SAFETY DATA SHEET

Section 1. Identification

Product identifier: SAWYER PICARIDIN INSECT REPELLENT LOTION
Material Number: SP561, SP562, SP563, SP564, SP565, SP566, SP567, SP568, SP569
Chemical name: 1-Piperidinecarboxylic acid, 2-(2-hydroxyethyl)-, 1-methylpropyl ester
EPA Registration Number: 54287-23-58188
Identified uses: Insect Repellent
Supplier/Manufacturer: SAWYER PRODUCTS
PO BOX 188
SAFETY HARBOR, FL 34695
USA

For information: US/Canada 800.356.7811
International +1 727.725.1177

In case of emergency: Chemtrec 800.424.9300
International 727.725.1177
SAWYER Emergency Phone 800.356.7811

Section 2. Hazards identification

Physical state: Lotion
Hazard pictograms:

Signal word: Warning
Hazard statements:
H225 - Highly flammable liquid and vapor
H302 - Harmful if swallowed
H319 - Causes eye irritation
Precautionary statements:
P210 – Keep away from heat/sparks/open flame/hot surfaces - No smoking
P233+234 - Keep container tightly closed. Keep in original container
P403 - Store in a well-ventilated place
P102 - Keep out of the reach of children.
P305+P351+P338 - IF IN EYES; Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing the eye.
P301+330+331+315 - IF SWALLOWED: Call a physician or Poison Control Center for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a doctor. Do not give anything to an unconscious person.

Section 3. Composition/information on ingredients

Substance/mixture: Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Piperidinecarboxylic Acid, 2-(2-hydroxyethyl)-, 1-methylpropylester</td>
<td>20</td>
<td>119515-38-7</td>
</tr>
<tr>
<td>Ethanol</td>
<td>7.74 - 8.22</td>
<td>64-17-5</td>
</tr>
</tbody>
</table>
There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

**Section 4. First aid measures**

**Description of first aid measures**

**Eye contact**: Hold eye open and rinse gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a Poison Control Center or doctor for treatment advice.

**Inhalation**: Not a direct hazard. Move to fresh air and keep at rest. Call a physician if symptoms develop and persist.

**Skin contact**: Not a direct hazard. Get medical attention if needed.

**Ingestion**: Call a physician or Poison Control Center immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or a doctor. Do not give anything to an unconscious person.

**Potential acute health effects**

- **Eye contact**: Causes substantial but temporary eye injury.
- **Inhalation**: No known significant effects or critical hazards.
- **Skin contact**: No known significant effects or critical hazards.
- **Ingestion**: No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

- **Eye contact**: No specific data.
- **Inhalation**: No specific data.
- **Skin contact**: No specific data.
- **Ingestion**: No specific data.

**Potential chronic health effects**

No known significant effects or critical hazards.

**Notes to physician**: Treat symptomatically. No specific treatment.

**Protection of first-aiders**: No special measures required.

**See toxicological information (Section 11)**

**Section 5. Fire-fighting measures**

**Extinguishing media**

- **Suitable extinguishing media**: Use an extinguishing agent suitable for the surrounding fire. In case of fire, use water spray (fog), foam or dry chemical.
- **Unsuitable extinguishing media**: None known.

- **Specific hazards arising from the chemical**: In a fire or if heated, a pressure increase will occur and the container may burst.

- **Hazardous thermal decomposition products**: Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - nitrogen oxides
Special protective actions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up: Stop leak if without risk. Move containers from spill area. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Prevent entry into sewers, water courses, basements or confined areas.

Section 7. Handling and storage

Precautions for safe handling

Protective measures: Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Conditions for safe storage: Store between the following temperatures: 0 to 30°C (32 to 86°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Empty containers or liners may retain some product residues.

Section 8. Exposure controls/personal protection

Occupational exposure limits: No exposure limit value known.

Appropriate engineering controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protection

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection: A NIOSH approved air purifying respirator with organic vapor cartridges and particulate prefilter can be used to minimize exposure.

Skin protection: Rubber gloves. Wear cloth work clothing including long pants and long-sleeved shirts.

Eye/face protection: goggles.

Medical Surveillance: Not available.
Section 9. Physical and chemical properties

Physical state: Lotion
Color: Not available.
Odor: Not available.
Odor threshold: Not available.
pH: 7
Boiling point: 272 °C (1013 hPa)
Melting point: Not available.
Flash point: Closed cup: 142°C (287.6°F) [DIN 51758]
Evaporation rate: Not available.
Explosion limits: Not available.
Vapor pressure:
- 0 hPa (20°C)
- 0 hPa (25°C)
- 0 hPa (50°C)
Density: 1.0362 g/cm³
Specific gravity (Relative density): Not available.
Solubility: 8.6 g/l (water)
Partition coefficient: n-octanol/water: (OECD 107measured)
Vapor density: Not available.
Viscosity: Dynamic: 129 mPa·s
Efflux time: 31s
Ignition temperature: 375°C
Auto-ignition temperature: Not available.
Decomposition temperature: >270°C

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability: The product is stable.
Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid: No specific data.
Incompatible materials: Oxidizing agents, Reducing agents
Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on the likely routes of exposure: Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects:
- Eye contact: No known significant effects or critical hazards.
- Inhalation: No known significant effects or critical hazards.
- Skin contact: No known significant effects or critical hazards.
- Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics:
- Eye contact: No specific data.
- Inhalation: No specific data.
- Skin contact: No specific data.
- Ingestion: No specific data.
Section 11. Toxicological information

Potential chronic health effects

Short term exposure

Potential immediate effects: Causes eye irritation.

