ORTHENE® 75 S Soluble Powder

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products is regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling. All necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ORTHENE® 75 S Soluble Powder

EPA REGISTRATION NUMBER: 956939-26

SYNONYM(S): ORTHENE® 75 S Soluble Powder (W) 1333 N. California Blvd, Suite 600 Walnut Creek, CA 94596-8025

MANUFACTURER VALENT USA CORPORATION P.O. Box 6025 (800) VALEN'T (800) 424-9300 or (202) 483-7616

SECTION 2: COMPOSITION/INFORMATION ON INGREDEIANTS

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS #</th>
<th>Chemical Name</th>
<th>Weight</th>
<th>Exposure Limit Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACHEPATE®</td>
<td>(30560-19-1)</td>
<td>(S-O-Dimethyl acetylphosphoramide-dithioate)</td>
<td>20 - 25</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>AMORPHOUS SILICA</td>
<td>7631-86-9</td>
<td>[Silicon Amorphous]</td>
<td>10 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>DIOXIDE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OTHER INGREDIENTS:

- Active Ingredient
- Other Ingredient, which are maintained as trade secrets, are any substance other than an active ingredient contained in this product. Some of these may be hazardous, but their identity is withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document. Specific information on the other ingredients for the management, use, and safety of this product are not necessary, as safety assessments can be obtained by a treating physician or nurse by calling 1-800-892-0099 at any time.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

- CAUTION: HARMFUL IF SWALLOWED
- CAUSES EYE IRRITATION

EMERGENCY AID MEASURES

EMERGENCY NUMBER (800) 892-0099

EYES: Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If necessary, remove contact lenses if worn. No additional first aid should be necessary. However, if irritation persists, see a doctor.

SKIN: Wash skin thoroughly with soap and water. Remove contaminated clothing and safety equipment before washing.

INGESTION: If swallowed, drink 1 or 2 glasses of water (or milk) and induce vomiting by touching the back of the throat with a finger. If possible, contact a physician, Poison Control Center, or emergency physician before inducing vomiting. Do not induce vomiting or give anything by mouth to an unconscious person. Take person and product container to the nearest emergency treatment center.

SECTION 4: FIRST AID MEASURES

EMERGENCY NUMBER (800) 892-0099

FLAMMABLE LIMITS (% by volume in air):

- Lower: NA
- Upper: NA

NFPA RATINGS: Health 1; Flammability 1; Reactivity 1; Special NDA (Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: NA

Method: NA

Autoignition: NA

Extinguishing Media: CO₂, dry chemical, foam, water fog.

HAZARDOUS COMBUSTION PRODUCTS: Normal combustion forms carbon dioxide, water vapor and may produce oxides of sulfur, nitrogen and phosphorus. Incomplete combustion can produce carbon monoxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

VALENT EMERGENCY PHONE NUMBER: (800) 892-0099

CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300

OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION

Section 8: Personal Protection

Step the source of the spill if safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water.

FOR SPILLS ON LAND:
- CONTAINMENT: Reduce airborne dust. Avoid runoff into storm sewers or other bodies of water.

CLEANUP: Clean up spill immediately. Vacuum or sweep up material and place in a disposable container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a disposable container.

FOR SPILLS IN WATER:
- CONTAINMENT: This material will quickly dissolve in water. Stop the source of the release. Contain and isolate to prevent further release into soil, surface water, and ground water.
SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION:
END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

EYE PROTECTION: Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

RESPIRATION/VENTILATION: Wear approved respiratory protection when working with this material unless ventilation is adequate to keep airborne concentrations below recommended exposure standards.

SKIN PROTECTION: Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing protective clothing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: White powder.

ODOR: Strong cabbage-like or mercaptan-type odor.

MELTING POINT: 82-89˚C (Technical)

SECTION 10: STABILITY AND REACTIVITY:

CHEMICAL STABILITY: Stable at temperatures below 180˚F (82˚C).

INCOMPATIBILITY: Avoid contact with alkaline materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Contact with alkaline materials including hypochlorite oxidants, may produce noxious gases.

HAZARDOUS POLYMERIZATION: Polymerization will not occur.

IMPACT EXPLODABILITY: NDA

SECTION 11: TOXICOLOGICAL INFORMATION:

ACUTE (Product Specific Information):

Eye irritation: Minimal irritation clearing within 7 days. (Toxicity Category IV)

Skin irritation: No irritation at 72 hours after exposure. (Toxicity Category IV)

Dermal toxicity: No product toxicity data available. The hazard evaluation was based on data on the components. The dermal LD50 of Acephate in rabbits is > 10 kg/kg. (Toxicity Category IV)

Oral toxicity: No product toxicity data available. The hazard evaluation was based on data on the components. The oral LD50 of Acephate in male rats is 1447 mg/kg. The oral LD50 of Acephate in female rats is 1303 mg/kg. (Toxicity Category III)

Inhalation Toxicity: The 1-hour LC50 in rats is > 12.1 mg/l. (Toxicity Category III)

Skin sensitization: No product toxicity data available. The hazard evaluation was based on data on the components. The active ingredient, Acephate technical, did not induce a positive skin sensitization reaction in the guinea pig using the Modified Buehler or the Maximization test.

