1. IDENTIFICATION

Product identifier
Product Name
EF 49 Aerosol

Other means of identification
Product Code MS-049 AEROSOL
UN/ID no. UN 1950
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Primers.
Uses advised against None known

Details of the supplier of the safety data sheet
Manufacturer Address
Hernon Manufacturing Inc.
121 Tech Drive
Sanford, FL 32771
800-527-0004

Emergency telephone number
Company Phone Number 407-322-4000
Emergency Telephone Chemtel 800-255-3924

2. HAZARDS IDENTIFICATION

Classiﬁcation
OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Flammable aerosols</td>
<td>Category 1</td>
</tr>
<tr>
<td>Gases under pressure</td>
<td>Compressed gas</td>
</tr>
</tbody>
</table>

Label elements

Emergency Overview

Danger

Hazard statements
Causes serious eye irritation
May cause an allergic skin reaction
May cause drowsiness or dizziness
Extremely flammable aerosol
Contains gas under pressure; may explode if heated
Appearance  No information available  Physical state  Aerosol  Odor  Acetone

Precautionary Statements - Prevention
- Wash hands thoroughly after handling
- Wear protective gloves/protective clothing/eye protection/face protection
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Contaminated work clothing should not be allowed out of the workplace
- Use only outdoors or in a well-ventilated area
- 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

Precautionary Statements - Response
- IF exposed or concerned: Get medical advice/attention
- Specific treatment (see supplemental first aid instructions on this label)
- 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 ON SKIN: Wash with plenty of water and soap
- If skin irritation or rash occurs: Get medical advice/attention
- Wash contaminated clothing before reuse
- IF INHALED: Remove person to fresh air and keep comfortable for breathing
- Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements - Storage
- Store locked up
- Store in a well-ventilated place. Keep container tightly closed
- Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

Precautionary Statements - Disposal
- Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
- Not applicable

Other Information
- Harmful to aquatic life with long lasting effects
- Harmful to aquatic life

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance</th>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acetone</td>
<td>67-64-1</td>
<td>60-100</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Isobutane</td>
<td>75-28-5</td>
<td>10-25</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Propane</td>
<td>74-98-6</td>
<td>10-25</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Isopropyl alcohol</td>
<td>67-63-0</td>
<td>2.5-10</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>2-Mercaptobenzothiazole</td>
<td>149-30-4</td>
<td>&lt;2.5</td>
<td>*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.
4. FIRST AID MEASURES

Description of first aid measures

Eye contact
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact
Wash with soap and water. Flush skin with water for several minutes. Remove contaminated clothing and shoes. If irritation develops, seek medical attention. Wash clothing before reuse.

Inhalation
Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.

Ingestion
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

Symptoms
No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use CO2, dry chemical, or foam.

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Vapors may travel to source of ignition and flash back.

Hazardous combustion products

Explosion data
Sensitivity to Mechanical Impact
None.

Sensitivity to Static Discharge
None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas.

For emergency responders
Use personal protection recommended in Section 8.

Environmental precautions
Do not allow into any sewer, on the ground or into any body of water. See Section 12 for additional ecological information.
Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Remove all sources of ignition. Soak up with inert absorbent material. Store in a closed container until ready for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. Wash thoroughly after handling. Use only with adequate ventilation and in closed systems. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Conditions for safe storage, including any incompatibilities

Storage Conditions
Store at or below 120 °F. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Incompatible materials
Strong oxidizers. Peroxides.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone 67-64-1</td>
<td>STEL: 500 ppm TWA: 250 ppm</td>
<td>TWA: 1000 ppm TWA: 2400 mg/m³ (vacated) TWA: 750 ppm (vacated) TWA: 1800 mg/m³ (vacated) STEL: 2400 mg/m³</td>
<td>IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m³</td>
</tr>
<tr>
<td>Isobutane 75-28-5</td>
<td>STEL: 1000 ppm</td>
<td>-</td>
<td>TWA: 800 ppm TWA: 1900 mg/m³</td>
</tr>
<tr>
<td>Propane 74-98-6</td>
<td>See Appendix F: Minimal Oxygen Content</td>
<td>TWA: 1000 ppm TWA: 1800 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m³</td>
<td>IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m³</td>
</tr>
<tr>
<td>Isopropyl alcohol 67-63-0</td>
<td>STEL: 400 ppm TWA: 200 ppm</td>
<td>TWA: 400 ppm TWA: 980 mg/m³ (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m³ (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m³</td>
<td>IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m³ STEL: 500 ppm STEL: 1225 mg/m³</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin and body protection
Wear protective gloves and protective clothing. Use rubber or plastic gloves.
Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical state</strong></td>
<td>Aerosol</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Amber</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Acetone</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Does not apply</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Melting point / freezing point</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Boiling point / boiling range</strong></td>
<td>-44 °C / -47 °F</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flammability Limit in Air</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Upper flammability limit:</strong></td>
<td>13% Acetone</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lower flammability limit:</strong></td>
<td>2.5% Acetone</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>6226 mm Hg</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>Miscible in water</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Solubility in other solvents</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Partition coefficient</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Autoignition temperature</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Kinematic viscosity</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dynamic viscosity</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other Information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Softening point</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Molecular weight</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>VOC Content (%)</strong></td>
<td>8.3 %</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Bulk density</strong></td>
<td>No information available</td>
</tr>
</tbody>
</table>

**10. STABILITY AND REACTIVITY**

**Reactivity**

No data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

Heat, flames and sparks. Extremes of temperature and direct sunlight.
Incompatible materials
Strong oxidizers. Peroxides.

Hazardous Decomposition Products
None known.

