

Section 1: IDENTIFICATION**1.1 PRODUCT IDENTIFIER**

Product Name: ZL-67
Product Code: Not available.

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Use: Non-Destructive Testing.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Magnaflux
3624 West Lake Avenue,
Glenview, Illinois
60026
Telephone Number: 847-657-5300

1.4 EMERGENCY TELEPHONE NUMBER

Emergency Telephone Number: CHEMTREC 800-424-9300
Date of Preparation: August 20, 2014 **Version #:** 1.1

Section 2: HAZARD(S) IDENTIFICATION**2.1 CLASSIFICATION OF THE CHEMICAL ACCORDING TO OSHA HAZCOM 2012****Hazard class**

Acute toxicity 4 (Inhalation)
Skin irritation 2
Serious eye damage 1

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

Signal Word: Danger
Hazard Statement: Harmful if inhaled. Causes skin irritation. Causes serious eye damage.
Prevention: Avoid breathing gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Wear protective gloves/eye protection/face protection.
Response: If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. 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.

Storage: Not applicable.

Disposal: Not applicable.

2.3 ADDITIONAL INFORMATION

Hazards not otherwise classified: Not applicable.

27 % of the mixture consists of ingredient(s) of unknown acute toxicity.

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 D2B - Skin/Eye Irritant

WHMIS Hazard Symbols:



WHMIS Signal Word: WARNING

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Ingredient	UN #	H / F / R / *	CAS No	Wt. %
Alcohols, C12-14-secondary, ethoxylated	Not available.	Not available.	84133-50-6	40 - 70
Alcohols, C6-10, ethoxylated propoxylated	Not available.	Not available.	68987-81-5	10 - 30
Dimethyl glutarate	Not available.	Not available.	1119-40-0	1 - 5
Polyethylene glycol	Not available.	Not available.	25322-68-3	1 - 5
7-(Diethylamino)-4-methyl-2-benzopyrone	Not available.	Not available.	91-44-1	1 - 5
Dimethyl adipate	Not available.	Not available.	627-93-0	0.5 - 1.5
Dimethyl succinate	Not available.	Not available.	106-65-0	0.5 - 1.5
Alcohols, C12-14-secondary	Not available.	Not available.	126950-60-5	0.5 - 1.5
Ethylene oxide	UN1040	3/4/3	75-21-8	< 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

Section 4: FIRST- AID MEASURES

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, including under lids. 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 breathed in, move person into fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a poison center/ doctor if you feel unwell.
Ingestion:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

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:	Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
Inhalation:	Harmful if inhaled. May cause respiratory tract irritation. Inhalation of vapors formed during heating may cause drowsiness, dizziness, and nausea.
Ingestion:	May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

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).

Section 5: FIRE-FIGHTING MEASURES

5.1 FLAMMABILITY

Flammability:	Not flammable by WHMIS/OSHA/NOM-018-STPS-2000 criteria.
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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.

Section 6: ACCIDENTAL RELEASE MEASURES

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.

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.

Section 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Handling: Do not get in eyes, on skin, or on clothing. Avoid breathing gas/mist/ vapors/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. (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. Keep container tightly closed. Keep away from heat, sparks, and flame. (See section 10)

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Exposure Guidelines

Occupational Exposure Limits		
Ingredient	OSHA-PEL	ACGIH-TLV
Alcohols, C12-14-secondary, ethoxylated	Not available.	Not available.
Alcohols, C6-10, ethoxylated propoxylated	Not available.	Not available.
Dimethyl glutarate	Not available.	Not available.
Polyethylene glycol	Not available.	Not available.
7-(Diethylamino)-4-methyl-2-benzopyrone	Not available.	Not available.
Dimethyl adipate	Not available.	Not available.
Dimethyl succinate	Not available.	Not available.
Alcohols, C12-14-secondary	Not available.	Not available.
Ethylene oxide	1 ppm	1 ppm

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. Handle according to established industrial hygiene and safety practices.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Oily.
Color:	Green.
Odor:	Mild odor.
Odor Threshold:	Not available.
Physical State:	Liquid.
pH:	Neutral.
Melting Point/Freezing Point:	Not available.
Initial Boiling Point and Boiling Range:	~ 235 °C (~ 455 °F)
Flash Point:	> 93.3 °C (>200 °F)
Evaporation Rate:	Negligible.
Flammability:	Not flammable.
Lower Flammability/Explosive Limit:	1%
Upper Flammability/Explosive Limit:	6%
Vapor Pressure:	< 0.10 mm @ 21°C (70 °F)
Vapor Density:	>1 (Air = 1)
Relative Density/Specific Gravity:	0.99
Solubility:	Emulsifiable.
Partition coefficient: n-octanol/water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Viscosity:	Not available.

