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MATERIAL SAFETY DATA SHEET

DATE PREPARED: 07/31/1995

MSDS No: 5219

SOLARISORTHO® HORTICULTURAL SPRAY OIL ORTHOGANIC®
QUALITY PRODUCT

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ORTHO® HORTICULTURAL SPRAY OIL ORTHOGANIC® QUALITY PRODUCT

PRODUCT DESCRIPTION Horticultural Spray Oil.

MANUFACTURER 24 HR. EMERGENCY TELEPHONE NUMBERS

The SOLARIS Group

of Monsanto Company

P.O. Box 5008

San Ramon, CA 94583-0808

Emergency Phone 800-454-2333

EPA REG. NO.: 239-16BPN: 710-P

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Wt. %</u>	<u>CAS Registry #</u>
Mineral Oil	97	64742-55-8
INERT INGREDIENTS	3.0	

"Inert Ingredients" is a term defined by the U.S. Environmental Protection Agency under the Federal Insecticide, Fungicide, and Rodenticide Act (40 CFR 8.153). 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 ingredients have been included in this document.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE Light amber liquid

IMMEDIATE CONCERNS: HARMFUL IF SWALLOWED

- AVOID BREATHING VAPOR OR SPRAY MIST
- AVOID CONTACT WITH EYES
- KEEP OUT OF REACH OF CHILDREN

POTENTIAL HEALTH EFFECTS

EYES: This substance is slightly irritating to the eyes. Eye contact may include discomfort, tearing, swelling, redness, and blurred vision. See section Toxicological Information.

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: If swallowed, this substance is considered practically non-toxic to internal organs. This product contains a petroleum distillate. Due to the low viscosity of petroleum distillate, it can directly enter the lungs if it is swallowed (this is called aspiration). This can occur during the act of swallowing or when vomiting the substance. Once in the lungs, the substance is very difficult to remove and can cause severe injury to the lungs.

INHALATION: If inhaled, this substance is considered practically non-toxic to internal organs. This substance may be irritating if inhaled.

4. FIRST AID MEASURES

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

SKIN: No first aid procedures are required. As a precaution, wash skin thoroughly with soap and water. Remove and wash contaminated clothing.

INGESTION: If swallowed, immediately telephone a poison control center, emergency treatment center or a physician for advice. DO NOT make person vomit unless directed to do so by medical personnel. If medical advice cannot be obtained, then immediately take person and product container, with label, to an 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: Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid which can cause pneumonitis.

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

5. FIRE FIGHTING MEASURES

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FLASHPOINT AND METHOD360°F TAG CC**AUTOIGNITION TEMPERATURE**>500°F**EXTINGUISHING MEDIA**CO₂, dry chemical, foam and water fog.**HAZARDOUS COMBUSTION PRODUCTS**Normal combustion forms carbon dioxide and water vapor; incomplete combustion can produce carbon monoxide.

FIRE FIGHTING PROCEDURESThis material will support combustion although it is not easily ignited. Products of combustion from fire 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: Soak up spilled material with paper towels and discard in trash.

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 spill 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. Do not put concentrate or dilute into food or drink containers. Store in secure, preferably locked, storage

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area. Do not store diluted spray.

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 can be avoided by wearing chemical goggles.

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

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

<u>Chemical Name</u>	<u>OSHA PEL</u>	<u>EXPOSURE LIMITS</u>	
		<u>ACGIH TLV</u>	<u>ACGIH STEL</u>
Mineral Oil	5 mg/m ³	5 mg/m ³	10 mg/m ³

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE Liquid

APPEARANCE Light, straw-colored liquid with mild petroleum odor

pH: No Data Available

BOILING POINT: ~540°F ASTM D 2887

FREEZING POINT: <15°F

SOLUBILITY IN WATER Miscible with water.

EVAPORATION RATE ≤0.01 (n-Butyl Acetate=1)

DENSITY: No Data Available

SPECIFIC GRAVITY 0.84 gr/cc at 20°C

COMMENTS:

VAPOR PRESSURE: Less than 0.01 mm Hg @ 20°C

VAPOR DENSITY: Greater than 5 (Air = 1)

10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

CONDITIONS TO AVOID: Avoid contact with heat or open flame.

HAZARDOUS DECOMPOSITION: No Data Available

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

11. TOXICOLOGICAL INFORMATION

ACUTE

EYES: No product toxicology data available.

DERMAL LD₅₀: No dermal toxicity data available for this product. The hazard evaluation for this material was based on data on the main component of this product. No skin irritation reported in toxicology tests and the dermal LD₅₀ (rabbit) is greater than 3.16 g/kg body weight.

ORAL LD₅₀: No oral toxicity data available for this product. The hazard evaluation for this material was based on data on the main component of this product. The acute oral LD₅₀ (rat) is greater than 5 g/kg.

INHALATION LG₅₀: No product toxicology data available.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No data available.

ECOTOXICOLOGICAL INFORMATION: This material is toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water.

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

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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.

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

AIR (ICAO/IATA)

PROPER SHIPPING NAME: Not Regulated

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: YES	CHRONIC: NO	FIRE: NO	REACTIVITY: NO	PRESSURE GENERATING: NO

TSCA (TOXIC SUBSTANCE CONTROL ACT)

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

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16. OTHER INFORMATION

HMIS CODES

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

NFPA CODES

FIRE: 1 HEALTH: 1 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 (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.

