

MATERIAL SAFETY DATA SHEET

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Version 1.3

Section 1 - Product and Company Information

Product Name ACETYLCHOLINE CHLORIDE, 98%
Product Number 135356
Brand ALDRICH

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS MO 63103 US
Technical Phone: 314 771 5765
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Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313 No
ACETYLCHOLINE CHLORIDE	60-31-1	

Formula C7 H16 N O2 . Cl
Synonyms Acecholin * Acecoline *
2-Acetoxyethyltrimethylammonium chloride *
Acetylcholine chloride * O-Acetylcholine chloride
* Acetylcholine hydrochloride * Acetylcholinium
chloride *
2-(Acetyloxy)-N,N,N-trimethylethanaminium chlorid
* ACH chloride * Ammonium,
(2-hydroxyethyl)trimethyl-, chloride, acetate *
Arterocoline * Choline, chloride acetate *
Ethanaminium, 2-(acetyloxy)-N,N,N-trimethyl-,
chloride * (2-Hydroxyethyl)trimethylammonium
chloride acetat * Miochol * Ovisot * TL 1505

RTECS Number: FZ9800000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Irritant.

Irritating to eyes, respiratory system and skin.

Lachrymator. Target organ(s): Cardiovascular system. Central nervous system.

HMIS RATING

HEALTH: 2*

FLAMMABILITY: 0

REACTIVITY: 1

NFPA RATING

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 1

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

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

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Store in a cool dry place. Store under nitrogen.

SPECIAL REQUIREMENTS

Very hygroscopic. Store under inert gas.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid	
	Color: White	
	Form: Fine crystals	
Property	Value	At Temperature or Pressure
Molecular Weight	181.66 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	148 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Solvent: 0.1 g/ml H ₂ O clear, colorless	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Protect from moisture.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide,

Nitrogen oxides, Hydrogen chloride gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Vascular system. Heart. Central nervous system. Smooth muscle.

Skeletal muscle. Adrenal medulla.

SIGNS AND SYMPTOMS OF EXPOSURE

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

TOXICITY DATA

Oral

Rat

2500 mg/kg

LD50

Subcutaneous

Rat

250 MG/KG

LD50

Intravenous

Rat

22 MG/KG

LD50

Oral

Mouse

3000 mg/kg

LD50

Intraperitoneal

Mouse

15300 UG/KG

LD50

Remarks: Behavioral:Somnolence (general depressed activity).

Behavioral:Convulsions or effect on seizure threshold. Lungs,

Thorax, or Respiration:Other changes.

Subcutaneous

Mouse

170 MG/KG

LD50

Intravenous

Mouse

10 MG/KG

LD50

Remarks: Peripheral Nerve and Sensation: Spastic paralysis with or without sensory change.

Intravenous
Guinea pig
7700 UG/KG
LD50

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xi
Indication of Danger: Irritant.
R: 36/37/38
Risk Statements: Irritating to eyes, respiratory system and skin.
S: 26 36/37
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Irritant.
Risk Statements: Irritating to eyes, respiratory system and skin.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves.
US Statements: Lachrymator. Target organ(s): Cardiovascular system. Central nervous system.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No
NDSL: Yes

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

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