Material Safety Data Sheet

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 * KHILADON 30 * METHANE DICHORIDE * METHYLENE BICHLORIDE * METHYLENE CHLORIDE (ACGIH: OSHA) * METHYLENE DICHLORIDE * METYLenuity 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 -21078
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,
REDDUCING THE OXYGEN-CARRYING CAPACITY OF THE BLOOD.
A SIMPLE ASPHYXIANT. 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
SONNOLANCE
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
RTCS #: PA8050000
METHANE, DICHLORO-
IRRITATION DATA
SKN-RBT 810 MG/24H SEV
SKN-RBT 100 MG/24H MOD
EYE-RBT 162 MG MOD
EYE-RBT 10 MG MLD
EYE-RBT 500 MG/24H MLD

TOXICITY DATA
ORL-MNN LD50:357 MG/KG
ORL-RAT LD50:1600 MG/KG
HL-RAT LC50:52 GM/M2
PRF-RAT LD50:916 MG/KG
UNR-RAT LD50:5350 MG/KG
ORL-MUS LD50:873 MG/KG
EJTXAZ 9,171,1976
85JCAE - ,88,1986
EJTXAZ 9,171,1976
TXICAC 6,173,1976
85JCAE - ,88,1986
34ZIAQ - ,390,1969
FAONAU 48A,94,1970
TPKVAL 15,64,1979
ENVRAL 40,411,1986
GISAAA 53 (6),78,1988
EVHPAZ 106 (SUPPL)
2),497,1998
NIHBZ 191,1,1949
AGPHR 18,109,1960
TARPAS 4,354,1962
ESKGA2 28,31,1982
TXAPAS 10,119,1967
GISAAA 53 (6),78,1988
TARGET ORGAN DATA
PERIPHERAL NERVE AND SENSATION (PARESTHESIA)
BEHAVIORAL (ALTERED SLEEP TIME)
BEHAVIORAL (EUPHORIA)
BEHAVIORAL (SONNOLANCE)
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 (UGENITAL SYSTEM)
TUMORIGENIC (CARCINOGENIC BY RTCS CRITERIA)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES

http://infonew.sigma-aldrich.com/cgi-bin/gx.cgi/Applogic+MSDSInfo.ReturnMSDS 7/15/02
(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 DICHLROMETHANE(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
EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
FEREAC 54,7740,1989
MSHA STANDARD-AIR:TWA 500 PPM (1750 MG/M3)
DTLV* 3,171,1971
OSHA PEL (GEN INDU):8H TWA 500 PPM:CL 1000 PPM;PK 2000 PPM/5M/2H
CFRGR 29,1910.1000,1994
OSHA PEL (CONSTRUCT):SEE 56 FR 57036
CFRGR 29,1926.55,1994
OSHA PEL (SHIPYARD):8H TWA 500 PPM (1740 MG/M3)
CFRGR 29,1915.1000,1993
OSHA PEL (PED CONT):8H TWA 500 PPM (1740 MG/M3)
CFRGR 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), JAN1999
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, JAN1999

http://infonew.sigma-aldrich.com/cgi-bin/gx.cgi/Applogic+MSDSInfo.ReturnMSDS 7/15/02
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; TFE 839075; NOS 192; TNE 975696
NOHS 1983: HZD 47270; NIS 363; TFE 87086; NOS 212; TNE 1438196; TFE
352536
ATSDR TOXICOLOGY PROFILE (NTIS** PB/89/194468/AS)
EPA GENETOX PROGRAM 1988, POSITIVE: CELL TRANSFORM.-RLV 3444 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 BASH, 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
NTPFTR* 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- - - - - - - - -
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