

# MATERIAL SAFETY DATA SHEET

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DATE PREPARED: 07/26/1995

MSDS No: 3898

The logo for SOLARIS features the word "SOLARIS" in a bold, sans-serif font. A stylized crescent moon is positioned above the letter "A".

ORTHO<sup>®</sup> ORTHENE<sup>®</sup> Systemic Insect Control

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: ORTHO<sup>®</sup> ORTHENE<sup>®</sup> Systemic Insect Control  
Product Description: Insecticide

**MANUFACTURER:**  
The SOLARIS Group  
of Monsanto Company  
P.O. Box 5008  
San Ramon, CA 94583-0808

**24 HR. EMERGENCY TELEPHONE  
NUMBERS:**  
Emergency Phone 800-454-2333

EPA Reg. No.: 239-2461

PN: 5446-F

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

	<u>wt.%</u>	<u>CAS Registry #</u>
Acephate, O,S-Dimethylacetylphosphoramidothioate	9.4	30560-19-1
INERT INGREDIENTS	~90.59	

"Inert Ingredients" is a term defined by the U.S. Environmental Protection Agency under the Federal Insecticide, Fungicide, and Rodenticide Act (40 CFR 158.153). It refers to any substance, other than an active ingredient, which is intentionally added to a pesticide product. Some inert ingredients may be hazardous chemicals, as defined by the Federal OSHA Hazard Communication Standard (29 CFR 1910.1200). The hazards associated with these inert ingredients have been included in this document.

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

#### PHYSICAL APPEARANCE:

Clear liquid

#### IMMEDIATE CONCERNS:

- CAUSES EYE IRRITATION
- HARMFUL IF SWALLOWED
- AVOID BREATHING VAPOR OR SPRAY MIST
- AVOID CONTACT WITH SKIN OR CLOTHING
- FLAMMABLE
- KEEP OUT OF REACH OF CHILDREN

### POTENTIAL HEALTH EFFECTS

#### EYES:

This substance causes moderate irritation to the eyes. Eye contact may include discomfort, tearing, swelling, redness, and blurred vision. See Toxicological Information, section 11.

**SKIN:**

This substance is not expected to cause prolonged or significant skin irritation. If absorbed through the skin, this substance is considered practically non-toxic to internal organs. See Toxicological Information, section 11.

**INGESTION:**

Ingestion of a toxic amount of this product can result in irritation of the digestive tract and cholinesterase inhibition. See Target Organs below and Toxicological Information, section 11.

**INHALATION:**

Breathing the vapor or spray mist may be irritating to the respiratory tract. If inhaled, this substance is considered practically non-toxic to internal organs.

**TARGET ORGANS:**

Acephate is an inhibitor of the cholinesterase enzyme, found in nervous tissue, red blood cells, and plasma.

**COMMENTS HEALTH:**

Depending upon the extent and degree of overexposure to the product, signs and symptoms of cholinesterase inhibition can result following either ingestion, skin contact or inhalation routes of exposure. Signs and symptoms of cholinesterase inhibition can also result from either acute (one time), subchronic (repeated short-term) and chronic (daily life-time) exposure to the product.

Signs and symptoms of cholinesterase inhibition usually occur within 12 hours following overexposure. These effects may include, but may not be limited to, headache, dizziness, weakness, nausea, vomiting, diarrhea, constriction of the pupil of the eye, blurred or dark vision, excessive salivation or nasal discharge, profuse sweating and abdominal cramps. Incontinence, unconsciousness, convulsions and breathing difficulties are indicative of severe poisoning. In untreated severe poisoning, death is due to respiratory failure or cardiac arrest.

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**4. FIRST AID MEASURES****EYES:**

Immediately hold eyelids open and flush eyes with fresh water for at least 15 minutes. Remove contact lenses if worn. Get medical attention immediately.

**SKIN:**

If on skin, wash with plenty of soap and water.