Oxidizing Properties: Not available.

Explosive Properties: Not available.

VOC Content (EPA Method 24) 72 g/L

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.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID

Heat. Incompatible materials.

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: Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

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

Acute Toxicity:

Ingredient	IDLH	LC50	LD50
Alcohols, C12-14-secondary, ethoxylated	Not available.	Not available.	Oral 2100 mg/kg, rat
Alcohols, C6-10, ethoxylated propoxylated	Not available.	Not available.	Not available.
Dimethyl glutarate	Not available.	Inhalation >5.6 mg/L 4h, rat	Oral 8191 mg/kg, rat Dermal >2000 mg/kg, rabbit
Polyethylene glycol	Not available.	Not available.	Oral 28 g/kg, rat Dermal >20 g/kg, rabbit
7-(Diethylamino)-4-methyl-2-benzopyrone	Not available.	Not available.	Oral 5 g/kg, rat

Dimethyl adipate	Not available.	Not available.	Oral > 5000 mg/kg, rat Dermal > 2000 mg/kg, rabbit
Dimethyl succinate	Not available.	Not available.	Oral >5000 mg/kg, rat Dermal >5 g/kg, rabbit
Alcohols, C12-14-secondary	Not available.	Not available.	Not available.
Ethylene oxide	Ca [800 ppm]	Inhalation 800 ppm 4h, rat	Oral 72 mg/kg, rat

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	LD50 (oral)	LD50 (dermal)
>10.0 but ≤20.0 mg/l/4h (Calculated using ATE values)	> 2000 mg/kg, rat	> 2000 mg/kg, rabbit

Ingredient	Chemical Listed as Carcinogen or Potential Carcinogen (NTP, IARC, OSHA, ACGIH, CP65)*
Alcohols, C12-14-secondary, ethoxylated	Not listed.
Alcohols, C6-10, ethoxylated propoxylated	Not listed.
Dimethyl glutarate	Not listed.
Polyethylene glycol	Not listed.
7-(Diethylamino)-4-methyl-2-benzopyrone	Not listed.
Dimethyl adipate	Not listed.
Dimethyl succinate	Not listed.
Alcohols, C12-14-secondary	Not listed.
Ethylene oxide	O, G-A2, I-1, N-1, CP65

* See Section 15 for more information.

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

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

Biodegradable.

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 (non-bulk)	Not regulated <119 gallons
DOT (Bulk)	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Alcohols, C6-17 (secondary)poly(3-6) ethoxylated) marine pollutant, 9, III
IATA	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Alcohols, C6-17 (secondary)poly(3-6) ethoxylated) marine pollutant, 9, III
IMDG	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Alcohols, C6-17 (secondary)poly(3-6) ethoxylated) marine pollutant, 9, III

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 MSDS contains all the information required by the Controlled Products Regulations.

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

Mexico: MSDS prepared pursuant to NOM-018-STPS-2000.

SARA Title III				
Ingredient	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313

Alcohols, C12-14-secondary, ethoxylated	Not listed.	Not listed.	Not listed.	Not listed.
Alcohols, C6-10, ethoxylated propoxylated	Not listed.	Not listed.	Not listed.	Not listed.
Dimethyl glutarate	Not listed.	Not listed.	Not listed.	Not listed.
Polyethylene glycol	Not listed.	Not listed.	Not listed.	Not listed.
7-(Diethylamino)-4-methyl-2-benzopyrone	Not listed.	Not listed.	Not listed.	Not listed.
Dimethyl adipate	Not listed.	Not listed.	Not listed.	Not listed.
Dimethyl succinate	Not listed.	Not listed.	Not listed.	Not listed.
Alcohols, C12-14-secondary	Not listed.	Not listed.	Not listed.	Not listed.
Ethylene oxide	1,000	10	10	313

State Regulations

California Proposition 65:

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

Global Inventories:

Ingredient	Canada DSL/NDSL	USA TSCA
Alcohols, C12-14-secondary, ethoxylated	DSL	Yes.
Alcohols, C6-10, ethoxylated propoxylated	NDSL	Yes.
Dimethyl glutarate	DSL	Yes.
Polyethylene glycol	DSL	Yes.
7-(Diethylamino)-4-methyl-2-benzopyrone	DSL	Yes.
Dimethyl adipate	DSL	Yes.
Dimethyl succinate	DSL	Yes.
Alcohols, C12-14-secondary	No.	No.
Ethylene oxide	DSL	Yes.

NFPA-National Fire Protection Association:	
Health:	2
Fire:	1
Reactivity:	0
HMIS-Hazardous Materials Identification System:	
Health:	2
Fire:	1
Physical Hazard:	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: August 20, 2014

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End of Safety Data Sheet