1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Identifier
Product name: CHASE-MM INSECT REPELLENT FORMULA 2
Chemical name: 7-7778-2

Other means of identification
Product code: FG 419-2187-1
Synonyms: Insect Repellent
Registration number(s): 498-154

Recommended use of the chemical and restrictions on use
Recommended Use: To repel mosquitoes, chiggers, ticks, deer flies, stable flies, black flies, gnats and fleas on exposed skin surfaces.
Uses advised against: See "APPLICATION INSTRUCTIONS" on label.

Details of the supplier of the safety data sheet
Supplier Address: Chase Products Co.
2727 Gardner Road
Broadview, IL 60155
708-273-1121

Manufacturer Address: Chase Products Co.
2727 Gardner Road
Broadview, IL 60155
708-273-1121

Emergency Telephone Number
Company Phone Number: 708-865-1000
24 Hour Emergency Phone Number: 1-800-255-3924
Emergency telephone: ChemTel 1-800-255-3924

2. Hazards Identification

Classification
Serious eye damage/eye irritation: Category 2A
FLAMMABLE AEROSOLS: Category 1
Gases Under Pressure: liquefied gas

Label Elements

EMERGENCY OVERVIEW

DANGER

hazard statements
Causes serious eye irritation
EXTREMELY FLAMMABLE AEROSOL
Contains gas under pressure; may explode if heated

Appearance: Clear, yellowish liquid.
Physical State: Aerosol
Odor: Characteristic odor of DEET.
Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Wear eye protection.
Keep away from heat, sparks, open flames and hot surfaces. — No smoking
Do not spray on an open flame or other ignition source
Pressurized container: Do not pierce or burn, even after use

Precautionary Statements - Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Precautionary Statements - Storage
Protect from sunlight. Store in a well-ventilated place
Do not expose to temperatures exceeding 122 °F (50 °C)

Hazards not otherwise classified (HNOC)
Other Information
• Toxic to aquatic life with long lasting effects
• Harmful to aquatic life
21.14% of this mixture consists of ingredient(s) of unknown toxicity.

3. Composition/information on Ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>weight-%</th>
<th>Trade secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>64-17-5</td>
<td>50-55</td>
<td>*</td>
</tr>
<tr>
<td>Propylene Glycol USP</td>
<td>57-55-6</td>
<td>15-20</td>
<td>*</td>
</tr>
<tr>
<td>N,N-Diethyl-m-toluamide</td>
<td>134-62-3</td>
<td>15.0</td>
<td>*</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>5-10</td>
<td>*</td>
</tr>
<tr>
<td>N-Butane</td>
<td>106-97-8</td>
<td>1-5</td>
<td>*</td>
</tr>
</tbody>
</table>

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES

Eye Contact
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 eye. Call a poison control center or doctor for treatment advice.

Skin contact
In case of skin reaction, wash skin with soap and water and consult a physician.

Inhalation
If overcome by vapor, move person to fresh air.

Ingestion
Ingestion from an aerosol product is unlikely to occur.

Most important symptoms and effects, both acute and delayed

Symptoms
Irritating to the eyes on contact. May cause stinging, redness and swelling of the eyes. Prolonged contact with skin may cause allergic reactions on some individuals.

Indication of any immediate medical attention and special treatment needed
5. Fire-fighting measures

**Suitable extinguishing media**
Dry chemical, CO2 or water spray.

**Unsuitable extinguishing media** Use water spray or fog; do not use straight streams.

**Specific hazards arising from the chemical**
Containers are under pressure. Temperatures above 130 °F may cause cans to burst.

**Hazardous combustion products** Thermal decomposition may yield gases like carbon monoxide and carbon dioxide.

**Explosion data**
- **Sensitivity to Mechanical Impact** Contents under pressure, keep away from heat and open flame.
- **Sensitivity to Static Discharge** Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

**Protective equipment and precautions for firefighters**
Use personal protective equipment as required.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** CONTENTS UNDER PRESSURE. Do not puncture or incinerate cans.

**Other Information** Keep out of reach of children.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**

**Methods for Containment** Provide adequate ventilation to area being treated. Soak up spills with chemically inert, absorbent material.

**Methods for cleaning up** Clean contaminated surface thoroughly.

7. Handling and Storage

**Precautions for safe handling**

**Advice on safe handling** Avoid getting spray into eyes. Keep out of reach of children.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Store in a cool, dry place away from heat and open flame. Avoid storing at below-freezing temperatures. AEROSOL STORAGE LEVEL II (NFPA 30B).