**INGESTION:**

If swallowed contact physician, Poison Control Center, or emergency clinic before inducing vomiting. Give water or milk to drink and induce vomiting by touching back of throat with finger, or by administering syrup of ipecac. Do not induce vomiting or give anything by mouth to an unconscious person. If medical advice cannot be obtained, take person and product container to the nearest medical emergency treatment facility.

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**INHALATION:**

If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

**NOTES TO PHYSICIAN:**

This material contains a cholinesterase inhibitor. Measurement of blood cholinesterase activity may be useful in monitoring exposure. If signs of cholinesterase inhibition appear, atropine sulfate is antidotal. 2-PAM (PROTOPAM) is also antidotal and may be used in conjunction with atropine but should not be used alone.

**ADDITIONAL INFORMATION:**

In case of medical emergencies involving this product, call day or night, (800) 454-2333.

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**5. FIRE FIGHTING MEASURES**

Flashpoint and Method: 63°F TAG CC

**EXTINGUISHING MEDIA:**

CO2, dry chemical, foam and water fog.

**HAZARDOUS COMBUSTION PRODUCTS:**

Normal combustion forms carbon dioxide, water vapor and may produce oxides of sulfur, nitrogen and phosphorous. Incomplete combustion can produce carbon monoxide.

**FIRE FIGHTING PROCEDURES:**

This product presents an extreme fire hazard. Liquid very quickly evaporates, even at low temperatures, and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of normal products of combustion or oxygen deficiency. Read the entire document.

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**6. ACCIDENTAL RELEASE MEASURES****SMALL SPILL:**

Soak up spilled material with paper towels or other absorbent material and discard in trash. Product is highly flammable. Keep all sources of ignition away from spill.

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**LARGE SPILL:**

Eliminate all sources of ignition in vicinity of spill or released vapor.

Liquid spills on floor or other impervious surfaces should be contained or diked, and should be absorbed with attapulgite, bentonite or other absorbent material. Collect contaminated absorbent, place in plastic-lined metal drum and dispose of in accordance with instructions provided under Section 13. "DISPOSAL". Thoroughly scrub floor or other impervious surface with a strong industrial type detergent solution and rinse with water.

For liquid spills that soak into the ground, contact the applicable Federal, State and or County Health Dept. for disposal recommendations. If disposal is required then refer to Section 13 "DISPOSAL" for instructions.

Leaking containers should be separated from non-leakers and either the container or its contents transferred to a drum or other non-leaking container and disposed of in accordance with instructions provided under Section 13 "Disposal". Any recovered spilled liquid should be similarly collected and disposed of.

Do not contaminate water, foodstuffs or feed by storage or disposal.

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## 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:**

Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Avoid contamination of feed and foodstuffs. Store in a cool, dry place, preferably locked storage area.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**ENGINEERING CONTROLS:**

Use this material only in well ventilated areas.

**PERSONAL PROTECTION****EYES AND FACE:**

Do not get this material in your eyes. Eye contact should be avoided by wearing chemical goggles or a face shield.

**SKIN:**

Wear protective clothing when handling or applying this product including long pants, long sleeved shirt, socks, shoes, and chemical resistant gloves. Wash nondisposable gloves thoroughly with soap and water before removing. Remove contaminated clothing and launder separately before reuse. Promptly and thoroughly wash hands and exposed skin with soap and water after using this product.

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**RESPIRATORY:**

No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standards, the use of an approved respirator is required.

**OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):**

	EXPOSURE LIMITS		
	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>ACGIH STEL</u>
O,S-Dimethylacetylphosphoramidothioate	None	None	None
Isopropyl Alcohol	400 ppm	400 ppm	500 ppm
Nonylphenol Emulsifier	None	None	None

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical State: Liquid  
Appearance: Clear liquid  
pH: Not Applicable  
Percent Volatile: No Data Available  
Boiling Point: No Data Available  
Freezing Point: <32°F  
Solubility in Water: Miscible with water.  
Density: 6.9 lbs/gal.  
Viscosity: Same as water.

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**10. STABILITY AND REACTIVITY**

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

**CONDITIONS TO AVOID**

HAZARDOUS DECOMPOSITION:

No Data Available

**INCOMPATIBLE MATERIALS:**

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc. May react with aluminum, acetaldehyde, chlorine and ethylene oxide.

