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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 #: 270563
 NAME: DICHLOROMETHANE, 99.9%, A.C.S. HPLC GRADE

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

CAS #: 75-09-2
 MF: CH2CL2
 EC NO: 200-838-9

SYNONYMS

AEROTHENE MM * CHLORURE DE METHYLENE (FRENCH) * DICHLOROMETHANE (DOT:
 OSHA) * F 30 (CHLOROCARBON) * FREON 30 * HCC 30 * KHLADON 30 *
 METHANE DICHLORIDE * METHYLENE BICHLORIDE * METHYLENE CHLORIDE (ACGIH:
 OSHA) * METHYLENE DICHLORIDE * METYLENU CHLOREK (POLISH) * NARKOTIL *
 NCI-C50102 * R30 (REFRIGERANT) * RCRA WASTE NUMBER U080 * SOLAESTHIN *
 SOLEANA VDA * SOLMETHINE *

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

LABEL PRECAUTIONARY STATEMENTS

TOXIC

HARMFUL BY INHALATION AND IF SWALLOWED.
 IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
 MAY CAUSE CANCER.
 POSSIBLE RISK OF HARM TO THE UNBORN CHILD.
 OSHA CARCINOGEN.
 READILY ABSORBED THROUGH SKIN.
 TARGET ORGAN: HEART BECAUSE METHYLENE CHLORIDE IS CONVERTED
 TO CARBON MONOXIDE IN THE BODY.
 TARGET ORGAN: CENTRAL NERVOUS SYSTEM BECAUSE OF POSSIBLE
 DIZZINESS, HEADACHE, LOSS OF CONSCIOUSNESS AND DEATH AT HIGH
 CONCENTRATIONS.
 POSSIBLE TERATOGEN.
 AVOID EXPOSURE - OBTAIN SPECIAL INSTRUCTIONS BEFORE USE.
 DO NOT BREATHE VAPOR.
 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 BREATHING BECOMES DIFFICULT,
 CALL A PHYSICIAN.
 IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS
 AMOUNTS OF WATER.
 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

WATER SPRAY.
 CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
 SPECIAL FIREFIGHTING 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- - - - -
 WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
 WEAR DISPOSABLE COVERALLS AND DISCARD THEM AFTER USE.
 ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL.
 VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.
 EVACUATE AREA.

SECTION 7. - - - - - HANDLING AND STORAGE- - - - -
 REFER TO SECTION 8.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -
 USE ONLY IN A CHEMICAL FUME HOOD.
 SAFETY SHOWER AND EYE BATH.
 WASH CONTAMINATED CLOTHING BEFORE REUSE.
 WASH THOROUGHLY AFTER HANDLING.
 CHEMICAL SAFETY GOGGLES.
 KEEP TIGHTLY CLOSED.
 STORE IN A COOL DRY PLACE.
 DO NOT BREATHE VAPOR.
 DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
 AVOID PROLONGED OR REPEATED EXPOSURE.
 FOR PROTECTION AND HANDLING REQUIREMENTS CONSULT CFR TITLE 29 PART 1910.1052.
 POSITIVE PRESSURE RESPIRATOR SHOULD BE WORN.
 COMPATIBLE CHEMICAL-RESISTANT GLOVES.
 IMPERVIOUS PROTECTIVE CLOTHING.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -
 PHYSICAL PROPERTIES
 BOILING POINT: 39.8 C TO 40 C
 MELTING POINT: -97 C
 FLASHPOINT NONE
 EXPLOSION LIMITS IN AIR:
 UPPER 22%
 LOWER 14%
 AUTOIGNITION TEMPERATURE: 1223 F
 VAPOR PRESSURE: 6.83PSI 20 C 24.48PSI 55 C
 SOLUBILITY:
 WATER -Z1078
 SPECIFIC GRAVITY: 1.325
 VAPOR DENSITY: 2.9
 SWISS POISON CLASS: 4

SECTION 10. - - - - - STABILITY AND REACTIVITY - - - - -
 STABILITY
 STABLE.
 INCOMPATIBILITIES
 PROTECT FROM HEAT.
 ALKALI METALS
 ALUMINUM
 HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
 CARBON MONOXIDE, CARBON DIOXIDE
 HYDROGEN CHLORIDE GAS
 PHOSGENE GAS
 HAZARDOUS POLYMERIZATION
 WILL NOT OCCUR.

