**Material Safety Data Sheet**

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
<th>Personal Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

### Section 1. Chemical Product and Company Identification

**Common Name/Trade Name**

Diethyltoluamide

**Manufacturer**

SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

**Commercial Name(s)**

Amincene C-EM; Autan; Bepper DET; Chemform; DEET; Delphene; DET; DETA; Detamide; Deltamid; Flypel; m-Delphene; M-Det; m-DETA; Metadelphene; Muscol; Naugatuck DET; Olf; Repper DET; Repudin-Special

**Synonym**

N,N-diethyl-m-toluamide; 3-Methyl-N,N-diethylbenzamide; Benzamide, N,N-diethyl-3-methyl-; m-Toluic acid diethylamide; N,N-Diethyl-3-methylbenzamide; N,N-Diethyl-m-toluamide

**Chemical Name**

m-Toluamide, N,N-diethyl-

**Chemical Family**

Not available.

**Chemical Formula**

C12-H17-N-O

**Supplier**

SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

### Section 2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
<th>CEIL (mg/m³)</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Diethyltoluamide</td>
<td>134-62-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Exposure Limits**

**Toxicological Data on Ingredients**

**Diethyltoluamide:**

**ORAL (LD50):**

Acute: 1950 mg/kg [Rat]. 1170 mg/kg [Mouse]. 1584 mg/kg [Rabbit].

**DERMAL (LD50):**

Acute: 5000 mg/kg [Rat]. 3167 mg/kg [Rabbit]. 3157 mg/kg [Mouse].

**IN CASE OF EMERGENCY**

CHEMIREC (24hr) 800-424-9300

CALL (310) 516-8000

See Section 15.
### Section 3. Hazards Identification

| Potential Acute Health Effects | Hazardous in case of eye contact (irritant). Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation. |
| Potential Chronic Health Effects | CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition. |

### Section 4. First Aid Measures

| Eye Contact | Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention. |
| Skin Contact | In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention. |
| Serious Skin Contact | Not available. |
| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. |
| Serious Inhalation | Not available. |
| Ingestion | Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband. |
| Serious Ingestion | Not available. |

### Section 5. Fire and Explosion Data

| Flammability of the Product | May be combustible at high temperature. |
| Auto-Ignition Temperature | Not available. |
| Flash Points | CLOSED CUP: >110°C (230°F). |
| Flammable Limits | Not available. |
| Products of Combustion | These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...). |
| Fire Hazards in Presence of Various Substances | Slightly flammable to flammable in presence of open flames and sparks, of heat. |
| Fire Fighting Media and Instructions | SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet. |
| Special Remarks on Fire Hazards | Not available. |
| Special Remarks on Explosion Hazards | Not available. |
Section 6. Accidental Release Measures

Small Spill: Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7. Handling and Storage

Precautions: Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapor/spray. Avoid contact with eyes. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids, alkalis.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the workstation location.


Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9. Physical and Chemical Properties

Physical state and appearance: Liquid.

Molecular Weight: 191.3 g/mole

pH (1% soln/water): Not available.

Boiling Point: 160°C (320°F) @ c19 mmHg

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: 0.996 (Water = 1)

Vapor Pressure: 0 kPa (@ 20°C)

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: The product is more soluble in oil; log[oil/water] = 2

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether.

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### Section 10. Stability and Reactivity Data

<table>
<thead>
<tr>
<th>Stability</th>
<th>The product is stable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instability Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Conditions of Instability</td>
<td>Excess heat, incompatible materials</td>
</tr>
<tr>
<td>Incompatibility with various substances</td>
<td>Reactive with oxidizing agents, acids, alkalis.</td>
</tr>
<tr>
<td>Corrosivity</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

### Special Remarks on Reactivity
Not available.

### Special Remarks on Corrosivity
Not available.

### Polymerization
Will not occur.

### Section 11. Toxicological Information

<table>
<thead>
<tr>
<th>Routes of Entry</th>
<th>Absorbed through skin. Inhalation. Ingestion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to Animals</td>
<td>Acute oral toxicity (LD50): 1170 mg/kg [Mouse]. Acute dermal toxicity (LD50): 3157 mg/kg [Mouse].</td>
</tr>
<tr>
<td>Chronic Effects on Humans</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Toxic Effects on Humans</td>
<td>Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.</td>
</tr>
</tbody>
</table>

