

Section 1: IDENTIFICATION**1.1 PRODUCT IDENTIFIER**

Product Name: ZP-9F 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: April 1, 2014 **Version #:** 1.2

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
Serious eye irritation 2A
Specific target organ toxicity - Single exposure 3

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

Signal Word: Warning

Hazard Statement: Flammable aerosol. Contains gas under pressure; may explode if heated. Causes serious eye irritation. May cause drowsiness or dizziness.

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 eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

Response: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/if you feel unwell.

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.

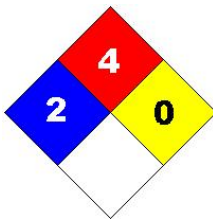
2.3 ADDITIONAL INFORMATION

Hazards not otherwise classified: Not applicable.

7 % 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 - 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. % |
|-----------------|----------------|---------------|----------|---------|
| Acetone | UN1090 | 1/3/0 | 67-64-1 | 30 - 60 |
| Isopropanol | UN1219 | 1/3/0 | 67-63-0 | 10 - 30 |
| Pentaerythritol | Not available. | 1/2/0 | 115-77-5 | 10 - 30 |
| Carbon dioxide | UN1013 | 1/0/0 | 124-38-9 | 5 - 10 |

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. If easy to do, remove contact lenses, if worn. If irritation persists, get medical attention. |
| Skin: | In case of contact, immediately flush skin with plenty of water. Call a physician if irritation develops and persists. |
| Inhalation: | If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell. |
| Ingestion: | 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

| | |
|--------------------|---|
| Eye: | Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. |
| Skin: | May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin. |
| Inhalation: | May cause drowsiness or dizziness. May cause respiratory tract irritation. |
| 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: | Flammable by WHMIS/OSHA/NOM-018-STPS-2000 criteria. |
|----------------------|---|

5.2 EXTINGUISHING MEDIA

| | |
|--|--|
| Suitable Extinguishing Media: | Carbon dioxide, dry chemical, foam, water fog. |
| Unsuitable Extinguishing Media: | Not available. |

5.3 SPECIAL HAZARDS ARISING FROM THE CHEMICAL

| | |
|--------------------------------|--|
| Products of Combustion: | May include, and are not limited to: oxides of carbon. |
| 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 if 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 spill, 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. Vapours may be heavier than air and may travel along the ground to a distant ignition source and flash back. 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. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist /vapors/spray. Do not swallow. Use only outdoors or in a well-ventilated area. When using do not eat, drink or smoke. (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. Keep container dry. (See section 10)

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Exposure Guidelines

| Occupational Exposure Limits | | |
|------------------------------|-------------------------------------|-----------|
| Ingredient | OSHA-PEL | ACGIH-TLV |
| Acetone | 1000 ppm; 2400 mg/m ³ | 500 ppm |
| Isopropanol | 400 ppm | 200 ppm |

| | | |
|-----------------|---|---|
| Pentaerythritol | 15 mg/m ³ (total); 5 mg/m ³ (resp) | 10 mg/m ³ (total); 5 mg/m ³ (resp) |
| Carbon dioxide | 5000 ppm | 5000 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: Safety glasses or goggles are recommended when using product.

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: Handle according to established industrial hygiene and safety practices. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|--------------------------|
| Appearance: | Clear. |
| Color: | Colorless. |
| Odor: | Characteristic. |
| Odor Threshold: | Not available. |
| Physical State: | Gas/Pressurized Liquid. |
| pH: | Not available. |
| Melting Point/Freezing Point: | Not available. |
| Initial Boiling Point and Boiling Range: | 56 °C (133 °F) at 100kPa |
| Flash Point: | Not applicable. |
| Evaporation Rate: | Not available. |
| Flammability: | Flammable. |
| Lower Flammability/Explosive Limit: | 2.0% (IPA) |
| Upper Flammability/Explosive Limit: | 12.8% (acetone) |
| Vapor Pressure: | Not available. |
| Vapor Density: | > 1 |
| Relative Density/Specific Gravity: | ~ 0.8 |

| | |
|--|----------------|
| Solubility: | Soluble. |
| 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, wt. %: | ~ 80% |

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 acids, strong bases, strong oxidizing agents.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

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

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 irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Skin: May cause 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: May cause drowsiness or dizziness. May cause respiratory tract irritation.

Acute Toxicity:

| Ingredient | IDLH | LC50 | LD50 |
|------------|------|------|------|
|------------|------|------|------|

| | | | |
|-----------------|----------------|--|---|
| Acetone | 2500 ppm | Inhalation 50100 mg/m ³ 8h, rat | Oral 5800 mg/kg, rat |
| Isopropanol | 2000 ppm | Inhalation 72.6 mg/L 4h, rat | Oral 4396 mg/kg, rat Dermal 12800 mg/kg, rat |
| Pentaerythritol | Not available. | Not available. | Dermal 12870 mg/kg, rabbit Oral 10000 mg/kg, rat |
| Carbon dioxide | 40000 ppm | Not available. | Not available. |

| 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)* |
|-----------------|---|
| Acetone | G-A4 |
| Isopropanol | G-A4, I-3 |
| Pentaerythritol | Not listed. |
| Carbon dioxide | Not listed. |

* See Section 15 for more information.

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

| | |
|---|---|
| Skin Corrosion/Irritation: | Based on available data, the classification criteria are not met. |
| Serious Eye Damage/Irritation: | Causes serious eye irritation. |
| 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: | May cause drowsiness or dizziness. |
| 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

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 Ground | Consumables, Limited Quantity |
| IATA | UN 1950, Aerosols, Flammable, 2.1 |
| IMDG | UN 1950, Aerosols, 2.1 (Limited Quantity) |
| TDG | UN 1950, Aerosols, Flammable, 2.1 |
| NOM-004-SCT2-1994 | 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 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.

| SARA Title III | | | | |
|----------------|------------------------------|---------------------------|------------------|-------------|
| Ingredient | Section 302 (EHS) TPQ (lbs.) | Section 304 EHS RQ (lbs.) | CERCLA RQ (lbs.) | Section 313 |
| Acetone | Not listed. | Not listed. | 5,000 | Not listed. |

| | | | | |
|-----------------|-------------|-------------|-------------|-------------|
| Isopropanol | Not listed. | Not listed. | Not listed. | 313 |
| Pentaerythritol | Not listed. | Not listed. | Not listed. | Not listed. |
| Carbon dioxide | Not listed. | Not listed. | Not listed. | Not listed. |

State Regulations

California Proposition 65:

This product does not contain 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 |
|-----------------|--------------------|-------------|
| Acetone | DSL | Yes. |
| Isopropanol | DSL | Yes. |
| Pentaerythritol | NDSL | Yes. |
| Carbon dioxide | DSL | Yes. |

NFPA-National Fire Protection Association:

| | |
|--------------------|---|
| Health: | 2 |
| Fire: | 4 |
| Reactivity: | 0 |

HMIS-Hazardous Materials Identification System:

| | |
|-------------------------|---|
| Health: | 2 |
| Fire: | 4 |
| 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: April 1, 2014

Expiry Date: April 1, 2017

Version: 1.2

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End of Safety Data Sheet