SECTION 1: Identification of the substance or mixture and the company or undertaking

1.1 Product identifier

Product type : Mixture
Trade name : CA0154 Ricinoleic Acid
Label name : CA0154 Ricinoleic Acid
Chemical name : Castor Oil Fatty Acids
CAS number : 141-22-0
EC number : 205-470-2

1.2 Recommended and restricted uses of the substance or mixture

Recommended uses : Industrial, metal working, cleaners, coating resins, surfactants, rubber additives, textile additives.
Restricted uses : None known.

1.3 Company identification

Company name : Chemical Associates – A Division of Univar USA Inc.
Company address : 1270 South Cleveland Massillon Road
 : Copley, OH 44321-1683
Company telephone : 330-666-5200

1.4 Emergency telephone number

Company emergency telephone : 800-347-2891
CHEMTREC telephone : 800-424-9300

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Appendix A)
GHS physical hazard : None.
GHS health hazard : None.
GHS environmental hazard : None.

2.2 Label warnings of the substance or mixture

Signal word : None.
Hazard statements : None.
Precautionary statements: P264 Wash hands thoroughly after handling.

Hazard symbol (pictogram): None.

2.3 Hazards not otherwise classified

Other hazards: No additional information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name</th>
<th>Percent</th>
<th>CAS number</th>
<th>Health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name</th>
<th>Typical %</th>
<th>CAS number</th>
<th>Health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-Hydroxy-9-cis octadecenoic acid</td>
<td>Ricinoleic Acid</td>
<td>70 - 90</td>
<td>141-22-0</td>
<td>None.</td>
</tr>
<tr>
<td>Fatty Acids, C16-18 and C18 Unsaturated</td>
<td>Fatty Acids, C16-18 and C18 Unsaturated</td>
<td>10 - 30</td>
<td>67701-08-1</td>
<td>None.</td>
</tr>
</tbody>
</table>

SECTION 4: First-aid measures

4.1 Description of first-aid measures

Exposure route | First-aid measure
---|---
Inhalation | Remove the victim into fresh air. Observe victim’s breathing. If breathing is labored seek immediate medical attention.
Skin contact | Wash immediately with soap and water. If irritation develops, seek medical attention. Launder contaminated clothing.
Eye contact | Rinse immediately with plenty of water for 15 minutes. Remove contact lenses if present and easy to do. Do not use neutralizing agents. If irritation persists, seek immediate medical (ophthalmologist) attention.
Ingestion | Rinse mouth with plenty of water. For ingestion of large quantities seek immediate medical attention. Do not induce vomiting. Contact poison control center.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms after inhalation: May experience dizziness.
Symptoms after skin contact: Mild irritation of the skin may occur.
Symptoms after eye contact: Irritation of the eye tissue.
Symptoms after ingestion: Mild tingling of the tongue and mouth.
4.3 Indication of any immediate medical attention and special treatment needed

Treatment after inhalation: If breathing is labored seek immediate medical attention.
Treatment after skin contact: If skin irritation persists seek immediate medical attention.
Treatment after eye contact: If eye irritation persists seek immediate ophthalmologist attention.
Treatment after ingestion: If ingestion of a large quantity seek immediate poison control center.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable media: Carbon dioxide, foam and water spray.
Unsuitable media: None known.

5.2 Specific hazards arising from the substance or mixture

Direct fire hazard: Not combustible.
If porous materials such as rags or papers are soaked with mixture, spontaneous combustion may occur.
Indirect fire hazard: Exposure to temperature above the flash point (224°C).
Explosive hazard: Exposure to temperature above the flash point (224°C).
Reactivity: Reactivity with strong oxidizers or strong bases.
Combustion products: Carbon dioxide, carbon monoxide and oxides of sulfur.

5.3 Special protective equipment and precautions for fire-fighters

Protective equipment: Full protective clothing.
Precautions: No additional information available.
Emergency response guide: Not a hazardous material.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Mixture is not hazardous. If mixture is a mist, stay upwind.
Protective equipment: Wear rubber gloves, rubber boots, face shield and chemical hazard suit. If material is a mist wear dust mask or self contained breathing apparatus.
Emergency procedures: Mark the spill area with hazard tape or cones. Contain the spill area with suitable absorbent. Keep away from streams, rivers and lakes. If mixture is a mist, alert immediate neighborhood to close windows and doors. Contain and dissipate mist via spraying with water.

