



Lee & Man Chemical

Safety data sheet for chemical product

Thionyl chloride



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Thionyl chloride

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

Product name:

Thionyl chloride

Company name:

Jiangxi Lee & Man Chemical Company Limited

Address:

Dock Industrial City, Jiujiang City, Jiangxi Province

Post code:

332207

Business phone:

0792-8996998

Enterprise emergency number:

0532-83889090

Fax number:

0792-8996988

Email address:

haifeng_sun@leemanchemical.com

Recommended use:

Mainly used in organic synthesis, pesticide and pharmaceutical industry.

Restricted use:

No relevant information was found.

SECTION 2: Hazards identification

Emergency Overview:

Harmful if swallowed, if inhaled, causing severe skin burns and eye damage.

GHS Hazard Category:

Acute Toxicity – Oral, Category 4;

Acute toxicity – inhalation, category 4;

Skin corrosion/irritation, Category 1A;

Serious eye damage/eye irritation, Category 1;

Specific Target Organ Toxicity – Single Exposure, Category 3 (respiratory tract irritation).

Label elements:

Pictograms:



Warning word: Danger

Hazard Statements:

Harmful if swallowed, harmful if inhaled, causes severe skin burns and eye damage, may cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary Statements:

- Precaution

- Avoid contact with skin and eyes, and thoroughly wash body contact parts after operation.

Contaminated work clothes should also be washed thoroughly.

- No smoking, eating or drinking in the workplace.

- Wear protective gloves, protective clothing, protective glasses, and protective face shields.

- Avoid breathing vapor and mist.

- Operate only outdoors or in a well-ventilated place.

- Incident response

- IF INHALED: Remove victim to fresh air and rest in a position comfortable for breathing. If you feel unwell, seek medical attention immediately.

- Skin contact: Immediately remove all contaminated clothing, rinse skin with water, shower.

Contaminated clothing must be washed before reuse.

- Eye Contact: Rinse carefully with water for several minutes, if contact lenses are present and easily removed, remove contact lenses and continue rinse. If eye irritation continues, seek medical attention.

- Ingestion: Rinse mouth, do not induce vomiting. If you feel unwell, seek medical attention immediately.

- Safe storage

- Locked for safekeeping.

- Disposal

-- Dispose of this product, its contents and containers in accordance with national and local regulations (regulations).

Physical and chemical hazards:

This product is non-flammable and has no special explosive properties. Produces irritating gas in contact with water.

Health Hazards:

Harmful if inhaled, orally or absorbed through the skin. It has a strong irritating effect on the eyes, mucous membranes, skin and upper respiratory tract, and can cause burns. After inhalation, death may occur due to laryngospasm, bronchospasm, inflammation and edema.

Poisoning may include burning sensation, cough, dizziness, laryngitis, shortness of breath, headache, nausea and vomiting.

Environmental Hazards:

May be harmful to the environment.

SECTION 3: Composition/information on ingredients

Substance: ✓

Mixture: ✕

Main ingredient: Thionyl chloride

Molecular weight: 118.9

CAS-No.: 7719-09-7

Formula: SOCl₂

SECTION 4: First aid measures

Inhalation:

Quickly leave the scene to fresh air. Keep the airway open. If breathing is difficult, give oxygen. If breathing or heartbeat stops, perform CPR immediately. Seek medical attention.

Skin Contact:

Immediately remove contaminated clothing and rinse with plenty of running water for at least 15 minutes. Seek medical attention.

Eye Contact:

Immediately lift the eyelids and rinse thoroughly with plenty of running water or saline for at least 5 to 10 minutes. Seek medical attention.

Ingestion:

Rinse mouth with water, do not induce vomiting. Give milk or egg whites. Seek medical attention.

Health Hazards:

See Health Hazards in Hazards Summary.

SECTION 5: Firefighting measures

Fire-fighting precautions and protective measures:

Firefighters must wear air respirators, full-body fire-proof and gas-proof clothing, and put out the fire in the upwind direction. Move the container from the fire area to an open area as much as possible. If the container suddenly makes an abnormal noise or has abnormal phenomena, it should be evacuated immediately.

