



**Material Safety Data Sheet**

**SEVIN® BRAND 80S CARBARYL INSECTICIDE**

MSDS Number: 102000004247

MSDS Version 2.0

Revision Date: 08/03/2006

**SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION**

**Product Name** SEVIN® BRAND 80S CARBARYL INSECTICIDE  
**MSDS Number** 102000004247  
**EPA Registration No.** 264-316

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

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)  
 For Product Information call: 1-866-99BAYER (1-866-992-2937)

**SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Carbaryl	63-25-2	80.00
Synthetic amorphous silica	112926-00-8	12.00
Quartz (Silica, Crystalline)	14808-60-7	0.05

**SECTION 3. HAZARDS IDENTIFICATION**

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

**Emergency Overview** Warning! Hazard to humans and domestic animals. May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Harmful if gets in eyes. Do not breathe dust or spray mist. Do not get in eyes, on skin, or on clothing. Keep out of reach of children and animals. Highly toxic to bees.

**Physical State** solid powder fine

**Odor** phenolic

**Appearance** white to slightly yellow

**Routes of Exposure** Inhalation, Ingestion, Skin contact, Eye contact

**Immediate Effects**  
**Eye** Causes redness, irritation, tearing.

**Skin** Harmful if absorbed through skin. May produce symptoms similar to those from ingestion.



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<b>Ingestion</b>	May be fatal if swallowed. This product causes reversible cholinesterase inhibition. Repeated overexposure may cause more severe cholinesterase inhibition with more pronounced 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.
<b>Inhalation</b>	Harmful if inhaled. May produce symptoms similar to those from ingestion.
<b>Chronic or Delayed Long-Term</b>	This product contains ingredients that are considered to be probable or suspected human carcinogens (see Section 11 - Chronic).
<b>Medical Conditions Aggravated by Exposure</b>	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**

<b>General</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Eye</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
<b>Skin</b>	Wash off with soap and water. Take off contaminated clothing and shoes immediately. Call a physician or poison control center immediately.
<b>Ingestion</b>	Do not leave victim unattended. Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. Never give anything by mouth to an unconscious person. <b>DO NOT</b> induce vomiting unless directed to do so by a physician or poison control center.
<b>Inhalation</b>	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
<b>Notes to Physician Signs and Symptoms</b>	Local: Temporary blurred vision due to contraction of the pupils (miosis) following contact with the eyes. Systemic: bradycardia low blood pressure salivation bronchial hypersecretion nausea vomiting diarrhoea



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sweating  
muscular fasciculation  
spasm  
breathing difficulties  
respiratory paralysis  
somnolence  
coma  
respiratory failure  
hypothermia  
convulsions

**Hazards** This product contains a cholinesterase inhibitor carbamate.

**Treatment** The product inhibits cholinesterase resulting in stimulation of the central nervous system, the parasympathetic nervous system, and the somatic motor nerves. If symptoms of carbamate poisoning are present, the administration of atropine sulfate is indicated.

**ANTIDOTE:** Administer atropine sulfate in large therapeutic doses. Repeat as necessary to the point of tolerance. In mild cases, start treatment by giving 1-2 mg of atropine intravenously every 15 minutes until signs of atropinization appear (dry mouth, flushing and dilated pupils if pupils were originally pinpoint). In severe cases 2 to 4 mg should be injected 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.

Do not use oximes such as 2-PAM unless organophosphate intoxication is suspected. Do not give morphine. Watch for pulmonary edema, which may develop in serious cases of poisoning even after 24-48 hours. At first sign of pulmonary edema, the patient should be placed in an oxygen tent and treated symptomatically.

**SECTION 5. FIRE FIGHTING MEASURES**

**Flash point** not applicable

**Fire and Explosion Hazards** In the event of fire the following can be released:  
carbon monoxide (CO)  
nitrogen oxides (NOx)

Accumulation of fine dust may entail the risk of a dust explosion in the presence of air.

**Suitable Extinguishing Media** foam, dry powder, carbon dioxide (CO2)



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**Fire Fighting Instructions**

Collect contaminated fire extinguishing water separately. This must not be discharged into drains. 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. 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.

