

Valid 05/2002 - 07/2002

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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

SECTION 1. - - - - - CHEMICAL IDENTIFICATION- - - - -

CATALOG #: 154601
 NAME: ACETONITRILE, 99.5+%, SPECTROPHOTOMETRIC
 GRADE

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

CAS #: 75-05-8
 MF: C2H3N
 EC NO: 200-835-2

SYNONYMS

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

SECTION 3. - - - - - HAZARDS IDENTIFICATION - - - - -

LABEL PRECAUTIONARY STATEMENTS

FLAMMABLE (USA)
 HIGHLY FLAMMABLE (EU)
 TOXIC
 TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
 RISK OF SERIOUS DAMAGE TO EYES.
 TARGET ORGAN(S):
 CENTRAL NERVOUS SYSTEM
 LIVER
 CAUSES SEVERE EYE IRRITATION.
 KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.
 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
 WATER AND SEEK MEDICAL ADVICE.
 WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
 PROTECTION.
 IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
 IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

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

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
 CALL A PHYSICIAN IMMEDIATELY.
 IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
 RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
 IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER
 FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND
 SHOES. CALL A PHYSICIAN.
 IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER
 FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING
 THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

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

EXTINGUISHING MEDIA

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

SPECIAL FIREFIGHTING PROCEDURES

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

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

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

CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.

- SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES- - - - -
 WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
 COVER WITH DRY-LIME, SAND, OR SODA ASH. PLACE IN COVERED CONTAINERS USING NON-SPARKING TOOLS AND TRANSPORT OUTDOORS.
 VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.
 EVACUATE AREA.
 SHUT OFF ALL SOURCES OF IGNITION.
- SECTION 7. - - - - - HANDLING AND STORAGE- - - - -
 REFER TO SECTION 8.
- SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -
 SAFETY SHOWER AND EYE BATH.
 USE NONSPARKING TOOLS.
 USE ONLY IN A CHEMICAL FUME HOOD.
 WASH CONTAMINATED CLOTHING BEFORE REUSE.
 WASH THOROUGHLY AFTER HANDLING.
 DO NOT BREATHE VAPOR.
 AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
 AVOID PROLONGED OR REPEATED EXPOSURE.
 NIOSH/MSHA-APPROVED RESPIRATOR.
 COMPATIBLE CHEMICAL-RESISTANT GLOVES.
 CHEMICAL SAFETY GOGGLES.
 KEEP CONTAINER CLOSED.
 KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.
 HANDLE AND STORE UNDER NITROGEN.
- SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -
 PHYSICAL PROPERTIES
 BOILING POINT: 81 C TO 82 C
 MELTING POINT: -48 C
 FLASHPOINT 42 F
 EXPLOSION LIMITS IN AIR:
 UPPER 16%
 LOWER 4.4%
 AUTOIGNITION TEMPERATURE: 973 F
 VAPOR PRESSURE: 72.8MM 20 C
 SPECIFIC GRAVITY: 0.786
 VAPOR DENSITY: 1.41
- SECTION 10. - - - - - STABILITY AND REACTIVITY - - - - -
 STABILITY
 STABLE.
 INCOMPATIBILITIES
 ACIDS
 BASES
 OXIDIZING AGENTS
 REDUCING AGENTS
 ALKALI METALS
 HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
 CARBON MONOXIDE, CARBON DIOXIDE
 NITROGEN OXIDES
 HYDROGEN CYANIDE
 HAZARDOUS POLYMERIZATION
 WILL NOT OCCUR.
- SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -
 ACUTE EFFECTS
 MAY CAUSE SKIN IRRITATION.
 TOXIC IF ABSORBED THROUGH SKIN.
 CAUSES SEVERE EYE IRRITATION.
 TOXIC IF INHALED.
 MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
 TOXIC IF SWALLOWED.
 ACETONITRILE IS METABOLIZED IN THE LIVER TO WATER, FORMIC ACID AND HYDROGEN CYANIDE. THE CYANIDE IS FURTHER METABOLIZED TO THIOCYANATE. THE ONSET OF SYMPTOMS IS GENERALLY DELAYED PENDING CONVERSION TO CYANIDE.
 ADVERSE EFFECTS MAY INCLUDE NAUSEA, VOMITING, DIARRHEA, HEADACHE,

DIZZINESS, RASHES AND CYANOSIS.

