

## Material Safety Data Sheet

### Acetyl chloride

#### Section 1: Chemical Product and Company Identification

**Product name:** Acetyl chloride

**Molecular formula:** C<sub>2</sub>H<sub>3</sub>ClO

**CAS No.:** 75-36-5

**Molecular weight:** 78.5

**Synonyms:** Ethanoyl chloride

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#### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS #	% by Weight
Acetyl chloride	75-36-5	100

**Toxicological Data on Ingredients:** Acetyl chloride: ORAL (LD50): Acute: 910 mg/kg [Rat].

#### Section 3: Hazards Identification

**Potential Acute Health Effects:**

Very hazardous in case of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (irritant, permeator). Corrosive to skin and eyes on contact. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching.

**Potential Chronic Health Effects:**

Very hazardous in case of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (irritant, permeator). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

**Section 4: First Aid Measures****Eye Contact:**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

**Skin Contact:**

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**Serious Skin Contact:**

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

**Inhalation:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Serious Inhalation:**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**Ingestion:**

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion:** Not available.

**Section 5: Fire and Explosion Data**

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** 732.7 (1350.9° F)

**Flash Points: CLOSED CUP:** 4.4° C (39.9° F).

**Flammable Limits: LOWER:** 7.3%

**Products of Combustion:** These products are carbon oxides (CO, CO<sub>2</sub>).

**Fire Hazards in Presence of Various Substances:** Highly flammable in presence of moisture.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:**

Moisture reactive material. Flammable liquid. SMALL FIRE: Obtain advice on use of water. Use DRY chemical powder.

LARGE FIRE: Use alcohol foam, water spray or fog. Do not use water jet.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

## Section 6: Accidental Release Measures

**Small Spill:** Absorb with an inert material and put the spilled material in an appropriate waste disposal.

**Large Spill:**

Flammable liquid. Corrosive liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material.

Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

## Section 7: Handling and Storage

**Precautions:**

Keep container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material.

Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, alkalis, moisture.

**Storage:**

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection:**

Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

**Section 9: Physical and Chemical Properties**

**Physical state and appearance:** Liquid. (Fuming liquid.)

**Odor:** Strong.

**Taste:** Not available.

**Molecular Weight:** 78.5 g/mole

**Color:** Colorless.

**pH (1% soln/water):** Not available.

**Boiling Point:** 52° C (125.6° F)

**Melting Point:** -112° C (-169.6° F)

**Critical Temperature:** Not available.

**Specific Gravity:** 1.11 (Water = 1)

**Vapor Pressure:** 32 kPa (@ 20° C)

**Vapor Density:** 2.7 (Air = 1)

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water, diethyl ether.

**Solubility:** Soluble in diethyl ether.

**Section 10: Stability and Reactivity Data**

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Not available.

**Incompatibility with various substances:** Reactive with oxidizing agents, alkalis, moisture.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Remarks on Reactivity:** Reacts violently with alcohol.

**Special Remarks on Corrosivity:** Corrosive.

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Dermal contact. Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 910 mg/kg [Rat].

**Chronic Effects on Humans: Causes damage to the following organs:** lungs, mucous membranes.

**Other Toxic Effects on Humans:**

Very hazardous in case of ingestion, of inhalation. Hazardous in case of skin contact (irritant, permeator).

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** Not available.

**Special Remarks on other Toxic Effects on Humans:** Material is irritating to mucous membranes and upper respiratory tract.

## Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are more toxic.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**

## Section 14: Transport Information

**DOT Classification:** CLASS 3: Flammable liquid.

**Identification:** Acetyl Chloride UNNA: UN1717 PG: II

**Special Provisions for Transport:** Not available.

## Section 15: Other Regulatory Information

**Federal and State Regulations:**

Pennsylvania RTK: Acetyl chloride Massachusetts RTK: Acetyl chloride TSCA 8(b) inventory:  
Acetyl chloride CERCLA:

Hazardous substances.: Acetyl chloride

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications:****WHMIS (Canada):**

CLASS B-2: Flammable liquid with a flash point lower than 37.8° C (100° F). CLASS D-2A: Material causing other toxic effects(VERY TOXIC). CLASS E: Corrosive liquid.

**DSCL (EEC):**

R11- Highly flammable. R22- Harmful if swallowed. R38- Irritating to skin. R41- Risk of serious damage to eyes.

**HMIS (U.S.A.):**

**Health Hazard: 3**

**Fire Hazard: 3**

**Reactivity: 2**

**Personal Protection:****National Fire Protection Association (U.S.A.):**

**Health: 3**

**Flammability: 3**

**Reactivity: 2**

**Specific hazard:****Protective Equipment:**

Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

**Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

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