SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE
COMPANY/UNDERTAKING

Product identifier
Trade name SEVIN® SL CARBARYL INSECTICIDE
Product code (UVP) 05927226
SDS Number 102000004253
EPA Registration No. 432-1227

Relevant identified uses of the substance or mixture and uses advised against
Use Insecticide
Restrictions on use See product label for restrictions.

Information on manufacturer
Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
United States

Emergency telephone no.
Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Acute toxicity (Oral): Category 4
Carcinogenicity : Category 2

Signal word: Warning

Hazard statements
Harmful if swallowed.
Suspected of causing cancer.

Precautionary statements
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
Rinse mouth.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local regulation.

Other hazards
This product contains an cholinesterase inhibitor.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Concentration % by weight</th>
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</thead>
<tbody>
<tr>
<td>Carbaryl</td>
<td>63-25-2</td>
<td>43.00</td>
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<tr>
<td>Naphthalene and alkyl naphthalene sulphonic acids formaldehyde condensate, sodium salt</td>
<td>68425-94-5</td>
<td>1.10</td>
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</tbody>
</table>

SECTION 4: FIRST AID MEASURES

Description of first aid measures

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

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.

Skin contact
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.

Eye contact
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.

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.

Most important symptoms and effects, both acute and delayed

Symptoms
Temporary blurred vision due to contraction of the pupils (miosis) following contact with the eyes., Bradycardia, Low blood pressure, Salivation, Bronchial hypersecretion, Vomiting, Diarrhoea, Sweating, Muscular fasciculation, Spasm, Breathing difficulties, Respiratory
Indication of any immediate medical attention and special treatment needed

Risks
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: FIREFIGHTING MEASURES

Extinguishing media

Suitable
Water spray, Foam, Carbon dioxide (CO2), Dry powder

Unsuitable
None known.

Special hazards arising from the substance or mixture
In the event of fire the following may be released: Carbon monoxide (CO), Nitrogen oxides (NOx)

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

Further information
Keep out of smoke. Fight fire from upwind position. 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. Do not allow run-off from fire fighting to enter drains or water courses.

Flash point
> 100 °C

Autoignition temperature
no data available

Lower explosion limit
2.6 %(V)

Upper explosion limit
19 %(V)
Explosivity: not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions
Isolate hazard area. 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 and materials for containment and cleaning up

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. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice
Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal. Check also for any local site procedures.

Reference to other sections
Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

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

Hygiene measures
Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Contaminated work clothing should not be allowed out of the workplace. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers
Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Advice on common storage
Keep away from food, drink and animal feedingstuffs.
### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
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<tbody>
<tr>
<td>Carbaryl</td>
<td>63-25-2</td>
<td>0.5 mg/m³ (TWA)</td>
<td></td>
<td>OES BCS*</td>
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<tr>
<td>Carbaryl (Inhalable fraction and vapor.)</td>
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<td>0.5 mg/m³ (TWA)</td>
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<td>ACGIH</td>
</tr>
<tr>
<td>Carbaryl</td>
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<td>5 mg/m³ (REL)</td>
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<tr>
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<tr>
<td>1,2-Propanediol (Vapor.)</td>
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<td>100 ug/m³ (AN ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
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</table>
**Personal protective equipment**

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

- **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.

- **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.

- **Eye protection**: Safety glasses with side-shields.

- **Skin and body protection**: Wear long-sleeved shirt and long pants and shoes plus socks.

- **General protective measures**: Cholinesterase activity of the worker should be supervised. 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 wash facility and safety shower should be available.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- **Appearance**: white to beige
- **Physical State**: liquid suspension
- **Odor**: mild
- **Odour Threshold**: no data available
- **pH**: 4.0 - 5.0 at 100 %
- **Vapor Pressure**: 23.7 hPa / 17.8 mm Hg at 20 °C
- **Vapor Density (Air = 1)**: no data available
- **Density**: 1.10 g/cm³ at 20 °C
- **Evaporation rate**: not applicable
- **Boiling Point**: 98.8 °C / 209.84 °F
- **Melting / Freezing Point**: -3 °C / 26.6 °F
- **Water solubility**: miscible
Minimum Ignition Energy: not applicable
Decomposition temperature: 175 - 190 °C Exothermic decomposition.
Partition coefficient: n-octanol/water: no data available
Viscosity: 500 - 700 mPa.s
Flash point: > 100 °C
Autoignition temperature: no data available
Lower explosion limit: 2.6 %(V)
Upper explosion limit: 19 %(V)
Explosivity: not applicable

SECTION 10: STABILITY AND REACTIVITY

Reactivity
Thermal decomposition: 175 - 190 °C Exothermic decomposition.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid: Heat, flames and sparks.
Incompatible materials: Strong acids, Bases
Hazardous decomposition products: No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Ingestion, Inhalation, 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.
Ingestion
Harmful if swallowed. This product causes reversible cholinesterase inhibition without long term effects. 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.

