1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product Identity: EMULSITONE LASER SCRIBING SOLUTION 1146 WITH RED DYE
Alternate Names: EMS 1146 RED

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use: See Technical Data Sheet.
Application Method: See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet
Company Name: Emulsitone Chemicals, LLC
37 Willow Street
Washington, NJ 07882

Emergency
24 hour Emergency Telephone No.: 973-464-5579
Customer Service: Emulsitone Chemicals, LLC 973-386-0053

2. Hazard identification of the product

2.1. Classification of the substance or mixture
Skin Irrit. 2; H315 Causes skin irritation.

2.2. Label elements
Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

Warning

H315 Causes skin irritation.

[Prevention]:
P264 Wash thoroughly after handling.
P280 Wear protective gloves / eye protection / face protection.
3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

<table>
<thead>
<tr>
<th>Ingredient/Chemical Designations</th>
<th>Weight %</th>
<th>GHS Classification</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid ethenyl ester, polymer with ethenol CAS Number: 0025213-24-5</td>
<td>4 - 10</td>
<td>Eye Irrit. 2;H319</td>
<td>[1]</td>
</tr>
<tr>
<td>C.I. Food Red 15 CAS Number: 0000081-88-9</td>
<td>0.1 - 0.5</td>
<td>Eye Irrit. 2;H319</td>
<td>[1]</td>
</tr>
</tbody>
</table>

[1] Substance classified with a health or environmental hazard.

The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

**General**
In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

**Inhalation**
Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

**Eyes**
Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

**Skin**
Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

**Ingestion**
If large quantities of this material are swallowed, call a physician immediately. Do NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person. Get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

**Overview**
**Skin:** Essentially non-irritating
**Eyes:** May cause eye irritation. Symptoms of exposure may include: eye irritation or...
burning sensation.

**Inhalation:** Unlikely, but could cause respiratory tract irritation. Symptoms of exposure may include: Nasal discharge, hoarseness, coughing, chest pain and breathing difficulty.

**Ingestion:** Essentially non-toxic based upon components. Symptoms of exposure may include: Inflammation of mouth, throat, esophagus and/or stomach.

**Reproductive:** No evidence of reproductive effects.

**Carcinogenic:** Components are listed as unclassifiable as to carcinogenic in humans. IARC Group 3.

**Mutagenic:** Does not show mutagenic potential in most in vitro tests. Does not show mutagenic potential in the micronucleus assay in vivo.

See section 2 for further details.

**Skin**

Causes skin irritation.

### 5. Fire-fighting measures

#### 5.1. Extinguishing media

Use alcohol type aqueous film forming foam for large fires. Use CO2 or dry chemical of small fires.

#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Thermal decomposition may yield CO and/or CO2

#### 5.3. Advice for fire-fighters

Keep personnel removed from and upwind of fire. If potential for exposure to vapors or products of combustion exists, wear full fire fighting turnout gear and NIOSH approved self-contained breathing apparatus. Oxidizing chemicals may accelerate the burning rate in a fire situation. Thoroughly decontaminate bunker gear and other fire-fighting equipment

**ERG Guide No.** ----

### 6. Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

#### 6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

#### 6.3. Methods and material for containment and cleaning up

Contain spill with dikes of soil or nonflammable absorbent to minimize contamination area. Avoid run-off into storm sewers and ditches, leading to waterways. If required, notify state and local authorities. Place leaking containers in well-ventilated area. Clean up spills by mopping with water or absorbing with vermiculite or paper.

Keep unnecessary people away. Isolate hazard area and deny entry.
7. Handling and storage

7.1. Precautions for safe handling
Handle containers carefully to prevent damage and spillage.
Keep all containers tightly closed when not in use.
Wash thoroughly with soap and water after handling. Decontaminate affected clothing thoroughly before reuse.
See section 2 for further details. - [Prevention):

7.2. Conditions for safe storage, including any incompatibilities
Store at room temperature out of direct sunlight. Store on impermeable floor with secondary containment for large volumes.
Incompatible materials: Keep away from strong oxidizers and highly reactive metals.
See section 2 for further details. - [Storage):

7.3. Specific end use(s)
None

8. Exposure controls and personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0025213-24-5</td>
<td>Acetic acid ethenyl ester, polymer with ethenol</td>
<td>OSHA</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>No Established Limit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000081-88-9</td>
<td>C.I. Food Red 15</td>
<td>OSHA</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>No Established Limit</td>
</tr>
</tbody>
</table>

Carcinogen Data

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0025213-24-5</td>
<td>Acetic acid ethenyl ester, polymer with ethenol</td>
<td>OSHA</td>
<td>Select Carcinogen: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NTP</td>
<td>Known: No; Suspected: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IARC</td>
<td>Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NTP</td>
<td>Known: No; Suspected: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IARC</td>
<td>Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes; Group 4: No;</td>
</tr>
</tbody>
</table>
8.2. Exposure controls

**Respiratory**

Based on workplace contaminant level and working limits of the respirator, use a respirator approved by NIOSH. The following is the minimum recommended equipment for an occupational exposure level.

