SECTION 1: Identification

1.1. Identification
Product form: Mixture
Product name: Vinegar Weed & Grass Killer

1.2. Recommended use and restrictions on use
Recommended use: Horticulture vinegar for weed control

1.3. Supplier
Energen of Carolina, LLC
834 Dupont Road
Charleston, SC 29407
Phone: (843) 556-6506

1.4. Emergency telephone number
Emergency number: 24 Hour Contact – ChemTel, Inc. 1-813-248-0573

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
- Skin corrosion/irritation, Category 2 H315 Causes skin irritation
- Serious eye damage/eye irritation, Category 1 H318 Causes serious eye damage

Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements
GHS-US labelling
- Hazard pictograms (GHS-US):
  - GHS05
- Signal word (GHS-US): Danger
- Hazard statements (GHS-US):
  - H315 - Causes skin irritation
  - H318 - Causes serious eye damage
- Precautionary statements (GHS-US):
  - P264 - Wash hands and other exposed areas thoroughly after handling
  - P280 - Wear personal protective equipment
  - P302+P352 - If on skin: Wash with plenty of water
  - P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
  - P332+P313 - If skin irritation occurs: Get medical advice/attention
  - P362+P364 - Take off contaminated clothing and wash it before reuse

2.3. Other hazards which do not result in classification
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable – product is a mixture

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>(CAS No) 64-19-7</td>
<td>20</td>
<td>Flam. Liq. 3, H226</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 1A, H314</td>
</tr>
</tbody>
</table>

Full text of classification categories and H statements: see section 16
SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the product label where possible).

First-aid measures after inhalation: Assure fresh air breathing. Allow the victim to rest.

First-aid measures after skin contact: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/injuries after skin contact: Causes skin irritation.

Symptoms/injuries after eye contact: Causes serious eye damage.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Contain all water used for fire-fighting to the greatest extent possible.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking, and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

Hygiene measures: Wash hands and other exposed areas thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use.

Incompatible products: Strong bases. strong acids.

Incompatible materials: Sources of ignition. Direct sunlight.
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Acetic acid (64-19-7)</th>
<th>ACGIH TWA (ppm)</th>
<th>10 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>ACGIH STEL (ppm)</td>
<td>15 ppm</td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>25 mg/m³</td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA) (ppm)</td>
<td>10 ppm</td>
</tr>
<tr>
<td>IDLH</td>
<td>US IDLH (ppm)</td>
<td>50 ppm</td>
</tr>
<tr>
<td>NIOSH</td>
<td>NIOSH REL (TWA) (mg/m³)</td>
<td>25 mg/m³</td>
</tr>
<tr>
<td>NIOSH</td>
<td>NIOSH REL (TWA) (ppm)</td>
<td>10 ppm</td>
</tr>
<tr>
<td>NIOSH</td>
<td>NIOSH REL (STEL) (mg/m³)</td>
<td>37 mg/m³</td>
</tr>
<tr>
<td>NIOSH</td>
<td>NIOSH REL (STEL) (ppm)</td>
<td>15 ppm</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Avoid all unnecessary exposure.

Hand protection:
Wear protective gloves

Eye protection:
Chemical goggles or safety glasses.

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Wear approved mask.

Other information:
When using, do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odour</td>
<td>Strong vinegar odor</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>2.1 - 2.8</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.04</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>1.6 cSt</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>
### SECTION 10: Stability and reactivity

#### Reactivity
Thermal decomposition generates corrosive vapors.

#### Chemical stability
Stable under normal conditions of use.

#### Possibility of hazardous reactions
Reacts violently with some bases: release of heat

#### Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

#### Incompatible materials

#### Hazardous decomposition products
Carbon monoxide. Carbon dioxide.

### SECTION 11: Toxicological information

#### Information on toxicological effects
- **Likely routes of exposure**: Skin and eyes contact.
- **Acute toxicity**: Not classified

<table>
<thead>
<tr>
<th>Acetic acid (64-19-7)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>3310 mg/kg</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>1060 µl/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>11.4 mg/l/4h</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>3310.000 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
<td>11.400 mg/l/4h</td>
</tr>
<tr>
<td>ATE US (dust,mist)</td>
<td>11.400 mg/l/4h</td>
</tr>
</tbody>
</table>

- **Skin corrosion/irritation**: Causes skin irritation
- **Serious eye damage/irritation**: Causes serious eye damage
- **Respiratory or skin sensitisation**: Not classified
- **Germ cell mutagenicity**: Not classified
- **Carcinogenicity**: Not classified
- **Reproductive toxicity**: Not classified
- **Specific target organ toxicity (single exposure)**: Not classified
- **Specific target organ toxicity (repeated exposure)**: Not classified
- **Aspiration hazard**: Not classified
- **Potential adverse human health effects and symptoms**: No additional information available
- **Symptoms/injuries after skin contact**: Causes skin irritation.
- **Symptoms/injuries after eye contact**: Causes serious eye damage.

### SECTION 12: Ecological information

#### Toxicity
- **Acetic acid (64-19-7)**
  - LC50 fish 1: 79 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
  - EC50 Daphnia 1: 65 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
  - LC50 fish 2: 75 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

#### Persistence and degradability
**Vinegar Weed & Grass Killer**
- Persistence and degradability: Not established.

#### Bioaccumulative potential
- **Acetic acid (64-19-7)**
  - Log Pow: -0.31 (at 20 °C)
12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local, state, and federal regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not regulated for transport

SECTION 15: Regulatory information

15.1. US Federal regulations
Vinegar Weed & Grass Killer
| SARA Section 311/312 Hazard Classes | Skin corrosion or irritation Serious eye damage or irritation |

Acetic acid (64-19-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations
CANADA
Acetic acid (64-19-7)
Listed on the Canadian DSL (Domestic Sustances List) inventory.

EU-Regulations
Acetic acid (64-19-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

National regulations
Acetic acid (64-19-7)
Listed on the AICS (the Australian Inventory of Chemical Substances)
Listed on Inventory of Existing Chemical Substances (IECSC)
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.
Listed on the Korean ECL (Existing Chemical List) inventory.
Listed on New Zealand - Inventory of Chemicals (NZIoC)
Listed on Inventory of Chemicals and Chemical Substances (PICCS)
Listed on the Canadian Ingredient Disclosure List

15.3. US State regulations
No additional information available

SECTION 16: Other information

Other information : None.

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H226</th>
<th>Flammable liquid and vapor</th>
</tr>
</thead>
<tbody>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.