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

Information on toxicological effects

Acute oral toxicity
LD50 (rat) 699 mg/kg

Acute inhalation toxicity
LC50 (male/female combined rat) >= 3.84 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
Highest attainable concentration.

LC50 (male/female combined rat) 15.2 mg/l
Exposure time: 1 h
Extrapolated from the 4 hr LC50.
Determined in the form of liquid aerosol.

Acute dermal toxicity
LD50 (male/female combined rabbit) > 4,000 mg/kg

Skin irritation
Slight irritation (rabbit)

Eye irritation
Slight irritation (rabbit)

Sensitisation
Non-sensitizing. (guinea pig)

Assessment repeated dose toxicity
Carbaryl caused reversible cholinesterase inhibition without long term effects in animal studies.

Assessment Mutagenicity
Carbaryl was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment Carcinogenicity
Carbaryl caused at high dose levels an increased incidence of tumours in the following organ(s): liver, thyroid, kidneys, cardio-vascular system. The mechanism that triggers tumours in rodents is not relevant for the low exposures encountered under normal use conditions.

ACGIH
Carbaryl 63-25-2 Group A4

NTP
None.

IARC
Carbaryl 63-25-2 Overall evaluation: 3

OSHA
None.
Assessment toxicity to reproduction
Carbaryl did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity
Carbaryl did not cause developmental toxicity in rats and rabbits.

Further information
Acute toxicity studies have been bridged from a similar formulation(s).
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish
LC50 (Rainbow trout (Oncorhynchus mykiss)) 1.4 mg/l
Exposure time: 96 h

Toxicity to aquatic invertebrates
EC50 (Water flea (Daphnia magna)) 0.00067 mg/l
Exposure time: 48 h

EC50 (Mysis shrimp (Mysidopsis bahia)) 0.0088 mg/l
Exposure time: 96 h

Toxicity to aquatic plants
(Selenastrum capricornutum) 1.8 mg/l
Exposure time: 96 h
Test conducted with a similar formulation.

Environmental precautions
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.
Do not apply when weather conditions favor runoff or drift.
Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.
Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods
Product
Do not contaminate water, food, or feed by disposal.
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.
Follow container label instructions for disposal of wastes generated during use in compliance with the product label.

Contaminated packaging
Triple rinse containers.
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. If burned, stay out of smoke.

**RCRA Information**

Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

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**SECTION 14: TRANSPORT INFORMATION**

**49CFR**

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<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<td>Packaging group</td>
<td>III</td>
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<td>Marine pollutant</td>
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<td>RQ</td>
<td>Reportable Quantity is reached with 232 lb of product.</td>
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**IMDG**

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**IATA**

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<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CARBARYL SOLUTION )</td>
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</tbody>
</table>

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification:

INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

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**SECTION 15: REGULATORY INFORMATION**
EPA Registration No. 432-1227

US Federal Regulations
TSCA list
Carbaryl 63-25-2
Naphthalene and alkyl naphthalene 68425-94-5
sulphonic acids formaldehyde condensate, sodium salt

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 25,000lbs

US States Regulatory Reporting
CA Prop65
This product contains a chemical known to the State of California to cause cancer.
Carbaryl 63-25-2
This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
Carbaryl 63-25-2 Developmental toxin.
Carbaryl 63-25-2 Male reproductive toxin.

US State Right-To-Know Ingredients
Carbaryl 63-25-2 CA, CT, MN, NJ

Canadian Regulations
Canadian Domestic Substance List
Naphthalene and alkyl naphthalene 68425-94-5
sulphonic acids formaldehyde condensate, sodium salt

Environmental
CERCLA
Carbaryl 63-25-2 100 lbs

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

EPA/FIFRA Information:
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:
Signal word: Caution!

Hazard statements: Harmful if swallowed, inhaled or absorbed through the skin. Harmful if gets in eyes. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapour or mist.

SECTION 16: OTHER INFORMATION

NFPA 704 (National Fire Protection Association):
- Health: 2
- Flammability: 1
- Instability: 1
- Others: none

- Health: 1
- Flammability: 1
- Physical Hazard: 0
- PPE: -

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

Reason for Revision: Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

Revision Date: 08/08/2014

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.