SAFETY DATA SHEET
DIMETHOATE 400

SDS NUMBER: 000207-15-LPI
SDS REVISIONS: FORMAT
DATE OF ISSUE: 01/14/15
SUPERSEDES: 02/13/14

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 PRODUCT IDENTIFIER:
TRADE NAME: DIMETHOATE 400

1.2 RECOMMENDED USE:
GROUP 1B SYSTEMIC INSECTICIDE - MITICIDE

1.3 SUPPLIER DETAILS:
LOVELAND PRODUCTS, INC.
P.O. Box 1286 • Greeley, CO 80632-1286

1.4 24 Hour Emergency Phone: 1-800-424-9300 - Medical Emergencies: 1-866-944-8565
U.S. Coast Guard National Response Center: 1-800-424-8802

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification according to 29 CFR 1910.1200
Eye Damage Category 1 H318
Oral acute toxicity Category 4 H302
Dermal acute toxicity Category 5 H312

2.2 Label elements

Signal word: WARNING
Precautionary Statement: P262 – Do not get in eyes or on clothing. P264 - Wash thoroughly after handling.
(Prevention): P271 – Use only outdoors or in a well-ventilated area. P273 – Avoid release to the environment.
Precautionary Statement: P305+P351+P338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
(Response): P101 – If medical advice is needed, have the product container or label at hand. P363 – Wash contaminated clothing before reuse. P391 – Collect spillage.

2.3 Other hazards
None known

KEEP OUT OF REACH OF CHILDREN –
Appearance and odor: Light amber to yellow liquid with solvent and slight mercaptan odor.

Potential Health effects
Routes of exposure Eye contact. Ingestion. Skin.
Eyes Causes serious eye damage.
Skin Harmful in contact with skin.
Inhalation No data available.
Ingestion Harmful if swallowed.
Target organs Eyes. Ingestion. Skin.
Signs and symptoms Causes serious eye damage.

Potential environmental effects
This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have harmful or damaging effect on the environment.
3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures

Classification according to 29 CFR 1910.1200

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Classification</th>
<th>Concentration [ %]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethoate</td>
<td>60-51-5</td>
<td>Eye Dam. 1; H318</td>
<td>43.50</td>
</tr>
<tr>
<td>Cyclohexanone</td>
<td>108-94-1</td>
<td>Oral tox. 4; H302</td>
<td>38.72</td>
</tr>
<tr>
<td>*Other ingredients</td>
<td>n/a</td>
<td>Dermal tox.; H312</td>
<td>53.50</td>
</tr>
</tbody>
</table>

*Ingredients not specifically listed are to be considered proprietary or confidential business information per 29 CFR 1910.1200(i)

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

If swallowed: Call a poison control center or doctor 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

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

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Eyes: Causes serious eye damage. Oral: Harmful if swallowed. Skin: Harmful in contact with skin.

4.3 Immediate Medical Attention and Special Treatment

Treatment: Treat symptomatically. Symptoms may be delayed.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565

Have the product label or container with you when calling a poison control center or doctor, or going for treatment.

NOTES TO PHYSICIAN: Contains petroleum distillate. Vomiting may cause aspiration pneumonia. Contains an organophosphate that inhibits cholinesterase. Atropine is antidotal only if symptoms of cholinesterase inhibition are present. Prolidoxime chloride (2-PAM, PROTOPAM chloride) may be effective as an adjunct to atropine. Use according to label directions.

5. FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Use medium appropriate to surrounding fire. Dry chemical, carbon dioxide (CO2), foam, water spray or fog.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: Oxides of sulfur, phosphorus-containing compounds, carbon monoxide and other unknown hazardous materials may be formed.

