CA3551 Pentaerythritol Monooleate
Safety Data Sheet

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

1.1 Product identifier

Product type                : Substance
Trade name                  : CA3551 Pentaerythritol Monooleate
Label name                  : CA3551 Pentaerythritol Monooleate
Chemical name               : 9-octadecenoic acid, monoester, with pentaerythritol; PE monooleate
CAS number                  : 10332-32-8
EC number                   : 233-723-7

1.2 Recommended and restricted uses of the substance or mixture

Recommended uses            : Industrial, personal care, lubricants, plasticizers, coating additives, pharmaceutical additives and 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

Classification (29CFR1910.1200 Appendix A) : None.
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: None.
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>9-octadecenoic acid, monoester, with pentaerythritol</td>
<td>Pentaerythritol monooleate</td>
<td>100</td>
<td>10332-32-8</td>
<td>None</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>Not applicable.</td>
<td></td>
<td></td>
<td></td>
<td></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. If irritation occurs, seek immediate medical attention (ophthalmologist) attention.
Ingestion: Rinse mouth with plenty of water. For ingestion of large quantities seek immediate medical attention. Do not induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms after inhalation: Unknown.
Symptoms after skin contact: Similar products were not classified as primary skin irritants or corrosive materials.
Symptoms after eye contact: Similar products were not classified as primary eye irritants.
Symptoms after ingestion: Mild tingling of the tongue and mouth may occur. May cause mild nausea.

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 occurs seek immediate medical attention.
Treatment after eye contact: If eye irritation occurs 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, alcohol resistant foam and water spray.
Unsuitable media: None known.

5.2 Specific hazards arising from the substance or mixture

Direct fire hazard: Not flammable.
Indirect fire hazard: Exposure to temperature above the flash point (280°C).
Explosive hazard: Exposure to temperature above the flash point (280°C).
Reactivity: Reactivity with strong oxidizers.
Combustion products: Carbon dioxide and carbon monoxide.

5.3 Special protective equipment and precautions for fire-fighters

Protective equipment: Full protective clothing.
Precautions: Material will burn, but not ignite readily.
: Contact may cause irritation to eyes.
: Fire may produce irritating and/or toxic gases.
: Runoff from fire control may cause pollution.
Emergency response guide: Not a hazardous material.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: If substance 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 substance is a mist, alert immediate neighborhood to close windows and doors. Contain and dissipate mist via spraying with water.

6.2 Environmental precautions
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Precautions: Keep out of streams, rivers and lakes. Substance 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 substance 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 - 20°C.
Handling equipment: Rubber hoses, aluminum, carbon steel 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, aluminum, carbon steel, stainless steel (grade 304), rubber lined or epoxy lined tanks or drums. Graphite or rubber gaskets.
Incompatibilities: Oxidizers.

SECTION 8: Exposure controls/personal protection

8.1 Exposure controls

OSHA PEL: None.
ACGIH TLV: TWA 10 mg/m3.
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: 

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## SECTION 9: Physical and chemical properties

### 9.1 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Yellow to amber.</td>
</tr>
<tr>
<td>Odor</td>
<td>Sweet odor.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH</td>
<td>No data available. Substance is not readily soluble in water.</td>
</tr>
<tr>
<td>Melting point</td>
<td>ca. -20°C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>&gt; 250°C</td>
</tr>
<tr>
<td>Flash point</td>
<td>280°C, Closed Cup.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not flammable.</td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available.</td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>5.8X10^-6 mm Hg at 25°C</td>
</tr>
<tr>
<td>Vapor density</td>
<td>11.4 (air = 1).</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.94</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water.</td>
</tr>
<tr>
<td>Partition coefficient for</td>
<td>Log Pow = 3.8/6 (OECD117)</td>
</tr>
<tr>
<td>n-octanol/water</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>&gt; 300°C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>ca 15 mm2/s at 100°C</td>
</tr>
</tbody>
</table>

### 9.2 Other information

Other information : VOC content < 0.1% (1999/13/EC; 2004/42/EC)

