

**PROKOZ SEVIN® SL CARBARYL INSECTICIDE**

MSDS Version 2.2

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name	PROKOZ SEVIN SL CARBARYL INSECTICIDE
Chemical Name	Carbaryl
Synonym	
MSDS Number	200
Chemical Family	
Chemical Formulation	C ₁₂ H ₁₁ NO ₂
EPA Registration No.	432-1227
Canadian Registrat. No.	

Bayer Environmental Science
 95 Chestnut Ridge Road
 Montvale, NJ 07645
 USA

For Product Use Information: (800)331-2867 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

Product Use Description For Agricultural or Commercial Use Only

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component Name</u>	<u>CAS No.</u>	<u>Concentration % by Weight</u>	
		<u>Minimum</u>	<u>Maximum</u>
CARBARYL, (1-NAPHTHYL N- METHYLCARBAMATE)	63-25-2	43.0000	
1,2-Propylene glycol	57-55-6		
ETHANOL	64-17-5		
Other ingredients (Trade secret)			

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SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview

Caution. Keep out of the reach of children. Hazard to humans and domestic animals. Harmful if swallowed, inhaled or absorbed through the skin. Harmful if gets in eyes.

Physical State

liquid

Odor

mild

Appearance

off-white to pale yellow

Immediate Effects

Eye

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

Skin

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

Ingestion

Harmful if ingested. 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. Avoid breathing vapors and spray mist. May produce symptoms similar to those from ingestion.

Chronic or Delayed Long-Term

This product does not contain any ingredients designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

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.

Signs and Symptoms

Overexposure may cause salivation, watery eyes, pinpoint eye pupils, blurred vision, muscle tremors, difficult breathing, excessive sweating, abdominal cramps, nausea, vomiting, diarrhea, weakness, headache.

In severe cases convulsion, unconsciousness and respiratory failure may occur. Signs and symptoms occur rapidly following overexposure to this product.

SECTION 4. FIRST AID MEASURES

Eye

Flush eyes with plenty of water. Get medical attention immediately if irritation persists.

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Skin	Wash skin thoroughly with soap and water.
Ingestion	Never give anything by mouth to an unconscious or convulsing person. If conscious and not convulsing, drink 1 to 2 glasses of water and induce vomiting by touching the back of the throat with finger. Get medical attention.
Inhalation	Remove victim from contaminated atmosphere. Call a physician.
Note to Physician	Contact a physician immediately in all cases of suspected poisoning. Transport to a physician or hospital immediately and show a copy of this label to the physician. If poisoning is suspected in animals, contact a veterinarian.

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.

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

Flash Point	> 93 °C / > 199 °F Flammability Class: WILL BURN
Lower Flammable Limit	2.6 %(V)

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Upper Flammable Limit	19 %(V)
Fire and Explosion Hazards	Product will burn under fire conditions.
Suitable Extinguishing Media	Small Fires:, carbon dioxide (CO2), dry chemical Large Fires:, alcohol foam, polymer foam, water spray
Fire Fighting Instructions	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 areas 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.

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: Soak up with inert absorbent material. Shovel up into an appropriate closed container (see Section 7: Handling and Storage). Decontaminate tools and equipment following cleanup.
Land Spill or Leaks	Containment of Spill: Stop leak if it can be done without risk. Dike spill using absorbent or impervious materials such as earth, sand or clay. Follow procedure under Cleanup and Disposal of Spill. Collect and contain contaminated absorbent and dike material for disposal. Environmental and Regulatory Reporting: 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. If spilled on the ground, the affected area should be removed to a depth of one or two inches and placed in an appropriate container for disposal.

SECTION 7. HANDLING AND STORAGE

Handling Procedures	Avoid direct or prolonged contact with skin and eyes. Do not ingest. Do not breathe vapors and mists.
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.

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Work/Hygienic Procedures

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

Min/Max Storage Temperatures

/ 38 °C

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls When handlers used closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [(40 CFR 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

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 Applicators and other handlers must wear: Long-sleeved shirt and long pants waterproof gloves shoes plus socks Chemical resistant headgear for overhead exposure

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.

