SEVIN® BRAND 80S CARBARYL INSECTICIDE

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: SEVIN® BRAND 80S CARBARYL INSECTICIDE
Chemical Name: Carbaryl
Synonym: 
MSDS Number: 195
Chemical Family: 
Chemical Formulation: C12H11NO2
EPA Registration No.: 264-316
Canadian Registrat. No.: 

Bayer CropScience
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For Product Use Information: (866)-992-2937 Monday through Friday(CRLF) 8:00AM-4:30PM(CRLF) For Medical Emergency contact DART: (800) 334-7577 24 Hours/Day(CRLF)
For Transportation Emergency CHEMTREC: (800) 424-9300 24 Hours/Day

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS No.</th>
<th>Concentration % by Weight</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBARYL, (1-NAPHTHYL N- METHYLCARBAMATE)</td>
<td>63-25-2</td>
<td>80.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIATOMACEOUS EARTH</td>
<td>61790-53-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CALCIUM SILICATE</td>
<td>1344-95-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QUARTZ</td>
<td>14808-60-7</td>
<td>0.1100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other ingredients (Trade secret)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview: Warning! May be fatal if swallowed.

Physical State: solid powder

Odor: phenolic

Appearance: off-white to pale yellow

Immediate Effects
Eye: Causes redness, irritation, tearing.
Skin Harmful if absorbed through skin. May produce symptoms similar to those from ingestion.

Ingestion May be fatal if swallowed. This product causes reversible cholinesterase inhibition. Repeated overexposure may cause more severe cholinesterase inhibition with more pronounced signs and symptoms. May lead to rapid onset of nausea, vomiting, diarrhea, abdominal pain, involuntary shaking, excess salivation, pinpoint pupils, blurred vision, profuse sweating, temporary paralysis, respiratory depression, and convulsions.

Inhalation Harmful if inhaled. May produce symptoms similar to those from ingestion.

Chronic or Delayed Long-Term This product contains ingredients that are considered to be probable or suspected human carcinogens (See Section 11 - Chronic).

Medical Conditions Aggravated by Exposure Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

SECTION 4. FIRST AID MEASURES

Eye Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek medical attention.

Skin In case of contact, immediately wash with plenty of soap and water for at least 5 minutes. Seek medical attention if irritation develops or persists. Remove contaminated clothing and shoes. Clean contaminated clothing and shoes before re-use.

Ingestion If victim is conscious and alert, give 2-3 glasses of water to drink and induce vomiting by touching back of throat with a finger. Do not induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

Inhalation Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek medical attention.

Note to Physician All treatment should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

This product contains a methyl carbamate insecticide, which is a cholinesterase inhibitor.
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Overexposure to this substance may cause toxic signs and symptoms due to stimulation of the cholinergic nervous system. These effects of overexposure are spontaneously and rapidly reversible.

Specific treatment consists of parenteral atropine sulfate. Improve tissue oxygenation as much as possible before administering atropine to minimize the risk of ventricular fibrillation. Mild cases may be given 1 to 2 mg intramuscularly every 10 minutes until full atropinization has been achieved and repeated thereafter whenever symptoms reappear. Severe cases should be given 2 to 4 mg intravenously every 10 minutes until fully atropinized, then intramuscularly every 30 to 60 minutes as needed to maintain the effect for at least 12 hours. Dosages for children should be appropriately reduced. Complete recovery from overexposure is to be expected within 24 hours.

To aid in confirmation of a diagnosis, urine samples should be obtained within 24 hours of exposure and immediately frozen. Call 1-800-334-7577 before sending samples. Analysis will be arranged by Bayer.

Persons regularly exposed in manufacturing and handling this product should have a preexposure and periodic red blood cell cholinesterase level checks. Narcotics and other sedative should not be used. Further, drugs like 2-PAM (pyridine-2-aldoxime methiodide) are NOT recommended.

SECTION 5. FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Flash Point</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire and Explosion Hazards</td>
<td>Like all organic and most dry chemicals, as a powder or dust, this product (when mixed with air in critical proportions and in the presence of an ignition source) may present an explosion hazard.</td>
</tr>
<tr>
<td>Suitable Extinguishing Media</td>
<td>Small Fires: carbon dioxide (CO2), dry chemical</td>
</tr>
<tr>
<td></td>
<td>Large Fires: alcohol foam, polymer foam, water spray</td>
</tr>
<tr>
<td>Fire Fighting Instructions</td>
<td>Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.</td>
</tr>
</tbody>
</table>
SECTION 6. ACCIDENTAL RELEASE MEASURES

**General and Disposal**

Evacuation Procedures and Safety: Wear appropriate gear for the situation. See Personal Protection information in Section 8.

Cleanup and Disposal of Spill: Shovel up into an appropriate closed container (see Section 7: Handling and Storage). Clean up residual material by washing area with water. Decontaminate tools and equipment following cleanup. Avoid creation of dusty conditions.