### Special Remarks on Toxicity to Animals
Lethal Dose/Conc 50% Kill:
- LD50 [Mouse] - Route: Skin; Dose: 3170 ul/kg
- LD50 [Rabbit] - Route: Skin; Dose: 3180 ul/kg

### Special Remarks on Chronic Effects on Humans
May cause adverse reproductive effects based on animal test data.
May affect genetic material (mutagenic)

### Special Remarks on other Toxic Effects on Humans
Acute Potential Health Effects:
- Skin: Causes skin irritation and dermatitis. It can be absorbed through the skin and cause systemic effects.
- Eyes: Causes eye irritation.
- Inhalation: Inhalation of mist or vapor may cause respiratory tract and mucus membrane irritation.
- Ingestion: May be harmful if swallowed. May cause nausea, vomiting, diarrhea, abdominal pain, depression, headache. May affect the liver (toxic hepatitis), urinary system, behavior/central nervous system (manic psychosis, paranoia, delusions, confusion, slurred speech, restlessness, somnolence, stupor, shaking, screaming, athetosis, flight of ideas, movement disorders, stiffening into sitting position, extending extremities, flexing fingers, dorsiflexing toes, disorientation, staggering gait, seizures, coma), respiration (tachypnea, labored respiration), cardiovascular system (hypotension, dysrhythmias, bradycardia, increase in pulse rate).

Chronic Potential Health Effects:
- Ingestion: Prolonged or repeated ingestion may cause weight loss, and symptoms similar to that of acute ingestion. It may also affect the blood (changes in serum composition).
- Skin: Prolonged or repeated skin contact with skin absorption may cause irritation, and cause systemic effects and symptoms similar to that of acute ingestion. It may also affect the brain.

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### Section 12. Ecological Information

**Ecotoxicity**
Ecotoxicity in water (LC50): 110 mg/l 96 hours [Fish (Fathead Minnow)].

**BOD5 and COD**
Not available.

**Products of Biodegradation**
Posibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation**
The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation**
Not available.

### Section 13. Disposal Considerations

**Waste Disposal**
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

### Section 14. Transport Information

**DOT Classification**
Not a DOT controlled material (United States).

**Identification**
Not applicable.

**Special Provisions for Transport**
Not applicable.

**DOT (Pictograms)**

### Section 15. Other Regulatory Information and Pictograms

**Federal and State Regulations**
TSCA 8(b) inventory: Diethyltoluamide

**California Proposition 65 Warnings**
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.
California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

**Other Regulations**
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 205-149-7).
Canada: Listed on Canadian Domestic Substance List (DSL).
China: Listed on National Inventory.
Japan: Listed on National Inventory (ENCS).
Korea: Listed on National Inventory (KECI).
Philippines: Listed on National Inventory (PICS).
Australia: Listed on AICS.

**Other Classifications**
WHMIS (Canada) CLASS D2B: Material causing other toxic effects (TOXIC).

**DSCL (EEC)**
R22: Harmful if swallowed.
R36/38: Irritating to eyes and skin.
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

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Diethyltoluamide

HMS (U.S.A.)

Health Hazard: 2
Fire Hazard: 1
Reactivity: 0
Personal Protection: C

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

Health: 2
Reactivity: 0
Specific Hazard: 1

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves (impervious).
Synthetic apron.

Wear appropriate respirator when ventilation is inadequate.
Safety glasses.

Section 16. Other Information

MSDS Code: D2194X

References: Not available.

Other Special Considerations: Major Uses: Insect repellant

Validated by Sonia Owen on 11/13/2008.

Verified by Sonia Owen.


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<table>
<thead>
<tr>
<th>Notice to Reader</th>
</tr>
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<tbody>
<tr>
<td>All chemicals may pose unknown hazards and should be used with caution. The Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.</td>
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