



Material Safety Data Sheet

SEVIN® XLR CARBARYL INSECTICIDE LIQUID SUSPENSION

MSDS Number: 102000001927
 MSDS Version 2.3
 Revision Date: 03/11/2011
 Print Date: 03/14/2011

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name SEVIN® XLR CARBARYL INSECTICIDE LIQUID SUSPENSION
MSDS Number 102000001927
PCP Registration No. 27876

Bayer CropScience Inc
 #200, 160 Quarry Park Blvd, SE
 Calgary, Alberta T2C 3G3
 Canada

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
 For Product Information call: 1-888-283-6847

SECTION 2. HAZARDS IDENTIFICATION

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

Emergency Overview Warning! Keep out of the reach of children. Harmful if inhaled. Harmful if swallowed. Avoid breathing spray mist. Do not take internally. Avoid contact with skin. Avoid contact with eyes.

Physical State liquid suspension

Odor weak characteristic

Appearance white to beige

Exposure routes Ingestion, Inhalation, Eye contact, Skin contact

Immediate Effects

Eye May cause redness, irritation, tearing. Do not get in eyes.

Skin Harmful if absorbed through skin. Avoid contact with skin.

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.

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



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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 | 44.10 |
| 1,2-Propanediol | 57-55-6 | 4.70 |

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 |



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Vomiting
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

| | |
|---------------------------------|--|
| Flash point | > 100 °C / 212 °F No flash point - Determination conducted up to the boiling point. |
| Autoignition temperature | no data available |
| Lower Flammability Limit | no data available |
| Upper Flammability Limit | no data available |
| Explosiveness | no data available |



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| Fire and Explosion Hazards | In the event of fire the following may be released: Carbon monoxide (CO) nitrogen oxides (NOx) |
| Suitable extinguishing media | Water spray, Foam, Carbon dioxide (CO2), Dry powder |
| Fire Fighting Instructions | 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 unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces. |
| Methods for cleaning up | Recover the product by pumping, suction or absorption using a dry and inert absorbent clay. Collect and transfer the product into a properly labelled and tightly closed container. When picked up, treat product as prescribed in Ch. 13. "Disposal considerations". |
| Additional advice | Use personal protective equipment. Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. |

SECTION 7. HANDLING AND STORAGE

| | |
|---------------------------------|--|
| Handling procedures | Use only in area provided with appropriate exhaust ventilation. Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. |
| Storing Procedures | 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. 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. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing. |



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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. 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 | Tightly fitting safety goggles |
| Hand protection | Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber or Viton) |
| Body Protection | Wear long-sleeved shirt and long pants and shoes plus socks. Chemical resistant headgear for overhead exposure |
| 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 | OEL (QUE) | TWA | 5 mg/m3 |
| | | CAD AB OEL | TWA | 5 mg/m3 |
| | | CAD BC OEL | TWA | 5 mg/m3 |
| | | CAD ON OEL | TWAEV | 5 mg/m3 |
| | | OES BCS* | TWA | 5 mg/m3 |
| | | OEL (QUE) | TWA | 5 mg/m3 |
| | | CAD BC OEL | TWA | 0.5 mg/m3 |
| 1,2-Propanediol | 57-55-6 | CAD ON OEL | TWAEV | 50 ppm |
| | | CAD ON OEL | TWAEV | 10 mg/m3 |

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------|--------------------------|
| Appearance | white to beige |
| Physical State | liquid suspension |
| Odor | weak characteristic |
| pH | 3.0 - 5.0 (1 %) at 20 °C |
| Vapor Pressure | no data available |



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|---|---|
| Vapor Density (Air = 1) | no data available |
| Density | 1.09 g/cm ³ at 20 °C |
| Evaporation rate | no data available |
| Boiling Point | no data available |
| Melting / Freezing Point | -4 °C / 25 °F |
| Water solubility | miscible |
| Minimum Ignition Energy | no data available |
| Decomposition temperature | 175 - 190 °C Exothermic decomposition. |
| Partition coefficient: n-octanol/water | no data available |
| Viscosity | <= 850 mPa.s at 25 °C |

SECTION 10. STABILITY AND REACTIVITY

| | |
|---|--|
| Conditions to avoid | no data available |
| Incompatibility | Acids Bases |
| Hazardous Decomposition Products | Carbon monoxide nitrogen oxides (NOx) |
| Hazardous reactions | No hazardous reactions when stored and handled according to prescribed instructions. |

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the technical-grade active ingredient, carbaryl.

| | |
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| Acute oral toxicity | female rat: LD50: 575 mg/kg male rat: LD50: 867 mg/kg male/female combined rat: LD50: 699 mg/kg |
|----------------------------|---|



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Acute dermal toxicity rat: LD50: > 4,000 mg/kg

Acute inhalation toxicity male/female combined rat: LC50: 3.8 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 Carbaryl causes reversible cholinesterase inhibition. Changes in urinary bladder, thyroid, kidney and liver were observed in chronic studies in rats.

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: 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.

Assessment neurotoxicity Carbaryl caused tradevent 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 Carbaryl poses only a slight mutagenic risk based on the overall weight of evidence in a battery of in vitro and in vivo tests.

SECTION 12. ECOLOGICAL INFORMATION



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**Environmental
precautions**

Do not apply when weather conditions favor runoff or drift. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label. 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 allow to get into surface water, drains and ground water.

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**

Do not contaminate water, food, or feed by disposal. Dispose in accordance with all local, state/provincial and federal regulations. It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines.

Container Disposal

Do not re-use empty containers. Triple rinse containers. Puncture container to avoid re-use. Consult state and local regulations regarding the proper disposal of container.

SECTION 14. TRANSPORT INFORMATION

TDG

Not dangerous goods / not hazardous material

49CFR

UN-Number **3082**
Class 9
Packaging group III
Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (CARBARYL)
RQ Reportable Quantity is reached with 226 lb of product.

IMDG

UN-Number **3082**
Class 9
Packaging group III
Marine pollutant YES
Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CARBARYL SOLUTION)

IATA

UN-Number **3082**
Class 9
Packaging group III



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Environm. Hazardous Mark YES
Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(CARBARYL SOLUTION)

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

SECTION 15. REGULATORY INFORMATION

PCP Registration No. 27876

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%

US States Regulatory Reporting

CA Prop65

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

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Carbaryl 63-25-2 Male reproductive toxin.

US State Right-To-Know Ingredients

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

Canadian Regulations

Canadian Domestic Substance List

1,2-Propanediol 57-55-6

Environmental

CERCLA

Carbaryl 63-25-2 100 lbs

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.



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International Regulations

European Inventory of Existing Commercial Substances (EINECS)

Carbaryl

63-25-2

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 2 Reactivity - 1 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1 Flammability - 2 Physical Hazard - 1 PPE -

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

Reason for Revision: Updated for general editorial purposes. The following sections have been revised:
Section 16: Other Information.

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

Revision Date: 03/11/2011

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