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**Section 1: IDENTIFICATION**

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**1.1 PRODUCT IDENTIFIER**

**Product Name:** ZL-37 - Aerosol

**Product Code:** Not available.

**1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE**

**Use:** Fluorescent inspection penetrant.

**1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET**

**Name/Address:** Magnaflux  
155 Harlem Avenue,  
Glenview, Illinois  
60025

**Telephone Number:** 847-657-5300

**1.4 EMERGENCY TELEPHONE NUMBER**

**Emergency Telephone Number:** CHEMTREC 800-424-9300

**Date of Preparation:** November 12, 2014      **Version #:** 1.1

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**Section 2: HAZARD(S) IDENTIFICATION**

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**2.1 CLASSIFICATION OF THE CHEMICAL ACCORDING TO OSHA HAZCOM 2012****Hazard class**

Flammable Aerosol 2  
Gases Under Pressure - Liquefied Gas  
Serious Eye Damage 1  
Aspiration Toxicity 1

**2.2 LABEL ELEMENTS ACCORDING TO OSHA HAZCOM 2012****Hazard Pictogram:**

**Signal Word:** Danger

**Hazard Statement:** Flammable aerosol. Contains gas under pressure; may explode if heated. Causes serious eye damage. May be fatal if swallowed and enters airways.

**Prevention:** Keep away from heat/sparks/open flames/hot surfaces. -No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Wear eye protection/face protection.

**Response:** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting.

**Storage:** Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store in a well-ventilated place. Store locked up.

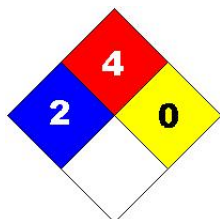
**Disposal:** Dispose of contents and container in accordance with all local, regional, national and international regulations.

### 2.3 ADDITIONAL INFORMATION

**Hazards not otherwise classified:** Not applicable.

This product is a hazardous chemical as defined by NOM-018-STPS-2000.

**Mexico Classification:**



**Blue = Health   Red = Flammability   Yellow = Reactivity   White = Special**

**Hazard Rating:** 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

**WHMIS Classification(s):**

- Class A - Compressed Gas
- Class B5 - Flammable Aerosol
- Class D2B - Skin/Eye Irritant

**WHMIS Hazard Symbols:**



**WHMIS Signal Word:**

**DANGER**

## Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 MIXTURES

Ingredient	UN #	H / F / R / *	CAS No	Wt. %
Phosphoric acid, isodecyl diphenyl ester	Not available.	Not available.	29761-21-5	15 - 40
Petroleum gases, liquefied, sweetened	Not available.	Not available.	68476-86-8	15 - 40
Distillates (petroleum), hydrotreated heavy naphthenic	Not available.	Not available.	64742-52-5	10 - 30
Triphenyl phosphate	Not available.	2/1/0	115-86-6	1 - 5
White mineral oil, petroleum	Not available.	Not available.	8042-47-5	1 - 5
Alcohols, C12-15, ethoxylated	Not available.	Not available.	68131-39-5	1 - 5
Ethylene oxide	UN1040	3/4/3	75-21-8	< 0.1
1,4-Dioxane	UN1165	2/3/1	123-91-1	< 0.1
Acetaldehyde	UN1089	3/4/2	75-07-0	< 0.1

The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

\* Per NOM-018-STPS-2000

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**Section 4: FIRST- AID MEASURES**

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**4.1 DESCRIPTION OF THE FIRST AID MEASURE**

- Eye:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. Get medical attention immediately.
- Skin:** In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.
- Inhalation:** If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
- Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**

- Eye:** Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns.
- Skin:** May cause skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
- Inhalation:** May cause respiratory tract irritation. Inhalation of vapors formed during heating may cause drowsiness, dizziness, and nausea.
- Ingestion:** May be fatal if swallowed and enters airways. May cause stomach distress, nausea or vomiting. This product may be aspirated into the lungs and cause chemical pneumonitis.

**4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED**

- Note to Physicians:** Symptoms may not appear immediately.
- Specific Treatments:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

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**Section 5: FIRE-FIGHTING MEASURES**

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**5.1 FLAMMABILITY**

- Flammability:** Flammable by WHMIS/OSHA/NOM-018-STPS-2000 criteria.