OTHER SYMPTOMS INCLUDE MENTAL EXCITEMENT OR DEPRESSION, DROWSINESS, IMPAIRED PERCEPTION, INCOORDINATION, STUPOR, COMA AND DEATH.

CHRONIC EFFECTS

TARGET ORGAN(S):

CENTRAL NERVOUS SYSTEM

LIVER, KIDNEYS

BLOOD, LUNGS

THIS PRODUCT IS OR CONTAINS A COMPONENT THAT IS NOT CLASSIFIABLE AS TO ITS CARCINOGENICITY BASED ON ITS IARC, ACGIH, NTP OR EPA CLASSIFICATION.

RTECS #: AL7700000

ACETONITRILE

IRRITATION DATA

SKN-RBT 500 MG OPEN MLD

UCDS** 3/18/1965

EYE-RBT 100 UL/24H MOD

IJTOfN 19,363,2000

TOXICITY DATA

ORL-RAT LD50:2460 MG/KG

UCDS** 3/18/1965

IHL-RAT LC50:7551 PPM/8H

JOCMA7 1,634,1959

IPR-RAT LD50:850 MG/KG

JOCMA7 1,634,1959

SCU-RAT LD50:3500 MG/KG

85GMAT -,16,1982

IVN-RAT LD50:1680 MG/KG

JOCMA7 1,634,1959

PAR-RAT LD50:1100 MG/KG

85GMAT -,16,1982

ORL-MUS LD50:269 MG/KG

ARTODN 55,47,1984

IHL-MUS LC50:2693 PPM/1H

CTOXAO 18,991,1981

IPR-MUS LD50:175 MG/KG

TXAPA9 59,589,1981

SCU-MUS LD50:4480 MG/KG

85GMAT -,16,1982

IVN-MUS LD50:612 MG/KG

85GMAT -,16,1982

ORL-CAT LD50:200 MG/KG

ZAARAM 19,225,1969

IHL-CAT LC50:18 GM/M3

85GMAT -,16,1982

ORL-RBT LD50:50 MG/KG

ZAARAM 19,225,1969

IHL-RBT LC50:2828 PPM/4H

JOCMA7 1,634,1959

SKN-RBT LD50:>2 GM/KG

IJTOfN 19,363,2000

ORL-GPG LD50:177 MG/KG

JOCMA7 1,634,1959

IHL-GPG LC50:5655 PPM/4H

JOCMA7 1,634,1959

ORL-MAM LD50:1670 MG/KG

GISAAA 39(4),86,1974

TARGET ORGAN DATA

SENSE ORGANS AND SPECIAL SENSES (CORNEAL DAMAGE)

BEHAVIORAL (HALLUCINATIONS, DISTORTED PERCEPTIONS)

BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)

BEHAVIORAL (EXCITEMENT)

BEHAVIORAL (ATAXIA)

BEHAVIORAL (COMA)

CARDIAC (PULSE RATE INCREASED WITHOUT FALL IN BP)

LUNGS, THORAX OR RESPIRATION (DYSPPNAE)

LUNGS, THORAX OR RESPIRATION (RESPIRATORY DEPRESSION)

LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)

GASTROINTESTINAL (NAUSEA OR VOMITING)

LIVER (TUMORS)

MATERNAL EFFECTS (OTHER EFFECTS ON FEMALE)

EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)

EFFECTS ON EMBRYO OR FETUS (FETAL DEATH)

SPECIFIC DEVELOPMENTAL ABNORMALITIES (MUSCULOSKELETAL SYSTEM)

NUTRITIONAL AND GROSS METABOLIC (CHANGES IN: METABOLIC ACIDOSIS)

TUMORIGENIC (EQUIVOCAL TUMORIGENIC AGENT BY RTECS CRITERIA)

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.

SECTION 13. - - - - - DISPOSAL CONSIDERATIONS - - - - -

CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.

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 AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - TRANSPORT INFORMATION - - - - -
 CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.
 SECTION 15. - - - - - REGULATORY INFORMATION - - - - -

EUROPEAN INFORMATION

EC INDEX NO: 608-001-00-3

HIGHLY FLAMMABLE

TOXIC

R 11

HIGHLY FLAMMABLE.

