Mercury(II) sulphate solution 80 g/l, in sulphuric acid potassium dichromate standard solution. 0,02 mol/l volumetric standard solution

article number: **X871**  
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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Identification of the substance

**Mercury(II) sulphate solution** 80 g/l, in sulphuric acid potassium dichromate standard solution. 0,02 mol/l volumetric standard solution

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

Relevant identified uses:

Laboratory chemical  
Laboratory and analytical use

Uses advised against:

Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin. 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](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

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

**e-mail (competent person):**

**[sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)**

#### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification acc. to GHS

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Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
2.16	Substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.10	Acute toxicity (oral)	2	Acute Tox. 2	H300
3.1D	Acute toxicity (dermal)	1	Acute Tox. 1	H310
3.1I	Acute toxicity (inhal.)	2	Acute Tox. 2	H330
3.2	Skin corrosion/irritation	1A	Skin Corr. 1A	H314
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.5	Germ cell mutagenicity	1B	Muta. 1B	H340
3.6	Carcinogenicity	1B	Carc. 1B	H350
3.7	Reproductive toxicity	1B	Repr. 1B	H360FD
3.9	Specific target organ toxicity - repeated exposure	2	STOT RE 2	H373
4.1C	Hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

### Supplemental hazard information

Code	Supplemental hazard information
EUH208	contains Potassium dichromate. May produce an allergic reaction

For full text of abbreviations: see SECTION 16

### The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

## 2.2 Label elements

### Labelling

#### Signal word

**Danger**

#### Pictograms

GHS05, GHS06,  
GHS08, GHS09



#### Hazard statements

H290	May be corrosive to metals
H300+H310+H330	Fatal if swallowed, in contact with skin or if inhaled
H314	Causes severe skin burns and eye damage
H340	May cause genetic defects
H350	May cause cancer
H360FD	May damage fertility. May damage the unborn child
H373	May cause damage to organs (kidney) through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects

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### Precautionary statements

#### Precautionary statements - prevention

P273 Avoid release to the environment  
P280 Wear protective gloves/protective clothing/eye protection/face protection

#### Precautionary statements - response

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
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

For professional users only

### Supplemental hazard information

EUH208 Contains Potassium dichromate. May produce an allergic reaction.

**Hazardous ingredients for labelling:** Mercury(II) sulphate, Potassium dichromate, Sulphuric acid

### 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 substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Sulphuric acid	CAS No 7664-93-9  EC No 231-639-5	15 - < 25	Met. Corr. 1 / H290 Skin Corr. 1A / H314 Eye Dam. 1 / H318		B(a) GHS-HC IARC: 1 IOELV RoC "Known"
Mercury(II) sulphate	CAS No 7783-35-9  EC No 231-992-5	5 - 10	Acute Tox. 2 / H300 Acute Tox. 1 / H310 Acute Tox. 2 / H330 STOT RE 2 / H373 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	  	1(a) A(a) GHS-HC

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Name of sub-stance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Potassium dichromate	CAS No 7778-50-9  EC No 231-906-6	< 2,5	Ox. Sol. 2 / H272 Acute Tox. 3 / H301 Acute Tox. 4 / H312 Acute Tox. 2 / H330 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Resp. Sens. 1 / H334 Skin Sens. 1 / H317 Muta. 1B / H340 Carc. 1B / H350 Repr. 1B / H360FD STOT SE 3 / H335 STOT RE 1 / H372 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410		3 GHS-HC IARC: 1 IOELV RoC "Known"

### Notes

- 1(a): The concentration stated is the percentage by weight of the metallic element calculated with reference to the total weight of the mixture
- 3: The concentration stated is the percentage by weight of chromate ions dissolved in water calculated with reference to the total weight of the mixture.
- A(a): The name of substance is a general description. It is required that the correct name is stated on the label
- B(a): The classification refers to an aqueous solution
- GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)
- IARC: 1: IARC group 1: carcinogenic to humans (International Agency for Research on Cancer)
- IOELV: Substance with a community indicative occupational exposure limit value
- RoC NTP-RoC: Known To Be A Human Carcinogen
- "Known"

