SCHUMACHER

Material Safety Data Sheet

TRANS-LC
Part No. 1315-0002 D
May1999

1. Chemical Product and Company Identification

Chemical Name: **TRANS-LC® (trans 1,2-Dichloroethene)**

Synonyms:	trans-1,2-dichloroethylene; trans-dichloroethylene acetylene dichloride, Dioform	***Chemical Family:***	Chlorinated Unsaturated Hydrocarbon
Formula:	$C_2H_2 Cl_2$	***Molecular Weight:***	96.94
CAS#:	156-60-5		

SCHUMACHER, 1969 PALOMAR OAKS WAY, CARLSBAD, CA 92009 • EMERGENCY PHONE NUMBERS: 8:00 AM TO 5:00 PM PST Monday thru Friday, call: 760-931-9555. AFTER HOURS CALL: 1-800-523-9374; IN PENNSYLVANIA: 1-800-322-9092; OUTSIDE THE USA: 610-481-7711

2. Composition

Chemical Name	***CAS#***	***% by weight***
trans-1,2-Dichloroethylene	156-60-5	100

3. Hazard Identification

Emergency Overview: Clear, colorless liquid. Sweet order. Contact may cause eye, skin and mucous membrane irritation. Flammable liquid. Vapors may flashback. Fire may produce irritating or poisonous gases. Contaminated run-off water to sewer may create a fire or explosion hazard.

Potential Health Effects

Inhalation: May cause dizziness, headache, nausea, vomiting, and tremors. Causes depression of the central nervous system (CNS).

Eye Contact: May cause eye irritation.

Skin Contact: Can act as primary irritant and produce dermatitis.

Ingestion: May cause nausea and vomiting. Slight to deep depression of the CNS.

Chronic/Carcinogenicity: Chronic exposure may cause damage to the lung, liver and kidneys. Not listed as a carcinogen by OSHA, IARC and NTP. Tests have shown non-mutagenicity.

4. First Aid Measures

Inhalation: Remove to fresh air. Give artificial respiration if not breathing. Oxygen may be given by qualified personnel if breathing is difficult. Get immediate medical attention.

Eye Contact: Immediately flush with plenty of water for at least 15 minutes. Get immediate medical attention.

Skin Contact: Immediately wash with soap or mild detergent and flush skin with plenty of water. Remove contaminated clothing. Get medical attention.

Ingestion: Get medical attention immediately. Do not induce vomiting.

SCHUMACHER

Material Safety Data Sheet

5. Fire Fighting Measures

Flash Point (Test Method):	<2°C (COC)
Auto-Ignition Temperature:	460°C
Flammable Limits in Air, % by volume:	Lower: 9.0% Upper: 16.5% Lower in pure oxygen: 6%
Extinguishing Media:	Water spray, carbon dioxide, dry chemical powder, foam, and fog. Water used in solid streams may not be effective. For larger fires, flood area with water from a distance.
Special Fire Fighting Procedures:	Use positive-pressure self-contained breathing apparatus (SCBA) and full personal protective equipment (PPE). Do not get water inside the chemical container.
Unusual Fire and Explosion Hazards:	Flammable liquid, dangerous fire hazard. Emits toxic, corrosive fumes under fire conditions. Vapor is heavier than air and may travel along surfaces for considerable distances to an ignition source and flash back. Closed containers may rupture violently when heated.

6. Accidental Release Measures

Isolate hazard area. Eliminate ignition sources and moisture. Keep unnecessary and unprotected personnel from entering. In emergency entry where an unknown concentration exists, wear positive pressure breathing apparatus and full PPE. See **Exposure Control/Personal Protection** section. Absorb with inert material (e.g., activated carbon, vermiculite, dry sand). Place in appropriate chemical waste container.

7. Handling and Storage

Store in a standard flammable liquids storage room or cabinet, separate from oxidizers. Keep away from moisture. Store in a cool, dry, well ventilated area. Wear appropriate PPE when handling this chemical. Avoid skin contact and breathing vapors.

8. Exposure Control/Personal Protection

Engineering Controls:	Use process enclosures, local exhaust ventilation or other engineering controls to maintain airborne levels below Exposure Guidelines. An eyewash and safety shower should be readily accessible.
Respiratory Protection:	Use a NIOSH/MSHA full face respirator with organic vapor cartridge(s) when the airborne concentration is les than 1000 ppm. In an emergency or when the airborne concentration is greater than 1000 ppm, use positive pressure self-contained breathing apparatus (SCBA).
Skin Protection:	When chemical contact is possible, wear Viton or polyvinyl alcohol gloves, splash apron, work uniform and shoes or coverlets to prevent skin contact.
Eye Protection:	Use approved safety goggles or safety glasses with side shields worn with a face shield to prevent liquid splash contact.
Exposure Guidelines:	OSHA PEL 200 ppm; ACGIH TLV-TWA 200 ppm; TLV-STEL: Not Available; TLV-IDLH 4000 ppm.