**5.2 EXTINGUISHING MEDIA**

- Suitable Extinguishing Media:** Carbon dioxide, foam.
- Unsuitable Extinguishing Media:** Do not use water jet.

**5.3 SPECIAL HAZARDS ARISING FROM THE CHEMICAL**

- Products of Combustion:** May include, and are not limited to: oxides of carbon, oxides of nitrogen.
- Explosion Data:**
- Sensitivity to Mechanical Impact:** Not available.
  - Sensitivity to Static Discharge:** Not available.

#### 5.4 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS

Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

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### Section 6: ACCIDENTAL RELEASE MEASURES

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#### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Avoid any contact with the skin and eyes. Eliminate sources of ignition.

#### 6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

**Methods for Containment:** Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

**Methods for Cleaning-Up:** Scoop up material and place in a disposal container. Provide ventilation.

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### Section 7: HANDLING AND STORAGE

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#### 7.1 PRECAUTIONS FOR SAFE HANDLING

**Handling:** Keep away from sources of ignition. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Container may explode if heated. Do not get in eyes, on skin, or on clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not swallow. Handle container with care. When using do not eat, drink or smoke. Use non-sparking tools. (See section 8)

**General Hygiene Advice:** Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

#### 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

**Storage:** Keep out of the reach of children. Store locked up. Protect from sunlight. Do not store at temperatures above 50 °C / 122 °F. Store in a well-ventilated place. (See section 10)

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### Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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#### 8.1 CONTROL PARAMETERS

##### Exposure Guidelines

Occupational Exposure Limits		
Ingredient	OSHA-PEL	ACGIH-TLV
Phosphoric acid, isodecyl diphenyl ester	Not available.	Not available.
Petroleum gases, liquefied, sweetened	Not available.	Not available.
Distillates (petroleum), hydrotreated heavy naphthenic	Not available.	Not available.
Triphenyl phosphate	3 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>
White mineral oil, petroleum	Not available.	Not available.
Alcohols, C12-15, ethoxylated	Not available.	Not available.
Ethylene oxide	1 ppm	1 ppm
1,4-Dioxane	100 ppm	20 ppm
Acetaldehyde	200 ppm; 360 mg/m <sup>3</sup>	Not available.

## 8.2 EXPOSURE CONTROLS

**Engineering Controls:** Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

## 8.3 INDIVIDUAL PROTECTIVE MEASURES

### Personal Protective Equipment:

**Eye/Face Protection:** Wear approved eye protection (properly fitted dust- or splash-proof chemical safety goggles) and face protection (face shield).

### Skin Protection:

**Hand Protection:** Wear chemical resistant gloves.

**Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**General Health and Safety Measures:** Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Oily.
<b>Color:</b>	Green.
<b>Odor:</b>	Mild odor.
<b>Odor Threshold:</b>	Not available.
<b>Physical State:</b>	Gas/Pressurized Liquid.
<b>pH:</b>	Neutral.
<b>Melting Point/Freezing Point:</b>	Not available.
<b>Initial Boiling Point and Boiling Range:</b>	235 °C (455 °F) ASTM D-86
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Negligible.
<b>Flammability:</b>	Flammable.
<b>Lower Flammability/Explosive Limit:</b>	Not available.
<b>Upper Flammability/Explosive Limit:</b>	Not available.
<b>Vapor Pressure:</b>	<0.10 mm @ 21 °C (70 °F)
<b>Vapor Density:</b>	>1 (Air = 1)
<b>Relative Density/Specific Gravity:</b>	0.96
<b>Solubility:</b>	Insoluble.
<b>Partition coefficient: n-octanol/water:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not available.

<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	13.32-16.28 cSt @ 40 °C (104 °F)
<b>Oxidizing Properties:</b>	Not available.
<b>Explosive Properties:</b>	Not available.

### Section 10: STABILITY AND REACTIVITY

#### 10.1 REACTIVITY

No dangerous reaction known under conditions of normal use.

#### 10.2 CHEMICAL STABILITY

Stable under normal storage conditions. Contents under pressure. Container may explode if heated. Do not pierce or burn, even after use.

#### 10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reaction known under conditions of normal use.

#### 10.4 CONDITIONS TO AVOID

Heat. Incompatible materials. Sources of ignition.

#### 10.5 INCOMPATIBLE MATERIALS

Strong oxidizers. Strong acids. Strong bases.

#### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS

May include, and are not limited to: oxides of carbon, oxides of nitrogen.

### Section 11: TOXICOLOGICAL INFORMATION

#### 11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

**Likely Routes of Exposure:** Skin contact, eye contact, inhalation, and ingestion.

**Symptoms related to physical/chemical/toxicological characteristics:**

**Eye:** Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns.

**Skin:** May cause skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

**Ingestion:** May be fatal if swallowed and enters airways. May cause stomach distress, nausea or vomiting. This product may be aspirated into the lungs and cause chemical pneumonitis.

**Inhalation:** May cause respiratory tract irritation. Inhalation of vapors formed during heating may cause drowsiness, dizziness, and nausea.

**Acute Toxicity:**

Ingredient	IDLH	LC50	LD50
Phosphoric acid, isodecyl diphenyl ester	Not available.	Inhalation >6.3 mg/L 4h, rat	Oral >15800 mg/kg rat Dermal >7900 mg/kg, rabbit
Petroleum gases, liquefied, sweetened	Not available.	Inhalation 658 mg/L 4h, rat	Not available.

Distillates (petroleum), hydrotreated heavy naphthenic	Not available.	Inhalation >5.0 mg/L 4h, rat	Oral >5000 mg/kg, rat Dermal >5000, rabbit
Triphenyl phosphate	1000 mg/m <sup>3</sup>	Not available.	Oral 3500 mg/kg, rat Dermal 7900 mg/kg, rabbit
White mineral oil, petroleum	Not available.	Inhalation >5.0 mg/L 4h, rat	Oral >5000 mg/kg, rat Dermal >2000 mg/kg, rabbit
Alcohols, C12-15, ethoxylated	Not available.	Not available.	Oral >5000 mg/kg, rat Dermal 2500 mg/kg, rabbit
Ethylene oxide	Ca 800 ppm	Inhalation 800 ppm 4h, rat	Oral 72 mg/kg, rat
1,4-Dioxane	Ca 500 ppm	Inhalation 48.5 mg/L 4h, rat	Oral 4200 mg/kg, rat Dermal 7600 mg/kg, rabbit
Acetaldehyde	Ca 2000 ppm	Inhalation 13300 ppm 4h, rat	Oral 1930 mg/kg, rat

**Calculated overall Chemical Acute Toxicity Values**

LC50 (inhalation)	LD50 (oral)	LD50 (dermal)
> 5 mg/L 4h, rat	> 2000 mg/kg, rat	> 2000 mg/kg, rabbit

Ingredient	Chemical Listed as Carcinogen or Potential Carcinogen (NTP, IARC, OSHA, ACGIH, CP65)*
Phosphoric acid, isodecyl diphenyl ester	Not listed.
Petroleum gases, liquefied, sweetened	Not listed.
Distillates (petroleum), hydrotreated heavy naphthenic	Not listed.
Triphenyl phosphate	A-4
White mineral oil, petroleum	Not listed.
Alcohols, C12-15, ethoxylated	Not listed.
Ethylene oxide	O, G-A2, I-1, N-1, CP65
1,4-Dioxane	G-A3, I-2B, N-2, CP65
Acetaldehyde	G-A3

\* See Section 15 for more information.

**11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE**

<b>Skin Corrosion/Irritation:</b>	May cause skin irritation.
<b>Serious Eye Damage/Irritation:</b>	Causes serious eye damage.
<b>Respiratory Sensitization:</b>	Based on available data, the classification criteria are not met.
<b>Skin Sensitization:</b>	Based on available data, the classification criteria are not met.
<b>STOT-Single Exposure:</b>	Based on available data, the classification criteria are not met.
<b>Chronic Health Effects:</b>	
<b>Carcinogenicity:</b>	Based on available data, the classification criteria are not met.
<b>Germ Cell Mutagenicity:</b>	Based on available data, the classification criteria are not met.
<b>Reproductive Toxicity:</b>	
<b>Developmental:</b>	Based on available data, the classification criteria are not met.
<b>Teratogenicity:</b>	Based on available data, the classification criteria are not met.
<b>Embryotoxicity:</b>	Based on available data, the classification criteria are not met.