Name of sub-stance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
Sulphuric acid	CAS No 7664-93-9  EC No 231-639-5	Skin Corr. 1A; H314: C ≥ 15 % Skin Irrit. 2; H315: 5 % ≤ C < 15 % Eye Dam. 1; H318: C ≥ 15 % Eye Irrit. 2; H319: 5 % ≤ C < 15 %	-	-	
Mercury(II) sulphate	CAS No 7783-35-9  EC No 231-992-5	STOT RE 2; H373: C ≥ 0,1 %	M-factor (acute) = 100	5 mg/kg 5 mg/kg 0,05 mg/l/4h	oral dermal inhalation: dust/ mist
Potassium di- chromate	CAS No 7778-50-9  EC No 231-906-6	STOT SE 3; H335: C ≥ 5 %	-	67 mg/kg <2.000 mg/kg 0,083 mg/l/4h	oral dermal inhalation: dust/ mist

### Substance of Very High Concern (SVHC)

Name of substance	Name acc. to inventory	CAS No	EC No	Listed in	Remarks
Potassium dichromate	potassium dichromate	7778-50-9	231-906-6	Annex XIV	Carc. 1B Muta. 1B Repr. 1B

### Legend

- annex XIV List of substances subject to authorisation
- Carc. 1B Carcinogenic (category 1B)
- Muta. 1B Mutagenic (category 1B)
- Repr. 1B Toxic for reproduction (category 1B)

For full text of abbreviations: see SECTION 16

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

#### Following inhalation

Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

#### Following skin contact

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

#### Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes hold-  
ing eyelids apart and consult an ophthalmologist. Protect uninjured eye.

#### Following ingestion

Rinse mouth immediately and drink plenty of water. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects). In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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

Corrosion, Risk of blindness, Gastric perforation, Risk of serious damage to eyes, Allergic reactions

### 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 spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Non-combustible.

#### Hazardous combustion products

In case of fire may be liberated: Sulphur oxides (SO<sub>x</sub>), Mercury and mercury compounds

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### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### 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

Use extractor hood (laboratory). Handle and open container with care. Avoid exposure. Clear contaminated areas thoroughly.

#### Measures to protect the environment

Avoid release to the environment.

#### Advice on general occupational hygiene

When using do not eat or drink. Thorough skin-cleansing after handling the product.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice:

Store locked up.

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### Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

### 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)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
EU	sulfuric acid	7664-93-9	IOELV		0,05					t, mist	2009/161/EU
EU	chromium(VI) compounds	7778-50-9	IOELV		0,005					Cr, CrVI-limit	2017/2398/EU
GB	sulfuric acid	7664-93-9	WEL		0,05					t, mist	EH40/2005
GB	chromium(VI) compounds	7778-50-9	WEL		0,01					Cr	EH40/2005
GB	chromium(VI) compounds	7778-50-9	WEL		0,025					Cr, CrVI-pg	EH40/2005

#### Notation

Ceiling-C	Ceiling value is a limit value above which exposure should not occur
Cr	Calculated as Cr (chromium)
CrVI-limit	Limit value 0,010 mg/m <sup>3</sup> until 17 January 2025 Limit value: 0,025 mg/m <sup>3</sup> for welding or plasma cutting processes or similar work processes that generate fume until 17 January 2025
CrVI-pg	Chromium (VI) compounds generated as a result of a work process, such as fumes from welding (process generated)
mist	As mists
STEL	Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
t	Thoracic fraction
TWA	Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

#### Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Sulphuric acid	7664-93-9	DNEL	0,05 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
Sulphuric acid	7664-93-9	DNEL	0,1 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Sulphuric acid	7664-93-9	PNEC	0,003 mg/l	aquatic organisms	freshwater	short-term (single instance)
Sulphuric acid	7664-93-9	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
Sulphuric acid	7664-93-9	PNEC	8,8 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Sulphuric acid	7664-93-9	PNEC	0,002 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Sulphuric acid	7664-93-9	PNEC	0,002 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Potassium dichromate	7778-50-9	PNEC	0 mg/l	aquatic organisms	freshwater	short-term (single instance)
Potassium dichromate	7778-50-9	PNEC	0,21 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Potassium dichromate	7778-50-9	PNEC	0,15 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Potassium dichromate	7778-50-9	PNEC	0,15 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Potassium dichromate	7778-50-9	PNEC	0,035 mg/kg	terrestrial organisms	soil	short-term (single instance)

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection. Wear face protection.

#### Skin protection



#### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. 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 considerable 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.



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- **type of material**

FKM: fluoro-elastomer

- **material thickness**

0,7mm

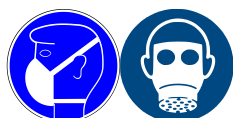
- **breakthrough times of the glove material**

>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: Aerosol or mist formation. Type: Hg (against mercury vapour, colour code: Red).

### 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	liquid
Colour	orange
Odour	odourless
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	not determined
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not determined
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	not determined (acidic)
Kinematic viscosity	not determined
<u>Solubility(ies)</u>	
Water solubility	miscible in any proportion
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	not relevant (inorganic)

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Vapour pressure	not determined
<u>Density and/or relative density</u>	
Density	1,19 g/cm <sup>3</sup> at 20 °C
Relative vapour density	information on this property is not available
Particle characteristics	not relevant (liquid)
<u>Other safety parameters</u>	
Oxidising properties	none
<b>9.2 Other information</b>	
Information with regard to physical hazard classes:	
Corrosive to metals	category 1: corrosive to metals
Other safety characteristics:	
Miscibility	completely miscible with water

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Substance or mixture corrosive to metals.

### 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:** Alkali (lye), Alkali metals, Ammonia (NH<sub>3</sub>), Alkaline earth metal, Metal powder

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

different metals

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

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### 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

Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled.

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
Mercury(II) sulphate	7783-35-9	oral	5 mg/kg
Mercury(II) sulphate	7783-35-9	dermal	5 mg/kg
Mercury(II) sulphate	7783-35-9	inhalation: dust/mist	0,05 mg/l/4h
Potassium dichromate	7778-50-9	oral	67 mg/kg
Potassium dichromate	7778-50-9	dermal	<2.000 mg/kg
Potassium dichromate	7778-50-9	inhalation: dust/mist	0,083 mg/l/4h

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Sulphuric acid	7664-93-9	oral	LD50	2.140 mg/kg	rat
Mercury(II) sulphate	7783-35-9	oral	LD50	57 mg/kg	rat
Mercury(II) sulphate	7783-35-9	dermal	LD50	625 mg/kg	rat
Potassium dichromate	7778-50-9	oral	LD50	67 mg/kg	rat
Potassium dichromate	7778-50-9	inhalation: dust/mist	LC50	83 mg/m <sup>3</sup> /4h	rat
Potassium dichromate	7778-50-9	dermal	LD50	<2.000 mg/kg	rabbit

##### Skin corrosion/irritation

Causes severe skin burns and eye damage.

##### Serious eye damage/eye irritation

Causes serious eye damage.

##### Respiratory or skin sensitisation

Contains Potassium dichromate. May produce an allergic reaction.

##### Germ cell mutagenicity

May cause genetic defects.

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### Carcinogenicity

May cause cancer.

### Reproductive toxicity

May damage the unborn child. May damage fertility.

