



<b>MATERIALS SAFETY DATA SHEET (MSDS) Chloroacetyl chloride (C<sub>2</sub>H<sub>2</sub>Cl<sub>2</sub>O)</b>	<b>MSDS Number:</b>	
	<b>Version number:</b>	
	<b>Date issued:</b>	
	<b>Page No:</b>	

## 1. Product Identification

<b>Product Name</b>	Chloroacetyl chloride
<b>Synonyms</b>	Chloroacetic acid chloride.; Chloracetyl chloride
<b>CAS No</b>	79-04-9
<b>Recommended Use</b>	Laboratory chemicals.
<b>Uses advised against</b>	Food, drug, pesticide or biocidal product use.

## Manufacturer/Importer/Supplier/Distributor information

Manufacturer Supplier	
E-Mail	Entity 1   Made by India
Contact Person	
Emergency Telephone	

## 2. Hazard(s) identification

### Classification

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Vapors)	Category 3



Skin Corrosion/Irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

## Label Elements

### Signal Word



### Danger

### Hazard Statements

- Toxic if swallowed
- Toxic in contact with skin
- Toxic if inhaled
- Causes severe skin burns and eye damage
- Causes damage to organs through prolonged or repeated exposure
- Very toxic to aquatic life

### Precautionary Statements

<b>Prevention</b>	Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection
<b>Response</b>	Specific treatment. Immediately call a POISON CENTER or doctor/physician. <b>IF IN EYES:</b> Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician <b>IF ON SKIN (or hair):</b> Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse <b>IF INHALED:</b> Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician <b>IF SWALLOWED:</b> Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting
<b>Storage</b>	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
<b>Disposal</b>	Dispose of contents/container to an approved waste disposal plant.



<b>Hazards not otherwise classified (HNOC)</b>	None known
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### 3. Composition and ingredient information

Chemical name	CAS number	%
Chloroacetyl chloride	79-04-9	

### 4. First-aid measures

<b>General Advice</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required. If not breathing, give artificial respiration.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control centre immediately.
<b>Most important symptoms and effects</b>	Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

### 5. Fire-fighting measures

<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Do not use extinguishing media containing water.



<b>Special hazards arising from the substance or mixture</b>	No additional information available
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## Advice for firefighters

<b>Protection during firefighting</b>	Do not enter fire area without proper protective equipment, including respiratory protection.
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## 6. Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

<b>Personal Precautions</b>	Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment as required. Avoid contact with eyes, skin and clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Keep people away from and upwind of spill/leak.
<b>Environmental Precautions</b>	Local authorities should be advised if significant spillages cannot be contained. Prevent further leakage or spillage if safe to do so. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Should not be released into the environment.

### Methods and material for containment and cleaning up

<b>Methods for Clean-up</b>	Evacuate personnel to safe areas. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Clean contaminated surface thoroughly. Do not get water inside containers.
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## 7. Handling and storage

### Precautions for safe handling

<b>Handling</b>	Use only in an area equipped with a safety shower. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation. Use only in well-ventilated areas. Do not breathe vapours or spray mist. Avoid contact with eyes, skin and clothing. Avoid repeated exposure.
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## Conditions for safe storage, including any incompatibilities

<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labelled containers. Store under inert (nitrogen) gas. Protect from moisture. Reacts violently with water. Protect from water. Contact with water liberates toxic gas.
<b>Incompatible Materials</b>	Strong bases. Alcohols. Cadmium

## 8. Exposure Control / Personal Protection

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
Chloroacetyl chloride	TWA: 0.05 ppm STEL: 0.15 ppm Skin	(Vacated) TWA: 0.05 ppm (Vacated) TWA: 0.2 mg/m <sup>3</sup>	IDLH: 1.3 ppm TWA: 0.05 ppm TWA: 0.2 mg/m <sup>3</sup>

