

**Section 1: IDENTIFICATION****1.1 PRODUCT IDENTIFIER**

**Product Name:** ZL-60D Aerosol  
**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  
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:** May 11, 2015 **Version #:** 1.3

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

Flammable Aerosol 2  
Gases Under Pressure - Compressed Gas  
Skin irritation 2  
Serious eye damage 1  
Skin sensitization 1  
Aspiration hazard 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 skin irritation. Causes serious eye damage. May cause an allergic skin reaction. 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. Wash hands thoroughly after handling. Wear protective gloves/eye protection/face protection. Avoid breathing dust/fume/gas/mist/

vapors/spray. Contaminated work clothing must not be allowed out of the workplace.

**Response:** If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash 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 or 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.

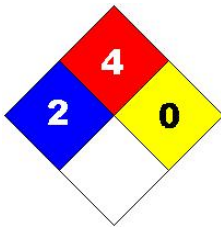
### 2.3 ADDITIONAL INFORMATION

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

34 % 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 A - Compressed Gas
- Class B5 - Flammable Aerosol
- Class D2B - Skin Sensitization
- 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. %
Petroleum gases, liquefied, sweetened	UN1075	Not available	68476-86-8	15 - 40

White mineral oil, petroleum	Not available	Not available	8042-47-5	10 - 30
Distillates (petroleum), hydrotreated light	UN1268	Not available	64742-47-8	10 - 30
Alcohols, C6-10, ethoxylated propoxylated	Not available	Not available	68987-81-5	10 - 30
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	Not available	Not available	120313-48-6	7 - 13
Alcohols, C12-14-secondary, ethoxylated	Not available	Not available	84133-50-6	3 - 7
9-Octadecenamide, N-(2-hydroxypropyl)-, (Z)-	Not available	Not available	111-05-7	1 - 5
7-(Diethylamino)-4-methyl-2-benzopyrone	Not available	Not available	91-44-1	1 - 5
Propylene oxide	UN1280	3/4/2	75-56-9	< 0.1
1,4-Dioxane	UN1165	2/3/1	123-91-1	< 0.1
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

<b>Eye:</b>	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.
<b>Skin:</b>	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.
<b>Inhalation:</b>	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.
<b>Ingestion:</b>	If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. 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

<b>Eye:</b>	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.
<b>Skin:</b>	Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin. May cause an allergic skin reaction.
<b>Inhalation:</b>	May cause respiratory tract irritation. May cause drowsiness or dizziness.
<b>Ingestion:</b>	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

<b>Note to Physicians:</b>	Symptoms may not appear immediately.
<b>Specific Treatments:</b>	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:** Flammable by WHMIS/OSHA/NOM-018-STPS-2000 criteria.

**5.2 EXTINGUISHING MEDIA**

**Suitable Extinguishing Media:** Foam, carbon dioxide.

**Unsuitable Extinguishing Media:** Water.

**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. Avoid water in straight hose stream; will scatter and spread fire. Containers may explode when heated.

---

**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. 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.

---

**Section 7: HANDLING AND STORAGE**

---

**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. Use only outdoors or in a well-ventilated place. 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. Protect from sunlight. Do not store

at temperatures above 50 °C / 122 °F. Store in a well-ventilated place. Store locked up. (See section 10)

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 CONTROL PARAMETERS

#### Exposure Guidelines

Occupational Exposure Limits		
Ingredient	OSHA-PEL	ACGIH-TLV
Petroleum gases, liquefied, sweetened	1000 ppm	1000 ppm
White mineral oil, petroleum	Not available.	Not available.
Distillates (petroleum), hydrotreated light	100 ppm	200 mg/m <sup>3</sup>
Alcohols, C6-10, ethoxylated propoxylated	Not available.	Not available.
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	Not available.	Not available.
Alcohols, C12-14-secondary, ethoxylated	Not available.	Not available.
9-Octadecenamamide, N-(2-hydroxypropyl)-, (Z)-	Not available.	Not available.
7-(Diethylamino)-4-methyl-2-benzopyrone	Not available.	Not available.
Propylene oxide	100 ppm	2 ppm
1,4-Dioxane	100 ppm	20 ppm
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:** 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. 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.

<b>Odor:</b>	Mild odor.
<b>Odor Threshold:</b>	Not available.
<b>Physical State:</b>	Gas/Pressurized liquid.
<b>pH:</b>	9.66
<b>Melting Point/Freezing Point:</b>	Not available.
<b>Initial Boiling Point and Boiling Range:</b>	~ 235 °C (~ 455 °F)
<b>Flash Point:</b>	Not Applicable.
<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>	60 psi @ 24°C (75 °F)
<b>Vapor Density:</b>	>1 (Air = 1)
<b>Relative Density/Specific Gravity:</b>	0.92
<b>Solubility:</b>	Emulsifiable.
<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>	9.32-11.4 cSt
<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 puncture. Do not burn.

**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 oxidizing agents.

**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, skin absorption, 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. May cause an allergic skin reaction.

