



**Material Safety Data Sheet**  
**SEVIN® SL CARBARYL INSECTICIDE**

MSDS Number: 102000004253  
 MSDS Version 2.1  
 Revision Date: 01/27/2010

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

**Product name** SEVIN® SL CARBARYL INSECTICIDE  
**Chemical Name** Carbaryl  
**MSDS Number** 102000004253  
**EPA Registration No.** 432-1227

Bayer Environmental Science  
 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: 1-800-331-2867

**SECTION 2. HAZARDS IDENTIFICATION**

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

**Emergency Overview** Caution! May be harmful by inhalation, ingestion, skin adsorption. Avoid contact with skin, eyes and clothing.

**Physical State** liquid suspension

**Odor** mild

**Appearance** white to beige

**Exposure routes** Ingestion, Inhalation, Skin contact

**Immediate Effects**

**Eye** Causes redness, irritation, tearing. Avoid contact with eyes.

**Skin** Harmful if absorbed through skin. May produce symptoms similar to those from ingestion. Avoid contact with skin and clothing.

**Ingestion** Harmful 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. Do not take internally.

**Inhalation** Harmful if inhaled. May produce symptoms similar to those from ingestion. Do not breathe vapours or spray mist.



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**Chronic or Delayed Long-Term** This product or its components may have target organ effects. 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.

**Potential Environmental Effect** Highly toxic to bees. Extremely toxic to aquatic and estuarine invertebrates.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Carbaryl	63-25-2	43.00
1,2-Propanediol	57-55-6	5.00

**SECTION 4. FIRST AID MEASURES**

**General** When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

**Eye** 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.

**Skin** Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

**Ingestion** Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

**Inhalation** 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.

**Notes to physician Signs and Symptoms** Temporary blurred vision due to contraction of the pupils (miosis) following contact with the eyes.  
bradycardia  
low blood pressure  
Salivation  
bronchial hypersecretion  
Vomiting



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Diarrhoea  
 sweating  
 Muscular fasciculation  
 spasm  
 breathing difficulties  
 respiratory paralysis  
 Somnolence  
 Coma  
 respiratory failure  
 hypothermia  
 Convulsions  
 Nausea

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

**Treatment** Monitor: respiratory, cardiac and central nervous system. Monitor: blood picture. Monitor: red blood cell and plasma cholinesterase. ECG - monitoring (Electrocardiogram). Oxygen or artificial respiration if needed. Keep respiratory tract clear. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. The following antidote is generally accepted: atropine. Before antidote is administered, either clear symptoms of poisoning have to be present or the cholinesterase activity is inhibited to below 30% of normal. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. Contraindications: oximes (pralidoxime, obidoxime).

Do not use oximes such as 2-PAM unless organophosphate intoxication is suspected. 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. Contraindications: derivatives of morphine.

**SECTION 5. FIRE FIGHTING MEASURES**

<b>Flash point</b>	> 100 °C / > 212 °F
<b>Lower Flammability Limit</b>	2.6 %(V)
<b>Upper Flammability Limit</b>	19 %(V)
<b>Fire and Explosion Hazards</b>	In the event of fire the following may be released: nitrogen oxides (NOx) Carbon monoxide (CO)
<b>Suitable extinguishing media</b>	Water spray, Foam, Carbon dioxide (CO2), Dry powder



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**Fire Fighting Instructions**

Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Whenever possible, contain fire-fighting water by diking area with sand or earth.

Evacuate personnel to safe areas. Do not allow run-off from fire fighting to enter drains or water courses.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions**

Keep people away from and upwind of spill/leak. Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke.

**Methods for cleaning up**

Dike area to prevent runoff. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container.

**Additional advice**

Do not allow to enter soil, waterways or waste water canal.

Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Check also for any local site procedures.

**SECTION 7. HANDLING AND STORAGE**

**Handling procedures**

Avoid contact with skin, eyes and clothing. Use only in area provided with appropriate exhaust ventilation.

**Storing Procedures**

Keep out of reach of children and animals. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

Keep away from food, drink and animal feedingstuffs.

**Work/Hygienic Procedures**

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Wash thoroughly and put on clean clothing.

Contaminated work clothing should not be allowed out of the workplace. Wash thoroughly and put on clean clothing.



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**Min/Max Storage Temperatures** no data available

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

**General Protection** Cholinesterase activity of the worker should be supervised.  
 Follow all label instructions. Train employees in safe use of the product. Eye wash facility and safety shower should be available.  
 Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

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

**Hand protection** Chemical resistant nitrile rubber gloves  
 Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination outside cannot be removed.

