Ricinoleic Acid
Safety Data Sheet
According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision Date: 03/19/2015   Date of Issue: 03/19/2015   Supersedes: 03/29/2008
Version: 2.0

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1. Product Identifier
Product Form: Substance
Product Name: Ricinoleic Acid
CAS No: 141-22-0; 61789-44-4
Synonyms: [R-(Z)]-12-Hydroxy-9-Octadecenoic acid

1.2. Intended Use of the Product
Use of the substance/mixture: Industrial applications; metal working fluids; CASE (Coatings, Adhesives, Sealants, Elasticizers); cosmetics and viscosity modifier

1.3. Name, Address, and Telephone of the Responsible Party
Company
Acme-Hardesty Co
450 Sentry Parkway
Blue Bell, PA 19422
T 866-226-3834   T 215-591-3610
www.acme-hardesty.com

1.4. Emergency Telephone Number
Emergency Number : 800-424-9300
For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture
Classification (GHS-US)
Not classified

2.2. Label Elements
GHS-US Labeling
No labeling applicable

2.3. Other Hazards
No additional information available

2.4. Unknown Acute Toxicity (GHS-US)
No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance
Name : Ricinoleic Acid
CAS No : 141-22-0; 61789-44-4

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, castor-oil</td>
<td>(CAS No) 61789-44-4</td>
<td>0.1 - 100</td>
<td>Not classified</td>
</tr>
<tr>
<td>9-Octadecenoic acid, 12-hydroxy-, (9Z,12R)-</td>
<td>(CAS No) 141-22-0</td>
<td>0.1 - 100</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

3.2. Mixture
Not applicable
Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures
First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area.
First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes.
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First-aid Measures After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting.

4.2. Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms/Injuries: None expected under normal conditions of use.

Symptoms/Injuries After Inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

Symptoms/Injuries After Skin Contact: None under normal conditions.

Symptoms/Injuries After Eye Contact: Direct contact with the eyes is likely irritating.

Symptoms/Injuries After Ingestion: If a large quantity has been ingested: May cause nausea, vomiting, and diarrhea.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed
If medical advice is needed, have product container or label at hand.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray or fog, dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2). Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use water jet.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Stable at ambient temperature and under normal conditions of use.

5.3. Advice for Firefighters

Firefighting Instructions: Exercise caution when fighting any chemical fire. Treat as an oil or fat fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Handle in accordance with good industrial hygiene and safety practice.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).


6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Absorb and/or contain spill with inert material, then place in suitable container.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use.


7.3. Specific End Use(s): Industrial applications; metal working fluids; CASE (Coatings, Adhesives, Sealants, Elasticizers); cosmetics and viscosity modifier
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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters
For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

8.2. Exposure Controls
Personal Protective Equipment : Gloves. Safety glasses.

Hand Protection : Wear chemically resistant protective gloves. The breakthrough time of the selected gloves must be greater than the intended use period.

Eye Protection : Chemical goggles or safety glasses.

Respiratory Protection : In case of inadequate ventilation wear respiratory protection.

Other Information : When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties
Physical State : Liquid
Appearance : Yellow. Viscous.
Odor : Characteristic of fatty acid
Odor Threshold : No data available
pH : No data available
Relative Evaporation Rate (butylacetate=1) : No data available
Melting Point : No data available
Freezing Point : 5.5 °C (41.90 °F)
Boiling Point : 245 °C @ 100 mm Hg (473 °F)
Flash Point : > 190 °C (374 °F)
Auto-ignition Temperature : No data available
Decomposition Temperature : No data available
Flammability (solid, gas) : Not applicable
Vapor Pressure : Not applicable
Relative Vapor Density at 20 °C : No data available
Relative Density : No data available
Specific Gravity : 940 g/cm³ @ 27.4°C
Solubility : Water: Insoluble
Organic solvent: Soluble in alcohol, acetone, ether, chloroform at room temperature

Partition Coefficient: N-Octanol/Water : Not available
Log Kow : -1.76
Viscosity : 1.07 Poise @ 40°C
Explosive Properties : No data available
Oxidizing Properties : No data available
Explosive Limits : Not applicable

9.2. Other Information : No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity : Stable at ambient temperature and under normal conditions of use.
10.2 Chemical Stability : Product is stable.
10.3 Possibility of Hazardous Reactions : Hazardous polymerization will not occur.
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10.4 Conditions to Avoid: Direct sunlight. Extremely high or low temperatures.
10.6 Hazardous Decomposition Products: Under fire conditions this material may produce hazardous carbon dioxide (CO2), carbon monoxide (CO), various low molecular weight hydrocarbons, and smoke.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Ricinoleic Acid (141-22-0; 61789-44-4)

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Ricinoleic Acid (141-22-0; 61789-44-4)

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Ricinoleic Acid (141-22-0; 61789-44-4)

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

Symptoms/Injuries After Skin Contact: None under normal conditions.

Symptoms/Injuries After Eye Contact: Direct contact with the eyes is likely irritating.

Symptoms/Injuries After Ingestion: If a large quantity has been ingested: May cause nausea, vomiting, and diarrhea.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity No additional information available

12.2. Persistence and Degradability

Ricinoleic Acid (141-22-0; 61789-44-4)

Persistence and Degradability: The substance is biodegradable. Unlikely to persist.

12.3. Bioaccumulative Potential

Ricinoleic Acid (141-22-0; 61789-44-4)

Log Kow -1.76

Bioaccumulative Potential: Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/IMDG/DOT

14.1. UN Number Not regulated for transport

14.2. UN Proper Shipping Name Not regulated for transport

14.3. Additional Information

Other information: No supplementary information available.
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Transport by Sea  Not regulated for transport
Air Transport  Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1  US Federal Regulations

| 9-Octadecenoic acid, 12-hydroxy-, (9Z,12R)-(141-22-0) | Listed on the United States TSCA (Toxic Substances Control Act) inventory |
| Fatty acids, castor-oil (61789-44-4) | Listed on the United States TSCA (Toxic Substances Control Act) inventory |

EPA TSCA Regulatory Flag  Y2 - Y2 - indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

15.2  US State Regulations  Neither this product nor its chemical components appear on any US state lists.

SECTION 16: OTHER INFORMATION

Revision Date  : 03/19/15
Other Information  : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

The data herein are based on our current knowledge and believed to be reliable. Acme-Hardesty Co., provides this information without any representation or warranty, expressed or implied, regarding its accuracy or correctness.

Users must make their own determination that handling, storage, use and disposal of the product in the anticipated manner is safe and appropriate. Because these actions of the user are out of our control, and may be beyond our knowledge, we do not assume responsibility and expressly disclaim liability for loss, damage, expense or any other claim arising out of or in any way connected with the handling, storage, use or disposal of the product or container.

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