**Eyes**

Protective chemical goggles recommended.

**Skin**

Wear overalls to keep skin contact to a minimum. Wear impervious clothing and gloves to prevent contact. Other protective material may be used, depending on the situation if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this product, material selection should be based on protection for all chemicals present.

**Engineering Controls**

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

**Other Work Practices**

Ensure showers and eyewash stations are available. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

### 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Red Colored Liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>No</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not Measured</td>
</tr>
<tr>
<td>pH</td>
<td>4 – 7.5</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>212 F</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt; 200 F non-flammable</td>
</tr>
<tr>
<td>Evaporation rate (Ether = 1)</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td><strong>Lower Explosive Limit:</strong> Not Measured</td>
</tr>
<tr>
<td></td>
<td><strong>Upper Explosive Limit:</strong> Not Measured</td>
</tr>
<tr>
<td>Vapor pressure (Pa)</td>
<td>17.5 mmHg (20 C)</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>0.32 (Air = 1)</td>
</tr>
</tbody>
</table>
Safety Data Sheet
EMULSITONE LASER SCRIBING SOLUTION 1146 WITH RED DYE

Specific Gravity 1.0 g/cc @ 25C
Solubility in Water 100%
Partition coefficient n-octanol/water (Log Kow) Not Measured
Auto-ignition temperature Not Measured
Decomposition temperature Not Measured
Viscosity (cP) 6 - 8 cP @ 25C
% Volatile (by volume) 0%

9.2. Other information
No other relevant information.

10. Stability and reactivity

10.1. Reactivity
Hazardous Polymerization will not occur.

10.2. Chemical stability
Stable under normal circumstances.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
No data available.

10.5. Incompatible materials
Keep away from strong oxidizers and highly reactive metals.

10.6. Hazardous decomposition products
Thermal decomposition may yield CO and/or CO2

11. Toxicological information

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Oral LD50, mg/kg</th>
<th>Skin LD50, mg/kg</th>
<th>Inhalation Vapor LD50, mg/L/4hr</th>
<th>Inhalation Dust/Mist LD50, mg/L/4hr</th>
<th>Inhalation Gas LD50, ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid ethenyl ester, polymer with ethenol - (25213-24-5)</td>
<td>5,000.00, Rat - Category: 5</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>C.I. Food Red 15 - (61-88-9)</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).


<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
<th>Hazard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>2</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

12. Ecological information

12.1. Toxicity
No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>96 hr LC50 fish, mg/l</th>
<th>48 hr EC50 crustacea, mg/l</th>
<th>ErC50 algae, mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid ethenyl ester, polymer with ethenol - (25213-24-5)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>C.I. Food Red 15 - (81-88-9)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
There is no data available on the preparation itself.

12.3. Bioaccumulative potential
Not Measured

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects
No data available.
13. Disposal considerations

13.1. Waste treatment methods
Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

<table>
<thead>
<tr>
<th>DOT (Domestic Surface Transportation)</th>
<th>IMO / IMDG (Ocean Transportation)</th>
<th>ICAO/IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not Applicable</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>DOT Hazard Class: Not Applicable</td>
<td>IMDG: Not Applicable</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>IMDG: Marine Pollutant: No</td>
<td></td>
</tr>
</tbody>
</table>

14.6. Special precautions for user
No further information

15. Regulatory information

Regulatory Overview
The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA)
All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification
D2B

US EPA Tier II Hazards
Fire: No
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): Yes
Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQs:
(No Product Ingredients Listed)

EPCRA 302 Extremely Hazardous :
(No Product Ingredients Listed)

EPCRA 313 Toxic Chemicals:
16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H319 Causes serious eye irritation.

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

For industrial use only. The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones that exist. Emulsitone Chemicals, LLC makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. Effects can be aggravated by other materials and/or this material may aggravate or add to the effects of other materials. This material may be released from gas, liquid, or solid materials made directly or indirectly from it. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards. Material safety data sheets are provided on the Internet as a service for our customers. Possession of an Internet MSDS does not indicate that the possessor of the MSDS was a purchaser or use of the subject product. however, accuracy, suitability or completeness is not guaranteed and no warranties of any type either express or implied are provided. The information contained herein relates only to this specific product.

End of Document