R 20/21/22

HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.

R 36

IRRITATING TO EYES.

S 16

KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.

S 36/37

WEAR SUITABLE PROTECTIVE CLOTHING AND GLOVES.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

ACGIH TLV-NOT CLASSIFIABLE AS A HUMAN CARCINOGEN DTLVS* TLV/BEI,1999

ACGIH TLV-STEL 60 PPM DTLVS* TLV/BEI,1999

ACGIH TLV-TWA 40 PPM DTLVS* TLV/BEI,1999

MSHA STANDARD-AIR:TWA 40 PPM (70 MG/M3)

DTLVS* 3,3,1971

OSHA PEL (GEN INDU):8H TWA 40 PPM (70 MG/M3)

CFRGBR 29,1910.1000,1994

OSHA PEL (CONSTRUC):8H TWA 40 PPM (70 MG/M3)

CFRGBR 29,1926.55,1994

OSHA PEL (SHIPYARD):8H TWA 40 PPM (70 MG/M3)

CFRGBR 29,1915.1000,1993

OSHA PEL (FED CONT):8H TWA 40 PPM (70 MG/M3)

CFRGBR 41,50-204.50,1994

OEL-ARAB REPUBLIC OF EGYPT: TWA 40 PPM (70 MG/M3), SKIN, JAN1993

OEL-AUSTRALIA: TWA 40 PPM (70 MG/M3), STEL 60 PPM, SKIN, JAN1993

OEL-AUSTRIA: MAK 40 PPM (70 MG/M3), JAN1999

OEL-BELGIUM: TWA 40 PPM (67 MG/M3), STEL 60 PPM (101 MG/M3), SKIN,
JAN1993

OEL-DENMARK: TWA 40 PPM (70 MG/M3), JAN1999

OEL-FINLAND: TWA 40 PPM (70 MG/M3), STEL 60 PPM (105 MG/M3), JAN1993

OEL-FRANCE: VME 40 PPM (70 MG/M3), SKIN, JAN1999

OEL-GERMANY: MAK 40 PPM (70 MG/M3), JAN1999

OEL-HUNGARY: TWA 50 MG/M3, STEL 100 MG/M3, SKIN, JAN1993

OEL-THE NETHERLANDS: MAC-TGG 40 PPM (70 MG/M3), JAN1999

OEL-NORWAY: TWA 30 PPM (50 MG/M3), JAN1999

OEL-THE PHILIPPINES: TWA 40 PPM (70 MG/M3), JAN1993

OEL-POLAND: TWA 70 MG/M3, STEL 140 MG/M3, JAN1999

OEL-RUSSIA: STEL 10 MG/M3, JAN1993

OEL-SWEDEN: TWA 30 PPM (50 MG/M3), STEL 50 PPM (100 MG/M3), JAN1999

OEL-SWITZERLAND: MAK-W 500 PPM (1200 MG/M3), STEL 1000 PPM (2400
MG/M3), JAN1999

OEL-TURKEY: TWA 40 PPM (70 MG/M3), JAN1993

OEL-UNITED KINGDOM: TWA 40 PPM (68 MG/M3), STEL 60 PPM (102 MG/M3),
SEP2000

OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV

NIOSH REL TO ACETONITRILE-AIR:10H TWA 20 PPM

NIOSH* DHHS #92-100,1992

NOHS 1974: HZD 02900; NIS 9; TNF 302; NOS 25; TNE 28201

NOES 1983: HZD 02900; NIS 19; TNF 1172; NOS 27; TNE 31341; TFE 7975

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

EPA TSCA 8(A) PRELIMINARY ASSESSMENT INFORMATION, FINAL RULE

FEREAC 47,26992,82

EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES

ON EPA IRIS DATABASE

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001

NIOSH ANALYTICAL METHOD, 1994: ACETONITRILE, 1606

NTP CARCINOGENESIS STUDIES (INHALATION);EQUIVOCAL EVIDENCE:RAT

NTPTR* NTP-TR-447,1996
NTP CARCINOGENESIS STUDIES (INHALATION);NO EVIDENCE:MOUSE
NTPTR* NTP-TR-447,1996

U.S. INFORMATION

THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

SECTION 16. - - - - - OTHER INFORMATION- - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH, FLUKA 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.

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