

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Reference number: 06282

Issue date: 12/26/2023 Revision date: 12/26/2023 Supersedes version of: 1/7/2019 Version: 1.0

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

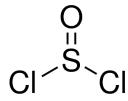
1.1. Product identifier

Product form Substance

Trade name THIONYL CHLORIDE FOR SYNTHESIS

EC-No. 231-748-8 CAS-No. 7719-09-7 Product code 06282 Formula SOCI2

Chemical structure



Synonyms : Sulphurous dichloride, Dichlorosulphoxide, Sulphur oxide dichloride

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial

For professional use only Use of the substance/mixture : Laboratory chemicals Manufacture of substances

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT.LTD. 107 Wode House Road, Jehangir Villa, Colaba 400005 Mumbai

INDIA

T+91 22 6663 6663, F+91 22 6663 6699 info@lobachemie.com, www.lobachemie.com

1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity (oral), Category 4 H302 Acute toxicity (inhal.), Category 4 H332 Skin corrosion/irritation, Category 1, Sub-Category 1A H314 Specific target organ toxicity - Single exposure, Category 3, H335

Respiratory tract irritation

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Harmful if inhaled. Harmful if swallowed. May cause respiratory irritation. Causes severe skin burns and eye damage.

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2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP) : Danger

Hazard statements (CLP) : H302+H332 - Harmful if swallowed or if inhaled.

H314 - Causes severe skin burns and eye damage.

H335 - May cause respiratory irritation.

Precautionary statements (CLP) : P280 - Wear protective clothing, eye protection, face protection, protective gloves.

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

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water .

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.

EUH-statements : EUH014 - Reacts violently with water.

EUH029 - Contact with water liberates toxic gas.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

| Name | Product identifier | % |
|------------------|---|-----|
| THIONYL CHLORIDE | CAS-No.: 7719-09-7 EC-No.: 231-748-8 | 100 |

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove person to fresh air

and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. Call a

poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately

call a POISON CENTER/doctor. Call a physician immediately.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Call a physician

immediately.

First-aid measures after ingestion : Rinse mouth. Call a POISON CENTER/doctor if you feel unwell. Do NOT induce vomiting.

Immediately call a POISON CENTER/doctor. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects : Causes severe skin burns and eye damage.
Symptoms/effects after inhalation : Harmful if inhaled. May cause respiratory irritation.

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Symptoms/effects after skin contact : Burns.

Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Harmful if swallowed. Burns.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry powder. Water spray. Foam. Carbon dioxide. Unsuitable extinguishing media : Do not use extinguishing media containing water.

5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.

Explosion hazard : No direct explosion hazard. Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper

protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters.

Absorb spillage to prevent material damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. Avoid contact with skin and eyes.

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

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Use personal protective

equipment as required. For further information refer to section 8: "Exposure

controls/personal protection".

Emergency procedures : Stop release. Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Do not allow water (or moist air) contact with this material.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to

prevent migration and entry into sewers or streams. Stop leak without risks if possible.

Methods for cleaning up : Take up liquid spill into absorbent material. Collect spillage. On land, sweep or shovel into

suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as

soon as possible.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed

Precautions for safe handling

: Not expected to present a significant hazard under anticipated conditions of normal use.

Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact during pregnancy/while nursing. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.

Wear personal protective equipment. Protect from moisture.

: Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling. Wash contaminated clothing before reuse. Always wash hands

after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures

Packaging materials

Hygiene measures

: Keep in a cool, well-ventilated place away from heat.

Storage conditions

: Store in dry protected location to prevent any moisture contact. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Protect from moisture. Store in a dry

place. Store in a closed container.

: Store always product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):







8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or face shield

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8.2.2.2. Skin protection

Skin and body protection:

Wear a mask

Hand protection:

Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask. [In case of inadequate ventilation] wear respiratory protection.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Colour : Colourless to Light yellow.

Appearance : Clear liquid.

Molecular mass : 118.97 g/mol

Odour : characteristic, pungent odor.