**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. May cause drowsiness or dizziness.

**Acute Toxicity:**

Ingredient	IDLH	LC50	LD50
Petroleum gases, liquefied, sweetened	Not available.	Inhalation 658 mg/L 4h, rat	Not available.
White mineral oil, petroleum	Not available.	Inhalation >5 mg/L 4h, rat	Oral >5000 mg/kg, rat Dermal >2000 mg/kg, rabbit
Distillates (petroleum), hydrotreated light	Not available.	Inhalation >5.2 mg/L 4h, rat	Oral >5000 mg/kg, rat Dermal >2000 mg/kg, rabbit
Alcohols, C6-10, ethoxylated propoxylated	Not available.	Not available.	Not available.
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	Not available.	Not available.	Not available.
Alcohols, C12-14-secondary, ethoxylated	Not available.	Not available.	Not available.
9-Octadecenamamide, N-(2-hydroxypropyl)-, (Z)-	Not available.	Not available.	Not available.
7-(Diethylamino)-4-methyl-2-benzopyrone	Not available.	Not available.	Oral 5 g/kg, rat
Propylene oxide	500 ppm	Inhalation 4000 ppm 4 h, rat	Oral 380 mg/kg, rat Dermal 1500uL/kg, rabbit
1,4-Dioxane	400 ppm	Inhalation 48.5 mg/L 4 h, rat	Oral 4200 mg/kg, rat Dermal 7600 mg/kg, rabbit
Ethylene oxide	800 ppm	Inhalation 800 ppm 4 h, rat	Oral 72 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)*
Petroleum gases, liquefied, sweetened	Not listed.
White mineral oil, petroleum	Not listed.
Distillates (petroleum), hydrotreated light	Not listed.
Alcohols, C6-10, ethoxylated propoxylated	Not listed.
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	Not listed.
Alcohols, C12-14-secondary, ethoxylated	Not listed.
9-Octadecenamide, N-(2-hydroxypropyl)-, (Z)-	Not listed
7-(Diethylamino)-4-methyl-2-benzopyrone	Not listed.
Propylene oxide	G-A3, I-2B, N-2, CP65
1,4-Dioxane	G-A3, I-2B, N-2, CP65
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

<b>Skin Corrosion/Irritation:</b>	Causes 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>	May cause an allergic skin reaction.
<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.
<b>Fertility:</b>	Based on available data, the classification criteria are not met.
<b>STOT-Repeated Exposure:</b>	Based on available data, the classification criteria are not met.
<b>Aspiration Hazard:</b>	May be fatal if swallowed and enters airways.
<b>Toxicologically Synergistic Materials:</b>	Not available.
<b>Other Information:</b>	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

<b>DOT Ground</b>	Consumables, Limited Quantity
<b>IATA</b>	UN 1950, Aerosols, Flammable, 2.1
<b>IMDG</b>	UN 1950, Aerosols, 2.1 (Limited Quantity)
<b>TDG</b>	UN 1950, Aerosols, Flammable, 2.1
<b>NOM-004-SCT2-1994</b>	UN 1950, Aerosols, Flammable, 2.1

## 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
Petroleum gases, liquefied, sweetened	Not listed.	Not listed.	Not listed.	Not listed.
White mineral oil, petroleum	Not listed.	Not listed.	Not listed.	Not listed.
Distillates (petroleum), hydrotreated light	Not listed.	Not listed.	Not listed.	Not listed.
Alcohols, C6-10, ethoxylated	Not listed.	Not listed.	Not listed.	Not listed.

propoxylated				
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	Not listed.	Not listed.	Not listed.	Not listed.
Alcohols, C12-14-secondary, ethoxylated	Not listed.	Not listed.	Not listed.	Not listed.
9-Octadecenamamide, N-(2-hydroxypropyl)-, (Z)-	Not listed.	Not listed.	Not listed.	Not listed.
7-(Diethylamino)-4-methyl-2-benzopyrone	Not listed.	Not listed.	Not listed.	Not listed.
Propylene oxide	10,000	100	100	313
1,4-Dioxane	Not listed.	Not listed.	100	313
Ethylene oxide	1,000	10	10	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
Petroleum gases, liquefied, sweetened	DSL	Yes.
White mineral oil, petroleum	DSL	Yes.
Distillates (petroleum), hydrotreated light	DSL	Yes.
Alcohols, C6-10, ethoxylated propoxylated	NDSL	Yes.
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	NDSL	Yes.
Alcohols, C12-14-secondary, ethoxylated	DSL	Yes.
9-Octadecenamamide, N-(2-hydroxypropyl)-, (Z)-	DSL	Yes.
7-(Diethylamino)-4-methyl-2-benzopyrone	DSL	Yes.
Propylene oxide	DSL	Yes.
1,4-Dioxane	DSL	Yes.
Ethylene oxide	DSL	Yes.

### NFPA-National Fire Protection Association:

<b>Health:</b>	2
<b>Fire:</b>	4
<b>Reactivity:</b>	0

### HMIS-Hazardous Materials Identification System:

<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:** December 16, 2013

**Expiry Date:** December 16, 2016

**Version:** 1.3

**Revision Date:** November 11, 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.

**Prepared by:** Nexreg Compliance Inc.  
Phone: (519) 488-5126  
[www.nexreg.com](http://www.nexreg.com)

**Prepared for:** Magnaflux

**End of Safety Data Sheet**