6.2 Environmental precautions
Precautions: Keep out of streams, rivers and lakes. Mixture is regulated as oil under the Clean Water Act. Abide by all laws per this regulation.

### 6.3 Methods and materials for containment and cleanup

**Methods**
- Use chemical absorbent pigs or manually spread chemical absorbent onto spill area. After the mixture is absorbed, dispose in approved waste facility.

**Materials**
- Approved materials include dry earth, sand, clay, chemical absorbent, vermiculite and carbon.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

**Handling temperature**
- About 10°C above the melt point (7°C).

**Handling equipment**
- Rubber hoses or stainless steel (grade 304) lines. Stainless steel (grade 304) for pumps.

#### 7.2 Conditions for safe storage, including any incompatibilities

**Storage area**
- Store in dry area. Store at room temperature. Store in dyke area to contain any spills. Protect from heat.

**Packaging materials**
- Polyethylene, stainless steel (grade 304), rubber lined or epoxy lined tanks or drums. Graphite or rubber gaskets.

**Incompatibilities**
- Strong oxidizers and strong bases.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Exposure controls

**OSHA PEL**
- None

**ACGIH TLV**
- None

**NIOSH REL**
- None

#### 8.2 Appropriate engineering controls

**Engineering controls**
- If mist exists, install ventilation equipped with carbon canisters. Ventilation should be 10 air exchanges per hour. Local exhaust ventilation is recommended.

#### 8.3 Personal protection equipment

**Personal protective equipment**
- Rubber gloves and safety glasses. Dust mask if mist exists.

**Personal protective equipment pictograms**
- 

10/20/14  Page 4 of 10
SECTION 9: Physical and chemical properties

9.1 Physical and chemical properties

Appearance: Light yellow liquid.
Odor: Fatty acid odor.
Odor threshold: No data available.
\( \text{pH} \): No data available. Mixture is not readily soluble in water.
Melting point: 45°F, some solids may remain to ~130°F
Boiling point: No data available.
Flash point: >224°C, Closed Cup.
Evaporation rate: No data available.
Flammability: Not flammable.
Lower flammability limit: No data available.
Upper flammability limit: No data available.
Vapor pressure: No data available.
Vapor density: No data available.
Relative density: 0.90 at 25/25 (water).
Solubility: Complete in ethanol and acetone.
Partition coefficient for n-octanol/water: No data available.
Auto-ignition temperature: 250°C.
Decomposition temperature: No data available.
Viscosity: 500 mPas (cps) at 20°C.

9.2 Other information

Other information: No additional information available.

SECTION 10: Stability and reactivity

Reactivity: May react violently with oxidizers.
Chemical stability: Stable under storage conditions.
Possibility of hazardous reactions: Hazardous polymerization does not occur.
Conditions to avoid: This product mixture may self combust after sorption into porous materials such as cloth rags, paper, insulation or organic clay. Pressure, shock, static discharge or vibration does NOT result in a hazardous condition.
Incompatible materials: Oxidizers.
Hazardous decomposition products: Carbon dioxide, carbon monoxide and oxides of sulfur.

SECTION 11: Toxicological information

11.1 Information on the likely routes of exposure

Inhalation exposure: From mist or spray.
Skin exposure: From mist or spray. From splashing.
Ingestion exposure: Not a likely route of exposure.
Eye contact: From mist or spray. From splashing.

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: Labored breathing and irritation of the lungs may occur.
Skin contact: Mild skin irritation may occur.
Ingestion: Mild irritation of the mouth, tongue, esophagus and stomach may occur.
Eye contact: Mild eye irritation may occur.

11.3 Delayed and immediate effects and also chronic effects from short and long term exposure

Inhalation: Chronic effects are not known.
Skin contact: Chronic effects are not known.
Ingestion: Chronic effects are not known.
Eye contact: Chronic effects are not known.