SUBCHRONIC: The dermal administration of Acephate Technical to rats, five days per week for three weeks, at doses up to 300 mg/kg/day produced statistically significant inhibition of cholinesterase activity in the brain of males and females treated with the highest dose (300 mg/kg/day) and in females at the mid-dose (60 mg/kg/day). The degree of inhibition was less than 25% in all cases and no clinical signs of toxicity were observed. The NOEL was 60 mg/kg/day for males and 12 mg/kg/day for females.

CHRONIC/CARCINOGENICITY: When mice were fed diets containing Acephate Technical throughout their entire lifetime, there was no treatment-related increase in tumors at any site. The most significant treatment-related effect was a decrease in cholinesterase activity of plasma, RBC, and brain.

Acephate is classified by the Environmental Protection Agency as a Group C (possible) human carcinogen. This product is not listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA.

SECTION 12: ECOLOGICAL INFORMATION:

AVIAN TOXICITY: Acephate Technical is moderately toxic to birds.

Oral LD50 Mallard Duck: 350 mg/kg

Oral LD50 Pheasant: 140 mg/kg

Acephate Technical is practically non-toxic to freshwater fish. The 96-hour LC50 for Acephate Technical was found to be higher than 1,000 ppm in rainbow trout, bluegill, and channel catfish. The following LC50 values for Othrene 75 S Soluble Powder substantiate the low toxicity to fish:

- Bluegill: 2,050 ppm
- Black Bass: 1,725 ppm
- Catfish: 2,230 ppm
- Mosquito Fish: 6,000 ppm
- Goldfish: 9,550 ppm
- Crayfish: 750 ppm

OTHER NON-TARGET ORGANISM TOXICITY:

Acephate Technical is highly toxic to bees. The acute oral LD50 for bees is 1.2 ug/bee.

SECTION 13: DISPOSAL CONSIDERATIONS:

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

DISPOSAL METHODS: Check governmental regulations and applicable disposal of this material. Dispose in accordance with applicable laws and regulations.

SECTION 14: TRANSPORT INFORMATION:

D.O.T. SHIPPING NAME: Insecticide, dry, (Non-Regulated)

TECHNICAL SHIPPING NAME: Acephate 75% powder

D.O.T. HAZARD CLASS: NA

U.N./N.A. NUMBER: NA

NMFC: 102120

SECTION 15: REGULATORY INFORMATION:

REGULATIONS UNDER FIFRA: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances. The Environmental Protection Agency classifies acephate as a Group C (possible) human carcinogen.

OTHER U.S. FEDERAL REGULATIONS:

OSHA: None

CERCLA RQ*: None

RCRA**: Not Regulated

SARA Title III:

SARA 311 CATEGORIES: 1. Immediate (Acute) Health Effects; YES
2. Delayed (Chronic) Health Effect; YES
3. Fire Hazard; NO
4. Sudden Release of Pressure Hazard; NO
5. Reactivity Hazard; NO

SARA 313: Acephate is subject to reporting under Section 313 and Section 6077 of the Pollution Prevention Act. Therefore, the user should consult state or local authorities. Proposition 65: This product contains a chemical(s) known to the state of California to cause cancer.

New Jersey Environmental Hazardous Substance: Acephate is listed.

OTHER: This product is not listed as a carcinogen by NTP, IARC, or OSHA.

*: RQ: Reportable Quantity
**: RCRA waste codes must be determined on a case by case basis (i.e., spill, processing waste, etc.). The waste code presented is based on available product characteristics only.

See Sections 3 and 11 for toxicity information.

SECTION 16: OTHER INFORMATION:

REASON FOR ISSUE: Revisions to multiple sections throughout MSDS.

PROJECT MANAGER: Mike Rifile

APPROVAL DATE: 2/26/99

REVISION DATE: 2/26/99

SUPERSEDES DATE: 4/27/94

MSDS NUMBER: 0011

THE INFORMATION IN THIS MSDS IS BASED ON DATA AVAILABLE TO US AS OF THE REVISION DATE GIVEN HEREIN, AND BELIEVED TO BE CORRECT. CONTACT VALENT USA CORPORATION TO CONFIRM IF YOU HAVE THE MOST CURRENT MSDS.

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EMERGENCY TELEPHONE #: (800) 892-0099

NDA - No Data Available

NA - Not Applicable

Revision Number: 3