SECTION 1: IDENTIFICATION

1.1 Product identifier
Product Name: Dioctyl Adipate

1.2. Other identifiers
CAS Number: 103-23-1
Chemical Name/Description: Bis(2-ethylhexyl) adipate
Synonyms: DOA; Adipic acid di(2-ethylhexyl) ester

1.3. Relevant identified uses of the substance or mixture and uses advised against
Uses: Laboratory chemicals, Manufacture of substances
Uses Advised Against: None identified

1.4. Details of the supplier of the safety data sheet
Distributor
Silver Fern Chemical, Inc.
2226 Queen Anne Avenue North, Suite B
Seattle WA 98109, USA
Phone: 1-866-282-3384

Business Contact
Customer Service: 1-866-282-3384
info@silverfernchemical.com

1.5. Emergency phone number
24 Hour Emergency Contact
Infotrac 1-800-535-5053 (USA & Canada)
Outside USA & Canada 1-352-323-3500

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the chemical in accordance with 29 CFR 1910.1200 (d)
Not a hazardous substance or mixture

2.2. GHS label elements, including precautionary statements
Signal Word: No signal word required
Hazard Statement(s): Not a hazardous substance or mixture
Symbol(s): None listed
Precautionary Statements: Not a hazardous substance or mixture

2.3. Hazards not otherwise classified
Other Hazards: No other hazards identified

2.4. Ingredients of unknown acute toxicity: none known
SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Content (W/W)</th>
<th>Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>103-23-1</td>
<td>100%</td>
<td>Bis(2-ethylhexyl) adipate</td>
</tr>
</tbody>
</table>

Chemical name: Bis(2-ethylhexyl) adipate
Common name / synonyms: DOA

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures
In case of skin contact: Wash off with soap and plenty of water.
In case of eye contact: Flush eyes with water as a precaution.
If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water.
If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration.

4.2. Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling

4.3. Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: FIRE FIGHTING MEASURES

5.1. Suitable and unsuitable extinguishing media
Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media: no data available

5.2. Specific hazards arising from the substance or mixture
Carbon oxides
Nature of any hazardous combustion products: no data available
Other hazards: no data available

5.3. Special protective equipment and precautions for firefighters
Special protective equipment: Wear self contained breathing apparatus for fire fighting if necessary.
Special precautions: no data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures: Avoid breathing vapors, mist or gas.

6.2. Methods and materials for containment and cleaning up: Keep in suitable, closed containers for disposal.
6.3 **Environmental Precautions:** Do not let product enter drains.

**SECTION 7: HANDLING AND STORAGE**

7.1. **Precautions for safe handling:** no data available

7.2. **Conditions for safe storage, including any incompatibilities:** Keep container tightly closed in a dry and well-ventilated place.

**SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION**

8.1. **Components with workplace control parameters:** Contains no substances with occupational exposure limit values.

8.2. **Appropriate engineering controls:** General industrial hygiene practice.

8.3. **Personal Protective Equipment:**

   **Eye/face protection:** Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

   **Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

   **Body protection:** impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

   **Respiratory protection:** Respiratory protection not required

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Form: liquid, colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>no data available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>pH</td>
<td>no data available</td>
</tr>
<tr>
<td>Melting point/freezing Point</td>
<td>Melting point/range: &lt; -70 °C (&lt; -94 °F) - lit.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>175 °C (347 °F) at 3 hPa (2 mmHg) - lit.</td>
</tr>
<tr>
<td>Flash point</td>
<td>196 °C (385 °F) - closed cup</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>no data available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>no data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.925 g/cm³ at 20 °C (68 °F)</td>
</tr>
</tbody>
</table>
Water Solubility: 0.00078 g/l at 22 °C (72 °F) - slightly soluble
Partition Coefficient: log Pow: 8.94 at 25 °C (77 °F)
Auto-ignition temperature: 377 °C (711 °F) at 1,013.25 hPa (760.00 mmHg)
Decomposition temperature: no data available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: no data available
10.2. Chemical stability: Stable under recommended storage conditions.
10.3. Possibility of hazardous reactions: no data available
10.4. Conditions to avoid: no data available
10.5. Incompatible materials: Strong oxidizing agents
10.6. Hazardous decomposition products: no data available

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Toxicological effects:
Acute toxicity:
LD50 Oral - rat - female - 24,600 mg/kg
LD50 Oral - rat - male - 45,000 mg/kg
LC50 Inhalation - rat - male and female - 4 h - > 5.7 mg/l
LD50 Dermal - rabbit - 14,800 mg/kg
11.2. Acute Toxicity:
Skin corrosion/irritation: no data available
Serious eye damage/eye irritation: no data available
Respiratory or skin sensitization: no data available
Germ cell mutagenicity: negative
Carcinogenicity: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Bis(2-ethylhexyl) adipate)
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

11.3. Delayed and immediate effects and also chronic effects from short- and long-term exposure: no data available

11.4. Numerical measures of toxicity (such as acute toxicity estimates): no data available

11.5. Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA: Not listed

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:
Toxicity to fish: static test LC0 - Oncorhynchus mykiss (rainbow trout) - > 0.78 mg/l - 96 h
Toxicity to algae: static test EC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) - > 500 mg/l - 72 h
Toxicity to bacteria: EC50 - Sludge Treatment - > 350 mg/l - 3 h
Toxicity to daphnia and other aquatic invertebrates: Immobilization EC50 - Daphnia magna (Water flea) - > 500 mg/l - 48 h

Biodegradability: aerobic - Exposure time 28 d/ Result: 90 - 100 % - Readily biodegradable.

Bioaccumulative
Potential: Lepomis macrochirus - 28 d - 250 μg/l. Bioconcentration factor (BCF): 27

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal of substance: Offer surplus and non-recyclable solutions to a licensed disposal company.

Container disposal: Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

DOT: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

SARA 302 Components:
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components:
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards:
No SARA Hazards
Massachusetts Right To Know Components
Bis(2-ethylhexyl) adipate  CAS-No.103-23-1  Revision date 1991-07-01

Pennsylvania Right To Know Components
Bis(2-ethylhexyl) adipate  CAS-No.103-23-1  Revision date 1991-07-01

New Jersey Right To Know Components
Bis(2-ethylhexyl) adipate  CAS-No.103-23-1  Revision date 1991-07-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION

HMIS Rating
Health hazard:  0
Chronic Health Hazard:  
Flammability:   1
Physical Hazard  0

NFPA Rating
Health hazard:  0
Fire Hazard:    1
Reactivity Hazard:  0

DISCLAIMER OF RESPONSIBILITY

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Revision Date: 10/10/2016

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