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -
 ACUTE EFFECTS
 EXISTING DATA SUGGESTS THAT METHYLENE CHLORIDE MAY BE A WEAK MUTAGEN IN MAMMALIAN SYSTEMS.
 CAUSES SKIN IRRITATION.
 MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
 CAUSES EYE IRRITATION.
 HARMFUL IF INHALED.
 MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
 HARMFUL IF SWALLOWED.
 DICHLOROMETHANE IS METABOLIZED IN THE BODY PRODUCING CARBON MONOXIDE WHICH INCREASES AND SUSTAINS CARBOXYHEMOGLOBIN LEVELS IN THE BLOOD,

REDUCING THE OXYGEN-CARRYING CAPACITY OF THE BLOOD.
 A SIMPLE ASPHYXIAN. EXPOSURE CAN CAUSE ANESTHETIC ACTION, DIFFICULTY IN
 BREATHING, HEADACHE, AND DIZZINESS.
 PROLONGED OR REPEATED CONTACT WITH SKIN CAN CAUSE DEFATTING AND
 DERMATITIS. CONTACT WITH EYES CAN CAUSE REDNESS, TEARING, AND BLURRED
 VISION. INGESTION MAY CAUSE GASTROINTESTINAL IRRITATION.

CNS DEPRESSION

PARESTHESIA

SOMNOLENCE

CONVULSIONS

CONJUNCTIVITIS

PULMONARY EDEMA. EFFECTS MAY BE DELAYED.

IRREGULAR BREATHING

INGESTION CAN CAUSE GASTROINTESTINAL DISORDERS, NAUSEA AND VOMITING.

DROWSINESS,

INCREASED LIVER ENZYMES

WEAKNESS

HEAVY OR PROLONGED SKIN EXPOSURE MAY RESULT IN THE ABSORPTION OF
 HARMFUL AMOUNTS OF MATERIAL.

CHRONIC EFFECTS

THIS IS OR CONTAINS A COMPONENT THAT HAS BEEN REPORTED TO BE
 CARCINOGENIC BASED ON ITS IARC, OSHA, ACGIH, NTP OR EPA CLASSIFICATION.
 POSSIBLE RISK OF CONGENITAL MALFORMATION IN THE FETUS.

TARGET ORGAN(S):

TARGET ORGAN: HEART BECAUSE METHYLENE CHLORIDE IS CONVERTED
 TO CARBON MONOXIDE IN THE BODY.

TARGET ORGAN: CENTRAL NERVOUS SYSTEM BECAUSE OF POSSIBLE
 DIZZINESS, HEADACHE, LOSS OF CONSCIOUSNESS AND DEATH AT HIGH
 CONCENTRATIONS.

LIVER, PANCREAS

RTECS #: PA8050000

METHANE, DICHLORO-

IRRITATION DATA

SKN-RBT 810 MG/24H SEV	EJTXAZ 9,171,1976
SKN-RBT 100 MG/24H MOD	85JCAE -,88,1986
EYE-RBT 162 MG MOD	EJTXAZ 9,171,1976
EYE-RBT 10 MG MLD	TXCYAC 6,173,1976
EYE-RBT 500 MG/24H MLD	85JCAE -,88,1986

