Safety Data Sheet

1 IDENTIFICATION

Product Name: Sevin® Brand 4F
EPA Reg. No.: 61842-38
Chemical Family: Carbamate
Manufacturer/Supplier: Tessenderlo Kerley Inc.
2255 N. 44th Street, Suite 300
Phoenix, Arizona 85008-3279
Information: (602) 889-8300
For 24-Hour Emergency Assistance (Spill, Leak, Fire, or Exposure), Call CHEMTREC®:
(800) 424-9300 (CHEMTREC)
(866) 374-1975 (Tessenderlo Kerley)

2 HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>Hazard Statements</th>
<th>Precautionary Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Suspected of causing cancer. May damage fertility or the unborn child.</td>
<td>Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. If exposed or concerned: Get medical advice. Store locked up. Dispose of contents in accordance with local and State regulations.</td>
</tr>
<tr>
<td></td>
<td>Harmful if swallowed.</td>
<td>Wash thoroughly after handling. Do not eat, drink or smoke when using this product. IF SWALLOWED: Call a POISON CENTER if you feel unwell. Rinse mouth.</td>
</tr>
<tr>
<td></td>
<td>Very toxic to aquatic life.</td>
<td>Avoid release to the environment. Collect spillage.</td>
</tr>
</tbody>
</table>

Signal word: Warning
Hazard-determining components of labeling: carbaryl (ISO)

NFPA Hazard Ratings
- Health = 2
- Fire = 1
- Reactivity = 1

HMIS Ratings
- HEALTH = 2
- FIRE = 1
- REACTIVITY = 1
3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization: Mixture
Description: Mixture of the substance(s) listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbaryl (1-naphthyl methyl carbamate)</td>
<td>63-25-2</td>
<td>43</td>
</tr>
<tr>
<td>Propylene glycol (1,2-Propanediol)</td>
<td>57-55-6</td>
<td>5</td>
</tr>
</tbody>
</table>

4 FIRST AID MEASURES

Description of first aid measures
General information:
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies involving this product, call toll free 1-866-374-1975. See Label for Additional Precautions and Directions for Use.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF INHALED: Move person 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 poison control center or doctor for further treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN: Carbaryl contains an N-methyl carbamate that inhibits cholinesterase. Drugs like 2-Pam (pyridine-2-aldoxime methiodide) are not recommended. To aid in the confirmation of diagnosis, urine samples should be obtained within 24 hours of exposure and immediately frozen. Analysis will be arranged by Tessenderlo Kerley, Inc. Consultation on therapy can be obtained at all hours by calling the appropriate emergency number 1-866-374-1975 (U.S.A.)

5 FIRE FIGHTING MEASURES

Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray.

Special hazards arising from the substance or mixture
Keep containers/storage vessels in fire area cooled with water spray
In case of fire, the following can be released:
Nitrogen oxides (NOx)
Carbon dioxide

Advice for firefighters
Protective equipment:
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face piece operated in positive pressure mode.
6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Not required.
Uncontrolled release should be responded to by trained personnel using pre-planned procedures. Evacuate area. Evacuate personnel to a safe area.
Keep people at a distance and stay upwind.

Environmental precautions:
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.

7 HANDLING and STORAGE

Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Avoid prolonged or repeated exposure.
Personnel must refer to the Product Label and Directions For Use attached to the product for agricultural use requirements in accordance with the EPA Worker Protection Standard.

Information about protection against explosions and fires:
Keep protective respiratory device available.

Conditions for safe storage, including any incompatibilities
Store unused SEVIN® brand 4F Carbaryl Insecticide in original container only, in cool, dry area out of reach of children and animals. Do not store in areas where temperatures frequently exceed 100° F. If container is damaged, before cleaning up, put on Personal Protective Equipment.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Components with occupational exposure limits:

<table>
<thead>
<tr>
<th></th>
<th>CAS No.</th>
<th>ACGIH TWA/STEL</th>
<th>NIOSH REL</th>
<th>OSHA PEL/TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbaryl</td>
<td>63-25-2</td>
<td>5 mg/m³</td>
<td>5 mg/m³</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>1,000 ppm</td>
<td>1,000 ppm</td>
<td>1,000 ppm</td>
</tr>
</tbody>
</table>

Additional information:
Personnel who handle this product in its end-use application should use this product only in accordance with its pesticide labeling and with the "Worker Protection Standard", 40 CFR 170.

Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Breathing equipment:
A NIOSH-approved dust/mist filtering respirator with NIOSH/MSHA approval number prefix TC-21C or a NIOSH-approved respirator with any N, R, P or HE filter.
Protection of hands:

Protective gloves
The glove material has to be impermeable and resistant to the product.

Material of gloves
Butyl rubber, BR
Natural rubber, NR
Nitrile rubber, NBR
Neoprene gloves

Penetration time of glove material
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

Eye protection:
Tightly sealed goggles
Face protection

Body protection:
Wear long-sleeved shirt and long pants, waterproof shoes and socks. Wash contaminated clothing before reuse.