**Incompatible Materials** Avoid heat, open flame and contact with strong oxidizers.

8. Exposure Controls/Personal Protection

**Control parameters**

**Exposure guidelines** See occupational exposure limits listed below.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
</table>
FG 419-2187-1 CHASE-MM INSECT REPELLENT FORMULA 2

<table>
<thead>
<tr>
<th>Ethyl alcohol 64-17-5</th>
<th>STEL: 1000 ppm</th>
<th>TWA: 1000 ppm TWA: 1900 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m³</th>
<th>IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane 74-98-6</td>
<td>See Appendix F: Minimal Oxygen Content</td>
<td>TWA: 1000 ppm TWA: 1800 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m³</td>
<td>IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m³</td>
</tr>
<tr>
<td>N-Butane 106-97-8</td>
<td>STEL: 1000 ppm (vacated) TWA: 800 ppm (vacated) TWA: 1900 mg/m³</td>
<td>TWA: 800 ppm TWA: 1900 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

### Appropriate engineering controls

**Engineering controls**
Use with adequate general or local exhaust ventilation.

**Individual protection measures, such as personal protective equipment**

- **Eye/face Protection**
  Conventional eyeglasses to guard against splashing.
- **Skin and Body Protection**
  None required.
- **Respiratory protection**
  For outdoor use only. Do not spray in enclosed areas.

**General hygiene considerations**
Wash hands thoroughly after handling.

### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Aerosol</td>
<td>Characteristic odor of DEET.</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear, yellowish liquid.</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>clear</td>
<td>Odor threshold</td>
</tr>
<tr>
<td>pH</td>
<td>NA</td>
<td>Solvent-based product.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>NA</td>
<td>No information available</td>
</tr>
<tr>
<td>Boiling point/bubbling range</td>
<td>173 °F/ 78.33 °C Ethyl Alcohol</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not available. This is an aerosol product with a Flame Projection of 18 in. with 3 in. flashback. Temperatures above 120 °F may cause cans to burst.</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Faster than butyl acetate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>Not available</td>
<td>No information available</td>
</tr>
<tr>
<td>Upper Flammability limits</td>
<td>Not available</td>
<td>No information available</td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>Not available</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not available</td>
<td>No information available</td>
</tr>
<tr>
<td>Relative Density</td>
<td>0.87 concentrate</td>
<td>No information available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>insoluble</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>Insoluble</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not available</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>Not available</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
<td>No information available</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>Not available</td>
<td>No information available</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>Not available</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Softening point</td>
<td>No information available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

---

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**FG 419-2187-1 CHASE-MM INSECT REPELLENT FORMULA 2**

**10. Stability and Reactivity**

**Reactivity**
- Not applicable
- No data available

**Chemical stability**
- Stable.

**Possibility of hazardous reactions**
- Temperatures above 130 °F may cause cans to burst with force.
  - **hazardous polymerization**
    - Hazardous polymerization does not occur.

**Conditions to Avoid**
- Temperatures above 122 °F (50 °C).

**Incompatible Materials**
- Avoid heat, open flame and contact with strong oxidizers.

**Hazardous decomposition products**
- Thermal decomposition may yield gases like carbon monoxide and carbon dioxide.

**11. Toxicological Information**

**Information on likely routes of exposure**

**Product Information**
- This product has not been tested as whole. See below for information on ingredients.

**Inhalation**
- See data below.

**Eye Contact**
- No data available.

**Skin contact**
- No data available.

**Ingestion**
- This is an aerosol product, ingestion is unlikely to occur. MAY BE HARMFUL IF SWALLOWED.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol 64-17-5</td>
<td>= 7060 mg/kg (Rat)</td>
<td>-</td>
<td>= 124.7 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>Propylene Glycol USP 57-55-6</td>
<td>= 20 g/kg (Rat)</td>
<td>= 20800 mg/kg (Rabbit)</td>
<td>-</td>
</tr>
<tr>
<td>N,N-Diethyl-m-toluamide 134-62-3</td>
<td>= 1892 mg/kg (Rat)</td>
<td>= 5 g/kg (Rat) = 3180 µL/kg (Rabbit) = 3180 mg/kg (Rabbit)</td>
<td>-</td>
</tr>
<tr>
<td>Propane 74-99-6</td>
<td>-</td>
<td>-</td>
<td>= 658 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>N-Butane 106-97-8</td>
<td>-</td>
<td>-</td>
<td>= 658 g/m³ (Rat) 4 h</td>
</tr>
</tbody>
</table>

**Information on toxicological effects**

**Symptoms**
- See information above.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**sensitization**
- No information available.

