SECTION 1: IDENTIFICATION

Product Name: Vinyl Acetate Monomer

CAS Number: 108-05-4

Chemical Name: Vinyl Acetate Monomer

Synonyms: Acetoxyethylene

Uses: Laboratory chemicals, Manufacture of substances

Company
Silver Fern Chemical, Inc.
2226 Queen Anne Avenue North
Suite #C
Seattle WA 98109, USA

Business Contact
Customer Service: 1-866-282-3384
info@silverfernchemical.com

24 Hour Emergency Contact
Infotrac 800-535-5053
Outside USA & Canada 352-323-3500

SECTION 2: HAZARD IDENTIFICATION

Danger

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

- Flammable liquids (Category 2), H225
- Acute toxicity, Inhalation (Category 4), H332
- Carcinogenicity (Category 2), H351
- Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
- Acute aquatic toxicity (Category 3), H402
- Chronic aquatic toxicity (Category 3), H412
Hazard statement(s):
H225 Highly flammable liquid and vapor.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s):
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to Extinguish.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Content (W/W)</th>
<th>Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-05-4</td>
<td>&lt;100%</td>
<td>Vinyl Acetate Monomer</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

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: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
SECTION 5: FIRE FIGHTING MEASURES

Flash Point: -7.99 °C (17.62 °F) - closed cup

Lower/Upper explosion limit: Upper explosion limit: 13.4 % (V)/ Lower explosion limit: 2.6 % (V)

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

Special hazards arising from the substance or mixture: Carbon oxides Flash back possible over considerable distance., Container explosion may occur under fire conditions.

Advice for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Containment and Clean-Up: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 7: HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Recommended storage temperature 2 - 8 °C. Storage class (TRGS 510): Flammable liquids.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal Protective Equipment (PPE)

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose 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).

Hand 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.

Eye protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Body protection: Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
General safety and hygiene measures: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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

Components with workplace control parameters:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vinyl Acetate Monomer</td>
<td>108-05-4</td>
<td>TWA</td>
<td>10.000000 ppm</td>
<td>USA, ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Remarks</td>
<td></td>
<td>Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation, Skin irritation. Confirmed animal carcinogen with unknown relevance to humans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>15.000000 ppm</td>
<td>USA, ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Remarks</td>
<td></td>
<td>Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation, Skin irritation. Confirmed animal carcinogen with unknown relevance to humans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>4.000000 ppm</td>
<td>USA, NIOSH Recommended Exposure Limits</td>
</tr>
</tbody>
</table>

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance Form: liquid, clear/ Color: Colorless</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>no data available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>pH</td>
<td>no data available</td>
</tr>
<tr>
<td>Melting point/freezing Point</td>
<td>Melting point/range: -93 °C (-135 °F) - lit.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>72 - 73 °C (162 - 163 °F) - lit.</td>
</tr>
<tr>
<td>Flash point</td>
<td>-7.99 °C (17.62 °F) - closed cup</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>no data available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Upper explosion limit: 13.4 %(V)/ Lower explosion limit: 2.6 %(V)</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>2.97 - (Air = 1.0)</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.934 g/cm3 at 25 °C (77 °F)</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>no data available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>20 g/l at 20 °C (68 °F)</td>
</tr>
</tbody>
</table>
Partition Coefficient:  
log Pow: 3.0  
n-octanol/water

Auto-ignition temperature:  no data available

Decomposition temperature: no data available

Viscosity: no data available

Explosive properties:  no data available

Relative vapor density:  2.97 - (Air = 1.0)

SECTION 10: STABILITY AND REACTIVITY

Conditions to avoid:  Heat, flames and sparks.

Substances to avoid:  acids, Bases, Oxidizing agents, Peroxides

Hazardous reactions:  Unstable upon depletion of inhibitor. Vapours may form explosive mixture with air.