TOXICITY DATA

ORL-HMN LDLO:357 MG/KG	34ZIAG -,390,1969
ORL-RAT LD50:1600 MG/KG	FAONAU 48A,94,1970
IHL-RAT LC50:52 GM/M3	TPKVAL 15,64,1979
IPR-RAT LD50:916 MG/KG	ENVRAL 40,411,1986
UNR-RAT LD50:5350 MG/KG	GISAAA 53(6),78,1988
ORL-MUS LD50:873 MG/KG	EVHPAZ 106(SUPPL
2),497,1998	
IHL-MUS LC50:14400 PPM/7H	NIHBAZ 191,1,1949
IPR-MUS LD50:437 MG/KG	AGGHAR 18,109,1960
SCU-MUS LD50:6460 MG/KG	TXAPA9 4,354,1962
UNR-MUS LD50:4770 MG/KG	ESKGA2 28,P31,1982
IPR-DOG LD50:1274 MG/KG	TXAPA9 10,119,1967
UNR-RBT LD50:1225 MG/KG	GISAAA 53(6),78,1988

TARGET ORGAN DATA

PERIPHERAL NERVE AND SENSATION (PARESTHESIA)
 BEHAVIORAL (ALTERED SLEEP TIME)
 BEHAVIORAL (EUPHORIA)
 BEHAVIORAL (SOMNOLENCE)
 BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
 BEHAVIORAL (ATAXIA)
 CARDIAC (CHANGE IN RATE)
 LUNGS, THORAX OR RESPIRATION (CHANGE IN TRACHEA OR BRONCHI)
 LUNGS, THORAX OR RESPIRATION (ACUTE PULMONARY EDEMA)
 LUNGS, THORAX OR RESPIRATION (TUMORS)
 SPECIFIC DEVELOPMENTAL ABNORMALITIES (MUSCULOSKELETAL SYSTEM)
 SPECIFIC DEVELOPMENTAL ABNORMALITIES (UROGENITAL SYSTEM)
 TUMORIGENIC (CARCINOGENIC 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.

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: 602-004-00-3

TOXIC

R 40

POSSIBLE RISK OF IRREVERSIBLE EFFECTS.

S 23

DO NOT BREATHE VAPOR.

S 24/25

AVOID CONTACT WITH SKIN AND EYES.

S 36/37

WEAR SUITABLE PROTECTIVE CLOTHING AND GLOVES.

TLV AND SOURCE

FOR DICHLOROMETHANE (METHYLENE CHLORIDE):

ACGIH TLV-TWA: 50 PPM (175 MG/M3).

OSHA PEL: 8H TWA 25 PPM; STEL 125 PPM

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

ACGIH TLV-CONFIRMED ANIMAL CARCINOGEN DTLVS* TLV/BEI,1999

ACGIH TLV-TWA 50 PPM DTLVS* TLV/BEI,1999

IARC CANCER REVIEW:ANIMAL SUFFICIENT EVIDENCE IMEMDT 41,43,1986

IARC CANCER REVIEW:ANIMAL SUFFICIENT EVIDENCE IMEMDT 71,251,1999

IARC CANCER REVIEW:HUMAN INADEQUATE EVIDENCE IMEMDT 41,43,1986

IARC CANCER REVIEW:HUMAN INADEQUATE EVIDENCE IMEMDT 71,251,1999

IARC CANCER REVIEW:GROUP 2B IMEMDT 71,251,1999

EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION

FEREAC 54,7740,1989

MSHA STANDARD-AIR:TWA 500 PPM (1750 MG/M3)

DTLVS* 3,171,1971

OSHA PEL (GEN INDU):8H TWA 500 PPM;CL 1000 PPM;PK 2000 PPM/5M/2H

CFRGBR 29,1910.1000,1994

OSHA PEL (CONSTRUC):SEE 56 FR 57036

CFRGBR 29,1926.55,1994

OSHA PEL (SHIPYARD):8H TWA 500 PPM (1740 MG/M3)

CFRGBR 29,1915.1000,1993

OSHA PEL (FED CONT):8H TWA 500 PPM (1740 MG/M3)