Extinguishing media:

Carbon dioxide, sand. Water is prohibited.

Hazardous characteristics:

In contact with water or moisture, it will decompose and release irritating toxic fumes such as sulfur dioxide and hydrogen chloride. Thermal decomposition can also produce toxic substances. Corrosive to many metals, especially in the presence of moist air.

SECTION 6: Accidental release measures

Protective measures, protective equipment and emergency procedures for operators:

Delineate a warning area according to the impact area of liquid flow and vapor diffusion, and evacuate unrelated personnel to a safe area from the crosswind and upwind directions. It is recommended that emergency responders wear positive pressure self-contained breathing apparatus, acid-alkali-proof work clothes, and rubber acid-alkali-proof gloves. Do not touch ruptured containers and spills without wearing appropriate protective clothing. Cut off sources of leaks as much as possible. Do not allow spillage to come into contact with combustible substances (such as wood, paper, oil, etc.).

Environmental protection measures:

Prevent leakage from entering restricted spaces such as water bodies, sewers, and flood drains.

Containment and removal of spilled chemicals:

For small spills, absorb or cover spills with dry sand or other non-combustible materials, collect spills with clean non-sparking tools, and place them in a plastic container with a loose lid for disposal. For large spills, build dikes or dig pits to contain them, and neutralize them with crushed limestone (CaCO_3), soda ash (Na_2CO_3) or lime (CaO). Transfer to a tanker or special collector with a corrosion-resistant pump.

Preventive measures to prevent secondary hazards:

Transfer to a tanker or a special collector with an explosion-proof pump, and recycle or transport it to a waste disposal site for disposal.

SECTION 7: Handling and storage

Handling:

Closed operation, local exhaust. Operators must undergo special training and strictly abide by operating procedures. It is recommended that operators wear self-priming filter respirators (full face masks), rubber acid and alkali resistant clothing, and rubber acid and alkali resistant gloves. Prevent vapors from leaking into the workplace air. Avoid contact with alkalis. Take particular care to avoid contact with water. When handling, it should be lightly loaded and unloaded to prevent damage to packaging and containers. Equipped with leakage emergency treatment equipment. Empty containers may be harmful residues.

Storage:

Store in a cool, ventilated warehouse. The storage temperature should not exceed 30°C, and the relative humidity should not exceed 75%. Keep container tightly closed. It should be stored separately from alkalis, etc., and should not be mixed. Storage areas should be equipped with emergency release equipment and suitable containment materials.

SECTION 8: Exposure controls/personal protection

Occupational Hygiene Exposure Limits:

China (MAC)	no standard
U.S (ACGIH)	TLV-C 0.2 ppm

Biological Exposure Limits:

No standard established.

Monitoring method:

Determination method of toxic substances in the air: Mercury thiocyanate spectrophotometry.

Biomonitoring test methods: No standard established.

Engineering control:

Closed operation, local exhaust. Safety showers and eyewash facilities are provided.

Respiratory protection:

When the concentration in the air exceeds the standard, you must wear a filter gas mask (full face mask) or an air respirator. Wear air breathing apparatus during emergency rescue or evacuation.

Hand Protection:

Wear rubber acid and alkali resistant gloves.

Eye Protection:

Respiratory protection has been covered.

Skin and body protection:

Wear rubber acid and alkali resistant clothing.

Other protection:

Smoking, eating and drinking are prohibited at the work site. After work, take a shower and change clothes. Store poison-contaminated clothes separately and wash them for later use.

Maintain good personal habits.

SECTION 9: Physical and chemical properties

Appearance and properties: light yellow to red, fuming liquid

Odor: strong pungent odor

pH value: meaningless

Melting point (°C): -105

Boiling point (°C): 76~79

Flash point (°C): meaningless

Upper explosion limit [% (V/V)]: meaningless

Lower explosion limit [% (V/V)]: meaningless

Saturated vapor pressure (kPa): 13.3 (21.4°C)

Relative vapor density (air=1): 4.1

Relative Density (Water=1): 1.64

Octanol/Water Partition Coefficient: 0.92

Auto-ignition temperature (° C): meaningless

Critical pressure (mPa): 4.43

Critical temperature (°C): No information

Solubility: miscible in benzene, chloroform, carbon tetrachloride

SECTION 10: Stability and reactivity

Stability:

Stable

Hazardous reactions:

Decomposition in contact with water

Conditions to avoid:

Heat, moist air Incompatible materials: moist air, water, alkalis

Hazardous (decomposition) products:

No information available

SECTION 11: Toxicological information

Acute toxicity:

LC50: 2435mg/m³ (rat inhalation)

Skin irritation or corrosion:

No information available.

Eye irritation or corrosion:

No information available.

Respiratory or skin sensitization:

No information available.

Germ cell mutagenicity:

Not available.

Carcinogenicity:

No information available.

Reproductive toxicity:

No information available.

Specific Target Organ Toxicity - Single Exposure:

No information available.

Specific target organ toxicity - repeated exposure:

No information available.

Aspiration Hazard:

No information available.

SECTION 12: Ecological information

Ecotoxicity:

Not available.

Persistence and Degradability:

No information available.

Bioaccumulative potential:

The bioaccumulation potential of this substance may be low as predicted by the Kow value.

Mobility in soil:

This substance may be susceptible to migration, as predicted by the Koc value.

SECTION 13: Disposal considerations

Waste Chemicals:

After neutralization, dilution, discharge into wastewater system.

Contaminated Packaging:

Return container to manufacturer or dispose of in accordance with national and local regulations.

Disposal Precautions:

Please refer to relevant national and local regulations before disposal.

SECTION 14: Transport information

United Nations Dangerous Goods Number (UN Number): 1836

UN shipping name: Thionyl chloride

United Nations hazard class: Class 8

Packing class: Class I packaging

Packaging logo:



Marine Pollutants: No

Packaging method:

glass bottles or plastic barrels (cans) with full opening in steel drums; glass bottles or plastic barrels (cans) in ordinary wooden boxes or semi-lattice wooden boxes; frosted-mouth glass bottles or threaded glass bottles in ordinary wooden boxes; A normal wooden box outside the ampoule.

Transportation Precautions:

The packaging should be complete and the loading should be secure at the time of departure. During transportation, make sure that the container does not leak, collapse, fall or be damaged. It is strictly forbidden to mix and transport with alkalis, edible chemicals, etc. The transport vehicle shall be equipped with leakage emergency treatment equipment during transportation. During transportation, it should be protected from exposure to sunlight, rain, and high temperature. When transporting by road, it is necessary to drive according to the prescribed route, and do not stop in residential areas and densely populated areas.

SECTION 15: Regulatory information

The following laws, regulations, rules and standards make corresponding provisions for the management of this chemical.

Production Safety Law of the People's Republic of China;

The Environmental Protection Law of the People's Republic of China;

Occupational exposure limits for hazardous agents in the workplace;

Law of the People's Republic of China on the Prevention and Control of Occupational Diseases

Classification and Catalogue of Occupational Diseases: Not listed;

Regulations on the Safety Management of Hazardous Chemicals Catalogue of hazardous chemicals:

Listed. Inventory of explosive hazardous chemicals: not listed. List of hazardous chemicals

under key supervision: not listed. GB18218-2018 "Identification of Major Hazardous Sources of Hazardous Chemicals" (Table 1): not listed;

Labor Protection Regulations for Workplaces Using Toxic Substances List of Highly Toxic

Substances: Not listed;

Regulations on the Administration of Precursor Chemicals Classification and Variety List of

Precursor Chemicals: Not listed.

SECTION 16: Other information

References:

- (1) The latest practical manual for chemical dangerous goods;
- (2) Complete book on safety technology of hazardous chemicals;

Disclaimer:

The information in this SDS applies only to the specified product, unless otherwise specified, all substances in this product have unknown hazards and should be used with care. While certain hazards are described in this SDS, we do not guarantee that these are the only hazards. This SDS provides information on the safety of product use only for those users of this product who have received appropriate professional training. The relevant data is only used as a guide for safe handling, use, processing, storage, disposal and leakage, etc., and cannot be used as an indicator of guarantee and quality.