

## Material Safety Data Sheet

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Date Updated: 12/MAR/2004  
Version 1.4  
According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

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#### 1 - Product and Company Information

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Product Name	ACETYLCHOLINE CHLORIDE, 98%
Product Number	135356
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
Technical Phone #	+61 2 9841 0555
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#### 2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
ACETYLCHOLINE CHLORIDE	60-31-1	200-468-8	None
Formula	C <sub>7</sub> H <sub>16</sub> N O <sub>2</sub> . Cl		
Molecular Weight	181.66 AMU		
Synonyms	Acecholin * Acecoline * 2-Acetoxyethyltrimethylammonium chloride * Acetylcholine chloride * O-Acetylcholine chloride * Acetylcholine hydrochloride * Acetylcholinium chloride * 2-(Acetoxy)-N,N,N-trimethylethanaminium chlorid * ACH chloride * Ammonium, (2-hydroxyethyl)trimethyl-, chloride, acetate * Arterocoline * Choline, chloride acetate * Ethanaminium, 2-(acetoxy)-N,N,N-trimethyl-, chloride * (2-Hydroxyethyl)trimethylammonium chloride acetat * Miochol * Ovisot * TL 1505		

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#### 3 - Hazards Identification

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SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT  
Irritating to eyes, respiratory system and skin.

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#### 4 - First Aid Measures

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##### AFTER INHALATION

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

##### AFTER SKIN CONTACT

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

#### AFTER EYE CONTACT

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

#### AFTER INGESTION

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

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### 5 - Fire Fighting Measures

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#### EXTINGUISHING MEDIA

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

#### SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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### 6 - Accidental Release Measures

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#### 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.

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### 7 - Handling and Storage

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#### HANDLING

Directions for Safe Handling: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Conditions of Storage: Keep tightly closed. Store in a cool dry place. Store under nitrogen.

SPECIAL REQUIREMENTS: Very hygroscopic. Store under inert gas.

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### 8 - Exposure Controls / Personal Protection

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#### ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

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### 9 - Physical and Chemical Properties

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Appearance

Physical State: Solid  
Color: White

Form: Fine crystals

Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	148 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	N/A	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solvent: 0.1 g/ml H <sub>2</sub> O clear, colorless	

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## 10 - Stability and Reactivity

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### 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

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## 11 - Toxicological Information

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RTECS NUMBER: FZ9800000

### ACUTE TOXICITY

LD50

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  
Remarks: Behavioral: Somnolence (general depressed activity).  
Behavioral: Convulsions or effect on seizure threshold. Lungs,  
Thorax, or Respiration: Other changes.

LD50  
Subcutaneous  
Mouse  
170 MG/KG

LD50  
Intravenous  
Mouse  
10 MG/KG  
Remarks: Peripheral Nerve and Sensation: Spastic paralysis with  
or without sensory change.

LD50  
Intravenous  
Guinea pig  
7700 UG/KG

#### SIGNS AND SYMPTOMS OF EXPOSURE

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

#### 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 INFORMATION

Vascular system. Heart. Central nervous system. Smooth muscle.  
Skeletal muscle. Adrenal medulla.

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#### 12 - Ecological Information

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No data available.

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#### 13 - Disposal Considerations

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#### SUBSTANCE DISPOSAL

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.

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## 14 - Transport Information

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### RID/ADR

Non-hazardous for road transport.

### IMDG

Non-hazardous for sea transport.

### IATA

Non-hazardous for air transport.

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## 15 - Regulatory Information

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### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: Xi

Irritant.

R-PHRASES: 36/37/38

Irritating to eyes, respiratory system and skin.

S-PHRASES: 26 36/37

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves.

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## 16 - Other Information

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### WARRANTY

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. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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