## SECTION 10: Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>May react violently with oxidizers.</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>Stable under storage conditions.</td>
</tr>
<tr>
<td>Possibility of hazardous</td>
<td>Hazardous polymerization does not occur.</td>
</tr>
<tr>
<td>reactions</td>
<td></td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Pressure, shock, static discharge or vibration does NOT result in a</td>
</tr>
<tr>
<td></td>
<td>hazardous condition.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Oxidizers and strong bases.</td>
</tr>
<tr>
<td>Hazardous decomposition</td>
<td>Carbon dioxide and carbon monoxide.</td>
</tr>
<tr>
<td>products</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 11: Toxicological information

11.1 Information on the likely routes of exposure

Inhalation exposure: From mist.
Skin exposure: From mist or splashing.
Ingestion exposure: Not a likely route of exposure.
Eye contact: From mist or 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 > 5000 mg/kg. Non-toxic.
Skin LD50: Not classified.
Ingestion LD50: Not classified.
Inhalation LD50: Not classified.
Skin primary irritation: Not classified.
Eye primary irritation: Not classified.

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.
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Germ cell mutagenicity: Not classified.
Respiratory or skin sensitization: Not classified.
Specific target organ toxicity, single exposure: Not classified.
Specific target organ toxicity, repeated exposure: Not classified.
Aspiration hazard: Not classified.

SECTION 12: Ecological information

12.1.1 Ecotoxicity aquatic

Fish LC50: No data available.
Daphnia EC50: No data available.
Rotifer EC50: No data available.
Algae EC50: No data available.

12.1.2 Ecotoxicity terrestrial

Ecotoxicity terrestrial: No data available.

12.2 Persistence and degradability

Water: No data available.
Soil: Koc = 39,000.
Air: 15 hour half life.

12.3 Bio-accumulative potential

Log Pow: 3.8/>6 (OECD117)

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: This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII.
PBT and vPvB assessment: This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII.

12.6 Other adverse effects
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 substance 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
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<table>
<thead>
<tr>
<th>UN number</th>
<th>: None.</th>
</tr>
</thead>
</table>

**14.2 UN proper shipping name**

Proper shipping name : None.

**14.3 Transport hazard class**

<table>
<thead>
<tr>
<th>Hazard class</th>
<th>: None.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard label</td>
<td>: None.</td>
</tr>
<tr>
<td>Hazard pictogram</td>
<td>: None.</td>
</tr>
</tbody>
</table>

**14.4 Packing group**

Packing group : None.

**14.5 Environmental hazards**

Marine pollutant : Not listed.

**14.6 Transport in bulk**

<table>
<thead>
<tr>
<th>US DOT</th>
<th>: Not regulated.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG</td>
<td>: Not regulated.</td>
</tr>
<tr>
<td>IATA</td>
<td>: Not regulated.</td>
</tr>
<tr>
<td>MARPOL 73/78</td>
<td>: Not regulated.</td>
</tr>
<tr>
<td>IBC code</td>
<td>: Not regulated.</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Regulation</th>
<th>: Not listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA 302 (40CFR355)</td>
<td></td>
</tr>
<tr>
<td>SARA 311/312 (40CFR370.66)</td>
<td></td>
</tr>
<tr>
<td>SARA 313 (40CFR372.65)</td>
<td></td>
</tr>
<tr>
<td>CERCLA (40CFR302.4)</td>
<td></td>
</tr>
<tr>
<td>California proposition 65</td>
<td>Not listed.</td>
</tr>
<tr>
<td>German WGK class</td>
<td>: No data available.</td>
</tr>
</tbody>
</table>
15.1.2 Chemical inventories

- TSCA USA: Listed.
- AICS Australia: Listed.
- DSL Canada: Listed.
- EC Europe: Listed.
- ECL Korea: Listed.
- IECSC China: Listed.
- ENCS Japan: Listed.
- NzIoC New Zealand: Listed.
- PICCS Philippines: Listed.
- SWISS Switzerland: Unknown.

15.2 Chemical safety assessment

Safety assessment:
- Substance is approved as an indirect food additive per 21CFR175.300.
- Substance is approved as an indirect food additive per 21CFR175.320.
- Substance is approved as an indirect food additive per 21CFR176.210.
- OPS – this product is free from any substance prohibited from use in human food.

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>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>NFPA (USA)</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

16.2 Safety Data Sheet information

- Revision date (MM/DD/YY): 06/12/2015

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.