**Germ cell mutagenicity**
- No information available.
Carcinogenicity
Not known chronic effects based on available information.

Reproductive toxicity
No information available.
STOT - single exposure
No information available.
STOT - repeated exposure
No information available.
Aspiration Hazard
No information available.

Numerical measures of toxicity
- Product Information

unknown acute toxicity
21.14% of this mixture consists of ingredient(s) of unknown toxicity.
The following values are calculated based on chapter 3.1 of the GHS document.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol 64-17-5</td>
<td>13400 - 15100: 96 h</td>
<td>Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static</td>
<td>EC50 = 34634 mg/L 30 min EC50 = 35470 mg/L 5 min</td>
<td>10800: 24 h Daphnia magna mg/L EC50 9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h Daphnia magna mg/L EC50 Static</td>
</tr>
<tr>
<td>Propylene Glycol USP 57-55-6</td>
<td>19000: 96 h Pseudokirchneriella subcapitata mg/L EC50</td>
<td>710: 96 h Pimephales promelas mg/L LC50 51400: 96 h Pimephales promelas mg/L LC50 static 41 - 47: 96 h Oncorhynchus mykiss mL/L LC50 static 51600: 96 h Oncorhynchus mykiss mg/L LC50 static</td>
<td>1000: 48 h Daphnia magna mg/L EC50 Static 10000: 24 h Daphnia magna mg/L EC50</td>
<td></td>
</tr>
<tr>
<td>N,N-Diethyl-m-toluamide 134-62-3</td>
<td>71.25: 96 h Oncorhynchus mykiss mg/L LC50 static 106 - 114: 96 h Pimephales promelas mg/L LC50 flow-through</td>
<td>EC50 = 67.9 mg/L 5 min</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ecotoxicity
11.09% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol 64-17-5</td>
<td>-0.32</td>
</tr>
<tr>
<td>Propane 74-98-6</td>
<td>2.3</td>
</tr>
<tr>
<td>N-Butane 106-97-8</td>
<td>2.89</td>
</tr>
</tbody>
</table>

Persistence and degradability
No information available.

Bioaccumulation
See information below.

Other adverse effects
No information available.

13. Disposal Considerations
Waste treatment methods

Disposal of wastes
Do not puncture or incinerate container. If empty: Place in trash or offer for recycling if available. If partly filled: Call your local solid waste agency for disposal instructions.

Contaminated packaging
Pressurized container: Do not pierce or burn, even after use.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>Toxic</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ignitable</td>
</tr>
</tbody>
</table>

14. Transport Information

DOT
UN/ID no: Limited Quantity
Proper Shipping Name: Consumer Commodity
Hazard Class: ORM-D

IATA
UN/ID no: UN1950
Proper Shipping Name: Aerosols, flammable
Hazard Class: 2.1

IMDG
UN/ID no: UN1950
Proper Shipping Name: Aerosols, flammable
Hazard Class: 2.1

15. Regulatory information

International Inventories
TSCA
All ingredients of this product are listed or are excluded from listing under the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

DSL
All ingredients are listed or are excluded from listing on the DSL.

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313
This product does not contain toxic chemicals (above the de minimis level) subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

SARA 311/312 Hazard Categories
Acute Health Hazard: yes
Chronic Health Hazard: No
Fire Hazard: yes
Sudden release of pressure hazard: No
Reactive Hazard: No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40
CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol 64-17-5</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Propylene Glycol USP 57-55-6</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Propane 74-98-6</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>N-Butane 106-97-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information

EPA Pesticide registration number 498-154

EPA Statement
This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label: WARNING: Causes substantial but temporary eye injury. Harmful if swallowed. Do not get in eyes. Use of this product may cause skin reactions in rare cases. Wash treated clothing before wearing it again. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Avoid breathing of spray mist. Wash hands with soap and water after handling.

16. Other information

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards 1</th>
<th>Flammability 4</th>
<th>Instability 1</th>
<th>Physical and chemical properties Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIS</td>
<td>Health Hazards 1</td>
<td>Flammability 4</td>
<td>Physical hazards 1</td>
<td>Personal Protection A - Eyes protection</td>
</tr>
</tbody>
</table>

Prepared by Regulatory Department
Issue date 15-May-2017
Revision note This SDS supersedes a previous SDS dated May 18, 2016.

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet