Section 1: Chemical Product and Company Identification

Name: Micropel® 5 DIDP
Description: Organic Arsenical
Use: Antimicrobial Agent
Appearance and Odor: Straw-colored liquid - Mild odor
Emergency Telephone: 800-424-9300, 24 hours, Chemtrec
Product Information: 973-443-6983
Manufacturer: Troy Corporation
P. O. Box 434
Florham Park, NJ 07932-0434

Section 2: Composition/Information on Ingredients

A hazard evaluation of this product has been performed. The components listed below are identified as hazardous chemicals under the criteria of the OSHA hazard communication standard (29 CFR 1910.1200).

<table>
<thead>
<tr>
<th>Common Name/Chemical Name</th>
<th>CAS Number</th>
<th>Approximate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diisodecyl Phthalate</td>
<td>68515-49-1</td>
<td>75.0</td>
</tr>
<tr>
<td>Alcohols, C₉-11, ISO</td>
<td>68526-85-2</td>
<td>20.0</td>
</tr>
<tr>
<td>10,10’-Oxybisphenoxarsine (OBPA)</td>
<td>58-36-6</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Section 3: Hazards Identification

Primary Route(s) of Exposure: Eye - Yes, Skin - Yes, Inhalation - Yes

Eye Contact: Causes severe irritation. Can cause injury to the cornea and other tissues.

Skin Contact: Irritating to the skin. Prolonged or repeated contact can defat the skin, cause irritation, and lead to the development of dermatitis.

Inhalation: Can cause irritation to the nose, throat, and upper respiratory tract. Inhalation can cause dizziness, headaches and incoordination. Nausea, vomiting and gastrointestinal upset can occur.

Ingestion: Ingestion can cause gastrointestinal irritation. Can cause nausea, vomiting and gastrointestinal upset. Dizziness, faintness, drowsiness and incoordination (ataxia) can occur.

Section 4: First Aid Measures

Eye Contact: Immediately flush eyes with water for at least 15 minutes. Lift upper and lower eye lids frequently. Get immediate medical attention.

Skin Contact: Remove contaminated clothing and shoes. Wash affected area with soap and water. If irritation develops, consult a physician. Wash contaminated clothing separately before reuse.

Inhalation: Remove to fresh air. If symptoms develop, seek immediate medical attention. If not breathing, give artificial respiration, preferably mouth to mouth.

Ingestion: Call 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.

Note to Physician: Treatment should be directed at preventing absorption, administering to the symptoms as they occur, and providing supportive therapy.
Section 5: Fire Fighting Measures

Flash Point: Approximately 121° C (COC)
Explosive Limits:
- LEL (%) - not established
- UEL (%) - not established
Autoignition Temperature: Not established
Extinguishing Media:
- Small fires: Use dry chemical, carbon dioxide, halon, water spray or foam
- Large fires: Use water spray, fog or alcohol foam

Special Fire Fighting Procedures: Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus (SCBA) and full protective clothing.

Unusual Fire and Explosion Hazards: May liberate irritating or toxic vapors during combustion or decomposition.

Section 6: Accidental Release Measures

Response to spills: Stop discharge, if it can be performed safely, and contain material. If a substantial quantity is spilled, recover with pump or vacuum truck. explosion-proof equipment should be used if this product is flammable or combustible (see Section 5). Otherwise, use an absorbent such as Fuller’s Earth, clay, vermiculite or other appropriate synthetic absorbent. Place contaminated material in a suitable container for disposal. Appropriate safety measures and protective equipment should be used (see Section 8).

Do not flush to sewer, stream, or other bodies of water unless authorized to do so by appropriate government official.

Precautions: If the airborne concentration exceeds established exposure limits, TLV or PEL), or if high airborne concentrations can occur, evacuate employees and ventilate the area.

A supplied air respirator or self-contained breathing apparatus (SCEA) should be used for entry into enclosed spaces, or in areas with inadequate ventilation.

Disposal method: If discarded in its original unused form, this product should be managed (stored/treated/disposed etc.) at an authorized facility in compliance with all applicable federal, state and local requirements. Be sure to contact appropriate government environmental agencies if further disposal guidance is required.

Of the methods of disposal currently available it is recommended that an alternative be selected according to the following order of preference based upon environmental acceptability:
1. Recycle or rework if at all feasible
2. Incinerate at an authorized facility, or
3. Treat at an acceptable waste treatment facility

Section 7: Handling and Storage

Recommended storage practice and conditions: Store in cool, dry, well ventilated area.

Container Use Procedures: No special precautions are needed. Follow good manufacturing and handling practices.

Empty Container Precautions: This container can be hazardous when empty, because it can retain product residues. Therefore, do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

Section 8: Exposure Controls/Personal Protection

Eye Protection: Wear chemical splash goggles. An eye wash facility should be readily available.

Skin Protection: Wear protective clothing and appropriate impervious gloves. Because a variety of protective gloves exist, always consult glove manufacturer to determine the proper type for specific operation. An emergency shower should be readily available. The following gloves are recommended: rubber.
Respiratory Protection: Avoid breathing vapor and/or mist. When established airborne exposure limits are surpassed (see airborne exposure limit in this section), wear NIOSH/MSHA approved equipment. Determine the appropriate type equipment for specific application by consulting the respirator manufacturer. Observe the respirator use limitations specified by NIOSH/MSHA or the manufacturer. High airborne concentrations may necessitate the use of self-contained breathing apparatus (SCBA) or a supplied air respirator. In addition, respiratory protection programs must be in compliance with 29 CFR 1910.134.

Ventilation: Maintain airborne concentrations below the established exposure limits (see airborne exposure limits in this section) by providing adequate ventilation. General (dilution) ventilation may be acceptable. However, local exhaust ventilation is recommended when vapors, mists, or dusts can be released.

Personal Hygiene: Wash thoroughly after handling, especially before eating, drinking, smoking, or using restroom facilities. Contaminated clothing and shoes should be thoroughly cleaned and dried before reuse.

Airborne Exposure Limits:
Diisodecyl phthalate
ACGIH TLV-TWA: Not established
OSHA PEL: Not established
Manufacturer's recommendation for phthalate esters: 8-hour TWA = 5 mg/m³

Alcohols, C₉₋₁₁, Iso
ACGIH TLV-TWA: Not established
OSHA PEL: Not established
Manufacturer's recommendation for OXO Alcohols: 8 hour TWA = 50 ppm

10,10’-Oxybisphenoxarsine (OBPA)
ACGIH TLV-TWA: 0.2 as As mg/m³
OSHA PEL: 0.5 as As mg/m³
Troy Corporation's recommendation: 8 hour TWA = 0.03 mg/m³

This is an organic arsenical and is, therefore, subject to the organic arsenic standards, 29 CFR 1910.1000 table Z-1. In addition, the industrial guideline is 0.1 mg/m³ as OBPA or 0.03 as mg/m³ as arsenic.

Section 9: Physical and Chemical Properties
Appearance: Straw colored liquid
% Non-Volatile (by weight): >99
pH: Not applicable
Vapor Density (Air=1): Not established
Solubility in Water: Insoluble
Evaporation Rate: Not established
Vapor Pressure (mmHg @ 25° C): Not established
Specific Gravity (water=1): 0.993
Approx. Boiling Point (@ 1 ATM): Not established

NOTE: The physical data presented above are typical values and should not be construed as a specification.

Section 10: Stability and Reactivity
Stable under normal conditions of storage and use: Yes
Materials to Avoid: Oxidizing agents, acids, strong bases, reducing agents
Hazardous polymerization: Hazardous polymerization will not occur
Thermal decomposition products: If heated to high temperatures, this product may emit the following compounds: Smoke, soot & toxic fumes (e.g. carbon dioxide & carbon monoxide), arsenic oxides.
**Supplemental Section 10 information:**
Elemental arsenic and its corresponding oxide can be liberated during pyrolysis at an approximate temperature of 500°C.

**Section 11: Toxicological Information**
The information in this section, though detailed, can be subject to misinterpretation. Therefore, it is essential the following information be interpreted by individuals trained in its evaluation.

**Diisodecyl Phthalate**
Toxic Effects: Practically non-irritating to eyes and skin, not considered a primary or cumulative irritant or sensitizing agent.

Acute Toxicity Studies:
- Oral-Rat LD50: >10,000 mg/kg
- Dermal-Rabbit LD50: >3,160 mg/kg
- Inhalation-Rat, Mice LD50: >0.13 mg/l

Carcinogenicity - Listed by: ACGIH: No, IARC Monographs: No, NTP Annual Report: No, OSHA: No

**Alcohols, C9-11, Iso:**
Toxic Effects: Irritating to the eyes. Prolonged or repeated skin contact may result in dermatitis.

Acute Toxicity Studies:
- Oral-Rat LD50: 4720 mg/kg
- Dermal-Rabbit LD50: >2,600 mg/kg
- Inhalation-Rat LD50: >95 ppm

Carcinogenicity - Listed By: ACGIH: No, IARC Monographs: No, NTP Annual Report: No, OSHA: No

**10,10’-Oxybisphenoxarsine (OBPA)**
Toxic Effects: Causes severe eye irritation and tissue damage. Skin contact can cause irritation and possibly sensitization. Ingestion produces severe gastrointestinal irritation. Inhalation can irritate the respiratory tract.

Acute Toxicity Studies:
- Oral-Rat LD50: 25-35 mg/kg
- Dermal-Rabbit LD50: 400-2000 mg/kg
- Dermal-Rats LD50: 100-300 mg/kg

Eye and/or Skin Irritation Studies: Moderate to severe skin irritant (3.1 - 5.8/8.0) following 24-hours of exposure. Produces severe eye irritation and corneal opacities.

Other Toxicity Studies: In a 90-day oral study in rats, OBPA produced a statistically significant decrease in body weight gain, as well as liver effects. OBPA was found not to be mutagenic in bacteria or yeast. Negative results were also obtained in the mouse lymphoma assay.

Carcinogenicity - Listed by: ACGIH: No, IARC Monographs: No, NTP Annual Report: No, OSHA: No

**Product Toxicity Information:** Acute Toxicity Studies:
- Oral-Rat LD50: >500-600 mg/kg
- Dermal-Rabbit LD50: >2000 mg/kg

Eye and/or Skin Irritation Studies: Skin irritant. The product is also severely irritating to the eyes.

**Section 12: Ecological Information**
While no data has been developed on this product, the active ingredient is very toxic to fish.

**Section 13: Disposal Conditions**
Dispose of according to local, state and federal requirements.
**Section 14: Transportation Information**

**DOT Shipping Name**
Non-hazardous additive/compound

**Labels Required**
None

**DOT (bulk only) Shipping Name**
UN3082 Environmentally hazardous substance, liquid, n.o.s. (contains: 10,10'-oxybis phenoxarsine (OBPA)), 9, PG III, Marine Pollutant, ERG# 171

**Labels Required**
Class 9, Marine Pollutant

**IATA Shipping Name**
UN3082 Environmentally hazardous substance, liquid, n.o.s. (contains: 10,10'-oxybis phenoxarsine (OBPA)), 9, PG III, ERG# 9L

**Labels Required**
Class 9

**IMDG Shipping Name**
UN3082 Environmentally hazardous substance, liquid, n.o.s. (contains: 10,10'-oxybis phenoxarsine (OBPA)), 9, PG III, Marine Pollutant, EMS# F-A, S-F

**Labels Required**
Class 9, Marine Pollutant

**Section 15: Regulatory Information**

**Sara Title III Information**

**Section 313 - Toxic Chemicals**
Pursuant to section 313 of Sara Title III, this product contains one or more toxic chemicals that are present in a concentration in excess of 1 percent of the mixture.

10,10’ - Oxybisphenoxarsine (OBPA)

**Section 302 - Extremely Hazardous Substances**
Pursuant to Section 302 of Sara Title III, this product contains the following extremely hazardous substances

10,10’ - Oxybisphenoxarsine (OBPA)

**Section 311/312 - Hazard Categories**
Pursuant to Section 311/312 of Sara Title III, the physical and health hazard categories for this product are identified below:

- **Fire Hazard:** No
- **Sudden Release of Pressure Hazard:** No
- **Reactivity Hazard:** No
- **Immediate (acute) Health Hazard:** Yes
- **Delayed (chronic) Health Hazard:** Yes

**Chemical Inventories –** The ingredients of this product are all on the following Chemical Substance Inventories, are exempt from the Inventories, or are otherwise compliant with inventory requirements of the governing agency.

- TSCA (U.S.), EINECS (Europe), DSL/NDSL (Canada), AICS (Australia), ECL (Korea), PICCS (Philippines), IECSC (China)

**State Right-To-Know**
This product is regulated by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and is exempt from State Right-to-Know labeling requirements when labeled with an approved EPA label.

EPA Registration # 5383-125

**State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):**

**WARNING:** This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm:

Diisodecyl Phthalate

**Section 16: Other Information**

**Users Responsibility**
A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions - in addition to those described herein - are required. Any health hazard and safety information contained herein should be passed on to your customers or employees, as the case may be.
DISCLAIMER OF LIABILITY

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. No representations or warranties, either expressed or implied, of merchantability, fitness of a particular purpose of any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.

Revision Date: August 13, 2008

Changes indicated by ►