Odour threshold : Not available Melting point : Not applicable Freezing point -105 °C Boiling point : 76 - 79 °C Flammability Non flammable. Lower explosion limit Not available Upper explosion limit : Not available Flash point : Not available Auto-ignition temperature : Not available Decomposition temperature · 140 °C : Not available рΗ

pH : Not available
Viscosity, kinematic : 0.366 mm²/s
Viscosity, dynamic : 0.6 mPa·s at 25°C

Solubility : Water: Decomposed by water Ether: Miscible

Partition coefficient n-octanol/water (Log Kow) : Not available
Vapour pressure : 129 hPa at 20 °C
Vapour pressure at 50 °C : Not available
Density : 1.64 g/cm³
Relative density : Not available

Relative vapour density at 20°C : 4.1

Particle characteristics : Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

May be corrosive to metals. Reacts violently with water.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Highly reactive material. Reacts violently with water. Contact with water liberates toxic gas.

10.4. Conditions to avoid

Moisture. Water, humidity.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Thermal decomposition generates: Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Harmful if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Harmful if inhaled.

Skin corrosion/irritation : Causes severe skin burns.

Serious eye damage/irritation : Assumed to cause serious eye damage

Respiratory or skin sensitisation : Not classified Germ cell mutagenicity : Not classified

Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

THIONYL CHLORIDE FOR SYNTHESIS (7719-09-7)

Viscosity, kinematic 0.366 mm²/s

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Potential adverse human health effects and : Ha

symptoms

: Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Hazardous to the aquatic environment, short-term : Not classified

(acute)

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Hazardous to the aquatic environment, long-term : Not classified

(chronic)

12.2. Persistence and degradability

THIONYL CHLORIDE FOR SYNTHESIS (7719-09-7)

Persistence and degradability Rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance

with local, regional, national and/or international regulation. Disposal must be done

according to official regulations.

Additional information : Do not allow water (or moist air) contact with this material. Do not re-use empty containers.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

 UN-No. (ADR)
 : UN 1836

 UN-No. (IMDG)
 : UN 1836

 UN-No. (IATA)
 : UN 1836

 UN-No. (ADN)
 : UN 1836

 UN-No. (RID)
 : UN 1836

14.2. UN proper shipping name

Proper Shipping Name (ADR) : THIONYL CHLORIDE
Proper Shipping Name (IMDG) : THIONYL CHLORIDE
Proper Shipping Name (IATA) : Thionyl chloride
Proper Shipping Name (ADN) : THIONYL CHLORIDE
Proper Shipping Name (RID) : THIONYL CHLORIDE

Transport document description (ADR)

Transport document description (IMDG)

Transport document description (IMDG)

Transport document description (IATA)

Transport document description (ADN)

Transport document description (RID)

Transport document description (RID)

UN 1836 THIONYL CHLORIDE, 8, I

UN 1836 THIONYL CHLORIDE, 8, I

UN 1836 THIONYL CHLORIDE, 8, I

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14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 8
Danger labels (ADR) : 8



IMDG

Transport hazard class(es) (IMDG) : 8
Danger labels (IMDG) : 8



ΙΔΤΔ

Transport hazard class(es) (IATA) : 8

ADN

Transport hazard class(es) (ADN) : 8
Danger labels (ADN) : 8



RID

Transport hazard class(es) (RID) : 8
Danger labels (RID) : 8



14.4. Packing group

Packing group (ADR) : I
Packing group (IMDG) : I
Packing group (IATA) : I
Packing group (ADN) : I
Packing group (RID) : I

14.5. Environmental hazards

Dangerous for the environment : No Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : C1
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P802
Mixed packing provisions (ADR) : MP8, MP17
Portable tank and bulk container instructions (ADR) : T10
Portable tank and bulk container special provisions : TP2

(ADR)

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Tank code (ADR) : L10BH
Vehicle for tank carriage : AT
Transport category (ADR) : 1
Special provisions for carriage - Operation (ADR) : S20
Hazard identification number (Kemler No.) : X88

Orange plates :

X88 1836

Tunnel restriction code (ADR) : E
EAC code : 4WE
APP code : B

Transport by sea

Limited quantities (IMDG) : 0 : E0 Excepted quantities (IMDG) Packing instructions (IMDG) P802 Tank instructions (IMDG) T10 Tank special provisions (IMDG) TP2, TP13 EmS-No. (Fire) F-A EmS-No. (Spillage) : S-B Stowage category (IMDG) С Stowage and handling (IMDG) SW2

Segregation (IMDG) : SGG1, SG36, SG49

Properties and observations (IMDG) : Yellow or red liquid. Boiling point: 79°C . Reacts violently with water, evolving hydrogen

chloride and sulphur dioxide, irritating and corrosive gases. In the presence of moisture,

highly corrosive to most metals. Causes severe burns to skin, eyes and mucous

membranes.

