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\*\*METHYLENE CHLORIDE\*\*  
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MATERIAL SAFETY DATA SHEET

FISHER SCIENTIFIC  
CHEMICAL DIVISION  
1 REAGENT LANE  
FAIR LAWN NJ 07410  
(201) 796-7100

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SUBSTANCE IDENTIFICATION

SUBSTANCE: \*\*METHYLENE CHLORIDE\*\* CAS-NUMBER 75-09-2

TRADE NAMES/SYNONYMS:  
METHANE, DICHLORO-; METHYLENE CHLORIDE; METHYLENE DICHLORIDE;  
METHANE DICHLORIDE; SOLAESTHIN; NARKOTIL; SOLMETHINE; DICHLOROMETHANE;  
RCRA U080; STCC 4941132;  
D150; D143; D142; D123; D35; D37; D37S; D37SK; D150SK; D143SK; D151; BP1186;  
D152; UN 1593; CH2CL2; ACC14930

CHEMICAL FAMILY:  
HALOGEN COMPOUND, ALIPHATIC

MOLECULAR FORMULA: C-H2-CL2

MOLECULAR WEIGHT: 84.93

CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=1 REACTIVITY=0 PERSISTENCE=1  
NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=1 REACTIVITY=0

COMPONENTS AND CONTAMINANTS

COMPONENT: METHYLENE CHLORIDE PERCENT: 100.0  
CAS# 75-09-2

OTHER CONTAMINANTS: NONE

EXPOSURE LIMITS:  
DICHLOROMETHANE (METHYLENE CHLORIDE):  
500 PPM OSHA TWA; 1000 PPM OSHA CEILING; 2000 PPM/5 MIN IN 2 HOURS OSHA PEAK  
50 PPM (174 MG/M3) ACGIH TWA  
ACGIH A2 - SUSPECTED HUMAN CARCINOGEN  
LOWEST FEASIBLE LIMIT NIOSH RECOMMENDED EXPOSURE CRITERIA  
100 PPM (360 MG/M3) DFG MAK TWA;  
500 PPM (1800 MG/M3) DFG MAK 30 MINUTE PEAK, AVERAGE VALUE, 2 TIMES/SHIFT

MEASUREMENT METHOD: CHARCOAL TUBE (2); CARBON DISULFIDE; GAS CHROMATOGRAPHY  
WITH FLAME IONIZATION DETECTION; (NIOSH VOL. III # 1005).

1000 POUNDS CERCLA SECTION 103 REPORTABLE QUANTITY  
SUBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING  
SUBJECT TO CALIFORNIA PROPOSITION 65 CANCER AND/OR REPRODUCTIVE TOXICITY  
WARNING AND RELEASE REQUIREMENTS- (APRIL 1, 1988)

PHYSICAL DATA

DESCRIPTION: CLEAR, COLORLESS LIQUID WITH AN MILD, CHLOROFORM-LIKE ODOR

BOILING POINT: 104 F (40 C) MELTING POINT: -139 F (-95 C)

SPECIFIC GRAVITY: 1.3266 VOLATILITY: 100%

VAPOR PRESSURE: 400 MMHG @ 24 C EVAPORATION RATE: (BUTYL ACETATE=1) 27.5

SOLUBILITY IN WATER: 1.32% @ 20 C ODOR THRESHOLD: 25-50 PPM

VAPOR DENSITY: 2.9

SOLVENT SOLUBILITY: SOLUBLE IN ALCOHOL, ETHER, DIMETHYLFORMAMIDE, PHENOLS,  
ALDEHYDES, KETONES, GLACIAL ACETIC ACID, TRIETHYL PHOSPHATE, ACETOACETIC ACID,  
CYCLOHEXYLAMINE, CHLORINATED SOLVENTS.

VISCOSITY: 0.441 CPS @ 20 C

FIRE AND EXPLOSION DATA

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FIRE AND EXPLOSION HAZARD:  
SLIGHT FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.

