MATERIAL SAFETY DATA SHEET


PRODUCT NAME: TRICHLOROTHANE 111 DEGREES COLD/V
CAS NUMBER: 71-55-6

PAULMAR INC.
3316 COMMERCIAL AVE.
NORTHBOURG
IL 60062

ATTN: PLANT MGR. /SAFETY Dir.

GENERAL OR GENERIC ID: CHLORINATED HYDROCARBON

DOT HAZARD CLASSIFICATION: ORM-A

If present, IARC, NTP and OSHA CARCINOGENS ARE IDENTIFIED IN THIS SECTION SEE DEFINITION PAGE FOR CLARIFICATION

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>% (BY WT)</th>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1-TRICHLOROTHANE</td>
<td>90-95</td>
<td></td>
</tr>
<tr>
<td>CAS #: 71-55-6</td>
<td>PEL: 350 PPM</td>
<td></td>
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<tr>
<td></td>
<td>TLV: 350 PPM</td>
<td></td>
</tr>
</tbody>
</table>

(1) CONTAINS A PROPRIETARY INHIBITOR PACKAGE WHICH INCLUDES DIETHYLENE ETHER (1,4-DIXANE), 1,4-DIOXANE IS IDENTIFIED BY NTP AND IARC AS A 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-TRICHLOROTHANE IS 450 PPM, NIOSH RECOMMENDS A 350 PPM CEILING LIMIT.

PROPERTY

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>MEASUREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOILING POINT</td>
<td>104.50 - 130.40 DEG C</td>
</tr>
<tr>
<td>VAPOR PRESSURE</td>
<td>800.00 MMHG</td>
</tr>
<tr>
<td>SPECIFIC VAPOR DENSITY</td>
<td>4.5</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY</td>
<td>0.900 - 0.935 DEG C</td>
</tr>
<tr>
<td>PERCENT VOLATILES</td>
<td>1.000%</td>
</tr>
<tr>
<td>EVAPORATION RATE</td>
<td>ETHYL ETHER: 1</td>
</tr>
<tr>
<td>APPEARANCE</td>
<td>CLEAR, APPEAR COLOR IS MAX</td>
</tr>
<tr>
<td>STATE</td>
<td>LIQUID</td>
</tr>
<tr>
<td>FORM</td>
<td>HOMOG SOLN</td>
</tr>
</tbody>
</table>

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 FIRES & EXPLOSION HAZARDS: NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIIVELY.

NFPA CODES: HEALTH: 2 FLAMMABILITY: 4 REACTIVITY: O

SECTION V - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL 350 PPM
THRESHOLD LIMIT VALUE 350 PPM
TRICHLOROETHANOL 111 DEGREES COLD/V

Effects of Acute Overexposure: For Product

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.

First Aid:
If on skin: Thoroughly wash exposed area with soap and water. Remove contaminated clothing. Launder 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.

Primary Route(s) of Entry:
Inhalation
Skin Contact

Effects of Chronic Overexposure: For Product

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.

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 chlorine and small amounts of phosgene and chlorine, strong oxidizing agents.

Steps to be Taken in Case Material is Released or Spilled:

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.

Waste Disposal Method:

Small spill: Allow volatile portion to evaporate in hood. Allow sufficient time for vapors to completely clear hood before work. Dispose of remaining material in accordance with applicable regulations.

Large spill: Destroy by incineration with off-gas scrubber.

Protective Absorbent may be deposited in a landfill in accordance with local, state and federal regulations.

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 personal protective equipment. 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 PBI, polyvinyl alcohol, polyethylene...
SECTION VIII. PROTECTIVE EQUIPMENT TO BE USED (CONTINUED)

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.

SECTION IX. SPECIAL PRECAUTIONS OR OTHER COMMENTS

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.