



MATERIAL SAFETY DATA SHEET

ZYGLO® DEVELOPER ZP-9E

1. IDENTIFICATION

Company: MAGNAFLUX®
Address: 3624 West Lake Avenue, Glenview, Illinois 60025
Telephone No.: 847-657-5300 (Off-Hour Emergency Number - CHEMTREC - 1-800-424-9300).
Product Use: Penetrant inspection developer
Packages: 5 gallon pail
NFPA Rating: Health 2, Flammability 0, Reactivity 1
PIN (Canada): UN 2831
Revision Date: December 1, 1994

2. HAZARDOUS INGREDIENTS

<i>Ingredient</i>	<i>Wt./Wt. %</i>	<i>CAS #</i>	<i>TLV</i>	<i>PEL</i>	<i>LD₅₀</i>	<i>LC₅₀</i>
1,1,1-Trichloroethane (methyl chloroform)	60-100	71-55-6	350 ppm	350 ppm.	10.3g/kg (oral/rat)	18000ppm (4H rat)
2,2'-Bis(Hydroxymethyl)-1,3-propanediol	7-13	115-77-5	10mg/m ³	10mg/m ³	25.5gm/kg- (oral/mouse)	not avail.
Dimethoxymethane	1-5	109-87-5	400 ppm	400 ppm	3.7g/kg(oral/rat)	15000ppm (rat)
2 Methyl-2-propanol	0.5-1.5	75-65-0	100 ppm	100 ppm	3.5g/kg(oral/rat)	not avail.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Volatile, nonflammable liquid. Vapors can cause unconsciousness at high concentration and can decompose to form toxic gases at flame temperatures.

POTENTIAL HEALTH EFFECTS

Skin Contact: Can irritate by removing natural skin oils on long or repeated exposures.
Eyes: Irritating, but does not damage eye tissue.
Inhalation: Causes dizziness, nausea, unconsciousness at high concentrations.
Ingestion: Low oral toxicity in test animals.
Medical conditions known to be aggravated by exposure to product: None

4. FIRST AID

Skin Contact: Wash off with soap and water. Use soothing lotion.
Eyes: Rinse carefully under upper and lower eyelids using plenty of water.
Inhalation: Remove to fresh air if dizzy or nauseated. If unconscious, call physician immediately.
Ingestion: Do not induce vomiting. Accidental ingestion of a small mouthful is not expected to cause significant harm.
NOTE: In all severe cases, contact physician immediately. Local telephone operators can furnish number of regional poison control center.

5. FIRE HAZARD

Conditions of flammability: Nonflammable
Flash point: None
Flammable limits in air: 10% to 15% with intense ignition source
Extinguishing media: None, self extinguishing
Special fire fighting procedures: Keep containers cool with water spray.
Hazardous combustion products: Soot, oxides of carbon, phosgene and hydrochloric acid. (See Section 10).
Unusual fire hazards: None.

6. ACCIDENTAL RELEASE MEASURES

In case of large spill, evacuate area and have cleanup crew wear respiratory protection. (For disposal, see Section 13).

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7. **HANDLING AND STORAGE**

Avoid breathing vapors.
Avoid eye contact.
Avoid repeated or prolonged skin contact.
Store away from heat source.
Do not spray around arcs or flame.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

Controls: Use where ventilation will carry vapors away from occupied areas.
Personal protection: Wear safety glasses to protect eyes. Wear nitrile rubber gloves if hand exposure is unavoidable.
Respirator with filter if sprayed in poorly ventilated area. Full mask with separate air supply in close, unventilated space.

9. **PHYSICAL PROPERTIES**

<i>Initial boiling point (bulk):</i>	162°F (72°C) (ASTM D-86)	<i>Vapor pressure:</i>	Bulk: 230mm @ 100°F (38°C).
<i>Percent volatile:</i>	90%	<i>Vapor density:</i>	4 to 5
<i>Density/sp. gravity:</i>	1.3	<i>Evaporation rate:</i>	0.4 of ether
<i>Water solubility:</i>	0	<i>Appearance:</i>	White liquid
<i>pH:</i>	Neutral	<i>Odor:</i>	Ethereal odor

10. **STABILITY AND REACTIVITY**

Stability: Partially decomposes in flames, arcs, red hot surfaces
Incompatibility: Powdered zinc and powdered aluminum
Hazardous decomposition products: When burning, hydrochloric acid and phosgene
Reactivity: None

11. **TOXICOLOGICAL INFORMATION**

Carcinogenicity: Contains no known or suspected carcinogens listed with OSHA, IARC, NTP, or ACGIH.
Threshold limit value (Bulk): 350 ppm PEL.
WHMIS information (Canada): According to available information, the ingredients have not been found to show reproductive toxicity, teratogenicity, mutagenicity, skin sensitization, or synergistic toxic effects with other materials.

12. **ECOLOGICAL INFORMATION**

No data is available on ZP-9E. It is a Class 1 ozone depleter but not a VOC.

13. **DISPOSAL**

Send to a licensed waste facility for proper disposal.
RCRA: Hazardous waste.
U.S. EPA Waste Number: F002

14. **TRANSPORTATION**

U.S. DOT: 49 CFR 172.101 Hazardous Materials Table

	<u>Bulk</u>
<i>Proper shipping name:</i>	1,1,1-Trichloroethane
<i>Hazard class or division:</i>	6.1
<i>Identification No.:</i>	UN2831
<i>Packing Group:</i>	III

15. **REGULATORY INFORMATION**

TSCA: All ingredients are listed in TSCA inventory.
CERCLA: Reportable quantity (RQ) for 1,1,1-Trichloroethane = 1000 lbs.
SARA TITLE III, Section 313: 1,1,1-Trichloroethane
California Proposition 65: Contains nothing on this list
WHMIS Class (Canada): Bulk: D-2B
Note: This MSDS has been prepared to meet WHMIS (Canada) requirements with the exception of using 16 headings.

16. **OTHER INFORMATION**

Revision Statement: Section 1.
Supersedes: MSDS dated 5/26/94

Signed by:

Cheri A. Zeleznik, Project Manager

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