Use breathing apparatus.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Methods for Cleaning Up**

Sweep up or vacuum up spillage and collect in suitable container for disposal. Pick up and fill the product into a tightly closed container. When picked up, treat material as prescribed in Ch. 13. "Disposal considerations". Use approved industrial vacuum cleaner for removal.

Avoid dust formation. Decontaminate tools and equipment following cleanup. Clean contaminated surface thoroughly.

**Additional Advice**

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. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies. Do not allow to enter soil, waterways or waste water canal.

**SECTION 7. HANDLING AND STORAGE**

**Handling Procedures**

Wear suitable gloves and eye/face protection. Smoking, eating and drinking should be prohibited in the application area.

Avoid contact with skin and eyes. Do not ingest. Avoid breathing dust.

**Storing Procedures**

Keep out of reach of children and animals. Store in original container. Keep in a dry, cool place. Keep away from food, drink and animal feedingstuffs.

**Work/Hygienic Procedures**

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.

Contaminated work clothing should not be allowed out of the workplace. In addition, based upon the specific hazard of this product: Shower and change into street clothes before leaving the work site.

**Min/Max Storage Temperatures**

Do not transport or store below 0 °C / 32 °F  
Thirty (30) day average not to exceed 100°F.



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**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**General Protection** Cholinesterase activity of the worker should be supervised.

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.

**Engineering Controls** Provide appropriate exhaust ventilation at places where dust is formed.

**Eye/Face Protection** Safety glasses with side-shields

An emergency eye wash must be readily accessible to the work area.

**Hand Protection** Chemical-resistant gloves made of waterproof material such as neoprene, butyl rubber, barrier laminate or nitrile rubber

**Body Protection** Wear long-sleeved shirt and long pants and shoes plus socks.

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

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.

**Exposure Limits**

Carbaryl	63-25-2	ACGIH	TWA	5 mg/m3
		NIOSH	REL	5 mg/m3
		OSHA Z1	PEL	5 mg/m3
		OSHA Z1A	TWA	5 mg/m3
		US CA OEL	TWA PEL	5 mg/m3
Synthetic amorphous silica	112926-00-8	ACGIH	TWA	10 mg/m3
		OSHA Z1A	TWA	6 mg/m3
		NIOSH	REL	6 mg/m3
		OSHA Z1	PEL	5 mg/m3
		Form of Exposure	Respirable fraction.	
		OSHA Z1	PEL	15 mg/m3
		Form of Exposure	Total dust.	
Z3	TWA	15 millions of particles per		



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		Form of Exposure			cubic foot of air
		Z3	TWA		Respirable fraction.
					50 millions of particles per cubic foot of air
		Form of Exposure			Total dust.
		Z3	TWA		5 mg/m3
		Form of Exposure			Respirable fraction.
		Z3	TWA		15 mg/m3
		Form of Exposure			Total dust.
		US CA OEL	TWA PEL		5 mg/m3
		Form of Exposure			Respirable fraction.
		US CA OEL	TWA PEL		10 mg/m3
		Form of Exposure			Total dust.
		US CA OEL	TWA PEL		5 mg/m3
		Form of Exposure			Respirable fraction.
		US CA OEL	TWA PEL		10 mg/m3
		Form of Exposure			Total dust.
		US CA OEL	TWA PEL		5 mg/m3
		Form of Exposure			Respirable fraction.
		US CA OEL	TWA PEL		10 mg/m3
		Form of Exposure			Total dust.
		Z3	TWA		20 millions of particles per cubic foot of air
		Z3	TWA		0.8 mg/m3
		Remarks			The value is calculated from a specified equation using a value of 100%. Lower values of % will give higher exposure limits. See regulation for specific equation.
Quartz (Silica, Crystalline)	14808-60-7	ACGIH	TWA		0.05 mg/m3
		Form of Exposure			Respirable fraction.
		ACGIH NIC	TWA		0.025 mg/m3
		Form of Exposure			Respirable fraction.
		NIOSH	REL		0.05 mg/m3
		Form of Exposure			Respirable dust.
		OSHA Z1A	TWA		0.1 mg/m3
		Form of Exposure			Respirable dust.
		Z3	TWA		2.4 millions of particles per cubic foot of air
		Form of Exposure			Respirable.
		Remarks			The value is calculated from a specified equation using a value of 100%. Lower values of % will give higher exposure limits. See regulation for specific equation.