11.4 Numerical measures of toxicity

Oral LD50: Rat > 2000mg/kg.
Skin LD50: No data available.
Ingestion LD50: No data available.
Inhalation LD50: No data available.
Skin primary irritation: Non-irritant OECD 404
Eye primary irritation: Non-irritant OEC 405

11.5 Carcinogenicity

National Toxicology Program: Not listed.
International Agency for Research on Cancer: Not listed.
OSHA: Not listed.
NIOSH: Not listed.
11.6 Other toxicological information

Reproductive toxicity : Not classified.
Germ cell mutagenicity : Not classified.
Respiratory or skin sensitization : No data available.
Specific target organ toxicity, single exposure : No data available.
Specific target organ toxicity, repeated exposure : No data available.
Aspiration hazard : No data available.

SECTION 12: Ecological information

12.1 Ecotoxicity aquatic

Fish LL50 : No data available.
Daphnia EC50 : No data available.
Algae EL50 : No data available.

12.1.2 Ecotoxicity terrestrial

Ecotoxicity terrestrial : No data available.

12.2 Persistence and degradability

Water : No data available.
Soil : No data available.
Air : No data available.

12.3 Bio-accumulative potential

Log Kow : No data available.

12.4 Mobility in soil

Surface tension : No data available.
Soil mobility : No data available.

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment : No data available.

12.6 Other adverse effects

Air : Not dangerous to the ozone layer.
CA0154 Ricinoleic Acid
Safety Data Sheet

SECTION 13: Disposal considerations

13.1 Description of waste residues

Storage tank residues: Liquid residue from tank cleaning.
Empty package residues: Liquid residue remaining in emptied package container.
Transport trailer residues: Liquid residue from transport trailer cleaning.
Absorbent material: Solid absorbent containing mixture from a spill.

13.2 Safe handling of waste residues

Storage tank residues: Refer to section 7 for safe handling.
Empty package residues: Refer to section 7 for safe handling.
Transport trailer residues: Refer to section 7 for safe handling.
Absorbent material: Refer to section 7 for safe handling.

13.3 Methods of disposal

Storage tank residues: Dispose via an approved incineration facility.
Empty package residues: Remove package to an approved package cleaning and recycling facility.
Transport trailer residues: Clean transport trailer at an approved cleaning facility.
Absorbent material: Dispose via an approved incineration facility.

13.4 Hazardous waste classification (RCRA)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Regulation</th>
<th>Listed</th>
<th>Hazardous waste number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignitability</td>
<td>40CFR261.21</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Corrosivity</td>
<td>40CFR261.22</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Reactivity</td>
<td>40CFR261.23</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Toxicity</td>
<td>40CFR261.24</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 14: Transport information

14.1 UN number

UN number: Not regulated.
14.2 UN proper shipping name

Proper shipping name : None.

14.3 Transport hazard class

Hazard class : None.
Hazard label : None.
Hazard pictogram : None.

14.4 Packing group

Packing group : None.

14.5 Environmental hazards

Marine pollutant : Not listed, per 49CFR172.101 Appendix B.

14.6 Transport in bulk

US DOT : Not regulated.
IMDG : Not regulated.
IATA : Not regulated.
MARPOL 73/78 : Not regulated.
IBC code : Not regulated.

14.7 Special precautions for user

Special precautions : No additional information available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the substance or mixture

15.1.1 US regulations

SARA 302 (40CFR355) : Not listed.
SARA 311/312 (40CFR370.66) : Not listed.
SARA 313 (40CFR372.65) : Not listed.
CERCLA (40CFR302.4) : Not listed.
California proposition 65 : Not listed.
German WGK class : 1 (low hazard to waters).

15.1.2 Chemical inventories
15.2 Chemical safety assessment

Safety assessment: No additional information available.

SECTION 16: Other information

16.1 Hazard ratings

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIS (USA)</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NFPA (USA)</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

16.2 Safety Data Sheet information

Revision date (MM/DD/YY): 10/20/2014
Supersede date (MM/DD/YY): 09/20/2010

16.3 Notice to reader

The information presented herein is believed to be factual as it has been derived from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which Chemical Associates – A Division of Univar USA Inc. bears responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.