**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.

**Exposure Limits**

Carbaryl	63-25-2	ACGIH	TWA	5 mg/m3
		ACGIH NIC	TWA	0.5 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
		TX ESL	ST ESL	50 ug/m3
		TX ESL	AN ESL	5 ug/m3
		OES BCS*	TWA	5 mg/m3
		ACGIH	TWA	0.5 mg/m3
		Ethanol	64-17-5	ACGIH
NIOSH	REL			1,000 ppm
OSHA Z1	PEL			1,000 ppm
OSHA Z1A	TWA			1,000 ppm
US CA OEL	TWA PEL			1,000 ppm
TX ESL	ST ESL			18800 ug/m3
TX ESL	AN ESL			1880 ug/m3
ACGIH	STEL			1,000 ppm
OES BCS*	TWA			500 ppm

\*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"



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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	white to beige
<b>Physical State</b>	liquid suspension
<b>Odor</b>	mild
<b>pH</b>	4.0 - 5.0 (100 %)
<b>Vapor Pressure</b>	23.7 hPa / 17.8 mm Hg at 20 °C
<b>Vapor Density (Air = 1)</b>	0.62
<b>Specific Gravity</b>	1.1 at 20 °C
<b>Density</b>	1.10 g/cm <sup>3</sup> at 20 °C
<b>Boiling Point</b>	98 °C / 208 °F
<b>Melting / Freezing Point</b>	-3 °C / 27 °F
<b>Water solubility</b>	miscible
<b>Decomposition temperature</b>	175 - 190 °C Exothermic decomposition.

**SECTION 10. STABILITY AND REACTIVITY**

<b>Conditions to avoid</b>	Heat, flames and sparks.
<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>	No dangerous reaction known under conditions of normal use.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Acute toxicity studies have been bridged from a similar formulation containing a similar percentage of the



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active ingredient, carbaryl. The non-acute information pertains to technical-grade carbaryl.

**Acute oral toxicity** rat: LD50: 699 mg/kg

**Acute dermal toxicity** male/female combined rabbit: LD50: > 4,000 mg/kg

**Acute inhalation toxicity** male/female combined rat: LC50: >= 3.84 mg/l  
 Exposure time: 4 h

male/female combined rat: LC50: 15.2 mg/l  
 Exposure time: 1 h  
 Extrapolated from the 4 hr LC50.

**Skin irritation** rabbit: slight irritation

**Eye irritation** rabbit: slight irritation

**Sensitisation** guinea pig: Non-sensitizing.

**Chronic toxicity** 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.

**Assessment Carcinogenicity**

Carbaryl has been shown to cause tumors in laboratory animals in lifetime feeding studies.

**ACGIH**

Carbaryl 63-25-2 Group A4

**NTP**

None.

**IARC**

Carbaryl 63-25-2 Overall evaluation: 3

**OSHA**

None.

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

DEVELOPMENTAL TOXICITY: 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



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mutagenic risk.

**SECTION 12. ECOLOGICAL INFORMATION**

<b>Toxicity to fish</b>	Rainbow trout ( <i>Oncorhynchus mykiss</i> ) LC50: 1.4 mg/l Exposure time: 96 h
<b>Acute Toxicity to Aquatic Invertebrates</b>	Water flea ( <i>Daphnia magna</i> ) EC50: 0.00067 mg/l Exposure time: 48 h
<b>Toxicity to other organisms</b>	<p>Anas platyrhynchos (Mallard duck) LC50: &gt; 5,000 mg/kg Exposure time: 8 d The value mentioned relates to the active ingredient.</p> <p>Colinus virginianus (Bobwhite quail) LC50: &gt; 5,000 mg/kg Exposure time: 8 d The value mentioned relates to the active ingredient.</p>
<b>Environmental precautions</b>	<p>Do not apply when weather conditions favor runoff or drift. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.</p> <p>Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.</p> <p>Do not allow to get into surface water, drains and ground water.</p>





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**SECTION 13. DISPOSAL CONSIDERATIONS**

**General Disposal Guidance** Follow container label instructions for disposal of wastes generated during use in compliance with the product label. Do not contaminate water, food, or feed by disposal. Open dumping is prohibited. Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.

**Container Disposal** Triple rinse containers. If burned, stay out of smoke. Puncture container to avoid re-use. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning.

**SECTION 14. TRANSPORT INFORMATION**

DOT TRANSPORTATION:  
Not regulated for Domestic Surface Transportation\*

\*When package contains 100 LBS of Carbaryl, or =227 LBS, or 25 Gal. the RQ is met. It is regulated as: RQ, Environmentally Hazardous Substances, Liquid, N.O.S. ( Carbaryl) // 9 // UN3082 // PG III

IMDG CLASSIFICATION:  
RQ, Environmentally Hazardous Substances, Liquid, N.O.S. ( Carbaryl) // 9 // UN3082 // PG III // Marine Pollutant

FREIGHT CLASSIFICATION:  
Insecticides or Fungicides, N.O.I., other than poison

**SECTION 15. REGULATORY INFORMATION**

EPA Registration No. 432-1227

**US Federal Regulations**

**TSCA list**

Carbaryl	63-25-2
1,2-Propanediol	57-55-6

**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%
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**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



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harm.

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

Carbaryl	63-25-2	CA, CT, IL, MA, MN, NJ, PA, RI
1,2-Propanediol	57-55-6	MN, RI

**Canadian Regulations**

**Canadian Domestic Substance List**

1,2-Propanediol	57-55-6
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**Environmental**

**CERCLA**

Carbaryl	63-25-2	100 lbs
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**Clean Water Section 307 Priority Pollutants**

None.

**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**

NFPA 704 (National Fire Protection Association):

Health - 2	Flammability - 1	Reactivity - 1	Others - none
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0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Updated for general editorial purposes.

Revision Date: 01/27/2010

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