9 PHYSICAL and CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White to beige liquid suspension</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
<tr>
<td>pH @ 20°C (68°F)</td>
<td>4.0 – 5.0</td>
</tr>
<tr>
<td>Melting/Freezing Point</td>
<td>-3°C (27°F)</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>185 °C (365 °F)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt; 100 °C (&gt; 212 °F)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper/Lower Flammability or Explosive Limits</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor Pressure @ 20 °C (68 °F)</td>
<td>23.7 hPa (18 hPa mm Hg)</td>
</tr>
<tr>
<td>Vapor Density @ 20 °C (68 °F)</td>
<td>0.62 g/cm³ (5.174 lbs/gal)</td>
</tr>
<tr>
<td>Relative Density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>1.1 g/cm³ (9.18 lbs/gal)</td>
</tr>
<tr>
<td>Solubility (in Water)</td>
<td>Fully miscible</td>
</tr>
<tr>
<td>Partition Coefficient: n-octanol/water</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Product is not self-igniting</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>175 – 190°C (exothermic decomposition)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

10 STABILITY and REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>N/A</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>This is a stable material under normal temperature and storage conditions.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Will not occur</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Heat, flame and ignition sources.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Strong acids; bases</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Carbon oxides, Nitrogen oxides, Methyl iso-cyanate (trace: no adverse effects expected)</td>
</tr>
</tbody>
</table>
11 TOXICOLOGICAL INFORMATION

Acute toxicity:

LD/LC₅₀ values relevant for classification:
Oral  Rat LD₅₀: 699 mg/kg
Dermal Rabbit LD₅₀: >4,000
Inhalation Rat LC₅₀: 3.84 mg/l (4 hr exposure)

Primary irritant effect:
  on the skin Mild irritant effect
  on the eye Mild irritant effect

Reproductive and Developmental Toxicity
Carbaryl was not a reproductive toxicant in a 2-generation study in rats. 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 sub chronic neurotoxicity studies in rats. Carbaryl did not cause developmental neurotoxic effects in offspring in a 1-generation 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 vivo tests.

Additional toxicological information:
Reversible cholinesterase inhibition occurred in chronic toxicity studies in rats and dogs. The principle organs affected in rats from long term exposure to high doses of Carbaryl include the urinary bladder, thyroid, kidneys and liver.
Carbaryl has been shown to cause tumor in lab animals in lifetime feeding studies

Carcinogenic categories
IARC (International Agency for Research on Cancer) Carbaryl; overall evaluation: 3
NTP (National Toxicology Program) None of the ingredients is listed.
OSHA-Ca (Occupational Safety & Health Administration) None of the ingredients is listed.

12 ECOLOGICAL INFORMATION

AQUATIC TOXICITY
  96 hour LC₅₀ Rainbow trout: 1.4 mg/l
  48 hour EC₅₀ Daphnia magna: 0.00067 mg/l

This information is based on the active ingredient:

AVIAN TOXICOLOGY
  Acute Oral LC₅₀ Bobwhite quail >5,000 mg/kg
  Oral LC₅₀ Mallard duck >5,000

Additional ecological information:
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Dangerous to drinking water if even extremely small quantities leak into the ground.
Poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
13 DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Offer for recycling, if available. If not recycled, then puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

14 TRANSPORT INFORMATION

UN Number:
DOT, ADR, IMDG, IATA

UN Proper shipping name:
DOT
UN3082 Environmentally hazardous substances, liquid, n.o.s.
ADR
UN3082 Environmentally hazardous substances, liquid, n.o.s.
IMDG
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., MARINE POLLUTANT
IATA
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Transport hazard class(es)/Label(s):
DOT, ADR, IMDG, IATA

9 Miscellaneous dangerous substances and articles

Packing group:
DOT, ADR, IMDG, IATA
III

Environmental hazards:
Marine pollutant:
Yes

Special marking (ADR):
Symbol (fish and tree)

Special marking (IATA):
Symbol (fish and tree)

EMS Number:
F-A,S-F

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:
Not applicable

Transport/Additional information:
In accordance with 49 CFR 171.4(c), non-bulk packagings (max capacity of 119 gal (450 L) or less for liquids or 882 lbs (400 kg) or less for solids) transported by motor vehicle, rail car or aircraft are excepted from all Marine Pollutants regulations in 49 CFR and therefore treated as non-hazardous material. All bulk shipments or any shipment transported partially or entirely by vessel are treated as regulated Marine Pollutants and are shipped according to the requirements listed above.
15 REGULATORY INFORMATION

FIFRA: Yes  Product Name: Sevin Brand 4F  EPA Reg. No. 61842-38

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. 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 as required on the pesticide label:

**CAUTION**
- Harmful if swallowed, absorbed through the skin, or inhaled.
- Avoid breathing spray mist.
- Avoid contact with skin, eyes, or clothing.

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Section 355 (extremely hazardous substances): None of the ingredients is listed.

Section 313 (Toxic Release Reporting-Form R):

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbaryl</td>
<td>63-25-2</td>
<td>43.0%</td>
</tr>
</tbody>
</table>

**TSCA (Toxic Substances Control Act):** Exempt from TSCA

**Proposition 65**
This product contains a chemical known to the state of California to cause developmental toxicity or cancer.

**CERCLA/SUPERFUND:**
- RQ (Reportable Quantity)  Carbaryl (100 lbs)

**RCRA Classification**
Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

16 OTHER INFORMATION

Issue Date: May 8, 2015

**REVISIONS:** SDS was reformatted in compliance with HCS 29 CFR 1910.1200 Rev. 2012 and GHS Rev 05, and ANSI Z400.1.

The information and recommendations contained herein are provided in good faith and are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information herein.

Sevin® and NovaSource® are registered trademarks of Tessenderlo Kerley, Inc. All rights reserved.