


**MATERIAL SAFETY  
DATA SHEET**

24-HOUR EMERGENCY TELEPHONE (606) 324-1133

000577

TRICHLOROETHAN 111 DEGRS COLD/V

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THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

 PRODUCT NAME: TRICHLOROETHAN 111 DEGRS COLD/V  
 CAS NUMBER: 71 55 6

 PAULMAR INC.  
 3316 COMMERCIAL AVE.  
 NORTHBROOK IL 60062

 05 50 029 6931570-  
 DATA SHEET NO: 0001466-009  
 LATEST REVISION DATE: 03/86-86063  
 PRODUCT: 3968500  
 INVOICE: 521836  
 INVOICE DATE: 02/04/87  
 TO: PAULMAR INC.  
 IND. STATE U. AUDIO/VISUAL CNT  
 ROOM 30L NORMAL HALL  
 TERRE HAUTE IN 47809

ATTN: PLANT MGR./SAFETY DIR.

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 SECTION I-PRODUCT IDENTIFICATION  
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GENERAL OR GENERIC ID: CHLORINATED HYDROCARBON

DOT HAZARD CLASSIFICATION: ORM-A

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 SECTION II-COMPONENTS  
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 IF PRESENT, IARC, NTP AND OSHA CARCINOGENS ARE IDENTIFIED IN THIS SECTION  
 SEE DEFINITION PAGE FOR CLARIFICATION

INGREDIENT	% (BY WT)	NOTE
1,1,1-TRICHLOROETHANE CAS #: 71-55-6	90-95 PEL: 350 PPM TLV: 350 PPM	(1)

 (1): CONTAINS A PROPRIETARY INHIBITOR PACKAGE WHICH INCLUDES DIETHYLENE ETHER  
 (1,4-DIOXANE). 1,4-DIOXANE IS LISTED BY NTP AND IARC AS A AN ANIMAL  
 CARCINOGEN. 1,4-DIOXANE HAS A PEL OF 100 PPM-SKIN AND A TLV OF 25 PPM-SKIN.

 ACGIH - SHORT TERM EXPOSURE LIMIT (STEL) FOR 1,1,1-TRICHLOROETHANE IS 450 PPM.  
 NIOSH RECOMMENDS A 350 PPM CEILING LIMIT.

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 SECTION III-PHYSICAL DATA  
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PROPERTY	REFINEMENT	MEASUREMENT
BOILING POINT	FOR PRODUCT	161.60 - 190.40 DEG F ( 72.00 - 88.00 DEG C) @ 760.00 MMHG
VAPOR PRESSURE	FOR PRODUCT	100.00 MMHG ( 69.00 DEG F 20.00 DEG C)
SPECIFIC VAPOR DENSITY	AIR = 1	4.5
SPECIFIC GRAVITY		1.300 - 1.324 ( 77.00 DEG F 25.00 DEG C)
PERCENT VOLATILES		100.00%
EVAPORATION RATE	(ETHYL ETHER = 1)	2.60
APPEARANCE		CLEAR, APHA COLOR 15 MAX
STATE		LIQUID
FORM		HOMOG SOLN

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 SECTION IV-FIRE AND EXPLOSION INFORMATION  
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FLASH POINT NOT APPLICABLE

EXPLOSIVE LIMIT (PRODUCT) LOWER - 7.5%

EXTINGUISHING MEDIA: WATER FOG

HAZARDOUS DECOMPOSITION PRODUCTS; MAY FORM TOXIC MATERIALS; CARBON DIOXIDE AND CARBON MONOXIDE, HYDROGEN CHLORIDE, PHOSGENE, VARIOUS HYDROCARBONS, ETC.

FIREFIGHTING PROCEDURES; WATER MAY BE USED TO KEEP FIRE-EXPOSED CONTAINERS COOL UNTIL FIRE IS OUT.

 WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN  
 PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE WHEN FIGHTING FIRES.  
 SPECIAL FIRE & EXPLOSION HAZARDS; NEVER USE WELDING OR CUTTING TORCH ON OR NEAR  
 DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

NFPA CODES: HEALTH- 2 FLAMMABILITY- 1 REACTIVITY- 0

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 SECTION V-HEALTH HAZARD DATA  
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PERMISSIBLE EXPOSURE LEVEL	350	PPM
THRESHOLD LIMIT VALUE	350	PPM


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 SECTION V-HEALTH HAZARD DATA (CONTINUED)  
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 EFFECTS OF ACUTE OVEREXPOSURE; FOR PRODUCT  
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EYES - CAN CAUSE SEVERE IRRITATION, REDNESS, TEARING, BLURRED VISION.  
 SKIN - PROLONGED OR REPEATED CONTACT CAN CAUSE MODERATE IRRITATION, DEFATTING, DERMATITIS.  
 BREATHING - EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION, DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE, POSSIBLE UNCONSCIOUSNESS, AND EVEN ASPHYXIATION.  
 SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA.

