

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 10.05.2012

Version 8.0

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

1.1 Product identifier

Catalogue No. 807997
Product name Sulfuryl chloride for synthesis
REACH Registration Number 01-2119463486-30-XXXX

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

Identified uses Intermediate for use under strictly controlled conditions, Chemical for synthesis
For additional information on uses please refer to the Merck Chemicals portal (www.merck-chemicals.com).

1.3 Details of the supplier of the safety data sheet

Company Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Responsible Department LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number Please contact the regional company representation in your country.

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Specific target organ toxicity - single exposure, Category 3, H335
Skin corrosion, Category 1B, H314

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

Classification (67/548/EEC or 1999/45/EC)

C	Corrosive	R14
Xi	Irritant	R34
		R37

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

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EUH014 Reacts violently with water.

Precautionary statements

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

P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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.

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

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P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

Index-No. 016-016-00-6

Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)  C Corrosive

R-phrases 14-34-37 Reacts violently with water. Causes burns. Irritating to respiratory system.

S-phrases 26-45 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

EC-No. 232-245-6 EC Label

Reduced labelling (≤125 ml)

Symbol(s)  C Corrosive

R-phrases 34 Causes burns.

S-phrases 26-45 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

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Formula	SO ₂ Cl ₂	Cl ₂ O ₂ S (Hill)
CAS-No.	7791-25-5	
Index-No.	016-016-00-6	
EC-No.	232-245-6	
Molar mass	134,96 g/mol	

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

Chemical Name (Concentration)

CAS-No.	EC-No. / Registration number	Index-No.	Classification
<i>sulphuryl dichloride (<= 100 %)</i>			
7791-25-5	232-245-6 / 01-2119463486-30- XXXX	016-016-00-6	Specific target organ toxicity - single exposure, Category 3, H335 Skin corrosion, Category 1B, H314

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

Hazardous components (1999/45/EC)

Chemical Name (Concentration)

CAS-No.	EC-No.	Index-No.	Classification
<i>sulphuryl dichloride (<= 100 %)</i>			
7791-25-5	232-245-6	016-016-00-6	R14 C, Corrosive; R34 Xi, Irritant; R37

For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air. Call in physician.

After skin contact: wash off with plenty of water. Immediately remove contaminated clothing. If available swab with polyethylene glycol 400. Call a physician immediately.

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

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

Irritation and corrosion, irritant effects, Cough, Shortness of breath

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Water, Foam

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5.2 Special hazards arising from the substance or mixture

Not combustible.

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

Fire may cause evolution of:

Sulphur oxides, Hydrogen chloride gas

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 substance contact. Do not breathe vapours, aerosols. 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 empty into 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 with liquid-absorbent and neutralising material (e.g. Chemizorb® H⁺, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Keep workplace dry. Do not allow product to come into contact with water.

Observe label precautions.

7.2 Conditions for safe storage, including any incompatibilities

Tightly closed.

Store at +15°C to +25°C.

7.3 Specific end uses

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

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The product is registered for use under strictly controlled conditions as defined in Article 18(4) of Regulation (EC) No. 1907/2006 (REACH) and must therefore be handled as such. Refer to the industry guidance prepared by Concawe, Cefic and EFCG for advice on the confirmation of strictly controlled conditions

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.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. Work under hood. Do not inhale substance. Keep workplace dry. Do not allow product to come into contact with water.

Eye/face protection

Tightly fitting safety goggles

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,40 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 60 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 730 Camatril® -Velours (full contact), KCL 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 vapours/aerosols are generated.

Recommended Filter type: Filter B (acc. to DIN 3181) for inorganic gases and vapours

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not empty into drains.

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SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	stinging
Odour Threshold	No information available.
pH	strongly acid
Melting point	-54 °C
Boiling point/boiling range	69 °C at 1.013 hPa
Flash point	not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	148 hPa at 20 °C
Relative vapour density	4,65
Relative density	1,67 g/cm ³ at 20 °C
Water solubility	at 20 °C (slow decomposition)
Partition coefficient: n-octanol/water	not applicable
Autoignition temperature	No information available.
Decomposition temperature	> 100 °C
Viscosity, dynamic	No information available.
Explosive properties	No information available.
Oxidizing properties	No information available.

9.2 Other data

none

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SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

sensitive to moisture

10.3 Possibility of hazardous reactions

can decompose violently in contact with:

Water, sulphuric acid, hydrochloric acid

Exothermic reaction with:

Organic Substances, phosphorus, Metals, Water

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

alkali hydroxides, Ether, dimethyl sulfoxide, sodium

10.4 Conditions to avoid

Heating.

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute inhalation toxicity

Symptoms: mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Possible damages:, damage of respiratory tract

Skin irritation

Causes burns.

Eye irritation

Causes serious eye damage.

Risk of blindness!

Genotoxicity in vitro

Ames test

Result: negative

(IUCLID)

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Based on available data the classification criteria are not met.

11.2 Further information

Quantitative data on the toxicity of this product are not available.

Other information

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Decomposition of the substance with tissue moisture.
Further data:
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

12.1 Toxicity

No information available.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water
not applicable

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Additional ecological information

We have no quantitative data concerning the ecological effects of this product.

Possible decomposition products in case of hydrolysis are:

hydrochloric acid sulphuric acid

Biological effects:

Harmful effect due to pH shift.

After hydrolysis acid effect on fish and plankton.

Forms corrosive mixtures with water even if diluted.

Further information on ecology

Discharge into the environment must be avoided.

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 1834
14.2 Proper shipping name	SULPHURYL CHLORIDE
14.3 Class	6.1 (8)
14.4 Packing group	I
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	C/D

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

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14.1 UN number UN 1834
14.2 Proper shipping name SULPHURYL CHLORIDE
14.3 Class 6.1 (8)
14.4 Packing group
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
Not permitted for transport

Sea transport (IMDG)

14.1 UN number UN 1834
14.2 Proper shipping name SULPHURYL CHLORIDE
14.3 Class 6.1 (8)
14.4 Packing group I
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
EmS F-A S-B

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 96/82/EC
Legislation Any classification
10a
Quantity 1: 100 t
Quantity 2: 500 t

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

National legislation

|| Storage class 6.1B

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.

H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Full text of R-phrases referred to under sections 2 and 3

R14 Reacts violently with water.
R34 Causes burns.
R37 Irritating to respiratory system.

Training advice

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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.