UPPER EXPLOSIVE LIMIT: 23% LOWER EXPLOSIVE LIMIT: 13%

AUTOIGNITION TEMP.: 1033 F (556 C)

FIREFIGHTING MEDIA:  
DRY CHEMICAL OR CARBON DIOXIDE  
(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM  
(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

FIREFIGHTING:  
APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL  
WELL AFTER FIRE IS OUT. STAY AWAY FROM ENDS OF TANKS. ISOLATE FOR 1/2 MILE IN  
ALL DIRECTIONS IF TANK, RAIL CAR OR TANK TRUCK IS INVOLVED IN FIRE (1990  
EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 74).

EXTINGUISH USING AGENTS SUITABLE FOR SURROUNDING FIRE. USE FLOODING QUANTITIES  
OF WATER TO COOL AFFECTED CONTAINERS, APPLYING FROM AS FAR A DISTANCE AS  
POSSIBLE. AVOID BREATHING HAZARDOUS VAPORS, KEEP UNWIND.

TRANSPORTATION DATA

DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49-CFR 172.101:  
ORM-A

DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49-CFR 172.101 AND  
SUBPART E:  
NONE

DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49-CFR 173.605  
EXCEPTIONS: 49-CFR 173.505

FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180),  
DOCKET NUMBERS HM-181, HM-181A, HM-181B, HM-181C, HM-181D AND HM-204  
EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS  
AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/90)

EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE  
EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO  
OCTOBER 1, 1993. (56 FR 47158, 09/18/91)

U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101:  
DICHLOROMETHANE-UN 1593

U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101:  
6.1 - POISONOUS MATERIALS

U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101:  
PG III

U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101  
AND SUBPART E:  
KEEP AWAY FROM FOOD

U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS:  
EXCEPTIONS: 49 CFR 173.153  
NON-BULK PACKAGING: 49 CFR 173.203  
BULK PACKAGING: 49 CFR 173.241

U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101:  
PASSENGER AIRCRAFT OR RAILCAR: 60 L  
CARGO AIRCRAFT ONLY: 220 L

TOXICITY

DICHLOROMETHANE (METHYLENE CHLORIDE):  
IRRITATION DATA: 162 MG EYE-RABBIT MODERATE; 10 MG EYE-RABBIT MILD;  
500 MG/24 HOURS EYE-RABBIT MILD; 810 MG/24 HOURS SKIN-RABBIT SEVERE;  
100 MG/24 HOURS SKIN-RABBIT MODERATE.

TOXICITY DATA: 500 PPM/1 YEAR-INTERMITTENT INHALATION-HUMAN TCLO; 500 PPM/8  
HOURS INHALATION-HUMAN TCLO; 88000 MG/M3/30 MINUTES INHALATION-RAT LC50;  
552 PPM/6 HOURS/5 DAY INTERMITTENT INHALATION-RAT TCLO; 14400 PPM/7 HOURS  
INHALATION-MOUSE LC50; 10000 PPM/7 HOURS INHALATION-RABBIT LCLO;  
LCLO; 5000 PPM/2 HOURS INHALATION-GUINEA PIG LCLO; 14108 PPM/7 HOURS  
INHALATION-DOG LCLO; 43400 MG/M3/4.5 HOURS INHALATION-CAT LCLO; 357 MG/KG  
ORAL-HUMAN LDLO; 1600 MG/KG ORAL-RAT LD50; 1900 MG/KG ORAL-RABBIT LDLO;  
3 GM/KG ORAL-DOG LDLO; 6460 MG/KG SUBCUTANEOUS-MOUSE LD50; 2700 MG/KG  
SUBCUTANEOUS-RABBIT LDLO; 200 MG/KG INTRAVENOUS-DOG LDLO; 916 MG/KG  
INTRAPERITONEAL-RAT LD50; 437 MG/KG INTRAPERITONEAL-MOUSE LD50; 950 MG/KG  
INTRAPERITONEAL-DOG LDLO; 4770 MG/KG UNREPORTED-MOUSE LD50; MUTAGENIC DATA  
(RTECS) REPRODUCTIVE EFFECTS DATA (RTECS); TUMORIGENIC DATA (RTECS)  
CARCINOGEN STATUS: ANTICIPATED HUMAN CARCINOGEN (NTP); HUMAN INADEQUATE  
EVIDENCE, ANIMAL SUFFICIENT EVIDENCE (IARC GROUP-2B). EXPOSURE BY INHALATION

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INCREASED THE INCIDENCE OF BENIGN AND MALIGNANT LUNG AND LIVER TUMORS IN MICE OF EACH SEX AND THE INCIDENCE OR MULTIPLICITY OF BENIGN MAMMARY TUMORS IN RATS OF EACH SEX; IN MALE RATS, AN INCREASED INCIDENCE OF SARCOMAS LOCATED IN THE NECK WAS ALSO OBSERVED.