### Specific target organ toxicity - single exposure

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

### Specific target organ toxicity - repeated exposure

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

Hazard category	Target organ	Exposure route
2	kidney	if exposed

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

### Symptoms related to the physical, chemical and toxicological characteristics

#### • If swallowed

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects)

#### • If in eyes

causes burns, Causes serious eye damage, risk of blindness

#### • If inhaled

irritant effects

#### • If on skin

causes severe burns, causes poorly healing wounds, May produce an allergic reaction, pruritis, localised redness

#### • Other information

Other adverse effects: Cardiovascular system, Renal impairment, Circulatory collapse, Cardiac arrhythmias, Blood pressure drop, Nausea, Impairment of vision

### 11.2 Endocrine disrupting properties

None of the ingredients are listed.

### 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxic to aquatic life with long lasting effects.

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### Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Sulphuric acid	7664-93-9	EC50	>100 mg/l	aquatic invertebrates	48 h
Sulphuric acid	7664-93-9	ErC50	>100 mg/l	algae	72 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.

### Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Mercury(II) sulphate	7783-35-9		-0,07 (25 °C)	

#### 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.

## 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. Avoid release to the environment. Refer to special instructions/safety data sheets.

#### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Waste catalogue ordinance (Germany).

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### 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 or ID number

ADRRID	UN 3289
IMDG-Code	UN 3289
ICAO-TI	UN 3289

### 14.2 UN proper shipping name

ADRRID	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.
IMDG-Code	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.
ICAO-TI	Toxic liquid, corrosive, inorganic, n.o.s.
Technical name (hazardous ingredients)	Mercury(II) sulphate, Sulphuric acid

### 14.3 Transport hazard class(es)

ADRRID	6.1 (8)
IMDG-Code	6.1 (8)
ICAO-TI	6.1 (8)

### 14.4 Packing group

ADRRID	I
IMDG-Code	I
ICAO-TI	I

### 14.5 Environmental hazards

	hazardous to the aquatic environment
Environmentally hazardous substance (aquatic environment):	Mercury(II) sulphate

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

#### Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Proper shipping name	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.
Particulars in the transport document	UN3289, TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S., (contains: Mercury(II) sulphate, Sulphuric acid), 6.1 (8), I, (C/E), environmentally hazardous
Classification code	TC3
Danger label(s)	6.1+8, "Fish and tree"

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Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 315, 802(ADN)
Excepted quantities (EQ)	E5
Limited quantities (LQ)	0
Transport category (TC)	1
Tunnel restriction code (TRC)	C/E
Hazard identification No	668
<b>Emergency Action Code</b>	2X

### Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information

<b>Classification code</b>	TC3
<b>Danger label(s)</b>	6.1+8 Fish and tree



<b>Environmental hazards</b>	Yes Hazardous to water
<b>Special provisions (SP)</b>	274, 315, 802(ADN)
<b>Excepted quantities (EQ)</b>	E5
<b>Limited quantities (LQ)</b>	0
<b>Transport category (TC)</b>	1
<b>Hazard identification No</b>	668

### International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.
Particulars in the shipper's declaration	UN3289, TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S., (contains: Mercury(II) sulphate, Sulphuric acid), 6.1 (8), I, MARINE POLLUTANT
Marine pollutant	yes (hazardous to the aquatic environment), (Mercury(II) sulphate)
<b>Danger label(s)</b>	6.1+8, "Fish and tree"



Special provisions (SP)	274, 315
Excepted quantities (EQ)	E5
Limited quantities (LQ)	0
EmS	F-A, S-B

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Stowage category	B
<b>International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information</b>	
Proper shipping name	Toxic liquid, corrosive, inorganic, n.o.s.
Particulars in the shipper's declaration	UN3289, Toxic liquid, corrosive, inorganic, n.o.s., (contains: Mercury(II) sulphate, Sulphuric acid), 6.1 (8), I
Environmental hazards	YES (hazardous to the aquatic environment)
Danger label(s)	6.1+8
Special provisions (SP)	A4, A137
Exempted quantities (EQ)	E5

## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

##### Seveso Directive

###### 2012/18/EU (Seveso III)

No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
H1	acute toxic (cat. 1)	5	20	40)