Decomposition products: no data available

Chemical Stability:  Stable under recommended storage conditions. Contains the following stabiliser(s): Hydroquinone (>3 - <=20 ppm)

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity:
LD50 Oral - Rat - 2,900 mg/kg
LC50 Inhalation - Rat - 4 h - 14.1 mg/l
LD50 Dermal - Rabbit - 2,335 mg/kg
LD50 Dermal - Rabbit - 7,440 mg/kg

Skin corrosion/irritation:
Skin – Rabbit
Result: No skin irritation/ (OECD Test Guideline 404)

Serious eye damage/eye irritation:
Eyes – Rabbit
Result: No eye irritation/ (OECD Test Guideline 405)

Respiratory or skin sensitization:
in vivo assay – Mouse
Does not cause skin sensitization/ (OECD Test Guideline 429)

Germ cell mutagenicity:
in vitro assay
lymphocyte
Result: Equivocal evidence
Chromosome aberration test in vitro, Other cell types. Result: positive
Result: Not mutagenic in Ames Test

Carcinogenicity:
Limited evidence of carcinogenicity in animal studies
IARC:  2B - Group 2B: Possibly carcinogenic to humans (Vinyl acetate)
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.

Effective Date: 08/02/2015

Vinyl Acetate Monomer
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:**
Inhalation - May cause respiratory irritation

**Specific target organ toxicity - repeated exposure**: no data available

**Additional Information:**
RTECS: AK0875000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly Investigated. Liver - Irregularities - Based on Human Evidence

### SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**:
- *Toxicity to fish*
  - LC50 - Pimephales promelas (fathead minnow) - 14 mg/l - 96 h
  - NOEC - Pimephales promelas (fathead minnow) - 0.16 mg/l - 28 d/
- *Toxicity to daphnia and other aquatic invertebrates*
  - EC50 - Daphnia magna (Water flea) - 12.6 mg/l - 48 h/
- *Toxicity to algae*
  - NOEC - Pseudokirchneriella subcapitata (green algae) - 1.58 mg/l - 96 h
  - EC50 - Pseudokirchneriella subcapitata (green algae) - 12.7 mg/l - 96 h

**Biodegradability**:
Result: 82 - 98 % - Readily biodegradable

**Bioaccumulative Potential**: No bioaccumulation is to be expected (log Pow <= 4).

**Other**:
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects**:
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

### SECTION 13: DISPOSAL CONSIDERATIONS

**Waste disposal of substance**: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material

**Container disposal**: Dispose of as unused product

### SECTION 14: TRANSPORT INFORMATION

**DOT (US):**
- UN number: 1301
- Class: 3
- Packing group: II
- Proper shipping name: Vinyl acetate, stabilized
- Reportable Quantity (RQ): 5000 lbs
SECTION 15: REGULATORY INFORMATION

SARA 302 Components:
The following components are subject to reporting levels established by SARA Title I, Section 302:
- Vinyl acetate   CAS-No. 108-05-4   Revision Date 2008-11-03

SARA 313 Components:
The following components are subject to reporting levels established by SARA Title III, Section 313:
- Vinyl acetate   CAS-No. 108-05-4   Revision Date 2008-11-03

Massachusetts Right To Know Components:
- Vinyl acetate   CAS-No. 108-05-4   Revision Date 2008-11-03
- Hydroquinone  CAS-No. 123-31-9  Revision Date 2007-07-01

Pennsylvania Right To Know Components:
- Vinyl acetate   CAS-No. 108-05-4   Revision Date 2008-11-03

New Jersey Right To Know Components:
- Vinyl acetate   CAS-No. 108-05-4   Revision Date 2008-11-03

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

SECTION 16: OTHER INFORMATION

Acute Tox.    Acute toxicity
Aquatic Acute Acute aquatic toxicity
Aquatic Chronic Chronic aquatic toxicity
Carc.    Carcinogenicity
Flam. Liq.    Flammable liquids
H225    Highly flammable liquid and vapour.
H332    Harmful if inhaled.
H335    May cause respiratory irritation.
H351    Suspected of causing cancer.
H402    Harmful to aquatic life.
H412    Harmful to aquatic life with long lasting effects.
STOT SE    Specific target organ toxicity - single exposure

HMIS Rating
Health hazard:    2
Chronic Health Hazard:  *
Flammability:    3
Physical Hazard    0
NFPA Rating
Health hazard:  2
Fire Hazard:    3
Reactivity Hazard:  0

DISCLAIMER OF RESPONSIBILITY

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Revision Date 02/26/2015

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