



chemists helping chemists in research & industry

**aldrich chemical co.**

© P.O. Box 355, Milwaukee, Wisconsin 53201 USA

Telephone: (414) 273-3850  
 TWX: (910) 262-3052 Aldrichem MI  
 Telex: 26 843 Aldrich MI  
 FAX: (414) 273-4979

ATTN: SAFETY DIRECTOR  
 UNIVERSITY OF WISCONSIN WHITEWATER  
 P O BOX 296  
 WHITEWATER WI 53190

DATE: 06/06/89  
 CUST # 523216 P.O. # Q C 1700

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 : 1

IDENTIFICATION

PRODUCT # 11008-6    NAME: ACETONITRILE, 99%  
 CAS # 75-05-8  
 MF: C2H3N

SYNONYMS

ACETONITRIL (GERMAN, DUTCH) \* ACETONITRILE (ACGIH, DOT, OSHA) \*  
 CYANOMETHANE \* CYANURE DE METHYL (FRENCH) \* ETHANENITRILE \* ETHYL  
 NITRILE \* METHANECARBONITRILE \* METHANE, CYANO- \* METHYL CYANIDE \*  
 METHYL CYANIDE (DOT) \* METHYLKYANID (CZECH) \* NA 1648 (DOT) \* NCI-  
 C60822 \* RCRA WASTE NUMBER U003 \* UN 1648 (DOT) \* USAF EK-488 \*

TOXICITY HAZARDS

RTECS # AL7700000

ACETONITRILE

IRRITATION DATA

SKN-RBT 10 MG/24H OPEN  
 SKN-RBT 500 MG OPEN MLD  
 EYE-RBT 20 MG OPEN SEV

JIHTAB 30,63,48  
 UCDS\*\* 3/18/65  
 JIHTAB 30,63,48

TOXICITY DATA

ORL-RAT LD50:2730 MG/KG  
 IHL-RAT LC50:7551 PPM/8H  
 IPR-RAT LD50:850 MG/KG  
 SCU-RAT LD50:3500 MG/KG  
 IVN-RAT LD50:1680 MG/KG  
 PAR-RAT LD50:1100 MG/KG  
 ORL-MUS LD50:269 MG/KG  
 IHL-MUS LC50:2693 PPM/1H  
 IPR-MUS LD50:175 MG/KG  
 SCU-MUS LD50:4480 MG/KG  
 IVN-MUS LD50:612 MG/KG  
 IHL-CAT LC50:18 GM/M3  
 IHL-RBT LC50:2828 PPM/4H  
 SKN-RBT LD50:1250 MG/KG  
 DRL-GPG LD50:177 MG/KG  
 IHL-GPG LC50:5655 PPM/4H

TXAPA9 19,699,71  
 JOCMA7 1,634,59  
 JOCMA7 1,634,59  
 85GMAT -0,16,82  
 JOCMA7 1,634,59  
 85GMAT -0,16,82  
 ARTODN 55,47,84  
 CTOXAO 18,991,81  
 TXAPA9 59,589,81  
 85GMAT -0,16,82  
 85GMAT -0,16,82  
 85GMAT -0,16,82  
 JOCMA7 1,634,59  
 UCDS\*\* 3/18/65  
 JOCMA7 1,634,59  
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REVIEWS, STANDARDS, AND REGULATIONS

ACGIH TLV-TWA 40 PPM; STEL 60 PPM 85INA8 5,8,86  
 MSHA STANDARD-AIR:TWA 40 PPM (70 MG/M3) DTLVS\* 3,3,71  
 OSHAPEL:8H TWA 40 PPM (70 MG/M3) FEREAC 54,2923,89  
 OSHAPEL FINAL:8H TWA 40 PPM (70 MG/M3);STEL 60 PPM (105 MG/M3) FEREAC  
 54,2923,89  
 NIOSH REL TO NITRILES-AIR:10H TWA 34 MG/M3 MMWR\*\* 37(S-7),21,88  
 EPA TSCA CHEMICAL INVENTORY, 1986  
 EPA TSCA 8(A) PRELIMINARY ASSESSMENT INFORMATION, FINAL RULE FEREAC  
 47,26992,82  
 EPA TSCA SECTION 8(E) STATUS REPORT BEHQ-0578-0149  
 EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 1989  
 NIOSH ANALYTICAL METHODS: SEE ACETONITRILE, 1606  
 NTP CARCINOGENESIS STUDIES;ON TEST (TWO YEAR STUDIES), FEBRUARY 1989  
 MEETS CRITERIA FOR PROPOSED OSHA MEDICAL RECORDS RULE FEREAC 47,30420,  
 82

TARGET ORGAN DATA

SENSE ORGANS AND SPECIAL SENSES (CORNEAL DAMAGE)  
 BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)

Belgium  
 Aldrich Chemie N.V./S.A.  
 Bd. Lambertmontaan 140, b. 6  
 B-1030 Brussels  
 Telephone: (02) 2428750  
 Telex: 62302 Alchem B  
 FAX: (02) 242 82 16

France  
 Aldrich-Chimie S.a.r.l.  
 27, Fossé des Treize  
 F-67000 Strasbourg  
 Telephone: (88) 327010  
 Telex: 890076 Aldrich F  
 FAX: (88) 75 12 83