Long term exposure

Potential delayed effects: Not available.

General: No known significant effects or critical hazards.
Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Piperidinecarboxylic Acid, 2-(2-hydroxyethyl)-, 1-methylpropylester</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5,000 mg/kg</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1-Piperidinecarboxylic Acid, 2-(2-hydroxyethyl)-, 1-methylpropylester</td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1-Piperidinecarboxylic Acid, 2-(2-hydroxyethyl)-, 1-methylpropylester</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat</td>
<td>&gt;4.364 mg/l</td>
<td>4 hours</td>
<td>Highest producible concentration.</td>
</tr>
</tbody>
</table>

Sensitization

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Piperidinecarboxylic Acid, 2-(2-hydroxyethyl)-, 1-methylpropylester</td>
<td>skin</td>
<td>Guinea pig</td>
<td>Not sensitizing</td>
</tr>
</tbody>
</table>

Primary eye irritation: Substantial but temporary eye injury
Primary dermal irritation: Not a dermal irritant

Section 12. Ecological information

Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Piperidinecarboxylic Acid, 2-(2-hydroxyethyl)-, 1-methylpropylester</td>
<td>-</td>
<td>Acute EC50 1087 mg/l</td>
<td>Bacteria - Activated sludge</td>
<td>3 hours</td>
</tr>
<tr>
<td>-</td>
<td>Acute EC50 &gt;103 mg/l</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
<td></td>
</tr>
<tr>
<td>OECD 201 Alga, Growth Inhibition Test (biomass)</td>
<td>-</td>
<td>Acute IC50 87.3 mg/l</td>
<td>Desmodesmus subspicatus</td>
<td>72 hours</td>
</tr>
<tr>
<td>-</td>
<td>Acute LC50 169.4 mg/l</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
<td></td>
</tr>
</tbody>
</table>
Section 12. Ecological information

<table>
<thead>
<tr>
<th>OECD 201 Alga, Growth Inhibition Test (biomass)</th>
<th>Chronic NOEC 54.8 mg/l</th>
<th>Algae - Scenedesmus subspicatus</th>
<th>72 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>Chronic NOEC 49.25 mg/l</td>
<td>Daphnia - Daphnia magna</td>
<td>21 days</td>
</tr>
<tr>
<td>-</td>
<td>Chronic NOEC 3.14 mg/l</td>
<td>Fish - Danio rerio</td>
<td>32 days</td>
</tr>
</tbody>
</table>

Conclusion/Summary: Not available.

Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Piperidinecarboxylic Acid, 2-(2-hydroxyethyl)-1-methylpropylester</td>
<td>BOD</td>
<td>&lt;1 % - Not readily - 28 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary: Not available.

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Piperidinecarboxylic Acid, 2-(2-hydroxyethyl)-1-methylpropylester</td>
<td>2.11</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

Mobility in soil

| Soil/water partition coefficient (K<sub>oc</sub>) | Not available. |

Other adverse effects: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods: The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Waste disposal should be in accordance with existing federal state, provincial and or local environmental controls laws.

RCRA classification: If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Section 14. Transport information

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Classes</th>
<th>PG*</th>
<th>Label</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Classification</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>IMDG Class</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>IATA-DGR Class</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>Not Regulated</td>
</tr>
</tbody>
</table>

PG*: Packing group
RQ: 0 lbs
Section 15. Regulatory information

SARA 311/312 : None
SARA Title III Section 302 Extremely Hazardous Substances : None
SARA Title III Section 313 Toxic Chemicals : None
US EPA CERCLA Hazardous Substances (40 CFR 302) : None

State regulations
The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections on the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

U.S. Toxic Substances Control Act : This product is excluded from TSCA Regulation under FIFRA Section 3 (2)(B)(ii) when used as a pesticide.
FIFRA
EPA Registration Number 54287-23-58188

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

Signal word : Warning
Hazard statements : Harmful if swallowed. Causes moderate eye irritation.

Section 16. Other information

Hazardous Material Information System

<table>
<thead>
<tr>
<th>Hazardous Material Information System</th>
<th>Health</th>
<th></th>
<th>Flammability</th>
<th></th>
<th>Physical hazards</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme
*=Chronic

The customer is responsible for determining the PPE code for this material. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.
Section 16. Other information

National Fire Protection Association (U.S.A.)

Flammability

Health

Instability/Reactivity

Special

0= Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

Sawyer's method of hazard communication is comprised of Product Labels and Safety Data Sheets. HMIS and NFPA ratings are provided by Sawyer as a customer service.

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Version: 1A

Product Safety and Regulatory Affairs

Indicates information that has changed from previously issued version.

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