MATERIAL SAFETY DATA SHEET

DATE PREPARED: 07/27/1995

MSDS No: 4197

SOLARIS

ORTHO® Diazinon Soil & Turf Insect Control

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ORTHO® Diazinon Soil & Turf Insect Control

PRODUCT DESCRIPTION: Insecticide

MANUFACTURER

The SOLARIS Group

of Monsanto Company

P.O. Box 5008

San Ramon, CA 94583-0808

EPA REG. NO.: 239-2479 **PN:** 5403-H

24 HR. EMERGENCY TELEPHONE NUMBERS

Emergency Phone 800-454-2333

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS Registry #
Diazinon, O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate	5	333-41-5
INERT INGREDIENTS	~ 94 .1 5	

``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: Tan or grey granules with characteristic organophosphate odor

IMMEDIATE CONCERNS: - HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH THE SKIN
- CAUSED MODERATE EYE INJURY
- AVOID CONTACT WITH EYES, SKIN OR CLOTHING
- MAY CAUSE SKIN SENSITIZATION WITH REPEATED CONTACT
- KEEP OUT OF REACH OF CHILDREN

POTENTIAL HEALTH EFFECTS

EYES: The eye irritation potential of this substance has not been determined. However, it is not expected to cause eye irritation due to the granular formulation of this product. If eye contact occurs, eye irritation may include; discomfort, redness, swelling and blurred vision. See Toxicology section 11.

SKIN: This substance is not expected to cause prolonged or significant skin irritation. This substance can cause allergic skin reactions in some individuals. The dermal toxicity of this substance has not been determined. However, it may be slightly toxic to internal organs if absorbed through the skin. The degree of injury will depend on the amount absorbed.

INGESTION: Ingestion may cause irritation of the digestive tract which may include nausea, vomiting, and diarrhea. If swallowed, this substance is considered practically non-toxic to internal organs. See Toxicological Information, section 11.

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

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: If in eyes, immediately flush with plenty of water. Call a physician immediately.

SKIN: Remove contaminated clothing. Wash skin thoroughly with soap and water. See a doctor if any signs or symptoms described in this document occur. Wash contaminated clothing.

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.

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.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: Not Applicable

EXTINGUISHING MEDIA: CO2, dry chemical, foam and water fog.

HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition products include, but are not limited to, various aliphatic organophosphates, substituted pyrimidines, and hydrogen cyanide.

FIRE FIGHTING PROCEDURES: This material will support combustion although it is not easily ignited. Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse. Read the entire document.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Sweep up material and use according to label instructions or dispose of in the trash.

LARGE SPILL: Clean up spills immediately, observing precautions in Exposure Controls/ Personal Protection section. Vacuum with machines equipped with high efficiency filters or sweep up material and place in a disposable container. Scrub contaminated area with detergent and water using a stiff broom. Pick up liquid with Oil Dry, cat litter, clay, rags or other absorbent and place in a disposable container. Dispose of in accordance with instructions in Section 13. "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. Do not put into food or drink containers. Avoid contamination of feed and foodstuffs. Store in a cool, dry place, preferably locked storage area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use this material only in well ventilated areas.

PERSONAL PROTECTION

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

Handling of this product during manufacturing or in the event of an accidental discharge of the material which could cause eye contact, workers should wear goggles or a face shield.

SKIN: Avoid contact with skin or clothing. Skin contact should be minimized by wearing protective clothing including chemical resistant gloves.

RESPIRATORY: Normal handling of this product is not likely to present an airborne exposure concern. In the event of an accidental discharge of this material or any manufacturing procedure which produces a heavy dust, 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):

Chemical Name		EXPOSURE LIMITS OSHA PEL	ACGIH TLV	ACGIH STEL
O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate	TWA	0.1 mg/m3	0.1 mg/m3	None
Magnesium Carbonate		5 mg/m3	3 mg/m3 Resperable	None

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Granular

APPEARANCE: Tan or grey colored granules with characteristic organophosphate odor

pH: Not Applicable

SOLUBILITY IN WATER: Nondispersible in water

DENSITY: 36-42 lbs/cubic ft.

PARTICLE SIZE: 8-30 mesh

10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

HAZARDOUS DECOMPOSITION: Tetraethylpyrophosphate (TEPP) and Oxo-Diazinon may form upon contact with strong oxidants.

INCOMPATIBLE MATERIALS: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

11. TOXICOLOGICAL INFORMATION

ACUTE

EYES: The hazard evaluation for this material was based on eye irritation test results for a similar material: Eye irritation clearing in 24hours for washed eyes. Seven days were required for total reversal of irritation in unwashed eyes.

DERMAL LD_{50}: The hazard evaluation for this material was based on skin irritation test results for a similar material: Minor irritation to the skin of rabbits clearing by 72 hours. The hazard evaluation for this material was based on dermal toxicity results for a similar material: The dermal LD50 in rabbits is greater than 10 g/kg.

ORAL LD_{50}: The hazard evaluation for this material was based on oral toxicity results for a similar material: The oral LD50 in rats is greater than 9.0 g/kg.

INHALATION LC_{50}: No product toxicology data available.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: This material is toxic to fish, birds and other wildlife. Birds, especially waterfowl, feeding or drinking on treated areas may be killed. Because of the migratory habits of certain Atlantic Coast waterfowl, do not apply this product t lawns in Nassau County, New York between November 1 and may 20. Do not exceed maximum permited label rates. Application rates above those recommended significantly increase potential hazards to birds and waterfowl. Avoid overlapping granules. Where irrigation(watering) is recommended in the directions or if waterfowl (ducks and geese), can be expected in the treated area after treatment (except spot treatment) apply a minimum of 0.25 inches of water immediatly after applying this product. Stop irrigation before puddling occurs. Keep out of lakes, streams, ponds, tidal marches and estuaries. Do not apply directly to water. Runoff may be hazardous to aquatic organisms in neighboring areas. Shrimp and crab may be killed at application rates recommended on this label. Do not apply where fish, shrimp, crab and other aquatic life are important resources. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters.

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 empty container. Discard

container in trash.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Not Regulated

PRIMARY HAZARD CLASS/DIVISION: None

UN/NA NUMBER: NONE

PACKING GROUP: NO

U.S. SURFACE FREIGHT CLASS: Insecticides, Fungicides, Insect or animal repellents or vermin exterminators, NOI, Other than poison

OTHER SHIPPING INFORMATION: If the total quantity of this product shipped per container equals or exceeds 20 pounds, the the shipping description changes to: Consumer Commodity, ORM-D, RQ (Diazinon). U.S. Freight Class: NMFC NBR. 102120

AIR (ICAO/IATA)

PROPER SHIPPING NAME: Consumer Commodity

VESSEL (IMO/IMDG)

MARINE POLLUTANT #1: Diazinon - Severe Marine Pollutant

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)

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA				
ACUTE:	CHRONIC:	FIRE:	REACTIVITY:	PRESSURE GENERATING:
YES	YES	NO	NO	NO

313 REPORTABLE INGREDIENTS: Diazinon (CAS 333-41-5). De Minimis Concentration for Section 313 of EPCRA is 1.0%.

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA RQ: 1 Lb. of Diazinon.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

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

16. OTHER INFORMATION

HMIS CODES

FIRE: 1 **HEALTH:** 2 **REACTIVITY:** 0 **PROTECTION:** -

NFPA CODES

FIRE: 1 **HEALTH:** 2 **REACTIVITY:** 0 **SPECIAL:** -

APPROVAL DATE: 09/11/1995

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 (herinafter "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 purposees 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

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