

MATERIAL SAFETY DATA SHEET

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

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DATE PREPARED: 08/31/1995
MSDS No: 6056

ORTHO[®] HomeDefense[™] Indoor & Outdoor Insect
Killer 2

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: ORTHO[®] HomeDefense[™] Indoor & Outdoor Insect Killer 2
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.: 62719-197-239 PN: 6044

2. COMPOSITION/INFORMATION ON INGREDIENTS

	wt.%	CAS Registry #
Chlorpyrifos, Diethyl(trichloro-2-pyridyl)phosphorothioate	0.5	2921-88-2
D-Trans Allethrin, d-trans allethrin (allyl homolog of cinerin 1)	0.05	584-79-2
MGK 264 Insecticide Synergist, N-octyl bicycloheptene dicarboximide	0.16	113-48-4
Piperonyl Butoxide, Piperonyl Butoxide	0.1	51-03-6
INERT INGREDIENTS	~99.19	

"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 to white hazy liquid.

IMMEDIATE CONCERNS:

- AVOID CONTACT WITH EYES, SKIN OR CLOTHING
- AVOID BREATHING VAPOR OR SPRAY MIST
- KEEP AWAY FROM FOOD
- KEEP OUT OF REACH OF CHILDREN

POTENTIAL HEALTH EFFECTS

EYES:

This substance is not expected to cause prolonged or significant eye irritation.

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.

INGESTION:

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if swallowed.

INHALATION:

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if inhaled.

SUBCHRONIC/CHRONIC TOXICITY**CHRONIC:**

Chlorpyrifos was not carcinogenic when tested in rats and mice in two-year feeding studies.

TARGET ORGANS:

Chlorpyrifos 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 result from either acute (one time), subchronic (repeated short-term) and chronic (daily life-time) overexposure 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.

4. FIRST AID MEASURES**EYES:**

Immediately flush eyes with plenty of water. If irritation persists, see a doctor.

SKIN:

If on skin, remove contaminated clothing, wash skin with plenty of soap and water. Wash contaminated clothing before reuse.

INGESTION:

If swallowed, drink 1 or 2 glasses of water and induce vomiting by touching the back of the throat with finger. If possible, contact a physician, Poison Control Center, or emergency center 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.



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INHALATION:

Since this material is not expected to be an immediate inhalation problem, no first aid procedures are required.

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.

5. FIRE FIGHTING MEASURES

Flashpoint and Method: >200°F TAG CC

HAZARDOUS COMBUSTION PRODUCTS:

Exposure to heat or flame may produce hydrogen chloride, ethyl sulfide, diethyl sulfide and nitrogen oxides.

FIRE FIGHTING PROCEDURES:

This material will not burn. Smoke from fires involving this material may present unusual hazards. Avoid breathing smoke and mists. Avoid contact with fallout and runoff. Minimize the amount of water used for fire fighting. Foam fire-extinguishing system is preferred because uncontrolled water can spread contamination. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Read the entire document.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL:

Soak up spilled material with paper towels and discard in trash.



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LARGE SPILL:

Liquid spills on floor or other impervious surfaces should be contained or diked, and should be absorbed with attapulgite, bentonite or other absorbent clays. 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.

GENERAL PROCEDURES:

Observe all protection and safety precautions when cleaning up spills – see Section 8. "EXPOSURE CONTROLS/PERSONAL PROTECTION". For help with any spill, leak, fire or exposure involving this material, call day or night (800) 454-2333.

7. HANDLING AND STORAGE

GENERAL PROCEDURES:

Keep pesticide in original container. For containers larger than 24 oz.: Place sprayer nozzle under handle on container so the sprayer is not below level of contents of container to prevent leakage. Store in a secure, preferably locked, storage area. Protect container from freezing.

STORAGE TEMPERATURE:

Do not store below 32°F.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

No special ventilation is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standards (in Section 8), then special ventilation may be required.



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PERSONAL PROTECTION

EYES AND FACE:

For application of product in accordance with label instructions, no special eye protection is needed.

Handling of the product is not likely to present an eye exposure concern during normal handling. In the event of an accidental discharge of the material during manufacture or handling which could cause eye contact, workers should wear goggles or a face shield.

SKIN:

No special skin protection is usually necessary. Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing protective clothing. Wash thoroughly with soap and water after handling.

RESPIRATORY:

Handling of the product is not likely to present an airborne exposure concern during normal handling. In the event of an accidental discharge of the material during manufacture or handling which produces a heavy mist, workers should put on respiratory protection equipment. Consult respirator manufacturer to determine appropriate type of equipment. Observe respirator use limitations specified by NIOSH MSHA or the manufacturer.

For application of product in accordance with label instructions, no special respiratory protection is required.

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

	EXPOSURE LIMITS		
	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>ACGIH STEL</u>
Diethyl(trichloro-2-pyridyl)phosphorothioate	0.2 mg/m ³	0.2 mg/m ³	None
Piperonyl Butoxide	None	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Appearance: Clear to white hazy liquid
pH: ~7.4 to 8.1
Percent Volatile: No Data Available
Vapor Pressure: Not Determined
Vapor Density: Not Determined
Boiling Point: Not Determined
Freezing Point: No Data Available
Melting Point: No Data Available
Solubility in Water: Miscible with water.
Evaporation Rate: 0
Density: 8.33 Lbs./gal.



10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

CONDITIONS TO AVOID

NOTES:

Do not store below 32°F.

HAZARDOUS DECOMPOSITION:

Exposure to heat or flame may produce hydrogen chloride, ethyl sulfide, diethyl sulfide and nitrogen oxides.

INCOMPATIBLE MATERIALS:

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

11. TOXICOLOGICAL INFORMATION

ACUTE

Eyes: No product toxicology data available.

Skin: No product toxicology data available.

Ingestion: No product toxicology data available. The following information was based on a similar formulation.

Acute Oral Toxicity: Rat Acute Oral LD50 = >10 gm/kg.

Inhalation: No product toxicology data available.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA:

No data available.

ECOTOXICOLOGICAL INFORMATION:

This material is toxic to fish, birds and other wildlife. Do not apply directly to water. Do not apply where runoff is likely to occur. This product is highly toxic to bees exposed to direct treatment or residues on plants.

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.



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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. Wrap empty container in several layers of newspaper and discard in trash.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

Proper Shipping Name: Not Regulated

Hazard Class: NONE

NA/LN Number: NONE

Packing Group: NO

U.S. Surface Freight Class: Insecticides, Fungicides, Insect or animal repellents or vermin exterminators, NOI, Other than poison

AIR (I.C.A.O.)

Proper Shipping Name: Not Regulated

SPECIAL SHIPPING NOTFS:

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)

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA
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Acute: No Chronic: Yes Fire: No Reactivity: No Pressure Generating: No
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311/312 Hazard Categories: Delayed health hazard.

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA RQ: 1 Lb. of Chlorpyrifos



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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.

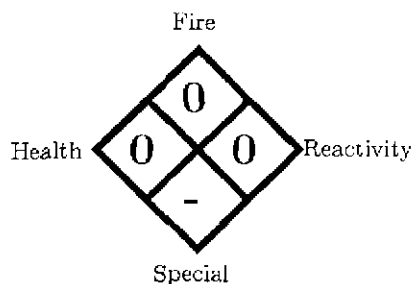
HMIS Rating

Health	0
Flammability	0
Reactivity	0
Protection	-

Key

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

NFPA Rating



Approval date: 09/12/1995

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.



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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.