**Land Spill or Leaks**

Containment of Spill: Follow procedure under Cleanup and Disposal of Spill.

Environmental and Regulatory Reporting: If spilled on the ground, the affected area should be scraped clean and placed in an appropriate container for disposal. Runoff from fire control or dilution water may cause pollution. Prevent material from entering public sewer system or any waterway. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

SECTION 7. HANDLING AND STORAGE

**Handling Procedures**

Avoid direct or prolonged contact with skin and eyes. Avoid breathing dusts. Do not ingest.

**Storing Procedures**

Store in original container. Keep in a dry, cool place. Store in an area that is away from foodstuffs or animal feed, out of reach of children and animals.

**Work/Hygienic Procedures**

Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.

Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.

Wash exposed skin promptly to remove accidental splashes of contact with this material.

In addition, based upon the specific hazard of this product: Do not take clothing/objects contaminated by this material off the work site. Shower and change into street clothes before leaving the work site.
SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls
Where engineering controls are indicated by use conditions of a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: general area dilution/exhaust ventilation

Eye/Face Protection
Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area.

Body Protection
Skin contact should be prevented through use of suitable protective clothing, gloves and footwear, selected with regard of use conditions and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Respiratory Protection
When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminants, the following should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): Air-purifying (half-mask/full-face) respirator with cartridge/canister approved for use against pesticides.

Under conditions immediately dangerous to life or health, or emergency conditions with unknown concentrations, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or use a self-contained breathing apparatus unit.

General Protection
These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Exposure Limits
## Material Safety Data Sheet

### SEVIN® BRAND 80S CARBARYL INSECTICIDE

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
<th>Source</th>
<th>Exposure Form</th>
<th>Standard</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBARYL, (1-NAPHTHYL N-METHYL CARBAMATE)</td>
<td>63-25-2</td>
<td>ACGIH</td>
<td>TWA</td>
<td></td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>REL</td>
<td></td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z1</td>
<td>PEL</td>
<td></td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z1A</td>
<td>TWA</td>
<td></td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US CA OEL</td>
<td>TWA PEL</td>
<td></td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>DIATOMACEOUS EARTH</td>
<td>61790-53-2</td>
<td>ACGIH</td>
<td>TWA</td>
<td></td>
<td>6 mg/m³</td>
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<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>REL</td>
<td></td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z1</td>
<td>PEL</td>
<td></td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z1A</td>
<td>TWA</td>
<td></td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US CA OEL</td>
<td>TWA PEL</td>
<td></td>
<td>3 mg/m³</td>
</tr>
<tr>
<td>CALCIUM SILICATE</td>
<td>1344-95-2</td>
<td>ACGIH</td>
<td>TWA</td>
<td></td>
<td>10 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>REL</td>
<td></td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z1</td>
<td>PEL</td>
<td></td>
<td>10 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z1A</td>
<td>TWA</td>
<td></td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US CA OEL</td>
<td>TWA PEL</td>
<td></td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>QUARTZ</td>
<td>14808-60-7</td>
<td>ACGIH</td>
<td>TWA</td>
<td></td>
<td>0.05 mg/m³</td>
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<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>REL</td>
<td></td>
<td>0.1 mg/m³</td>
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<tr>
<td></td>
<td></td>
<td>OSHA Z1A</td>
<td>TWA</td>
<td></td>
<td>0.1 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US CA OEL</td>
<td>TWA PEL</td>
<td></td>
<td>0.3 mg/m³</td>
</tr>
</tbody>
</table>

**Remarks:**
- The value is for particulate matter containing no asbestos and <1% crystalline silica.
- Respirable dust.
- Total dust.
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>off-white to pale yellow</td>
</tr>
<tr>
<td>Physical State</td>
<td>solid powder</td>
</tr>
<tr>
<td>Odor</td>
<td>phenolic</td>
</tr>
<tr>
<td>pH</td>
<td>4 - 6.5 at 5 wt/wt%</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density (air = 1)</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not Available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting/Freezing Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (in water)</td>
<td>dispersible</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>201.2 g/mol</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>140 °C</td>
</tr>
<tr>
<td>Other Information</td>
<td>Physical and chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.</td>
</tr>
</tbody>
</table>

SECTION 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Stability</td>
<td>This material is stable under normal handling and storage conditions described in Section 7.</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>extreme heat</td>
</tr>
<tr>
<td>Incompatibility</td>
<td>strong acids</td>
</tr>
<tr>
<td>Hazardous Products of</td>
<td>Decomposition Type: thermal</td>
</tr>
<tr>
<td>Decomposition</td>
<td>oxides of nitrogen</td>
</tr>
<tr>
<td></td>
<td>carbon oxides</td>
</tr>
</tbody>
</table>
SECTION 11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous Polymerization</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

**Acute Oral Toxicity**
Rat: LD50: 281 mg/kg

**Acute Dermal Toxicity**
Rabbit: LD50: > 2,000 mg/kg

**Acute Inhalation Toxicity**
No test data found for product.

Acute Respiratory Irritation:
No test data found for product.

