MATERIAL SAFETY DATA SHEET

DATE PREPARED: 02/01/1999

MSDS No: 1560

SOLARIS

ORTHO Sevin Brand Carbaryl Insecticide Garden Dust

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ORTHO Sevin Brand Carbaryl Insecticide Garden Dust
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 800-225-2883

- **EPA REG. NO.:** 239-2181C **PN:** 3819

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS#
Carbaryl	5	63-25-2

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

- PHYSICAL APPEARANCE: Tan, odorless powder
- IMMEDIATE CONCERNS: HARMFUL IF SWALLOWED
  CAUSES EYE IRRITATION
  AVOID CONTACT WITH EYES, SKIN OR CLOTHING
  AVOID BREATHING DUST
  KEEP OUT OF REACH OF CHILDREN

POTENTIAL HEALTH EFFECTS

- EYES: Eye contact may include discomfort, tearing, swelling, redness, and blurred vision. See Toxicology 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 may cause irritation of the digestive tract which may include nausea, vomiting, and diarrhea. If swallowed, this substance is considered slightly 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.
- **TARGET ORGANS:** Carbaryl is a moderate reversible inhibitor of the cholinesterase, an enzyme involved in transmission of nerve impulses.

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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. If irritation persists, call a doctor.
- **SKIN:** 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 to an emergency treatment center or hospital.
- **INHALATION:** If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.
- **NOTES TO PHYSICIAN:** In severe poisoning, measurement of blood cholinesterase activity may be used in monitoring exposure, but may not be reliable detectors of carbamate poisoning because enzyme activities may revert to normal withing minutes or hours of exposure. If signs and/or symptoms of cholinesterase inhibition appear, atropine sulfate is antidotal.
- **ADDITIONAL INFORMATION:** Medical Information: Call day or night, 1-800-225-2883

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5. FIRE FIGHTING MEASURES

- **FLASHPOINT AND METHOD:** Nonflammable
- **EXTINGUISHING MEDIA:** Use appropriate agent for surrounding fire - product is not combustible.
- **HAZARDOUS COMBUSTION PRODUCTS:** Normal combustion forms carbon dioxide, water vapor and may produce oxides of nitrogen. Incomplete combustion can produce

carbon monoxide.

- **FIRE FIGHTING PROCEDURES:** 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. Keep containers cool with a water spray. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse. Read the entire document.

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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) 225-2883.

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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.

- **STORAGE TEMPERATURE:** 104°F maximum

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- **ENGINEERING CONTROLS:** Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

PERSONAL PROTECTION

- EYES AND FACE: Where there is significant potential for eye contact, wear chemical goggles and have eye flushing equipment available.

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

- SKIN: Wear appropriate protective clothing and chemical resistant gloves to prevent skin

contact. Consult glove manufacturer to determine appropriate type of glove for given application. Wash contaminated skin promptly. Launder contaminated clothing and clean protective equipment before reuse. Wash thoroughly after handling.

- RESPIRATORY: Avoid breathing dust. Use NIOSH/MSHA approved respiratory protection equipment (full facepiece recommended) when airborne exposure limits are exceeded (see below). If used, full facepiece replaces need for chemical goggles. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer. Respiratory protection programs must comply with 29 C.F.R. 1910.134.

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

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

	EXPOSURE LIMITS		
Chemical Name	**OSHA PEL**	**ACGIH TLV**	**ACGIH STEL**
Carbaryl	5 mg/m3	5 mg/m3	None

9. PHYSICAL AND CHEMICAL PROPERTIES

- **PHYSICAL STATE:** Powder
- **APPEARANCE:** Tan, odorless powder
- **pH:** Not Applicable
- **SOLUBILITY IN WATER:** Insoluble
- **DENSITY:** 32-38 lbs./cu. ft.

10. STABILITY AND REACTIVITY

- **STABLE:** YES
- **HAZARDOUS POLYMERIZATION:** NO
- **CONDITIONS TO AVOID:** Avoid contact with acids and bases.
- **HAZARDOUS DECOMPOSITION:** Thermal decomposition products may include oxides of carbon and nitrogen and trace amounts of methyl isocyanate.

11. TOXICOLOGICAL INFORMATION

ACUTE

- EYES: Rabbit - moderately irritating, cleared by 72 hours
  EPA FIFRA toxicology category - IV.
- DERMAL LD_{50}: Rat=> 5.0 g/kg, EPA FIFRA toxicity category - IV.
  SKIN IRRITATION: Rabbit - slightly irritating, EPA FIFRA toxicity category - IV.
- ORAL LD_{50}: Rat male=4.3 g/kg, female=2.5 g/kg.
  EPA FIFRA toxicity category - III.
- INHALATION LC_{50}: Rat - 1 hour inhalation=> 2.1 mg/liter.
  EPA FIFRA toxicity category - IV.
- **SENSITIZATION:** Guinea pig - negative

CARCINOGENICITY:

- **CARCINOGENICITY COMMENTS:** Carbaryl has been associated with the development of tumors in high dose groups in both rats and mice in lifetime feeding studies. In the rat and mouse chronic studies, the NOEL (no observable effect level) for oncogenic findings was 7500 and 1000 ppm, respectively.
- **NEUROTOXICITY:** Carbaryl is not considered to be a neurotoxin in the sense of producing direct histopathological changes to nerve tissue. Delayed and irreversible neurotoxic effects have not been observed in animal toxicology investigations.
- **TERATOGENICITY:** Carbaryl is not considered to be a teratogen or a chemical that causes birth defects. Certain developmental changes have been observed in some species when the dose of carbaryl administered to the mother caused signs of toxicity. Results from monkey teratology studies have not demonstrated birth defects even at maternally toxic dose levels.
- **MUTAGENICITY:** Carbaryl has demonstrated positive findings when tested in some in vitro systems, however results from in vivo mammalian investigations have been negative.
- **COMMENTS:** See Section 16 for definition of EPA FIFRA toxicity categories.

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12. ECOLOGICAL INFORMATION

- **ENVIRONMENTAL DATA:** No data available.
- **ECOTOXICOLOGICAL INFORMATION:** This material is toxic to aquatic and estuarine invertebrates. 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 plants.

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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 empty container. Discard container in trash.

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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
- **MARINE POLLUTANT #1:** Carbaryl

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.

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15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

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

- **313 REPORTABLE INGREDIENTS:** Sevin (CAS No. 63-25-2)

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

- **CERCLA RQ:** 100 lbs. of Carbaryl.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

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

STATE REGULATIONS

- **PROPOSITION 65 STATEMENT:** No ingredients on list.

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16. OTHER INFORMATION

HMIS CODES

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

NFPA CODES

- **FIRE:** 0 **HEALTH:** 1 **REACTIVITY:** 0 **SPECIAL:** -
- **APPROVAL DATE:** 02/01/1999
- **REVISION SUMMARY** Revision #: 2

  This MSDS replaces the November 02, 1998 MSDS. Any changes in information are as follows:
  In Section 1
  Date Prepared
- **MANUFACTURER SUPPLEMENTAL NOTES:** EPA FIFRA (Federal Insecticide, Fungicide and Rodenticide Act) Toxicity Categories: The EPA toxicity categories are based on the results of the acute toxicology studies. The toxicology findings are compared to the FIFRA criteria to determine the product label signal word, precautionary and first aid statements. The EPA FIFRA toxicity category summary:

  EPA FIFRA Product Label Toxicity Rating
  Toxicity Category Signal Word

  I DANGER Most toxic and irritating
  II WARNING
  III CAUTION
  IV CAUTION Least toxic and irritating
- **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 re presentations 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 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.