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

1.1 Product identifier

<table>
<thead>
<tr>
<th>Product type</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade name</td>
<td>CA2018 Dimer Acid</td>
</tr>
<tr>
<td>Label name</td>
<td>CA2018 Dimer Acid</td>
</tr>
<tr>
<td>Chemical name</td>
<td>Fatty acids C36 unsaturated dimers</td>
</tr>
<tr>
<td>CAS number</td>
<td>61788-89-4</td>
</tr>
<tr>
<td>EC number</td>
<td>500-148-0</td>
</tr>
</tbody>
</table>

1.2 Recommended and restricted uses of the substance or mixture

| Recommended uses | Industrial, coating additives, adhesives, ink resins, sealants, lubricants, corrosion inhibitors and polymer intermediates. |
| 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)

| Physical hazard | None. |
| Health hazard   | None. |
| Environmental hazard | None. |

2.2 Label warnings of the substance or mixture

| Signal word | None. |
| Hazard statements | None. |
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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>Fatty acids C18 unsaturated dimers</td>
<td>Dimer acids</td>
<td>82</td>
<td>61788-89-4</td>
<td>None</td>
</tr>
<tr>
<td>Fatty Acids, C18 unsaturated trimers</td>
<td>Trimer acid</td>
<td>16</td>
<td>68937-90-6</td>
<td>None</td>
</tr>
<tr>
<td>Fatty Acids, C16-18 and C18 unsaturated, branched and linear</td>
<td>Monomer acid</td>
<td>2</td>
<td>68955-98-6</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

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

4.2 Most important symptoms and effects, both acute and delayed

<table>
<thead>
<tr>
<th>Symptoms after inhalation</th>
<th>: May experience dizziness and headache.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms after skin contact</td>
<td>: Mild irritation of the nose and throat.</td>
</tr>
</tbody>
</table>
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Symptoms after eye contact: Mild irritation of the eye tissue may occur.
Symptoms after ingestion: Mild tingling of the tongue and mouth may occur.

May cause gastrointestinal irritation, nausea and vomiting.

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, foam, dry chemical and water spray.
Unsuitable media: Do not use water jet.

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 (277°C).
Explosive hazard: Exposure to temperature above the flash point (277°C).
Reactivity: Reactivity with strong oxidizers.
Combustion products: Carbon dioxide, carbon monoxide and sulfur oxides.

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 substance.

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 substance 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

| 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 20 - 50°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 | : Oxidizers. |

## 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
SECTION 9: Physical and chemical properties

9.1 Physical and chemical properties

Appearance : Dark brown, viscous liquid.
Odor : Mild fatty.
Odor threshold : No data available.
\( \text{pH} \) : No data available. Substance is not readily soluble in water.
Melting point : -18 to -12°C (pour point).
Boiling point : > 260°C.
Flash point : 277°C, Open Cup.
Evaporation rate : No data available.
Flammability : Not flammable.
Lower flammability limit : No data available.
Upper flammability limit : No data available.
Vapor pressure : < 1 x 10^-7 kPa at 25°C.
Vapor density : No data available.
Relative density : 0.950 at 25/20 (water).
Solubility : Soluble in ethanol and acetone.
\(< 0.01 \text{ mg/l at 20°C in water.} \)
Partition coefficient for \( \text{n-octanol/water} \) : Log Kow > 5 (estimate).
Auto-ignition temperature : 263°C.
Decomposition temperature : No data available.
Viscosity : 9000 - 9400 mPas (cps) at 25°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 : Pressure, shock, static discharge or vibration does NOT result in a
hazardous condition.

Incompatible materials: Oxidizers.
Hazardous decomposition products: Carbon dioxide, carbon monoxide and sulfur oxides.

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.
Skin LD50: No data available.
Ingestion LD50: No data available.
Inhalation LD50: No data available.
Skin primary irritation: Rabbit no irritation.
Eye primary irritation: Rabbit no irritation.

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 : Not classified.
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 LC50 : > 350 mg/l 96 hour zebra fish.
Daphnia EC50 : > 1000 mg/l 96 hour carp.
Rotifer EC50 : No data available.
Algae EC50 : > 1000 mg/l 72 hour green algae.

12.2 Persistence and degradability

Water : < 10% BOD 28 day.
Soil : No data available.
Air : No data available.

12.3 Bio-accumulative potential

Log Kow : > 5 (estimate).
This substance has a potential to bio-concentrate.

12.4 Mobility in soil

Surface tension : Air 33 dyne/cm at 25°C.
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.
Water : Mild pollutant to surface of water.

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 : None.

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.

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

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

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>1</td>
<td>1</td>
<td>0</td>
<td>0</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): 02/19/2015
Supersede date (MM/DD/YY): 09/17/2010

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 Uniwar USA Inc. bears responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.