##### Notation

40) Category 1, all exposure routes

##### Deco-Paint Directive

VOC content	0 % 0 g/l
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##### Industrial Emissions Directive (IED)

VOC content	0 %
VOC content (Water content was discounted)	0 g/l

##### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

##### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed



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### Water Framework Directive (WFD)

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Sulphuric acid	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Potassium dichromate	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Potassium dichromate	Metals and their compounds		a)	
Mercury(II) sulphate	mercury compounds		b)	HAZ
Mercury(II) sulphate	mercury compounds	7439-97-6	c)	
Mercury(II) sulphate	Metals and their compounds		a)	

#### Legend

- A) Indicative list of the main pollutants
- B) List of priority substances in the field of water policy
- C) Environmental Quality Standards for Priority Substances and certain other pollutants
- HAZ Identified as priority hazardous substance

### Regulation on the marketing and use of explosives precursors

Explosives precursors which are subject to restrictions					
Name of substance	CAS No	Type of registration	Remarks	Limit value	Upper limit value for the purpose of licensing under Article 5(3)
Sulphuric acid	7664-93-9	Annex I		15 % w/w	40 % w/w

#### Legend

- annex I Substances which shall not be made available to members of the general public on their own, or in mixtures or substances including them, except if the concentration is equal to or lower than the limit values set out below

#### Additional statements

If the product is passed on to third parties, in accordance with Article 7 "Notification of the supply chain" of Regulation EU 2019/1148, the information obligation is subject to the entire supply chain and all other provisions mentioned in Article 7 on restricted and regulated raw materials.

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### Regulation on drug precursors

Name of substance	CAS No	Classification	CN Code	Threshold level
Sulphuric acid	7664-93-9	Category 3	2807 00 00	

### Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

chemicals subject to the international prior informed consent (PIC) procedure (the 'PIC procedure').

Name of substance	Name acc. to inventory	CAS No	Category / subcategory	Use limitation
Mercury(II) sulphate	mercury(II) sulfate	7783-35-9		

### Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

### National regulations(GB)

#### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

none of the ingredients are listed

#### Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)			
Name of substance	Name acc. to inventory	CAS No	No
Mercury(II) sulphate solution	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		3
Mercury(II) sulphate	Mercury compounds		18

### 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.

### UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances

Name of substance	CAS No	Listed in	HS code
Sulphuric acid	7664-93-9	Table II	2807.00

### National inventories

Country	Inventory	Status
AU	AIIC	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed

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Country	Inventory	Status
JP	CSCL-ENCS	all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

### Legend

AIIC	Australian Inventory of Industrial Chemicals
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 Reg.	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:

Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.1		Supplemental hazard information: change in the listing (table)	yes
2.1		The most important adverse physicochemical, human health and environmental effects: Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.	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

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Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
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
2.2	contains: Mercury(II) sulphate, Potassium dichromate, Sulphuric acid		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
2009/161/EU	Commission Directive establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC
2017/2398/EU	Directive of the European Parliament and of the Council amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CN Code	Combined Nomenclature
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level

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Abbr.	Descriptions of used abbreviations
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HS	Harmonized Commodity Description and Coding System (Harmonized System, drawn up by the World Customs Organisation)
IARC	International Agency for Research on Cancer
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
IOELV	Indicative occupational exposure limit value
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
log KOW	n-Octanol/water
Met. Corr.	Substance or mixture corrosive to metals
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
Muta.	Germ cell mutagenicity
NLP	No-Longer Polymer
NTP-RoC	National Toxicology Program: Report on Carcinogens
Ox. Sol.	Oxidising solid
PBT	Persistent, Bioaccumulative and Toxic

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Abbr.	Descriptions of used abbreviations
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
Resp. Sens.	Respiratory sensitisation
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). 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
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

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Code	Text
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H340	May cause genetic defects.
H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child.
H372	Causes damage to organs (kidney) through prolonged or repeated exposure.
H373	May cause damage to organs (kidney) 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.

### Disclaimer

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