



MATERIAL SAFETY DATA SHEET - SDS / MSDS

Thionyl chloride

CAS No: 7719-09-7

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

1.1 Product identifiers

Product Name : Thionyl chloride

CAS No. : 7719-09-7

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

Identified uses : Laboratory chemicals, Industrial & for professional use only

1.3 Details of the supplier of the safety data sheet

Company : Krishna Solvechem Ltd.
Corp. Off.: B/503, Shayog, S. V. Road,
Kandivali (West), Mumbai – 400067. India.

Telephone : +91-22-6123 0222

Email : atul.vora@kscl.co.in

1.4 Emergency telephone number

Emergency Phone : +91-22-6123 0222 (9.00am – 6.00pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity (Category 4)

Acute inhalation toxicity – vapors (Category 3)

Skin corrosion/irritation (Category 1 A)

Serious eye damage/eye irritation (Category 1)

Specific target organ toxicity Single Exposure (Category 3)

Target organs – Respiratory system.

2.2 Label elements



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Pictogram :



Signal word

Danger

Hazard statement (s)

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

Precautionary statement (s)

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Response Inhalation

Immediately call a POISON CENTER/doctor
IF INHALED : Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

IF ON SKIN(or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

Ingestion Storage

Rinse mouth
Do NOT induce vomiting.
Store locked up. Store in a well-ventilated place. Keep container tightly closed.

disposal

Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC)

Reacts violently with water. Contact with water liberates toxic gas.

SECTION 3: Composition/information on ingredients

3.1 Substances

Component : Thionyl chloride

CAS-No. : 7719-09-7

Concentration : >95%



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SECTION 4: First aid measures

4.1 Description of first aid measures

- If inhaled :** Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.
- In case of skin contact :** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
- In case of eye contact :** Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If swallowed :** Do NOT induce vomiting. Clean mouth with water. Call a physician immediately.

- 4.2 Most important symptoms and effects, both acute and delayed:** Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation:

- 4.3 Notes to physician :** Treat symptomatically

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media :** Carbon dioxide (CO₂). Dry chemical.
- Unsuitable extinguishing media:** Do not use water or foam

- 5.2 Special hazards arising from the substance or mixture :** Contact with water liberates toxic gas. Water reactive. Produce flammable gases on contact with water. Containers may explode when heated.

- 5.3 Advice for firefighters :** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Vapors are heavier than air and may spread along floors.

NFPA



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	Health: 3	Flammability: 1
	Instability: 0	Physical hazards: W
5.4 Hazardous combustion products :	Chlorine, sulfur oxides, hydrogen chloride gas	

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation. Avoid contact with skin, eyes and inhalation of vapors. Use personal protective equipment as required.
- 6.2 Environmental precautions**
See section 12 for additional Ecological Information.
- 6.3 Methods and materials for containment and cleaning up**
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Do not expose spill to water.

SECTION 7: Handling and storage

- 7.1 Handling**
Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Handle product only in closed system or provide appropriate exhaust ventilation.
- 7.2 Storage**
Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Thionyl chloride	Ceiling: 0.2 ppm	(Vacated) Ceiling: 1 ppm (Vacated) Ceiling: 5 mg/m ³	Ceiling: 1 ppm Ceiling: 5 mg/m ³	

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment -



Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid Color: light yellow
b) Odour	Strong, Pungent
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point / freezing point	-105 °C / -157 °F
f) Initial boiling point and boiling range	76 °C / 168.8 °F @ 760 mmHg
g) Flash point	No data available
h) Evaporation rate	No data available
i) flammability(solid gas)	Not applicable
j) Vapour pressure	124 mbar @ 20 °C
m) Specific gravity	1.640
n) vapor density	4.1
o) Water solubility	No data available
p) decomposition temperature	140 °C
q) viscosity	0.6 mPa.s at 20 °C
r) molecular formula	Cl ₂ OS
s) molecular weight	118.97



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SECTION 10: Stability and Reactivity

- 10.1 Reactivity :** Yes
- 10.2 Chemical stability :** May react with metals and lead to the formation of flammable hydrogen gas. Contact with water liberates toxic gas. Moisture sensitive.
- 10.3 Possibility of hazardous reactions :** None under normal processing.
- 10.4 Conditions to avoid :** Protect from water. Exposure to light. Incompatible products. Exposure to moist air or water.
- 10.5 Incompatible materials:** Acids, Bases, Water, Strong oxidizing agents, Alcohols, Amines
- 10.6 Hazardous decomposition products :** Chlorine, Sulfur oxides, Hydrogen chloride gas

SECTION 11: Toxicological information

11. Information on toxicological effects

1

Acute toxicity:

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Thionyl chloride	LD50 = 270 mg/kg (Rat)	Not listed	LC50 = 500 ppm (Rat) 1 h

irritation : No data available

sensitization : No data available

Germ cell mutagenicity: May cause heritable genetic damage

Carcinogenicity :

Component	CAS -No	IARC	NT P	ACGI H	OSHA	Mexico
Thionyl chloride	7719-09-7	Not listed	Not listed	Not listed	Not listed	Not listed

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure : Respiratory system

Specific target organ toxicity - repeated exposure : None known



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Aspiration hazard :	No data available
Symptoms/effects both acute and delayed:	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation:
Other adverse effects:	The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Ecotoxicity	Do not empty into drains.
12.2 Persistence and degradability	Persistence is unlikely based on information available.
12.3 Bioaccumulative potential :	No data available
12.4 Mobility in soil :	Will likely be mobile in the environment due to its volatility.

SECTION 13: Disposal considerations

13.1 Waste treatment methods	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
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SECTION 14: Transport information

14.1 IMDG/IMO :	UN No: UN1836 Proper shipping name: THIONYL CHLORIDE Hazard class: 8 Packing group: I
14.2 TDG :	UN No: UN1836 Hazard class: 8 Packing group: II
14.3 IATA	UN No: UN1836



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14.4 DOT:	Proper shipping name: THIONYL CHLORIDE, FORBIDDEN FOR IATA TRANSPORT
	Hazard class: 8
	UN No: UN1836
	Hazard class: 8
	Packing group: I

SECTION 15: Regulatory information

15.1 United States of America Inventory:

Component	CAS-No	TSCA	TSCA Inventory notification -Active/Inactive	TSCA - EPA Regulatory Flags
Thionyl chloride	7719-09-7	X	ACTIVE	-

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
Thionyl chloride	7719-09-7	X	-	231-748-8	X	X	X	X	KE-33794

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA

OSHA - United States Occupational Safety and Health Administration

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Thionyl chloride	-	TQ: 250 lb



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CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Thionyl chloride	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ): N
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product contains the following DHS chemicals:

Legend - STQs = Screening Threshold Quantities, APA = A placarded amount

Component	DHS Chemical Facility Anti-Terrorism Standard
Thionyl chloride	APA

Other International Regulations

Mexico - Grade No information available

SECTION 16: Other information

16.1 Further information:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Krishna Solvechem Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.kscl.co.in for additional terms and conditions of sale.