**Fertility:** Based on available data, the classification criteria are not met.

**STOT-Repeated Exposure:** Based on available data, the classification criteria are not met.

**Aspiration Hazard:** May be fatal if swallowed and enters airways.

**Toxicologically Synergistic Materials:** Not available.

**Other Information:** Not available.

## Section 12: ECOLOGICAL INFORMATION

### 12.1 ECOTOXICITY

**Acute/Chronic Toxicity:** May cause long-term adverse effects in the aquatic environment.

### 12.2 PERSISTENCE AND DEGRADABILITY

Not available.

### 12.3 BIOACCUMULATIVE POTENTIAL

**Bioaccumulation:** Not available.

### 12.4 MOBILITY IN SOIL

Not available.

### 12.5 OTHER ADVERSE EFFECTS

Not available.

## Section 13: DISPOSAL CONSIDERATIONS

### 13.1 WASTE TREATMENT METHODS

**Disposal Method:** This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

**Other disposal recommendations:** Not available.

## Section 14: TRANSPORT INFORMATION

DOT	Consumables, Limited Quantity
IATA	UN 1950, Aerosols, Flammable, 2.1
IMDG	UN 1950, Aerosols, 2.1 (Limited Quantity)

## Section 15: REGULATORY INFORMATION

### 15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

**Canada:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

**US:** SDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

**Mexico:** SDS prepared pursuant to NOM-018-STPS-2000.

<b>SARA Title III</b>
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Ingredient	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313
Phosphoric acid, isodecyl diphenyl ester	Not listed.	Not listed.	Not listed.	Not listed.
Petroleum gases, liquefied, sweetened	Not listed.	Not listed.	Not listed.	Not listed.
Distillates (petroleum), hydrotreated heavy naphthenic	Not listed.	Not listed.	Not listed.	Not listed.
Triphenyl phosphate	Not listed.	Not listed.	Not listed.	Not listed.
White mineral oil, petroleum	Not listed.	Not listed.	Not listed.	Not listed.
Alcohols, C12-15, ethoxylated	Not listed.	Not listed.	Not listed.	Not listed.
Ethylene oxide	Not listed.	Not listed.	Not listed.	Not listed.
1,4-Dioxane	1000	10	100	313
Acetaldehyde	Not listed.	Not listed.	1000	313

### State Regulations

#### California Proposition 65:

This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

#### Global Inventories:

Ingredient	Canada DSL/NDSL	USA TSCA
Phosphoric acid, isodecyl diphenyl ester	DSL	Yes.
Petroleum gases, liquefied, sweetened	DSL	Yes.
Distillates (petroleum), hydrotreated heavy naphthenic	DSL	Yes.
Triphenyl phosphate	DSL	Yes.
White mineral oil, petroleum	DSL	Yes.
Alcohols, C12-15, ethoxylated	DSL	Yes.
Ethylene oxide	DSL	Yes.
1,4-Dioxane	DSL	Yes.
Acetaldehyde	DSL	Yes.

<b>NFPA-National Fire Protection Association:</b>	
<b>Health:</b>	2
<b>Fire:</b>	4
<b>Reactivity:</b>	0

<b>HMIS-Hazardous Materials Identification System:</b>	
<b>Health:</b>	2
<b>Fire:</b>	4
<b>Physical Hazard:</b>	0

**Hazard Rating:** 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

**SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:**

**CP65 California Proposition 65**

**OSHA (O) Occupational Safety and Health Administration.**

**ACGIH (G) American Conference of Governmental Industrial Hygienists.**

- A1 - Confirmed human carcinogen.
- A2 - Suspected human carcinogen.
- A3 - Animal carcinogen.
- A4 - Not classifiable as a human carcinogen.
- A5 - Not suspected as a human carcinogen.

**IARC (I) International Agency for Research on Cancer.**

- 1 - The agent (mixture) is carcinogenic to humans.
- 2A - The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.
- 2B - The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals.
- 3 - The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.
- 4 - The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.

**NTP (N) National Toxicology Program.**

- 1 - Known to be carcinogens.
- 2 - Reasonably anticipated to be carcinogens.

**Section 16: OTHER INFORMATION**

**Date of Preparation:** November 12, 2014

**Expiry Date:** November 12, 2017

**Version:** 1.1

**Revision Date:** June 9, 2015

**Disclaimer:** We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

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**Prepared for:** Magnaflux

**End of Safety Data Sheet**