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## 11. TOXICOLOGICAL INFORMATION

### ACUTE

Eyes: Based on the results of the rabbit irritation test, this product is considered to be irritating to the eyes. Corneal opacity, roughened corneas, mild iritis and severe conjunctival irritation were observed during the first three days after treatment. All eyes appeared normal by 14 days.

Skin: Mild to slight irritation at 72 hours. The Draize Skin Primary Irritation Score (range 0-8) for a 24-hour exposure (rabbits) is 0.9. The dermal LD50 in rabbits is greater than 5 g/kg.

Ingestion: The oral LD50 in male and female rats is 4.4 and 3.6 g/kg respectively.

Inhalation: The 1-hour vapor and aerosol inhalation LC50 in rats is greater than 145 and 57.5 mg/L respectively.

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## 12. ECOLOGICAL INFORMATION

### ENVIRONMENTAL DATA:

No data available.

### ECOTOXICOLOGICAL INFORMATION:

This pesticide is toxic to birds. Do not apply directly to water. Do not contaminate water by cleaning of equipment or disposal of wastes. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds.

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## 13. DISPOSAL CONSIDERATIONS

### FOR LARGE SPILLS:

Material collected that cannot be reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State or local procedures.

### PRODUCT DISPOSAL:

The Solaris Group is committed to responsible environmental practices and recommends that all of the product be used up, carefully following all label directions and precautions.

If necessary to dispose of partially filled product container, then securely wrap it in several layers of newspaper and discard in trash.

### EMPTY CONTAINER:

Do not reuse container. Rinse thoroughly before discarding in trash.

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**14. TRANSPORT INFORMATION**

**DOT (DEPARTMENT OF TRANSPORTATION)**

Proper Shipping Name: Consumer Commodity  
 Hazard Class: ORM-D  
 NA/UN Number: NONE  
 Packing Group: NO  
 U.S. Surface Freight Class: NMFC NBR. 102120

**AIR (I.C.A.O.)**

Proper Shipping Name: Consumer Commodity

**SPECIAL SHIPPING NOTES:**

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

**15. REGULATORY INFORMATION**

**UNITED STATES**

**SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

<b>PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA</b>
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Acute: Yes	Chronic: Yes	Fire: Yes	Reactivity: No	Pressure Generating: No
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313 Reportable Ingredients: ACEPHATE (CAS 30560-19-1). De Minimis Concentration for Section 313 is 1.0%.

**TSCA (TOXIC SUBSTANCE CONTROL ACT)**

TSCA Regulatory: All non FIFRA regulated components are on the US EPA's TSCA Inventory List.

**16. OTHER INFORMATION**

Hazard Rating Systems: This information is for people trained in the use of the following hazard identification systems. National Paint & Coatings Association's (NPCA) "Hazardous Materials Identification System" (HMIS) and the National Fire Protection Association's (NFPA) Hazard Diamond.



HMIS Rating

Health	1
Flammability	3
Reactivity	0
Protection	-

Key

- 4 = Severe
- 3 = Serious
- 2 = Moderate
- 1 = Slight
- 0 = Minimal

Approval date: 09/13/1995

REVISION SUMMARY

New MSDS

COMMENTS:

For additional information concerning this product, call the SOLARIS Groups Consumer Helpline at 800-225-2883.

MANUFACTURER DISCLAIMER:

This Material Safety Data Sheet (MSDS) contains health, safety and environmental information for you and your employees. It does not replace the precautionary language, use directions, or the storage and disposal information found on the product label. Information contained in this MSDS will help you to prepare for emergency response and to meet community right-to-know, emergency response and reporting requirements under SARA Title III and many other laws. Emergency response agencies and health care providers will also find this additional information useful.

Use of this product is regulated by the U.S. Environmental Protection Agency (EPA) through the approved label copy. It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Monsanto Company and The Solaris Group make no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determinations as to its suitability for their purposes prior to use. In no event will Monsanto Company or The Solaris Group be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

NFPA Rating