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Z3	TWA	0.1 mg/m3
Form of Exposure		Respirable.
Remarks		The value is calculated from a specified equation using a value of 100%. Lower values of % will give higher exposure limits. See regulation for specific equation.
Z3	TWA	0.3 mg/m3
Form of Exposure		Total dust.
Remarks		The value is calculated from a specified equation using a value of 100%. Lower values of % will give higher exposure limits. See regulation for specific equation.
US CA OEL	TWA PEL	0.1 mg/m3
Form of Exposure		Respirable dust.
US CA OEL	TWA PEL	0.3 mg/m3
Form of Exposure		Total dust.
OSHA Z1	PEL	5 mg/m3
Form of Exposure		Respirable fraction.
OSHA Z1	PEL	15 mg/m3
Form of Exposure		Total dust.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	white to slightly yellow
<b>Physical State</b>	solid powder fine
<b>Odor</b>	phenolic
<b>pH</b>	4 - 6.5 (10 %) suspension in water
<b>Density</b>	0.3 g/l loose
<b>Bulk Density</b>	18.0 lbs/cu.ft.
<b>Water solubility</b>	dispersible
<b>Decomposition Temperature</b>	175 - 190 °C Exothermic decomposition.

**SECTION 10. STABILITY AND REACTIVITY**



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<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Conditions to Avoid</b>	Exposure to extreme heat. Exposure to open flame.
<b>Incompatibility</b>	strong acids bases
<b>Hazardous Decomposition Products</b>	Thermal decomposition nitrogen oxides (NO <sub>x</sub> ) Carbon oxides methyl isocyanate (trace; no adverse effects expected)
<b>Hazardous Reactions</b>	None known.

## SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity data has been bridged from similar formulations containing the same or a slightly higher percentage of the active ingredient, carbaryl. The non-acute information pertains to technical-grade carbaryl.

<b>Acute Oral Toxicity</b>	male rat: LD50: 406 mg/kg  female rat: LD50: 203 mg/kg
<b>Acute Dermal Toxicity</b>	male/female rat: LD50: > 5,000 mg/kg
<b>Acute Inhalation Toxicity</b>	male/female rat: LC50: > 4.9 mg/l Exposure time: 4 h  male/female rat: LC50: > 19.6 mg/l Exposure time: 1 h Extrapolated from the 4 hr LC50.
<b>Skin Irritation</b>	rabbit: No skin irritation.
<b>Eye Irritation</b>	rabbit: Mild eye irritation.
<b>Sensitization</b>	guinea pig: Non-sensitizing.
<b>Chronic Toxicity</b>	Reversible cholinesterase inhibition occurred in chronic toxicity studies in rats and dogs. The principal organs affected in rats from long-term exposure to high-doses of carbaryl included the urinary bladder, thyroid, kidneys and liver.
<b>Assessment Carcinogenicity</b>	Carbaryl has been shown to cause tumors in laboratory animals in lifetime feeding studies.

### ACGIH



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Carbaryl	63-25-2	Group A4
<b>NTP</b>		
None.		
<b>IARC</b>		
Carbaryl	63-25-2	Overall evaluation: 3
<b>OSHA</b>		
None.		

**Reproductive & Developmental Toxicity**      REPRODUCTION: Carbaryl was not a reproductive toxicant in a two-generation study in rats.

DEVELOPMENTAL: Carbaryl was not a primary developmental toxicant in rats and rabbits. Developmental effects were observed in both species but were considered secondary to maternal toxicity.

**Neurotoxicity**      Carbaryl caused transient neurobehavioral effects (e.g., tremors) related to cholinergic toxicity without correlating neuropathological changes in acute and subchronic neurotoxicity studies in rats. Carbaryl did not cause developmental neurotoxic effects in offspring in a one-generation developmental neurotoxicity study in rats.