**Skin Irritation**
Rabbit: Minimally Irritating

**Eye Irritation**
Rabbit: Slightly irritating.

**Chronic Toxicity**
Carbaryl has been shown to cause tumors in laboratory animals in lifetime feeding studies. Carbaryl, when administered by various routes, at doses toxic to the maternal animals, has been shown to produce developmental toxicity in a number of species. Carbaryl produces no teratogenic effect in the absence of maternal toxicity.

**Assessment Carcinogenicity**

<table>
<thead>
<tr>
<th>Agency</th>
<th>Code/Identifier</th>
<th>Classification</th>
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</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>CARBARYL, (1-NAPHTHYL N-METHYL CARBAMATE) 63-25-2</td>
<td>Group A4</td>
</tr>
<tr>
<td></td>
<td>CALCIUM SILICATE 1344-95-2</td>
<td>Group A4</td>
</tr>
<tr>
<td></td>
<td>QUARTZ 14808-60-7</td>
<td>Group A2</td>
</tr>
<tr>
<td>NTP</td>
<td>QUARTZ 14808-60-7</td>
<td></td>
</tr>
<tr>
<td>IARC</td>
<td>CARBARYL, (1-NAPHTHYL N-METHYL CARBAMATE) 63-25-2</td>
<td>3</td>
</tr>
<tr>
<td>OSHA</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 12. ECOLOGICAL INFORMATION**

**Acute and Prolonged Toxicity to Fish**
The following data is based on the technical grade active ingredient(s) (TGAI).
Bluegill sunfish
LC50: 6760 ug/l
Exposure Time: 96 h
Material Safety Data Sheet

SEVIN® BRAND 80S CARBARYL INSECTICIDE

Dietary concentrations.

The following data is based on the technical grade active ingredient(s) (TGAI).

Rainbow trout
LC50: 1950 ug/l
Exposure Time: 96 h

Toxicity Other Non Mammal Terr. Species

The following data is based on the technical grade active ingredient(s) (TGAI).

Mallard duck
LC50: > 5,000 mg/kg
Exposure Time: 8 d
Dietary concentrations.

The following data is based on the technical grade active ingredient(s) (TGAI).

Bobwhite quail
LC50: > 5,000 mg/kg
Exposure Time: 8 d

Environmental Fate
For chemical fate data call the product information phone number listed in Section 1.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance
Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

EPA Hazardous Waste - Yes

RCRA Classification
63-25-2 CARBARYL, (1-NAPHTHYL N-METHYLCARBAMATE)


SECTION 14. TRANSPORT INFORMATION

For Transportation Regulatory Information call the Product Information phone number in Section 1.
SECTION 15. REGULATORY INFORMATION

US Federal
EPA Registration No. 264-316
TSCA list
CARBARYL, (1-NAPHTHYL N-METHYL CARBAMATE) 63-25-2
DIATOMACEOUS EARTH 61790-53-2
CALCIUM SILICATE 1344-95-2
QUARTZ 14808-60-7
TSCA 12b export notification
None
SARA Title III - section 302 - notification and information
None
SARA Title III - section 313 - toxic chemical release reporting
CARBARYL, (1-NAPHTHYL N-METHYL CARBAMATE) 1.0%
US States Regulatory
CA Prop65
This product contains a chemical known to the state of California to cause cancer.

US State right-to-know ingredients
CARBARYL, (1-NAPHTHYL N-METHYL CARBAMATE) 63-25-2 CA, CT, IL, MA, MN, NJ, PA, RI
DIATOMACEOUS EARTH 61790-53-2 IL
CALCIUM SILICATE 1344-95-2 IL, MN, PA, RI
QUARTZ 14808-60-7 IL, MA, MN, PA

Canadian Regulations
Canadian Registrat. No.
Canadian Domestic Substance List
CALCIUM SILICATE 1344-95-2
QUARTZ 14808-60-7

Environmental
CERCLA
CARBARYL, (1-NAPHTHYL N-METHYL CARBAMATE) 63-25-2 100 lbs
Clean Water Section 307 Priority Pollutants
None
Safe Drinking Water Act Maximum Contaminant Levels
None

International Regulations
EU Classification
None

European Inventory of Existing Commercial Substances (EINECS)
- CARBARYL, (1-NAPHTHYL N-METHYL CARBAMATE) 63-25-2
- CALCIUM SILICATE 1344-95-2
- QUARTZ 14808-60-7

SECTION 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Reason for Revisions: Company name change.

Print Date: 12/18/2002
Supersedes MSDS, which is older than: 12/16/2002

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