

MATERIAL SAFETY DATA SHEET
COMPLIES WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200
DATE OF PREP: 12/29/88

SECTION 1

SUNNYSIDE CORPORATION
225 CARPENTER AVE
WHEELING, ILLINDIS 60090
EMERGENCY TELEPHONE (312) 541-5700 ... SUNNYSIDE CORPORATION
----- (800) 424-9300 ... CHEM TREC

FDR
INFORMATION: (312) 541-5700

PRODUCT CLASS: CHLDRINATED HYDROCARBON MANUFACTURER'S CODE: 860

TRADE NAME: CARBO-CHLDR NPCA HMIS: H 3 F1 RD
----- (1,1,1-TRICHLOROETHANE) -----

PRODUCT APPEARANCE AND ODOR: CLEAR, COLORLESS LIQUID WITH A CHLOROFORM-LIKE
----- ODOR. -----

SECTION 2 HAZARDOUS INGREDIENTS

INGREDIENT	CAS #	PERCENT	OCCUFATIONAL EXPOSURE LIMITS		VAPOR PRESSURE
			TLV	PEL	
1,1,1-TRICHLORO-ETHANE	71-55-6	>95%	350 PPM	350 PPM	100 MM HG @20 C.
DIETHYLENE ETHER	123-91-1	< 5%			

NOTE: THE HAZARD INFORMATION PRESENTED IS BASED ON TESTS CONDUCTED ON THIS OR SIMILAR MIXTURES.

SECTION 3 EMERGENCY AND FIRST AID PROCEDURES

INHALATION: REMOVE TO FRESH AIR. IF BREATHING HAS STOPPED, ADMINISTER ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION IMMEDIATELY.
EYES: FLUSH EYES IMMEDIATELY WITH WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.
SKIN: REMOVE CONTAMINATED CLOTHING AND SHDES. WASH SKIN WITH SOAP AND WATER. WASH CONTAMINATED CLOTHING BEFORE REUSE. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.
INGESTION: DO NOT INDUCE VOMITING. CONTACT PHYSICIAN OR EMERGENCY MEDICAL FACILITY IMMEDIATELY.
NOTE TO PHYSICIAN: ADRENALIN SHOULD NEVER BE GIVEN TO PERSONS OVEREXPOSED TO 1,1,1-TRICHLOROETHANE.

SECTION 4 PHYSICAL DATA

THE FOLLOWING DATA REPRESENT APPROXIMATE OR TYPICAL VALUES. THEY DO NOT CONSTITUTE PRODUCT SPECIFICATIONS.

BOILING RANGE: 165 DG. F (I.B.P.) VAPOR DENSITY: HEAVIER THAN AIR
EVAPORATION RATE: SLOWER THAN ETHER % VOLATILE BY VOLUME: 100%
WEIGHT PER GALLON: 10.82 LBS.
SOLUBILITY IN WATER: 0.07 GM./100 GM @25 C.

-----SECTION 5 FIRE & EXPLOSION DATA-----

FLAMMABILITY CLASSIFICATION: NON-FLAMMABLE.

FLASH POINT: NONE (TAG. CLOSED CUP)

LOWER EXPLOSIVE LIMIT: 7.5%

EXTINGUISHING MEDIA: WATER FOG, DRY CHEMICAL, FOAM, CARBON DIOXIDE. DO NOT USE DIRECT WATER STREAM IT WILL SPREAD FIRE.

UNUSUAL FIRE AND EXPLOSION HAZARDS: CONCENTRATED VAPORS CAN BE IGNITED BY HIGH INTENSITY IGNITION SOURCE. THERMAL DECOMPOSITION GENERATES TOXIC AND IRRITATING VAPORS.

SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS SHOULD WEAR SELF-CONTAINED POSITIVE PRESSURE BREATHING APPARATUS. STORAGE CONTAINERS EXPOSED TO FIRE SHOULD BE KEPT COOL WITH A WATER SPRAY, IN ORDER TO PREVENT PRESSURE BUILD-UP.

-----SECTION 6 HEALTH HAZARD DATA-----

THRESHOLD LIMIT VALUE: 350 PPM TWA (ACGIH)

EFFECTS OF OVEREXPOSURE:

ACUTE: EXCESSIVE INHALATION OR INGESTION MAY PRODUCE SYMPTOMS OF CENTRAL NERVOUS SYSTEM DEPRESSION RANGING FROM LIGHT-HEADEDNESS TO UNCONSCIOUSNESS AND DEATH. EXPOSURE OF THE EYE AND SKIN TO VAPORS OR LIQUID MAY PRODUCE IRRITATION.

CHRONIC: CAN CAUSE HEADACHE, MENTAL CONFUSION, DEPRESSION, FATIGUE, LOSS OF APPETITE, NAUSEA, VOMITING, COUGH, LOSS OF SENSE OF BALANCE, AND VISUAL DISTURBANCES. PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE DERMATITIS. LONG TERM EFFECTS INCLUDING CARCINOGENICITY, TERATOGENICITY AND MUTAGENICITY HAVE NOT BEEN DEMONSTRATED.

ROUTES OF EXPOSURE:

INHALATION: MAJOR POTENTIAL ROUTE OF EXPOSURE. DIZZINESS, DROWSINESS, AND THROAT IRRITATION AT LEVELS ABOVE 1,000 PPM. UNCONSCIOUSNESS AND DEATH POSSIBLE AT LEVELS ABOVE 10,000 PPM. BLOOD PRESSURE DEPRESSION, CARDIAC SENSITIZATION, AND VENTRICULAR ARRHYTHMIA CAN RESULT FROM EXPOSURE TO NEAR-ANESTHETIC LEVELS.