**Mutagenicity**      A battery of in vitro and in vivo mutagenicity studies have been conducted on carbaryl. Collectively, these studies indicate that carbaryl poses only a slight mutagenic risk.

**SECTION 12. ECOLOGICAL INFORMATION**

**Toxicity to Fish**      Rainbow trout (*Oncorhynchus mykiss*)  
LC50: 3.3 mg/l  
Exposure time: 96 h  
Information refers to the main component.

**Toxicity to Aquatic Plants**      *Navicula pelliculosa* (diatom algae)  
EC50: 0.61 mg/l  
Exposure time: 120 h  
Information refers to the main component.

**Acute Toxicity to Aquatic Invertebrates**      Water flea (*Daphnia magna*)  
EC50: 0.0164 mg/l  
Exposure time: 48 h  
Information refers to the main component.

Water flea (*Daphnia magna*)  
NOEC: 5.6 mg/l  
Information refers to the main component.

**Toxicity to other organisms**      Mallard duck  
LC50: > 5,000 mg/kg  
Exposure time: 8 d



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The value mentioned relates to the active ingredient.  
Dietary concentrations.

Bobwhite quail  
LC50: > 5,000 mg/kg  
Exposure time: 8 d  
The value mentioned relates to the active ingredient.

**Environmental Precautions**

Extremely toxic to aquatic and estuarine invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark outside of a treated rice field. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

Highly toxic to bees. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**General Disposal Guidance**

In accordance with current regulations may be taken to waste disposal site or incineration plant, after consultation with site operator and/or with the responsible authority.

**Container Disposal**

Empty residue into application equipment. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**RCRA Classification**

The RCRA Classifications may be on the individual component(s) and not necessarily on the product as a whole.

63-25-2 Carbaryl  
US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261): U279

63-25-2 Carbaryl  
US. EPA Resource Conservation and Recovery Act (RCRA) U List of Hazardous Wastes (40 CFR 261.33(f) and 40 CFR 302 [CERCLA]): U279



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**SECTION 14. TRANSPORT INFORMATION**

**DOT CLASSIFICATION:**

NON-BULK

Not regulated for transportation in packages smaller than 125 pounds. Packages of 125 pounds or more are regulated as:

Environmentally Hazardous Substances, Solid, N.O.S. (Carbaryl) // 9 // UN3077 // PG III // RQ(Carbaryl)

**BULK:**

Environmentally Hazardous Substances, Solid, N.O.S. (Carbaryl) // 9 // UN3077 // PG III // RQ(Carbaryl) // Marine Pollutant

**FREIGHT CLASSIFICATION:**

Insecticides or Fungicides, N.O.I., other than poison

**SECTION 15. REGULATORY INFORMATION**

**EPA Registration No.** 264-316

**US Federal Regulations**

**TSCA list**

Carbaryl 63-25-2

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**

None.

**SARA Title III - Section 302 - Notification and Information**

None.

**SARA Title III - Section 313 - Toxic Chemical Release Reporting**

Carbaryl 63-25-2 1.0%

**US States Regulatory Reporting**

**CA Prop65**

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

**US State Right-To-Know Ingredients**

Carbaryl 63-25-2 CA, CT, IL, MA, MN, NJ, PA, RI

**Canadian Regulations**

**Canadian Domestic Substance List**

None.

**Environmental**

**CERCLA**

Carbaryl 63-25-2 100 lbs

**Clean Water Section 307 Priority Pollutants**

None.



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**Safe Drinking Water Act Maximum Contaminant Levels**

None.

**International Regulations**

**European Inventory of Existing Commercial Substances (EINECS)**

Carbaryl 63-25-2

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**SECTION 16. OTHER INFORMATION**

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NFPA 704 (National Fire Protection Association):

Health - 3      Flammability - 1      Reactivity - 1      Others - none

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Update to Section 11. Toxicological Information; Section 14. Transportation Information.

Revision Date: 08/03/2006

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