### Legend

**ACGIH** - American Conference of Governmental Industrial Hygienists

**OSHA** - Occupational Safety and Health Administration

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

<b>Engineering Measures</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.
<b>Personal Protective Equipment</b>	
<b>Eye/face Protection</b>	Tight sealing safety goggles. Face protection shield.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	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.
<b>Recommended Filter type:</b>	Particulates filter conforming to EN 143. Acid gases filter. Type E. Yellow. conforming to EN14387.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Appearance</b>	Colorless to Light yellow
<b>Physical State</b>	Liquid
<b>Odor</b>	Sharp Pungent
<b>Odor Threshold</b>	No information available
<b>pH</b>	2
<b>Melting point / Freezing point (Literary Reference)</b>	-22 °C
<b>Boiling point / boiling range</b>	105 to 106 °C
<b>Flash Point (CC - Closed Cup)</b>	>100 °C / >212 °F
<b>Flammability (solid, gas) and Flammability Limit in Air</b>	
<b>Upper flammability limit</b>	16.3%
<b>Lower flammability limit</b>	Not available
<b>Vapor Pressure</b>	19 mmHg @ 20°C
<b>Vapor Density</b>	3.9 G/L
<b>Specific Gravity</b>	1.420 g/cm <sup>3</sup> @ 20°C
<b>Water Solubility</b>	Insoluble / Decomposes in contact with water
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Autoignition temperature °C</b>	>500 °C
<b>Decomposition temperature</b>	No data available
<b>Kinematic Viscosity</b>	No information available



<b>Dynamic Viscosity</b>	Not available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

## 10. Stability and reactivity

<b>Reactivity</b>	Not applicable.
<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Conditions to Avoid</b>	Heat, flames and sparks. Protect from moisture. Reacts violently with water. Avoid contact with water. Contact with water liberates hazardous gas.
<b>Incompatible Materials</b>	Strong bases. Alcohols. Cadmium
<b>Hazardous Decomposition Products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ). Hydrogen chloride gas. Phosgene.
<b>Possibility of Hazardous Reactions</b>	None under normal processing

## 11. Toxicological information

### Acute Toxicity

### Product Information

**Oral LD50**

ATE = 50 - 300 mg/kg

### Component Information

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Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Chloroacetyl chloride	LD50 = 200 mg/kg ( Rat )	LD50 = 662 mg/kg ( Rat ) LD50 = 316 - 501 mg/kg ( Rabbit )	LC50 = 3.05 mg/L ( Rat ) 1 h LC50 = 660 ppm ( Rat ) 1 h LC50 = 4.69 mg/L ( Rat ) 4 h

<b>Toxicologically Synergistic Products</b>	No information available
<b>Delayed and immediate effects as well as chronic effects from short and long-term exposure</b>	
<b>Irritation</b>	Causes (Severe) Eye Burns Causes skin burns.
<b>Sensitization</b>	No information available.



<b>Carcinogenicity</b>	The table below indicates whether each agency has listed any ingredient as a carcinogen.
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Component	CAS No	IARC	NTP	ACGIH	OSHA
Chloroacetyl chloride	79-04-9	Not listed	Not listed	Not listed	Not listed

<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available.
<b>Developmental Effects</b>	No information available.
<b>Teratogenicity</b>	No information available.
<b>STOT - single exposure</b>	Respiratory system
<b>STOT - repeated exposure</b>	Central nervous system (CNS) Gastrointestinal tract (GI)
<b>Aspiration hazard</b>	No information available
<b>Symptoms / effects, both acute and delayed</b>	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.
<b>Endocrine Disruptor Information</b>	No information available.
<b>Other Adverse Effects.</b>	The toxicological properties have not been fully investigated.

## 12. Ecological information

Entity 1 | Made by India

### Ecotoxicity

Very toxic to aquatic organisms. The product contains following substances which are hazardous for the environment. Reacts with water so no ecotoxicity data for the substance is available.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Chloroacetyl chloride	Not listed	42 mg/ 96h	Not listed	35 mg/L 48h

<b>Persistence and Degradability</b>	Persistence is unlikely
<b>Bioaccumulation/ Accumulation</b>	No information available.