SKIN: PROLONGED OR REPEATED SKIN CONTACT CAN CAUSE IRRITATION, DEFATTING OF SKIN, AND DERMATITIS. ABSORPTION OF LIQUID THROUGH INTACT SKIN IS A POSSIBLE, BUT UNLIKELY ROUTE OF SIGNIFICANT EXPOSURE. IT CAN RESULT IN SYSTEMIC EFFECTS.

EYES: LIQUID CAN CAUSE SLIGHT TEMPORARY IRRITATION WITH SLIGHT TEMPORARY CORNEAL INJURY. VAPORS CAN IRRITATE EYES.

INGESTION: SINGLE DOSE TOXICITY IS LOW TO MODERATE. IF VOMITING OCCURS, 1,1,1-TRICHLOROETHANE CAN BE ASPIRATED INTO THE LUNGS, WHICH CAN CAUSE CHEMICAL PNEUMONIA AND SYSTEMIC EFFECTS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: ACUTE AND CHRONIC LIVER DISEASE AND RHYTHM DISORDERS OF THE HEART.

CARCINOGENICITY: THE AVAILABLE DATA INDICATES THAT 1,1,1-TRICHLOROETHANE IS NOT CARCINOGENIC IN LABORATORY ANIMALS. 1,1,1-TRICHLOROETHANE IS NOT LISTED ON THE OSHA, IARC OR NTP CARCINOGEN LISTS.

-----SECTION 7 REACTIVITY DATA-----

STABILITY: STABLE UNDER NORMAL CONDITIONS.

CONDITIONS TO AVOID: HEAT, OPEN FLAME OR ELECTRICAL ARCS.

INCOMPATIBILITY (MATERIALS TO AVOID): AVOID CONTACTING THIS PRODUCT WITH PURE OXYGEN OR ALKALI METALS.

HAZARDOUS DECOMPOSITION PRODUCTS: AT HIGH TEMPERATURES THIS PRODUCT DECOMPOSES TO GIVE OFF HYDROGEN CHLORIDE VAPOR AND SMALL QUANTITIES OF OTHER TOXIC AND IRRITATING VAPORS.

HAZARDOUS POLYMERIZATION: NOT KNOWN TO OCCUR.

-----SECTION 8 SPILL OR LEAK PROCEDURES-----

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED: REMOVE IGNITION SOURCES, EVACUATE AREA, AVOID BREATHING VAPORS OR CONTACT WITH LIQUID. RECOVER FREE LIQUID OR STOP LEAK IF POSSIBLE. DIKE LARGE SPILLS AND USE ABSORBENT MATERIAL FOR SMALL SPILLS. KEEP SPILLED MATERIAL OUT OF SEWERS, DITCHES AND BODIES OF WATER. AVOID CONTAMINATING GROUND AND SURFACE WATERS.

WASTE DISPOSAL METHOD: SEND TO A LICENSED RECLAIMER OR INCINERATOR. DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

-----SECTION 9 SAFE HANDLING AND USE INFORMATION-----

RESPIRATORY PROTECTION: NOT REQUIRED UNDER NORMAL USE. USE A NIOSH/MSHA APPROVED RESPIRATOR WHERE MIST, SPRAY OR VAPOR IS GENERATED AND EXCEEDS TLV.

VENTILATION: DO NOT USE IN CLOSED OR CONFINED SPACE. OPEN DOORS AND/OR WINDOWS. USE VENTILATION TO MAINTAIN EXPOSURE LEVELS BELOW 350 PPM (TWA).

PROTECTIVE GLOVES: WEAR SOLVENT-RESISTANT GLOVES SUCH AS VITON, POLYVINYL ALCOHOL OR POLYFLUORINATED POLYETHYLENE.

EYE PROTECTION: CHEMICAL GOGGLES AND/OR FACE SHIELD SHOULD BE WORN WHERE SPLASHING IS POSSIBLE. CONTACT LENSES SHOULD NOT BE WORN.

OTHER PROTECTIVE EQUIPMENT: IMPERVIUS CLOTHING OR BOOTS, IF NEEDED. WASH CONTAMINATED CLOTHING BEFORE REUSE.

-----SECTION 10 SPECIAL PRECAUTIONS-----

DEPT. OF LABOR STORAGE CATEGORY: NON-FLAMMABLE

HYGIENIC PRACTICES: AVOID CONTACT WITH SKIN AND AVOID BREATHING VAPORS. DO NOT EAT, DRINK OR SMOKE IN WORK AREAS. WASH HANDS PRIOR TO EATING, DRINKING OR USING RESTROOM.

ADDITIONAL PRECAUTIONS: DO NOT STORE WHERE ZINC OR ALUMINUM ARE USED.

EMPTY CONTAINER WARNING: "EMPTY" CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOR) AND CAN BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. DO NOT ATTEMPT TO CLEAN SINCE RESIDUE IS DIFFICULT TO REMOVE. "EMPTY" DRUMS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED AND PROMPTLY RETURNED TO SUPPLIER OR DISPOSED OF IN AN ENVIRONMENTALLY SAFE MANNER AND IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS.

----- SECTION 11 ADDITIONAL INFORMATION -----

THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICAL(S) WHICH ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372:

TOXIC CHEMICAL	CAS #	APPROXIMATE % BY WEIGHT
1,1,1 TRICHLOROETHANE (METHYL CHLOROFORM)	71-55-6	100.00%

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(LAST PAGE)