LOCAL EFFECTS: IRRITANT- INHALATION, SKIN, EYE.

ACUTE TOXICITY LEVEL: MODERATELY TOXIC BY INHALATION AND INGESTION.

TARGET EFFECTS: CENTRAL NERVOUS SYSTEM DEPRESSANT; CHEMICAL ASPHYXANT. POISONING MAY AFFECT THE BLOOD, LIVER AND KIDNEYS.

AT INCREASED RISK FROM EXPOSURE: PERSONS WITH SKIN, LIVER, KIDNEY, CARDIOVASCULAR DISEASE OR ANEMIA.

ADDITIONAL DATA: CONCURRENT EXPOSURE TO OTHER SOURCES OF CARBON MONOXIDE, SMOKING, OR PHYSICAL ACTIVITY MAY INCREASE THE LEVEL OF CARBOXYHEMOGLOBIN IN THE BLOOD RESULTING IN ADDITIVE EFFECTS. ALCOHOL MAY ENHANCE THE TOXIC EFFECTS. STIMULANTS SUCH AS EPINEPHRINE MAY INDUCE CARDIAC ARRHYTHMIAS. ONE STUDY INDICATED THAT CHRONIC EXPOSURE MAY BE ASSOCIATED WITH AN INCREASED RISK OF SPONTANEOUS ABORTION. DICHLOROMETHANE CROSSES THE PLACENTA AND IS EXCRETED IN BREAST MILK.

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HEALTH EFFECTS AND FIRST AID

## INHALATION:

DICHLOROMETHANE (METHYLENE CHLORIDE):

IRRITANT/NARCOTIC/CHEMICAL ASPHYXANT/CARCINOGEN.

ACUTE EXPOSURE- HUMAN EXPOSURE TO 100 PPM HAS RESULTED IN UPPER RESPIRATORY TRACT IRRITATION; CONCENTRATIONS AS LOW AS 200 PPM HAVE PRODUCED TEMPORARY NEUROBEHAVIOURAL EFFECTS; 500-1000 PPM FOR 1-2 HOURS HAS CAUSED LIGHTHEADEDNESS AND ELEVATED CARBOXYHEMOGLOBIN LEVEL; 2300 PPM FOR 30 MINUTES HAS CAUSED NAUSEA AND NARCOSIS; 5000 PPM HAS CAUSED HEADACHE, FATIGUE, NEURASTHENIC DISORDERS AND DIGESTIVE DISTURBANCES. OTHER SYMPTOMS MAY INCLUDE DIZZINESS, TINGLING, NUMBNESS OF THE EXTREMITIES, A SENSATION OF HEAT, A SENSATION OF FULLNESS IN THE HEAD, DRUNKENNESS, STUPOR, DULLNESS AND MENTAL CONFUSION. MASSIVE EXPOSURE MAY CAUSE PHARYNGEAL EROSION, PULMONARY EDEMA, STAGGERING, HEMOLYSIS WITH GROSS HEMATURIA, RAPID UNCONSCIOUSNESS AND DEATH. RECOVERY IS GENERALLY COMPLETE IF EXPOSURE IS TERMINATED BEFORE ANESTHETIC DEATH. EXPOSURE TO HIGH LEVELS MAY ALSO CAUSE CARDIAC ARRHYTHMIAS.