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 FIRST AID:  
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IF ON SKIN: THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDRY CONTAMINATED CLOTHING BEFORE RE-USE.

IF IN EYES: FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY, GET MEDICAL ATTENTION.

IF SWALLOWED: DO NOT INDUCE VOMITING. CALL PHYSICIAN OR TRANSPORT TO AN EMERGENCY FACILITY.

IF BREATHED: IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION. DO NOT GIVE STIMULANTS. EPINEPHRINE OR EPHEDRINE MAY ADVERSELY AFFECT THE HEART WITH FATAL RESULTS.

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 PRIMARY ROUTE(S) OF ENTRY:  
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INHALATION

SKIN CONTACT

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 EFFECTS OF CHRONIC OVEREXPOSURE; FOR PRODUCT  
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OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS APPARENTLY BEEN FOUND TO CAUSE THE FOLLOWING EFFECTS IN LABORATORY ANIMALS: LIVER ABNORMALITIES, KIDNEY DAMAGE, LUNG DAMAGE

OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS BEEN SUGGESTED AS A CAUSE OF THE FOLLOWING EFFECTS IN HUMANS: CARDIAC ABNORMALITY, LIVER ABNORMALITIES, KIDNEY DAMAGE, LUNG DAMAGE

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 SECTION VI-REACTIVITY DATA  
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HAZARDOUS POLYMERIZATION; CANNOT OCCUR

STABILITY; STABLE

INCOMPATIBILITY; AVOID CONTACT WITH: WATER, REACTIVE METALS SUCH AS ALUMINUM AND MAGNESIUM, OPEN FLAME, WELDING ARCS, RESISTANCE HEATERS, ETC., WHICH CAN RESULT IN THERMAL DECOMPOSITION RELEASING HYDROGEN CHLORIDE AND SMALL AMOUNTS OF PHOSGENE AND CHLORINE. STRONG OXIDIZING AGENTS.

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 SECTION VII-SPILL OR LEAK PROCEDURES  
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 STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:  
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SMALL SPILL; ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

LARGE SPILL; PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE, DIKE AREA OF SPILL TO PREVENT SPREADING, PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID MAY BE TAKEN UP ON SAND, CLAY, EARTH, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND SHOVELED INTO CONTAINERS.

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 WASTE DISPOSAL METHOD:  
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SMALL SPILL; ALLOW VOLATILE PORTION TO EVAPORATE IN HOOD. ALLOW SUFFICIENT TIME FOR VAPORS TO COMPLETELY CLEAR HOOD DUCT WORK. DISPOSE OF REMAINING MATERIAL IN ACCORDANCE WITH APPLICABLE REGULATIONS.

LARGE SPILL; DESTROY BY LIQUID INCINERATION WITH OFF-GAS SCRUBBER. CONTAMINATED ABSORBENT MAY BE DEPOSITED IN A LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

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 SECTION VIII-PROTECTIVE EQUIPMENT TO BE USED  
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RESPIRATORY PROTECTION; IF TLV OF THE PRODUCT OR ANY COMPONENT IS EXCEEDED, A NIOSH/MSHA JOINTLY APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS UNDER SPECIFIED CONDITIONS. (SEE YOUR SAFETY EQUIPMENT SUPPLIER), ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION; PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES; WEAR RESISTANT GLOVES SUCH AS: POLYVINYL ALCOHOL, POLYETHYLENE

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SECTION VIII-PROTECTIVE EQUIPMENT TO BE USED (CONTINUED)  
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EYE PROTECTION; CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES, (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT; TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

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SECTION IX-SPECIAL PRECAUTIONS OR OTHER COMMENTS  
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CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED, SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

AVOID PROLONGED CONTACT WITH PLASTIC AND RUBBER I.E. EQUIPMENT, PROTECTIVE CLOTHING, AND CONTAINERS.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.