5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters: Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.
6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES
Personal Precautions: Avoid inhalation of vapors and spray mist and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

6.2 ENVIRONMENTAL PRECAUTIONS
Environmental Precautions: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP
Methods for Clean-Up: For large spills: contain liquid by diking the area, keep product out of water supplies. If possible, use a pump to pick up liquid, then use absorbent material to absorb any residual liquid. Place both in a chemical container. Flush area with a household bleach and water mixture (1:1) and then absorb the liquid as described above in small spills. For small spills, absorb with an absorbent material such as pet litter. Sweep up and transfer to containers for possible land application according to label use or for proper disposal. Wash the spill with water containing a strong detergent, absorb with pet litter or other absorbent material, sweep up and place in a chemical container and handle in an approved manner. Check local, state and federal regulations for proper disposal. Flush the area with water to remove any residue. Never return spills to original containers for re-use.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:
Advice on Safe Handling: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

7.2 CONDITIONS FOR SAFE STORAGE:
Requirements for Storage Areas and Containers: Combustible. Do not use or store the product near heat or open flame. Do not store below temperature of 45°F / 7.2°C. Store in safe manner. Store in original container only. Keep container tightly closed when not in use. Reduce stacking height where local conditions can affect package strength. Personnel should use clothing and equipment listed under “PRECAUTIONARY STATEMENT” on the product label when handling open containers. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS:
OCCUPATIONAL EXPOSURE LIMITS

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanone</td>
<td>TWA</td>
<td>20 ppm (Skin)</td>
</tr>
<tr>
<td>Cyclohexanone</td>
<td>STEL</td>
<td>50 ppm (Skin)</td>
</tr>
<tr>
<td>1,2-4 Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanone</td>
<td>TWA</td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

Biological limit values

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

No listings
8.2 EXPOSURE CONTROLS:
Engineering Measures
Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and spray mists. Provide eyewash station and safety shower.

Individual Protection Measures:
Eye / Face Protection: Goggles or shielded safety glasses are recommended.
Skin Protection: Long-sleeved shirt and long pants. Chemical-resistant gloves. Shoes plus socks.
Respiratory Protection: In case of inadequate ventilation or risk of inhalation of mists or vapors, use suitable respiratory equipment such as MSHA/NIOSH TC-84A with NIOSH equipped N, R, or P class filter media. Wear respiratory protection during operations where spraying or misting occurs. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard. Wear air supplied respiratory protection if exposure concentrations are unknown.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 APPEARANCE: Liquid
ODOR: Solvent and mild mercaptan.
ODOR THRESHOLD: No data available.
COLOR: Light amber to yellow.
pH: 3.59 (5% solution)
MELTING POINT / FREEZING POINT: No data available
BOILING POINT: No data available
FLASH POINT: 121°F / 49.4°C (PMCC).
FLAMMABILITY (solid, gas): No data available.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: No data available.
VAPOR PRESSURE: No data available.
SOLUBILITY: Emulsifiable.
PARTITION CO-EFFICIENT, n-OCTANOL / WATER: Log KOW 0.704 (Dimethoate technical).
AUTO-IGNITION TEMPERATURE: No data available.
DECOMPOSITION TEMPERATURE: No data available.
VISCOSITY: (kinematic): No data available
SPECIFIC GRAVITY (Water = 1): 1.07 – 1.09 g/ml
BULK DENSITY: 8.94 – 9.10 lbs./gal / 1.07 – 1.09 kg/L

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

10. STABILITY AND REACTIVITY

10.1 REACTIVITY
Stable

10.2 CHEMICAL STABILITY
Stable under normal temperature conditions

10.3 POSSIBILITY OF HAZARDOUS REACTIONS
No data available. Will not polymerize.

10.4 CONDITIONS TO AVOID
Excessive heat and ignition sources.

10.5 INCOMPATIBLE MATERIALS
Strong oxidizers, acids and bases.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS
Oxides of sulfur, phosphorus-containing compounds, carbon monoxide and other unknown hazardous materials may be formed.

11. TOXICOLOGICAL INFORMATION

11.3 LIKELY ROUTES OF EXPOSURE
Eye contact. Harmful if swallowed. Avoid contact with skin.
LC50 (rat): >5.34 mg/L (4 HR)
LD50 Oral (rat): 425 mg/kg
LD50 Dermal (rat): 2.020 mg/kg
Acute Toxicity Estimates: No data available
Skin Irritation (rabbit): Slight irritant.
Eye Irritation (rabbit): Causes substantial but temporary eye injury.
Specific Target Organ Toxicity: Skin, CNS, liver, kidneys.
Aspiration: No data available
Skin Sensitization (guinea pig): Not a sensitizer
Carcinogenicity: IARC Group 2B (limited evidence for carcinogenicity in humans).
Germ Cell Mutagenicity: No data available
Interactive Effects: None known
12 ECOLOGICAL INFORMATION

12.3 ECOTOXICITY
The product may be toxic to fish and aquatic invertebrates. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Information below is based on the technical ingredient Dimethoate.