CHRONIC EXPOSURE- MORE THAN 100 WORKERS EXPOSED TO LEVELS BELOW 500 PPM HAVE DEVELOPED HEALTH PROBLEMS INCLUDING SIGNIFICANT UPPER RESPIRATORY IRRITATION, EXACERBATION OF CORONARY ARTERY DISEASE, AND A HIGH INCIDENCE OF NEUROTOXICITY; INCREASED COMPLAINTS OF CHEST PAINS WERE REPORTED AT CONCENTRATIONS OF 10 TO 35 PPM. REPEATED HUMAN EXPOSURE TO 500-3600 PPM HAS CAUSED SIGNS OF TOXIC ENCEPHALOPATHY WITH ACOUSTICAL AND OPTICAL DELUSIONS AND HALLUCINATIONS. A CASE OF SERIOUS CEREBRAL DETERIORATION WAS OBSERVED IN AN INDIVIDUAL EXPOSED FOR SEVERAL YEARS TO DICHLOROMETHANE. IN A MORTALITY STUDY OF TWO GROUPS OF WORKERS, ONE EXPOSED TO ACETONE AND THE OTHER TO DICHLOROMETHANE AND ACETONE, A STATISTICALLY SIGNIFICANT DIFFERENCE IN DEATHS FROM DISEASES OF THE CIRCULATORY SYSTEM AND FROM ISCHEMIC HEART DISEASE WERE REPORTED FROM THE DICHLOROMETHANE AND ACETONE GROUP. IN ANOTHER MORTALITY STUDY OF WORKERS EXPOSED TO DICHLOROMETHANE, A SIGNIFICANT INCREASE IN HYPERTENSIVE DISEASE AND A "SUGGESTIVE EXCESS" OF PANCREATIC CANCER WERE REPORTED. LIVER DISEASE HAS BEEN REPORTED IN WORKERS. IN ONE STUDY, AN INCREASE IN SERUM BILIRUBIN WAS OBSERVED IN EXPOSED WORKERS, BUT NO OTHER SIGN OF LIVER INJURY OR HEMOLYSIS WAS REPORTED. ADVERSE LIVER EFFECTS WERE OBSERVED IN SEVERAL ANIMAL SPECIES CHEMICALLY EXPOSED. TESTICULAR ATROPHY WAS REPORTED IN MICE EXPOSED TO 4000 PPM OVER 2 YEARS.

REPEATED INHALATION BY RODENTS PRIOR TO AND/OR DURING GESTATION CAUSED FETAL SKELETAL ABNORMALITIES AND BEHAVIORAL EFFECTS IN NEWBORN OFFSPRING. REPEATED INHALATION INCREASED THE INCIDENCE OF BENIGN AND MALIGNANT LUNG AND LIVER TUMORS IN MICE OF EACH SEX AND THE INCIDENCE OR MULTIPLICITY OF BENIGN MAMMARY TUMORS IN RATS OF EACH SEX; IN MALE RATS, AN INCREASED INCIDENCE OF SARCOMAS LOCATED IN THE NECK WAS ALSO OBSERVED.

FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. MAINTAIN AIRWAY AND BLOOD PRESSURE AND ADMINISTER OXYGEN IF AVAILABLE. KEEP AFFECTED PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. ADMINISTRATION OF OXYGEN SHOULD BE PERFORMED BY QUALIFIED PERSONNEL. GET MEDICAL ATTENTION IMMEDIATELY.

## SKIN CONTACT:

DICHLOROMETHANE (METHYLENE CHLORIDE):

IRRITANT.

ACUTE EXPOSURE- MAY CAUSE EFFECTS RANGING FROM MILD IRRITATION TO SEVERE PAIN, PARESTHESIAS, AND POSSIBLY BURNS, DEPENDING ON THE INTENSITY OF CONTACT.

CHRONIC EXPOSURE- PROLONGED OR REPEATED CONTACT MAY CAUSE A DRY, SCALY AND FISSURED DERMATITIS DUE TO DEFATTING ACTION OF LIQUID ON SKIN.

FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

## EYE CONTACT:

DICHLOROMETHANE (METHYLENE CHLORIDE):

IRRITANT.

ACUTE EXPOSURE- VAPOR CONCENTRATIONS ABOVE 2000 PPM MAY CAUSE IRRITATION. DIRECT CONTACT MAY CAUSE PAIN AND EXTREME IRRITATION, BUT IT IS NOT

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LIKELY TO CAUSE SERIOUS INJURY. 10 MG APPLIED TO RABBIT EYES PRODUCED KERATITIS, IRITIS, INCREASED CORNEAL THICKNESS, AND INFLAMMATION OF THE CONJUNCTIVA AND EYELIDS WITH SOME EFFECTS LASTING UP TO TWO WEEKS. CHRONIC EXPOSURE- REPEATED OR PROLONGED EXPOSURE TO IRRITANTS MAY CAUSE CONJUNCTIVITIS.

FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

## INGESTION:

DICHLOROMETHANE (METHYLENE CHLORIDE):  
NARCOTIC/CHEMICAL ASPHYXANT

ACUTE EXPOSURE: MAY CAUSE RAPID, THEN SLOWED RESPIRATION, GLOTTAL AND PHARYNGEAL EDEMA, INTRAVASCULAR HEMOLYSIS WITH GROSS HEMATURIA, GASTROINTESTINAL ULCERATION AND HEMORRHAGE, AND CARBOXYHEMOGLOBINEMIA. THESE SYMPTOMS MAY PROGRESS RAPIDLY TO UNCONSCIOUSNESS AND LACK OF RESPONSE TO PAINFUL STIMULI. PHARYNGEAL EROSIONS MAY DISTURB THE SWALLOWING MECHANISM RESULTING IN ASPIRATION PNEUMONIA. IN ADDITION, SYMPTOMS OF CENTRAL NERVOUS SYSTEM DEPRESSION MAY OCCUR FOLLOWED BY CONVULSIONS AND PARESTHESIA OF THE EXTREMITIES. LARGE DOSES MAY CAUSE LIVER AND KIDNEY DAMAGE. THE ESTIMATED LETHAL DOSE FOR AN ADULT IS 25 GRAMS.

CHRONIC EXPOSURE- REPEATED INGESTION BY RATS AND MICE RESULTED IN HISTOMORPHOLOGICAL CHANGES IN THE LIVER.

FIRST AID- REMOVE BY GASTRIC LAVAGE OR EMESIS. MAINTAIN BLOOD PRESSURE AND AIRWAY. GIVE OXYGEN IF RESPIRATION IS DEPRESSED. DO NOT PERFORM GASTRIC LAVAGE OR EMESIS IF VICTIM IS UNCONSCIOUS. GET MEDICAL ATTENTION IMMEDIATELY (DREIBACH, HANDBOOK OF POISONING, 12TH ED.). ADMINISTRATION OF GASTRIC LAVAGE OR OXYGEN SHOULD BE PERFORMED BY QUALIFIED MEDICAL PERSONNEL.

## ANTIDOTE:

NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.

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REACTIVITY

## REACTIVITY:

STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.

## INCOMPATIBILITIES:

DICHLOROMETHANE (METHYLENE CHLORIDE):

ALKALI METALS: POSSIBLE EXPLOSIVE REACTION.

ALUMINUM: VIOLENT, UNCONTROLLABLE REACTION ABOVE 95 C.

CAUSTICS (STRONG): VIGOROUS, POSSIBLY VIOLENT REACTION.

COPPER: MAY CORRODE AT ELEVATED TEMPERATURES IN THE PRESENCE OF MOISTURE.

DINITROGEN PENTOXIDE: POSSIBLE EXPLOSION.

DINITROGEN TETROXIDE: FORMS SHOCK-SENSITIVE MIXTURE.

IRON: MAY CORRODE AT ELEVATED TEMPERATURES IN THE PRESENCE OF MOISTURE.

LITHIUM: FORMS SHOCK-SENSITIVE MIXTURE.

MAGNESIUM: POSSIBLE EXPLOSION.

NICKEL: MAY CORRODE AT ELEVATED TEMPERATURES IN THE PRESENCE OF MOISTURE.

NITRIC ACID: EXOTHERMIC REACTION YIELDING DETONABLE SOLUTION.

OXIDIZERS (STRONG): FIRE AND EXPLOSION HAZARD.

OXYGEN (LIQUID): EXPLOSIVE REACTION ON IGNITION.

PLASTICS, RUBBER, AND COATINGS: MAY BE ATTACKED.

POTASSIUM: EXPLOSIVE REACTION.

POTASSIUM HYDROXIDE + N-METHYL-N-NITROSO UREA: POSSIBLE EXPLOSION.

POTASSIUM TERT-BUTOXIDE: IGNITION REACTION.

SODIUM: FORMS SHOCK-SENSITIVE MIXTURE.

