

**MATERIAL SAFETY DATA SHEET**

ZYGLO® PENETRANT ZL-27A

**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: Fluorescent inspection penetrant  
Packages: 1 gallon cans, 5 gallon pails, 20 gallon and 55 gallon drums, aerosols.  
NFPA Rating: Health 1, Flammability 1, (Aerosol Flammability 4), Reactivity 0  
PIN: None  
Revision Date: May 7, 2003

**2. HAZARDOUS INGREDIENTS**

<u>Ingredient</u>	<u>Wt/Wt %</u>	<u>CAS #</u>	<u>TLV</u>	<u>PEL</u>	<u>LD<sub>50</sub></u>	<u>LC<sub>50</sub></u>
White mineral oil (petroleum)	30-60	8042-47-5	not avail.	not avail.	not avail.	not avail.
Isodecyl diphenyl phosphate					15.8 g/kg (oral/rat)	2.2 mg/l [6 hr/(rat(2/6))]
Castor oil	30-60	29761-21-5	not avail.	not avail.	not avail.	not avail.
Triphenyl phosphate	10-30	8001-79-4	not avail.	not avail.	not avail.	not avail.
Triphenyl phosphate	1-2	115-86-6	3 mg/m <sup>3</sup>	not avail.	not avail.	not avail.
Isobutane (propellant)	30	75-28-5	not avail.	1000 ppm	not avail.	not avail.

**3. HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**  
Bland, oily liquid which may irritate the skin and eyes. Difficult to ignite, but will burn vigorously, if engulfed in fire. Aerosol is extremely flammable.

**POTENTIAL HEALTH EFFECTS**

*Skin Contact:* Can irritate by removing natural skin oils on long or repeated exposures.  
*Eyes:* May cause irritation.  
*Inhalation:* Not significant at room temperatures. When heated or sprayed, ZL-27A vapors may cause dizziness and nausea.  
*Ingestion:* Not significant in small (mouthful) amounts.  
*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.  
*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:* Bulk: Heating above 200°F (93°C) in presence of ignition sources. Aerosol: Spraying near flames or arcs will ignite the spray mist.  
*Flash point:* Min. 200° F (93° C) (Pensky-Martens closed cup)  
*Flammable limits in air:* 1% to 6%  
*Extinguishing media:* Carbon dioxide, foam  
*Special fire fighting procedures:* Keep containers cool with water spray. Do not spray water directly on burning ZL-27A. It may float and spread the fire.  
*Hazardous combustion products:* Smoke, soot, oxides of carbon and nitrogen.  
*Unusual fire hazards:* Aerosol cans may burst at temperatures over 130°F (54°C) and spray contents into a fire.

**6. ACCIDENTAL RELEASE MEASURES**

Mop up or sweep up with absorbent. (For disposal, see Section 13.)

**7. HANDLING AND STORAGE**

Avoid breathing spray mist. Avoid eye contact. Avoid repeated or prolonged skin contact. Store away from heat source.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

*Controls:* None, unless applied as spray. Use where ventilation will carry spray mist 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 enclosed, unventilated space.

**9. PHYSICAL PROPERTIES**

<i>Initial boiling point (bulk):</i>	Min.455°F(235°C) (ASTM D-86)	<i>Vapor pressure:</i>	Bulk:< 0.10 mm @ 70° F (21° C) Aerosol: 60 psi @ 75°F(24°C)
<i>Percent volatile:</i>	None (30% in aerosol)	<i>Vapor density:</i>	Heavier than air
<i>Density/sp. gravity:</i>	0.96	<i>Evaporation rate:</i>	Negligible
<i>Water solubility:</i>	0%	<i>Appearance:</i>	Green oily liquid
<i>pH:</i>	Neutral	<i>Odor:</i>	Mild odor

10. **STABILITY AND REACTIVITY**

Stability: Stable  
 Incompatibility: None  
 Hazardous decomposition products: Soot, oxides of carbon if heated to combustion temperatures.  
 Reactivity: None

11. **TOXICOLOGICAL INFORMATION**

Carcinogenicity: Contains no known or suspected carcinogens listed with OSHA, IARC, NTP, or ACGIH.  
 Threshold limit value: 5 mg/m<sup>3</sup> for oily mist  
 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**

Because it contains 10% or more of a marine pollutant (Isodecyl Diphenyl phosphate) and 1% or more of a severe marine pollutant (Triphenyl Phosphate), ZL-27A is itself considered a marine pollutant. It floats on water and can be skimmed off. Its low bulk vapor pressure may exempt it from VOC restrictions. The hydrocarbon propellant is not an ozone depleter.

13. **DISPOSAL**

As a non-hazardous oily waste, incinerate or send to waste handler who can blend it into secondary fuels. Empty aerosol cans before disposal.  
 RCRA: Not a hazardous waste  
 U.S. EPA Waste Number: None

14. **TRANSPORTATION**

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

	Non-Bulk and Non-Vessel	Bulk or Vessel	Aerosols
<i>Proper shipping name:</i>	None, not restricted	Environmentally hazardous substance Liquid, n.o.s. (isodecyl diphenyl phosphate, triphenyl phosphate)	Consumer commodity
<i>Technical Name of Hazardous Component(s):</i>	None	Isodecyl Diphenyl phosphate, Triphenyl Phosphate	None
<i>Hazard class or division:</i>	None	9	ORM-D
<i>Identification No.:</i>	None	UN 3082	None
<i>Packing Group:</i>	None	III	None
<i>Other Information:</i>	None	This product contains 10% or more of a DOT Marine Pollutant (Isodecyl Diphenyl phosphate) and 1% or more of a DOT Severe Marine Pollutant (Triphenyl Phosphate).	None
<b>IATA: List of Dangerous Goods</b>			
<i>Proper shipping name:</i>	None, not restricted	Environmentally hazardous substance Liquid, n.o.s. (isodecyl diphenyl phosphate, triphenyl phosphate)	Aerosol, Flammable, UN 1950, 2.1
<i>Hazard class or division:</i>	None	9	2.1
<i>Identification No.:</i>	None	UN 3082	UN 1950
<i>Packing Group:</i>	None	III	None
<i>Other Information:</i>	None	This product contains 10% or more of a DOT Marine Pollutant (Isodecyl Diphenyl phosphate) and 1% or more of a DOT Severe Marine Pollutant (Triphenyl Phosphate).	None
<b>IMDG: General Index</b>			
<i>Proper shipping name:</i>	None, not restricted	Environmentally hazardous substance Liquid, n.o.s. (isodecyl diphenyl phosphate, triphenyl phosphate)	Aerosols, 2.1, UN 1950
<i>Hazard class or division:</i>	None	9	2.1
<i>Identification No.:</i>	None	UN 3082	UN 1950
<i>Packing Group:</i>	None	III	None
<i>Other Information:</i>	None	This product contains 10% or more of a DOT Marine Pollutant (Isodecyl Diphenyl phosphate) and 1% or more of a DOT Severe Marine Pollutant (Triphenyl Phosphate).	Each case must be labeled as a marine pollutant.

15. **REGULATORY INFORMATION**

TSCA: All ingredients are listed in TSCA inventory.  
 CERCLA: Not reportable  
 SARA TITLE III, Section 313: No reportable ingredients  
 California Proposition 65: Contains nothing on this list  
 WHMIS Class (Canada): Bulk: D-2B, Aerosol: A, B-5, 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: Sections: 2, 12, 14  
 Supersedes: MSDS dated 10-26-01  
 Prepared by: Shawn Kilty, Research Chemist