MFAG-No : 137

Air transport

PCA Limited quantities (IATA) : Forbidden PCA limited quantity max net quantity (IATA) : Forbidden PCA packing instructions (IATA) : Forbidden PCA max net quantity (IATA) : Forbidden CAO packing instructions (IATA) : Forbidden CAO max net quantity (IATA) : Forbidden Special provisions (IATA) : A2 ERG code (IATA) : 8W

Inland waterway transport

Classification code (ADN) : C1
Limited quantities (ADN) : 0
Excepted quantities (ADN) : E0
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : C1
Limited quantities (RID) : 0
Excepted quantities (RID) : E0
Packing instructions (RID) : P802
Mixed packing provisions (RID) : MP8, MP17
Portable tank and bulk container instructions (RID) : T10
Portable tank and bulk container special provisions : TP2

(RID)

Tank codes for RID tanks (RID) : L10BH
Special provisions for RID tanks (RID) : TU38, TE22

Transport category (RID) : 1
Hazard identification number (RID) : X88

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14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

| EU restriction list (REACH Annex XVII) | |
|--|--------------------------------|
| Reference code | Applicable on |
| 3(b) | THIONYL CHLORIDE FOR SYNTHESIS |

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 1244).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed SZW-lijst van mutagene stoffen : The substance is not listed SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen –

The substance is not listed

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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SECTION 16: Other information

| Abbreviations and acre | Abbreviations and acronyms: | | |
|------------------------|---|--|--|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways | | |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road | | |
| ATE | Acute Toxicity Estimate | | |
| BCF | Bioconcentration factor | | |
| BLV | Biological limit value | | |
| BOD | Biochemical oxygen demand (BOD) | | |
| COD | Chemical oxygen demand (COD) | | |
| DMEL | Derived Minimal Effect level | | |
| DNEL | Derived-No Effect Level | | |
| EC-No. | European Community number | | |
| EC50 | Median effective concentration | | |
| EN | European Standard | | |
| IARC | International Agency for Research on Cancer | | |
| IATA | International Air Transport Association | | |
| IMDG | International Maritime Dangerous Goods | | |
| LC50 | Median lethal concentration | | |
| LD50 | Median lethal dose | | |
| LOAEL | Lowest Observed Adverse Effect Level | | |
| NOAEC | No-Observed Adverse Effect Concentration | | |
| NOAEL | No-Observed Adverse Effect Level | | |
| NOEC | No-Observed Effect Concentration | | |
| OECD | Organisation for Economic Co-operation and Development | | |
| OEL | Occupational Exposure Limit | | |
| PBT | Persistent Bioaccumulative Toxic | | |
| PNEC | Predicted No-Effect Concentration | | |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail | | |
| SDS | Safety Data Sheet | | |
| STP | Sewage treatment plant | | |
| ThOD | Theoretical oxygen demand (ThOD) | | |
| TLM | Median Tolerance Limit | | |
| VOC | Volatile Organic Compounds | | |
| CAS-No. | Chemical Abstract Service number | | |
| N.O.S. | Not Otherwise Specified | | |
| vPvB | Very Persistent and Very Bioaccumulative | | |
| ED | Endocrine disrupting properties | | |

| Full text of H- and EUH-statements: | |
|-------------------------------------|-------------------------------------|
| Acute Tox. 4 (Inhalation) | Acute toxicity (inhal.), Category 4 |

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| Full text of H- and EUH-statements: | |
|-------------------------------------|--|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| EUH014 | Reacts violently with water. |
| EUH029 | Contact with water liberates toxic gas. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| Skin Corr. 1A | Skin corrosion/irritation, Category 1, Sub-Category 1A |
| STOT SE 3 | Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.