CFRGBR 41,50-204.50,1994

OEL-AUSTRALIA: TWA 100 PPM (350 MG/M3), CARCINOGEN, JAN1993

OEL-AUSTRIA: MAK 100 PPM (360 MG/M3), SUSPECTED CARCINOGEN, JAN1999

OEL-BELGIUM: TWA 50 PPM (174 MG/M3), CARCINOGEN, JAN1993

OEL-DENMARK: TWA 35 PPM (122 MG/M3), SKIN, JAN1999

OEL-FINLAND: TWA 100 PPM (350 MG/M3), STEL 250 PPM (870 MG/M3), JAN1999

OEL-FRANCE: VME 50 PPM (180 MG/M3), VLE 100 PPM, C3 CARCINOGEN, JAN1999

OEL-GERMANY: MAK 100 PPM (360 MG/M3), CARCINOGEN, JAN1999

OEL-HUNGARY: STEL 10 MG/M3, CARCINOGEN, JAN1993

OEL-JAPAN: OEL 50 PPM (170 MG/M3), JAN1999

OEL-THE NETHERLANDS: MAC-TGG 100 PPM (350 MG/M3), MAC-K 500 PPM (1750

MG/M3), JAN1999

OEL-NORWAY: TWA 35 PPM (125 MG/M3), JAN1999

OEL-THE PHILIPPINES: TWA 500 PPM (1740 MG/M3), JAN1993

OEL-POLAND: MAC (TWA) 20 MG/M3, STEL 50 MG/M3, JAN1999

OEL-RUSSIA: TWA 100 PPM, STEL 50 MG/M3, JAN1993

OEL-SWEDEN: NGV 35 PPM (120 MG/M3), KTV 70 PPM (250 MG/M3), SKIN

JAN1999

OEL-SWITZERLAND: MAK-W 100 PPM (360 MG/M3), KZG-W 500 PPM (1800 MG/M3),

JAN1999

OEL-THAILAND: TWA 500 MG/M3, STEL 1000 MG/M3, JAN1993

OEL-TURKEY: TWA 500 PPM (1740 MG/M3), JAN1993
 OEL-UNITED KINGDOM: TWA 100 PPM (350 MG/M3), STEL 300 PPM, SEP2000
 OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;
 OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
 NIOSH REL TO METHYLENE CHLORIDE-AIR:CA LOWEST FEASIBLE CONCENTRATION
 NIOSH* DHHS #92-100,1992

NOHS 1974: HZD 47270; NIS 374; TNF 89025; NOS 192; TNE 975696
 NOES 1983: HZD 47270; NIS 363; TNF 87086; NOS 212; TNE 1438196; TFE
 352536

ATSDR TOXICOLOGY PROFILE (NTIS** PB/89/194468/AS)
 EPA GENETOX PROGRAM 1988, POSITIVE: CELL TRANSFORM.-RLV F344 RAT EMBRYO
 EPA GENETOX PROGRAM 1988, POSITIVE: HISTIDINE REVERSION-AMES TEST
 EPA GENETOX PROGRAM 1988, POSITIVE: S CEREVISIAE GENE CONVERSION; S
 CEREVISIAE-HOMOZYGOSIS
 EPA GENETOX PROGRAM 1988, POSITIVE: S CEREVISIAE-REVERSION
 EPA GENETOX PROGRAM 1988, NEGATIVE: D MELANOGASTER SEX-LINKED LETHAL
 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 CURRENT INTELLIGENCE BULLETIN 46, 1986
 NIOSH ANALYTICAL METHOD, 1994: METHYLENE CHLORIDE, 1005
 NIOSH ANALYTICAL METHOD, 1996: VOLATILE ORGANIC COMPOUND, 2549
 NTP CARCINOGENESIS STUDIES (INHALATION);CLEAR EVIDENCE:MOUSE,RAT
 NTPTR* NTP-TR-306,1986
 NTP 9TH REPORT ON CARCINOGENS,2000:REASONABLY ANTICIPATED TO BE HUMAN
 CARCINOGEN
 OSHA ANALYTICAL METHOD #ID-59

U.S. INFORMATION

THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.
 THIS PRODUCT IS OR CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF
 CALIFORNIA TO CAUSE CANCER.

SECTION 16. - - - - - OTHER INFORMATION- - - - -
 THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO
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