SCHUMACHER

Material Safety Data Sheet

9. Physical and Chemical Properties

Boiling Point:	48° C	***Freezing Point:***	-50° C
Specific Gravity at 20°C (H_2O=1):	1.257	***Vapor Pressure at 20° C:***	250 Torr
Vapor Density at 48°C (air=1):	3.67	***Solubility in Water, % by wt.:***	0.63
Percent Volatile by Volume:	100%	***Evaporation Rate:***	Not Available
Appearance and Odor:	Clear, colorless liquid. Sweet odor; detectable at 0.08 ppm	***pH:***	Not Available

10. Stability and Reactivity

Chemical Stability: Stable

Conditions to Avoid: Heat, sparks and flame can ignite material. Decomposition by exposure to air, light, and moisture.

Incompatibility (Materials to Avoid): Exposure to alkalis, sulfuric acid, or copper and its alloys produces explosive or spontaneously flammable, chloroacetylene. Avoid amines, aluminum and its alloys, and other reducing agents such as sodium, magnesium and zinc. A fire or explosion hazard also exists when exposed to strong oxidizing agents, ozone, or nitrogen tetroxide. Reacts with rubber, plastics and coatings (causes swelling).

Hazardous Decomposition Products: Hydrochloric chloride gas, carbon monoxide, phosgene.

Hazardous Polymerization: Will not occur.

11. Toxicological Information

Toxicology: Trans 1,2-Dichloroethene is toxic by ingestion, inhalation, skin or eye contact. Inhalation may cause nausea, vomiting, weakness, tremors, and epigastric cramps. Ingestion can cause slight to deep CNS depression. Skin contact may cause irritation or dermatitis. Eye contact may cause irritation, inflammation and opacity of the eye. Primarily excreted through the lungs. Tests show no mutagenic effects.

Target Organs: Eye, skin, lung, liver, kidney, mucous membranes, central nervous system (CNS).

Chronic Effects: To the best of our knowledge the chronic effects have not been thoroughly investigated.

lhl-hmn	TC50: > 3000 ppm, 8 hr.	Oral-rat	LD50: > 5000 mg/kg
lhl-hmn	LD50: > 5000 mg/kg	Skin/Eye Irritation:	1.1/8 mean/45/110 max.

SCHUMACHER

Material Safety Data Sheet

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12. Ecological Information

If released to the soil, the material should leach into the groundwater. It will be lost from the water primarily by volatilization (half-life is 3 hours in a model river). Biodegradation, adsorption to sediment, and bioconcentration (BCF:22) in aquatic organisms should not be significant. If released to the atmosphere, it will be lost by reaction with hydroxy radicals (half-life is 3.6 days) or lost to rain, since it is water soluble.

13. Disposal Considerations

EPA Waste Number D001: Consult an expert for disposal. Any disposal must be in accordance with local, state and federal laws and regulations. Contact local, state or federal administering agency for specific rules.

14. Transport Information

DOT Description		***UN Description***	
Proper Shipping Name:	1,2-Dichloroethylene	***Proper Shipping Name:***	1,2-Dichloroethylene
Hazard Class:	3	***Class or Division:***	3
UN or ID Number:	UN1150	***Packing Group:***	II
		UN or ID Number:	UN1150

15. Regulatory Information

OSHA: Hazard Communication Standard (29 CFR 1910.1200): Yes

TSCA status: Listed in the TSCA Inventory

CERCLA Reportable Quantity (R.Q.): 1000 lbs. (454 kg)

SARA Title III:

- Section 302 Extremely Hazardous Substance: No
- Section 311/312 Hazard Categories: Acute, Fire and Reactive Hazard
- Section 302 Threshold Planning Quantity (TPQ): None
- Section 313: Yes

16. Other Information

National Fire Protection Association Rating - Hazardous Materials Identification System

	NFPA	HMIS
HEALTH	2	2
FIRE	3	3
REACTIVITY	2	3
SPECIAL	N/A	*

(4 = Extreme/Severe, 3 = High/Serious, 2 = Moderate, 1 = Slight, 0 = Minimum, ~~W~~ = Water Reactive, N/A = Not Applicable, * = See Exposure Control/Personal Protection section**)**