Japan  
 Aldrich Japan  
 Kyodo Bldg. Shinkanda  
 10 Kanda-Mikuracho  
 Chiyoda-Ku, Tokyo  
 Telephone: (03) 258-0155  
 Telex: 417238 Aldrich J  
 FAX: (03) 258-0157

United Kingdom  
 Aldrich Chemical Co., Ltd.  
 The Old Brickyard, New Road  
 Gillingham, Dorset SP8 4JL  
 Telephone: (07476) 2211  
 Telex: 417238 Aldrich G  
 FAX: (07476) 3779

West Germany  
 Aldrich-Chemie GmbH & Co. KG  
 D-7924 Steinheim  
 Telephone: (07329) 87-0  
 Telex: 714838 Aldri D  
 FAX: (07329) 87-39



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CATALOG # 11008-6      NAME: ACETONITRILE, 99%

BEHAVIORAL (ATAXIA)  
LUNGS, THORAX OR RESPIRATION (DYSPNAE)  
LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)  
GASTROINTESTINAL (NAUSEA OR VOMITING)  
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)  
SPECIFIC DEVELOPMENTAL ABNORMALITIES (MUSCULOSKELETAL SYSTEM)  
NUTRITIONAL AND GROSS METABOLIC (CHANGES IN: METABOLIC ACIDOSIS)

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

----- HEALTH HAZARD DATA -----

ACUTE EFFECTS

HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.  
VAPOR OR MIST IS IRRITATING TO THE EYES, MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.  
SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING.

FIRST AID

FLUSH SKIN WITH WATER.  
CONTAMINATION OF THE EYES SHOULD BE TREATED BY IMMEDIATE AND PROLONGED IRRIGATION WITH COPIOUS AMOUNTS OF WATER.  
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.  
CALL A PHYSICIAN.  
REMOVE AND WASH CONTAMINATED CLOTHING PROMPTLY.  
DISCARD CONTAMINATED SHOES.

-----PHYSICAL DATA -----

MELTING POINT: -48 C  
BOILING POINT: 81 C TO 82 C  
SPECIFIC GRAVITY: 0.786  
VAPOR DENSITY: 1.41  
VAPOR PRESSURE: 72.8 MM @ 20 C  
APPEARANCE: COLORLESS LIQUID

----- FIRE AND EXPLOSION HAZARD DATA -----

AUTO IGNITION TEMP.: 973 F  
LOWER EXPLOSION LEVEL: 4.4%  
UPPER EXPLOSION LEVEL: 16%  
FLASH POINT: 42 F

EXTINGUISHING MEDIA

CARBON DIOXIDE, DRY CHEMICAL POWDER, ALCOHOL OR POLYMER FOAM.  
WATER MAY BE EFFECTIVE FOR COOLING, BUT MAY NOT EFFECT EXTINGUISHMENT.

SPECIAL FIRE FIGHTING PROCEDURES

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

UNUSUAL FIRE AND EXPLOSION HAZARDS

EXTREMELY FLAMMABLE.  
VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND FLASH BACK.  
CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.  
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.



Belgium  
Aldrich Chemie N.V./S.A.  
Bd. Lambertmontaan 140, b. 6  
B-1030 Brussels  
Telephone: (02) 2428750  
Telex: 62302 Alchem B  
FAX: (02) 242 82 16

France  
Aldrich-Chimie S.a.r.l.  
27, Fossé des Treize  
F-67000 Strasbourg  
Telephone: (88) 327010  
Telex: 890076 Aldrich F  
FAX: (88) 75 12 83

Japan  
Aldrich Japan  
Kyodo Bldg. Shinkanda  
10 Kanda-Mikuracho  
Chiyoda-Ku, Tokyo  
Telephone: (03) 258-0155  
FAX: (03) 258-0157

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The Old Brickyard, New Road  
Gillingham, Dorset SP8 4JL  
Telephone: (07476) 2211  
Telex: 417238 Aldrch G  
FAX: (07476) 3779

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----- REACTIVITY DATA -----

INCOMPATIBILITIES

- ACIDS
- BASES
- OXIDIZING AGENTS
- REDUCING AGENTS
- ALKALI METALS
- PROTECT FROM MOISTURE.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

THERMAL DECOMPOSITION MAY PRODUCE CARBON MONOXIDE, CARBON DIOXIDE, AND NITROGEN OXIDES.  
HYDROGEN CYANIDE

----- SPILL OR LEAK PROCEDURES -----

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

- WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
- EVACUATE AREA.
- SHUT OFF ALL SOURCES OF IGNITION.
- COVER WITH AN ACTIVATED CARBON ADSORBENT, TAKE UP AND PLACE IN CLOSED CONTAINERS. TRANSPORT OUTDOORS.
- VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

WASTE DISPOSAL METHOD

BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE.

OBSERVE ALL FEDERAL, STATE & LOCAL LAWS.

--- PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE ---

- 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 VAPOR.
- AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
- AVOID PROLONGED OR REPEATED EXPOSURE.
- WASH THOROUGHLY AFTER HANDLING.
- LACHRYMATOR.
- IRRITANT.
- TOXIC.
- KEEP TIGHTLY CLOSED.
- KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.
- HYGROSCOPIC.
- HANDLE AND STORE UNDER NITROGEN.
- STORE IN A COOL DRY PLACE.

----- ADDITIONAL PRECAUTIONS AND COMMENTS -----

NOT APPLICABLE



----- REGULATORY INFORMATION -----

THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

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