1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

<table>
<thead>
<tr>
<th>Product name</th>
<th>Triacetin</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.</td>
<td>102-76-1</td>
</tr>
</tbody>
</table>

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Humectant, plastesizer, solvent, emulsifier.

Details of the supplier of the safety data sheet

<table>
<thead>
<tr>
<th>Company</th>
<th>Silver Fern Chemical, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>2226 Queen Anne Avenue North</td>
</tr>
<tr>
<td></td>
<td>Suite #C</td>
</tr>
<tr>
<td></td>
<td>Seattle WA 98109, USA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Telephone</th>
<th>+1-866-282-3384</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fax</td>
<td>+1-206-282-0105</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:info@silverfernchemical.com">info@silverfernchemical.com</a></td>
</tr>
</tbody>
</table>

1.4 Emergency telephone number

Emergency Phone #: 800-535-5053. Outside USA & Canada 352-323-3500

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

| Synonyms               | Glyceryl triacetate |
|                       | 1,2,3-Triacetylglycerol |
|                       | 1,2,3-Triacetoxypropane |

<table>
<thead>
<tr>
<th>Formula</th>
<th>C₉H₁₄O₆</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Weight</td>
<td>218.20 g/mol</td>
</tr>
<tr>
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<td>102-76-1</td>
</tr>
<tr>
<td>EC-No.</td>
<td>203-051-9</td>
</tr>
</tbody>
</table>

No ingredients are hazardous according to OSHA criteria.
No components need to be disclosed according to the applicable regulations.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

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. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas.
For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
For precautions see section 2.2.

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

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters
Contains no substances with occupational exposure limit values.
8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

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
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance Form: clear, liquid
Colours: colourless

b) Odour no data available

c) Odour Threshold no data available

d) pH no data available

e) Melting point/freezing point Melting point/range: 3 °C (37 °F) - lit.

f) Initial boiling point and boiling range 258 °C (496 °F) - lit.

g) Flash point 138 °C (280 °F) - closed cup
h) Evaporation rate no data available
i) Flammability (solid, gas) no data available
j) Upper/lower flammability or explosive limits
   Upper explosion limit: 7.73 %(V)
   Lower explosion limit: 1.05 %(V)
k) Vapour pressure 0.0033 hPa (0.0025 mmHg) at 25 °C (77 °F)
l) Vapour density 7.53 - (Air = 1.0)
m) Relative density 1.16 g/cm3 at 25 °C (77 °F)
n) Water solubility no data available
o) Partition coefficient: n-octanol/water log Pow: 0.25
p) Auto-ignition temperature 433 °C (811 °F)
q) Decomposition temperature no data available
r) Viscosity no data available
s) Explosive properties no data available
t) Oxidizing properties no data available

9.2 Other safety information
   Relative vapour density 7.53 - (Air = 1.0)

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
    Other decomposition products - no data available
    In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION
11.1 Information on toxicological effects
    Acute toxicity
    LD50 Oral - rat - male and female - > 2,000 mg/kg
    (OECD Test Guideline 401)
    LC50 Inhalation - rat - male and female - 4 h - > 1.721 mg/l
    (OECD Test Guideline 403)
    LD50 Dermal - rabbit - > 2,000 mg/kg
    no data available
Skin corrosion/irritation
Skin - rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - rabbit
Result: No eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitisation
no data available

Germ cell mutagenicity
Ames test
S. typhimurium
Result: negative

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
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

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Additional Information
Repeated dose toxicity - rat - male and female - No observed adverse effect level - 1,000 mg/kg
RTECS: AK3675000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION
12.1 Toxicity
Toxicity to fish       semi-static test LC50 - Oryzias latipes - > 100 mg/l - 96 h
                        (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - 380 mg/l - 48 h
Toxicity to algae      Growth inhibition EC50 - Selenastrum capricornutum (green algae) - > 940 mg/l - 72 h
                        (OECD Test Guideline 201)
Toxicity to bacteria   NOEC - Pseudomonas putida - > 1,088 mg/l - 18 h
12.2 Persistence and degradability
Biodegradability - aerobic - Exposure time 29 d
Result: 76 % - Readily biodegradable.
(OECD Test Guideline 301B)

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

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

SARA 313 Components
SARA 313: 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
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

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New Jersey Right To Know Components

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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.
16. OTHER INFORMATION

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

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

Further information:
The information on this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable.

Revision Date: 07/03/2014