Ecotoxicological Data

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethoate</td>
<td>Rainbow trout 30.2 mg/L – 96-hour LC50</td>
</tr>
<tr>
<td></td>
<td>Daphnia magna 2.0 mg/L – 48-hour EC50</td>
</tr>
<tr>
<td></td>
<td>Honey bees 0.15 µ/bee – Acute oral LD50</td>
</tr>
<tr>
<td></td>
<td>0.12 µ/bee – Contact</td>
</tr>
</tbody>
</table>

Drift or runoff may adversely affect non-target plants.
Do not apply directly to water.
Do not contaminate water when disposing of equipment wash water.
Do not apply when weather conditions favor drift from target area.

12.2 PERSISTENCE AND DEGRADABILITY
Biodegradability: Dimethoate is biodegradable. Undergoes rapid degradation in the environment.

12.3 BIOACCUMULATIVE POTENTIAL
Bioaccumulation: Does not occur.

12.4 MOBILITY IN SOIL
Dimethoate has a potential mobility in soil but is relatively unstable.

12.5 OTHER ADVERSE EFFECTS
Assessment: No data available.

13 DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS
Wastes may be disposed of on site or at an approved waste disposal facility. Triple rinse (or equivalent), adding rinse water to spray tank. Offer container for recycling or dispose of in a sanitary landfill or by other procedures approved by appropriate authorities. Recycling decontaminated containers is the best option of container disposal. The Agricultural Container Recycling Council (ACRC) operates the national recycling program. To contact your state and local ACRC recycler visit the ACRC web page at http://www.acrecycle.org/. Do not contaminate water, food or feed by storage or disposal.

14 TRANSPORT INFORMATION

14.3 LAND TRANSPORT
DOT Shipping Description: RQ UN3017, ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, (DIMETHOATE, CYCLOHEXANONE) 6.1, (3), III, ERG GUIDE 131
U.S. Surface Freight Classification: INSECTICIDES OR FUNGICIDES, INSECT OR ANIMAL REPELLENTS, NOI, OR VERMIN EXTERMINATORS, ANIMAL OR POULTRY, NOI; POISON (NMFC 102100; CLASS 77.5)

15 REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

NFPA & HMIS Hazard Ratings:

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Health</td>
<td>2 Health</td>
</tr>
<tr>
<td>2 Flammability</td>
<td>2 Flammability</td>
</tr>
<tr>
<td>1 Instability</td>
<td>1 Reactivity</td>
</tr>
<tr>
<td>3 High</td>
<td>H PPE</td>
</tr>
<tr>
<td>4 Severe</td>
<td></td>
</tr>
</tbody>
</table>

SARA Hazard Notification/Reporting

<table>
<thead>
<tr>
<th>SARA Title III Hazard Category:</th>
<th>Immediate</th>
<th>Fire</th>
<th>Sudden Release of Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delayed</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>
Reportable Quantity (RQ) under U.S. CERCLA:
Dimethoate (CAS: 60-51-5): 10 pounds; Cyclohexanone (CAS: 108-94-1) 5000 pounds
SARA, Title III, Section 313:
Dimethoate (CAS: 60-51-5) 43.5%; 1,2,4 Trimethylbenzene (CAS: 95-63-6) 3.2% maximum; Xylene (CAS: 1330-20-7) 0.3% maximum; Cumene (CAS: 98-82-8) 0.2% maximum
SARA, Title III, Section 302: Threshold Planning Quantity: 500/10000 pounds
RCRA Waste Code: P044
CA Proposition 65: Not listed.

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. Following is the hazard information as required on the pesticide label:

**WARNING**
May be fatal if swallowed.
Causes substantial but temporary irreversible eye injury.
Do not get in eyes or on clothing.
Harmful if absorbed through skin.
Avoid contact with skin.

**16 OTHER INFORMATION**

**SDS STATUS:** Format revised.
**PREPARED BY:** Registrations and Regulatory Affairs
**REVIEWED BY:** Environmental Health and Safety
**EPA REG. NO.:** 34704-207

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