<b>Mobility</b>	Is not likely mobile in the environment
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Component	log Pow
Chloro acetyl chloride	-0.22

### 13. Disposal considerations

#### Waste treatment methods

<b>Product/Packaging disposal recommendations</b>	Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
<b>Additional information</b>	Do not allow water (or moist air) contact with this material.
<b>Ecology - waste materials</b>	Hazardous waste due to toxicity.

### 14. Transport information

<b>DOT</b>	
<b>UN-No</b>	UN1752
<b>Proper Shipping Name</b>	Chloro acetyl chloride
<b>Hazard Class</b>	6.1
<b>Subsidiary Class</b>	8
<b>Packing Group</b>	I
<b>Description</b>	UN1752, CHLOROACETYL CHLORIDE, DICHLOROACETYL CHLORIDE, 6.1, (8), PG 1, Poison Inhalation Hazard - Zone B
<b>Emergency Response GuideNumber</b>	156

<b>TDG</b>	
<b>UN-No</b>	UN1752
<b>Proper Shipping Name</b>	Chloro acetyl chloride
<b>Hazard Class</b>	6.1
<b>Subsidiary Class</b>	8



<b>Packing Group</b>	I
<b>Description</b>	UN1752, CHLOROACETYL CHLORIDE DICHLOROACETYL CHLORIDE, 6.1, (8), PG 1, Poison Inhalation Hazard - Zone B

<b>IMDG/IMO</b>	
<b>UN-No</b>	UN1752
<b>Proper Shipping Name</b>	Chloro acetyl chloride
<b>Hazard Class</b>	6.1
<b>Subsidiary Class</b>	8
<b>Packing Group</b>	I
<b>EmS No.</b>	F-A, S-B
<b>Description</b>	UN1752, CHLOROACETYL CHLORIDE, DICHLOROACETYL CHLORIDE, 6.1, (8), PG 1, Poison Inhalation Hazard - Zone B

<b>RID</b>	
<b>UN-No</b>	UN1752
<b>Proper Shipping Name</b>	Chloro acetyl chloride
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	I
<b>Classification Code</b>	TC1
<b>Description</b>	UN1752, CHLOROACETYL CHLORIDE, DICHLOROACETYL CHLORIDE, 6.1, (8), PG 1, Poison Inhalation Hazard - Zone B
<b>ADR/RID-Labels</b>	6.1 + 8

<b>ADR</b>	
<b>UN-No</b>	UN1752
<b>Proper Shipping Name</b>	Chloro acetyl chloride
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	I



<b>Classification Code</b>	TC1
<b>Tunnel Restriction Code</b>	(C/D)
<b>Description</b>	UN1752, CHLOROACETYL CHLORIDE, DICHLOROACETYL CHLORIDE, 6.1, (8), PG 1, Poison Inhalation Hazard - Zone B
<b>ADR/RID-Labels</b>	6.1 + 8

<b>ADN</b>	
<b>Proper Shipping Name</b>	Chloro acetyl chloride
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	I
<b>Classification Code</b>	TC1
<b>Special Provisions</b>	354, 802
<b>Description</b>	UN1752, CHLOROACETYL CHLORIDE, DICHLOROACETYL CHLORIDE, 6.1, (8), PG 1, Poison Inhalation Hazard - Zone B
<b>Hazard Labels</b>	6.1 + 8
<b>Limited Quantity</b>	0
<b>Ventilation</b>	VE02
<b>Equipment Requirements</b>	PP, EP, TOX, A

## 15. Regulatory information

Entity 1 | Made by India

**This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.**

<b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	No data available
<b>Chemical Safety Assessment</b>	No data available

## 16. Any other information

### History



<b>Product name</b>	
<b>Product code</b>	
<b>Date of printing</b>	
<b>Date of issue/Date of revision</b>	
<b>Date of previous issue</b>	
<b>Version</b>	
<b>Prepared by</b>	

## 17. Change Details

