ATTN: SAFETY DIRECTOR

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SIGMA CHEMICAL COMPANY
POST OFFICE BOX 14508
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EMERGENCY PHONE 1-314-771-5765
DATE 07/23/96

cUST#: 2-097-94804
PO#: UNG-71236

MATERIAL SAFETY DATA SHEET PAGE 1

SECTION 1. --- CHEMICAL IDENTIFICATION---

CATALOG #: A6625
NAME: ACETYLCHOLINE CHLORIDE

SECTION 2. --- COMPOSITION/INFORMATION ON INGREDIENTS---

CAS #: 60-31-1
MF: C7H16ClNO2
EC NO: 200-468-8

SYNONYMS
ACECHOLIN * ACECOLINE * 2-ACETOXYETHYLTRIMETHYLAMMONIUM CHLORIDE * ACETYLCHOLINE CHLORIDE * O-ACETYLCHOLINE CHLORIDE * ACETYLCHOLINE HYDROCHLORIDE * ACETYLCHOLIUM CHLORIDE * 2-(ACETOXYLOXY)-N,N,N-TRIMETHYLETHANAMINUM CHLORIDE * ACH CHLORIDE * AMMONIUM (2-HYDROXYETHYL)TRIMETHYL- CHLORIDE, ACETATE * ARTEROCOLINE * CHOLINE, CHLORIDE ACETATE * ETHANAMINUM, 2-(ACETOXYLOXY)-N,N,N-TRIMETHYL-, CHLORIDE * (2-HYDROXYETHYL)TRIMETHYLAMMONIUM CHLORIDE ACETATE *
MIOCHOL * OVISOT * TL 1505 *

SECTION 3. --- HAZARDS IDENTIFICATION---

LABEL PRECAUTIONARY STATEMENTS
IRRITANT
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
LACHRYMATOR.
TARGET ORGAN(S):
VASCULAR SYSTEM
HEART
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. --- FIRST-AID MEASURES---

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. --- FIRE FIGHTING MEASURES---

EXTINGUISHING MEDIA
CARBON DIOXIDE.
DRY CHEMICAL POWDER.

CONTINUED ON NEXT PAGE

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M A T E R I A L  S A F E T Y  D A T A  S H E E T

CATALOG #: A6625
NAME: ACETYLCHOLINE CHLORIDE

WATER SPRAY.

SPECIAL FIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. ACCIDENTAL RELEASE MEASURES  EVACUATE AREA.
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.
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
REFER TO SECTION 8.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT
GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
SAFETY SHOWER AND EYE BATH.
USE ONLY IN A CHEMICAL FUME HOOD.
DO NOT BREATHE DUST.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
LACHRYMATOR.
IRRITANT.
STORE IN A COOL DRY PLACE.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR
SOLID.

PHYSICAL PROPERTIES
MELTING POINT: 147 C TO 149 C
SOLUBILITY: WATER -SOLUBLE
ETHER -INSOLUBLE
ETHANOL -SOLUBLE

SECTION 10. STABILITY AND REACTIVITY
INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
PROTECT FROM MOISTURE.

CONTINUED ON NEXT PAGE
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M A T E R I A L   S A F E T Y   D A T A   S H E E T   P A G E 3

CATALOG #: A6625
NAME: ACETYLCHOLINE CHLORIDE

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE
NITROGEN OXIDES
HYDROGEN CHLORIDE GAS

SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS
HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
VAPOR OR MIST IS IRRITATING TO THE EYES, MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
CAUSES SKIN IRRITATION.
SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING,
WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND
VOMITING.
TARGET ORGAN(S):
VASCULAR SYSTEM
HEART
CENTRAL NERVOUS SYSTEM
SMOOTH MUSCLE
SKELETAL MUSCLE
ADRENAL MEDULLA

RTECS #: FZ9800000
CHOLINE ACETATE (ESTER), CHLORIDE

TOXICITY DATA
| ORL-RAT LD50 | 2500 MG/KG | JPETAB 58,337,36 |
| SCI-RAT LD50 | 250 MG/KG  | JPETAB 58,337,36 |
| IVN-RAT LD50 | 170 MG/KG  | JPETAB 58,337,36 |
| ORL-MUS LD50 | 3 GM/KG    | JPETAB 58,337,36 |
| IPR-MUS LD50 | 15300 UG/KG | JPETAB 58,337,36 |
| SCI-MUS LD50 | 170 MG/KG  | JPETAB 58,337,36 |
| IVN-MUS LD50 | 10 MG/KG   | AIPTRA 170,461,67 |
| IVN-GPF LD50 | 7700 UG/KG | AIPTRA 170,461,67 |

TARGET ORGAN DATA
PERIPHERAL NERVE AND SENSATION (SPASTIC PARALYSIS WITH/WITHOUT SENSORY CH
BEHAVIORAL (ALTERED SLEEP TIME)
BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
BEHAVIORAL (STIFFNESS)
CARDIAC (OTHER CHANGES)
LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
COMPLETE INFORMATION.

SECTION 12. ECOLOGICAL INFORMATION

DATA NOT YET AVAILABLE.

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MATERIAL SAFETY DATA SHEET

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SECTION 13. DISPOSAL CONSIDERATIONS

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

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. REGULATORY INFORMATION

EUROPEAN INFORMATION
IRRITANT
R 36/37/38
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
S 36
WEAR SUITABLE PROTECTIVE CLOTHING.

REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
NOES 1983: HZD X3203; NIS 2; TNF 121; NOS 5; TNE 2698; TFE 1846
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

SECTION 16. OTHER INFORMATION

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