Exposure Limits

CARBARYL, (1-NAPHTHYL N-	63-25-2	ACGIH	TWA	5 mg/m3
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METHYLCARBAMATE

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		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
1,2-Propylene glycol	57-55-6	WEEL	TWA		50 ppm
		Form of Exposure	Total vapor and aerosol.		
		WEEL	TWA		10 mg/m3
		Form of Exposure	Aerosol.		
		ACGIH	TWA		3 mg/m3
		Form of Exposure	Respirable.		
		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		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		10 mg/m3
		Form of Exposure	Total dust.		
		ACGIH	TWA		10 mg/m3
		Form of Exposure	Inhalable particulate.		
ETHANOL	64-17-5	ACGIH	TWA		1,000 ppm
		NIOSH	REL	1,000 ppm	1,900 mg/m3
		OSHA Z1	PEL	1,000 ppm	1,900 mg/m3
		OSHA Z1A	TWA	1,000 ppm	1,900 mg/m3
		US CA OEL	TWA PEL	1,000 ppm	1,900 mg/m3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	off-white to pale yellow
Physical State	liquid
Odor	mild
pH	4 - 5 at 1 wt/wt%.
Vapor Pressure	17.8 mmHg at 20 °C
Vapor Density (air = 1)	0.62
Specific Gravity	1.1 at 20 °C

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Boiling Point	98 °C at 760 mmHg
Melting/Freezing Point	-3.0 °C
Solubility (in water)	miscible
Molecular Weight	201.2 g/mol
Decomposition Temperature	140 °C
Other Information	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.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	This material is stable under normal handling and storage conditions described in Section 7.
Conditions to Avoid	extreme heat open flame
Incompatibility	strong acids bases
Hazardous Products of Decomposition	Decomposition Type: thermal oxides of nitrogen carbon oxides methyl isocyanate (trace; no adverse effects expected)
Hazardous Polymerization (Conditions to avoid)	Will Not Occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity	Rat: LD50: 590 mg/kg
Acute Dermal Toxicity	Rabbit: LD50: > 2,000 mg/kg
Acute Inhalation Toxicity	Rat: LC50: > 1.8 mg/l 4 h Respiratory Irritation: No test data found for product.

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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

ACGIH

CARBARYL, (1-NAPHTHYL N-METHYLCARBAMATE) 63-25-2 Group A4

ETHANOL 64-17-5 Group A4

NTP

None

IARC

CARBARYL, (1-NAPHTHYL N-METHYLCARBAMATE) 63-25-2 3

OSHA

None

SECTION 12. ECOLOGICAL INFORMATION

Acute and Prolonged Toxicity to Fish

The following data is based on the technical grade active ingredient(s) (TGAI).
Rainbow trout
LC50: 1,950 mg/l
Exposure Time: 96 h

The following data is based on the technical grade active ingredient(s) (TGAI).
Bluegill sunfish
LC50: 6,760 mg/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
Dietary concentrations.

Environmental Precautions

This product is toxic to aquatic and estuarine invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to

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intertidal areas below mean high water mark. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water by cleaning of equipment or disposal of equipment wastewaters. Do not contaminate water when disposing of equipment washwaters.

BEE CAUTION: MAY KILL HONEYBEES IN SUBSTANTIAL NUMBERS.

This product is highly toxic to bees exposed to direct treatment of residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

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.

Pesticide Disposal: Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

EPA Hazardous Waste - Yes

Container Disposal Triple rinse (or equivalent). Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

RCRA Classification 63-25-2 CARBARYL, (1-NAPHTHYL N- METHYLCARBAMATE)
US. EPA Resource Conservation and Recovery Act (RCRA) U List of Hazardous Wastes (40 CFR 261.33(f) and 40 CFR 302 [CERCLA]): U279

SECTION 14. TRANSPORT INFORMATION

For Transportation Regulatory Information call the Product Information phone number in Section 1.

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SECTION 15. REGULATORY INFORMATION

US Federal

EPA Registration No. 432-1227

TSCA list

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

1,2-Propylene glycol 57-55-6

ETHANOL 64-17-5

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-METHYLCARBAMATE) 63-25-2 1.0%

US States Regulatory

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, (1-NAPHTHYL N-METHYLCARBAMATE) 63-25-2 CA, CT, IL, MA, MN, NJ, PA, RI

1,2-Propylene glycol 57-55-6 PA, RI

ETHANOL 64-17-5 CA, CT, IL, MA, MN, NJ, PA, RI

Canadian Regulations

Canadian Registrat. No.

Canadian Domestic Substance List

1,2-Propylene glycol 57-55-6

ETHANOL 64-17-5

Environmental

CERCLA

CARBARYL, (1-NAPHTHYL N-METHYLCARBAMATE) 63-25-2 100 lbs

ETHANOL 64-17-5 100 lbs

Clean Water Section 307 Priority Pollutants

None

Safe Drinking Water Act Maximum Contaminant Levels

None

International Regulations

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EU Classification

None

European Inventory of Existing Commercial Substances (EINECS)

CARBARYL, (1-NAPHTHYL N-METHYLCARBAMATE)	63-25-2
1,2-Propylene glycol	57-55-6
ETHANOL	64-17-5

SECTION 16. OTHER INFORMATION

	Health	Flammability	Reactivity	Others
HMIS	2	1	1	
NFPA	2	1	1	

Reason for Revisions: Company name change.

Print Date: 12/09/2002

Supersedes MSDS, which is older than: 12/09/2002

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