SODIUM-POTASSIUM ALLOY: FORMS SHOCK-SENSITIVE MIXTURE.

STAINLESS STEEL: MAY CORRODE AT ELEVATED TEMPERATURES IN THE PRESENCE OF MOISTURE.

TITANIUM: POSSIBLE VIOLENT REACTION.

ZINC: POSSIBLE VIOLENT REACTION.

## DECOMPOSITION:

THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC AND HAZARDOUS PHOSGENE GAS, TOXIC AND CORROSIVE FUMES OF CHLORIDES, AND OXIDES OF CARBON.

## POLYMERIZATION:

HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.

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STORAGE AND DISPOSAL

OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE.

\*\*STORAGE\*\*

PROTECT AGAINST PHYSICAL DAMAGE. STORE IN COOL, DRY, WELL VENTILATED LOCATION, AWAY FROM ANY AREA WHERE THE FIRE HAZARD MAY BE ACUTE (NFPA 49, HAZARDOUS CHEMICALS DATA, 1975).

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STORE IN A TIGHTLY CLOSED CONTAINER.  
STORE UNDER NITROGEN.  
STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

**\*\*DISPOSAL\*\***

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40CFR 262. EPA HAZARDOUS WASTE NUMBER U080.

\*\*\*\*\*  
CONDITIONS TO AVOID

MAY BURN BUT DOES NOT IGNITE READILY. CONTAINER MAY EXPLODE IN HEAT OF FIRE.

\*\*\*\*\*  
SPILL AND LEAK PROCEDURES

**SOIL SPILL:**  
DIG A HOLDING AREA SUCH AS A PIT, POND OR LAGOON TO CONTAIN SPILL AND DIKE SURFACE LOW USING BARRIER OF SOIL, SANDBAGS, FOAMED POLYURETHANE OR FOAMED CONCRETE. ABSORB LIQUID MASS WITH FLY ASH OR CEMENT POWDER.

**AIR SPILL:**  
APPLY WATER SPRAY TO KNOCK DOWN VAPORS.

**WATER SPILL:**  
TRAP SPILLED MATERIAL AT BOTTOM IN DEEP WATER POCKETS, EXCAVATED HOLDING AREAS OR WITHIN SAND BAG BARRIERS.

USE SUCTION HOSES TO REMOVE TRAPPED SPILL MATERIAL.

THE CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (PROPOSITION 65) PROHIBITS CONTAMINATING ANY KNOWN SOURCE OF DRINKING WATER WITH SUBSTANCES KNOWN TO CAUSE CANCER AND/OR REPRODUCTIVE TOXICITY.

**OCCUPATIONAL SPILL:**  
SHUT OFF IGNITION SOURCES. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. FOR SMALL LIQUID SPILLS, TAKE UP WITH SAND, EARTH OR OTHER ABSORBENT MATERIAL. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. NO SMOKING, FLAMES OR FLARES IN HAZARD AREA! KEEP UNNECESSARY PEOPLE AWAY.

**REPORTABLE QUANTITY (RQ):** 1000 POUNDS  
THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6).

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**PROTECTIVE EQUIPMENT**

**VENTILATION:**  
PROCESS ENCLOSURE RECOMMENDED TO MEET PUBLISHED EXPOSURE LIMITS.

**RESPIRATOR:**  
THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF LABOR, 29 CFR 1910 SUBPART Z.  
THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).

**DICHLOROMETHANE (METHYLENE CHLORIDE):**  
AT ANY DETECTABLE CONCENTRATION:

ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.  
ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

**ESCAPE-** ANY AIR-PURIFYING, FULL-FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE, FRONT- OR BACK-MOUNTED ORGANIC VAPOR CANISTER.  
ANY APPROPRIATE ESCAPE-TYPE, SELF-CONTAINED BREATHING APPARATUS.

**FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:**

ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN

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AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

**CLOTHING:**  
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT REPEATED OR PROLONGED SKIN CONTACT WITH THIS SUBSTANCE.

**GLOVES:**  
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.

**EYE PROTECTION:**  
EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES AND A FACESHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE.

**EMERGENCY WASH FACILITIES:**  
WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

AUTHORIZED - FISHER SCIENTIFIC, INC.  
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-ADDITIONAL INFORMATION-

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