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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 #: 270717  
NAME: ACETONITRILE, 99.93+%, HPLC 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 (USA)  
HARMFUL (EU)  
HIGHLY FLAMMABLE.  
HARMFUL BY INHALATION AND IF SWALLOWED.  
TOXIC IN CONTACT WITH SKIN.  
RISK OF SERIOUS DAMAGE TO EYES.

TARGET ORGAN(S):  
CENTRAL NERVOUS SYSTEM  
LIVER

SEVERE EYE IRRITANT.  
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.  
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 CAN OCCUR UNDER FIRE CONDITIONS. IN ADVANCED OR MASSIVE FIRES THE AREA SHOULD BE EVACUATED AND THE FIRE SHOULD BE FOUGHT FROM A REMOTE EXPLOSION-RESISTANT LOCATION.

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.

MECHANICAL EXHAUST REQUIRED.

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.

WASH THOROUGHLY AFTER HANDLING.

WASH CONTAMINATED CLOTHING BEFORE REUSE.

KEEP CONTAINER CLOSED.

KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.

STORE IN A COOL DRY PLACE.

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

SOLUBILITY:

WATER -Z26060

MISCIBLE WITH ME  
CHLOROFORM, C T

ETHYL ACETATE,

SPECIFIC GRAVITY: 0.786

VAPOR DENSITY: 1.41

ODOR THRESHOLD: 70 - 875 PPM  
VISCOSITY 0.35 PAS  
SWISS POISON CLASS: 2

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.  
HARMFUL IF ABSORBED THROUGH SKIN.  
CAUSES SEVERE EYE IRRITATION.  
HARMFUL IF INHALED.  
MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER  
RESPIRATORY TRACT.  
HARMFUL 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.

LD

LC

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	IJTQFN 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  
 HARMFUL  
 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- - - - -

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