### 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Inhalation**
May cause drowsiness or dizziness.

**Eye contact**
Irritating to eyes.

**Skin contact**
May cause irritation.

**Ingestion**
May be harmful if swallowed.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone 67-64-1</td>
<td>5800 mg/kg (Rat)</td>
<td>-</td>
<td>50100 mg/m³ (Rat) 8 h</td>
</tr>
<tr>
<td>Isobutane 75-28-5</td>
<td>-</td>
<td>-</td>
<td>658 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>Propane 74-98-6</td>
<td>-</td>
<td>-</td>
<td>658 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>Isopropyl alcohol 67-63-0</td>
<td>1870 mg/kg (Rat)</td>
<td>4059 mg/kg (Rabbit)</td>
<td>72600 mg/m³ (Rat) 4 h</td>
</tr>
<tr>
<td>2-Mercaptobenzothiazole 149-30-4</td>
<td>100 mg/kg (Rat)</td>
<td>&gt;7940 mg/kg (Rabbit)</td>
<td>-</td>
</tr>
</tbody>
</table>

**Information on toxicological effects**

**Symptoms**
No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization**
No information available.

**Germ cell mutagenicity**
No information available.

**Carcinogenicity**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol 67-63-0</td>
<td>-</td>
<td>Group 3</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

**Reproductive toxicity**
No information available.

**STOT - single exposure**
No information available.

**STOT - repeated exposure**
No information available.

**Aspiration hazard**
No information available.

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document.

- **ATEmix (oral)**: 7,459.00 mg/kg
- **ATEmix (inhalation-dust/mist)**: 91.00 mg/l

### 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Harmful to aquatic life with long lasting effects
Persistence and degradability
No information available.

Bioaccumulation

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone 67-64-1</td>
<td>-0.24</td>
</tr>
<tr>
<td>Isobutane 75-28-5</td>
<td>2.88</td>
</tr>
<tr>
<td>Propane 74-98-6</td>
<td>2.3</td>
</tr>
<tr>
<td>Isopropyl alcohol 67-63-0</td>
<td>0.05</td>
</tr>
<tr>
<td>2-Mercaptobenzothiazole 149-30-4</td>
<td>2.3 - 2.5</td>
</tr>
</tbody>
</table>

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging
Do not reuse container.

US EPA Waste Number
D001

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>RCRA</th>
<th>RCRA - Basis for Listing</th>
<th>RCRA - D Series Wastes</th>
<th>RCRA - U Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone 67-64-1</td>
<td>-</td>
<td>Included in waste stream: F039</td>
<td>-</td>
<td>U002</td>
</tr>
<tr>
<td>Isopropyl alcohol 67-63-0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone 67-64-1</td>
<td>Ignitable</td>
</tr>
<tr>
<td>Isopropyl alcohol 67-63-0</td>
<td>Toxic</td>
</tr>
<tr>
<td>2-Mercaptobenzothiazole 149-30-4</td>
<td>Ignitable</td>
</tr>
</tbody>
</table>
14. TRANSPORT INFORMATION

**DOT**
- **UN/ID no.** UN 1950
- **Proper shipping name** Flammable aerosols
- **Hazard Class** 2.1
- **Packing Group** None
- **Reportable Quantity (RQ)** Acetone is reportable at 5000 pounds (2270 kg).
- **Special Provisions** Consumer Commodity ORM-D (Not more than 1 Liter)

**IATA**
- **UN/ID no.** UN 1950
- **Proper shipping name** Flammable aerosols
- **Hazard Class** 2.1
- **Packing Group** None
- **Special Provisions** May Qualify as Consumer Commodity ID8000 (Not more than 500 ml)

**IMDG**
- **UN/ID no.** UN 1950
- **Proper shipping name** Flammable aerosols
- **Hazard Class** 2.1
- **Packing Group** None
- **Special Provisions** Limited quantity (Not more than 1 L)

**ADR**
- **UN/ID no.** UN 1950
- **Proper shipping name** Flammable aerosols
- **Hazard Class** 2.1
- **Packing Group** None
- **Special Provisions** Consumer Commodity ORM-D (Not more than 1 Liter)

15. REGULATORY INFORMATION

**International Inventories**
- **TSCA** Complies
- **DSL/NDSL** Complies
- **EINECS/ELINCS** Complies
- **ENCS** Complies
- **IECSC** Complies
- **KECL** Complies
- **PICCS** Complies
- **AICS** Complies

All ingredients are on the inventory or are exempt from listing.

**Legend:**
- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- **EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- **ENCS** - Japan Existing and New Chemical Substances
- **IECSC** - China Inventory of Existing Chemical Substances
- **KECL** - Korean Existing and Evaluated Chemical Substances
- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- **AICS** - Australian Inventory of Chemical Substances

**US Federal Regulations**

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical
or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol - 67-63-0</td>
<td>1.0</td>
</tr>
<tr>
<td>2-Mercaptobenzothiazole - 149-30-4</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazard Categories**

- Acute health hazard: Yes
- Chronic Health Hazard: Yes
- Fire hazard: Yes
- Sudden release of pressure hazard: No
- Reactive Hazard: No

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone 67-64-1</td>
<td>5000 lb</td>
<td>-</td>
<td>RQ 5000 lb final RQ</td>
</tr>
</tbody>
</table>

**US State Regulations**

**California Proposition 65**
This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone 67-64-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Isobutane 75-28-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Propane 74-98-6</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Isopropyl alcohol 67-63-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2-Mercaptobenzothiazole 149-30-4</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

**NFPA**

Health hazards 0  Flammability 0  Instability 0  Physical and Chemical Properties -

**HMIS**

Health hazards 2*  Flammability 4  Physical hazards 0  Personal protection X

Prepared By: SDS coordinator
Issue Date: 22-Jun-2015
Revision Date: 09-Jun-2016
Revision Note: No information available

**Disclaimer**
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief.
at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet