

**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

**1.1 PRODUCT IDENTIFIER:**

**TRADE NAME:** CARBARYL 4L

**1.2 RECOMMENDED USE:** INSECTICIDE FOR AGRICULTURAL OR COMMERCIAL USE

**1.3 SUPPLIER DETAILS:**

LOVELAND PRODUCTS, INC.  
P.O. Box 1286 • Greeley, CO 80632-1286

**1.4 24 Hour Emergency Phone:** 1-800-424-9300 - **Medical Emergencies:** 1-866-944-8565 – **Product Information:** 1-888-574-2878 (LPI-CUST)  
**U.S. Coast Guard National Response Center:** 1-800-424-8802

**2. HAZARDS IDENTIFICATION**

**2.1 Classification of the substance or mixture**

**Classification according to 29 CFR 1910.1200**

Acute Toxicity – Oral	Category 4	H302
Acute Toxicity – Inhalation	Category 4	H332
Skin Corrosion/Irritation	Category 2	H315
Eye Damage/Irritation	Category 2B	H320
Carcinogenicity	Category 2	H351
Specific Target Organ Toxicity – Single Exposure	Category 1	H370
Specific Target Organ Toxicity – Repeated Exposure	Category 2	H373
Aquatic Acute Toxicity		H400
Aquatic Chronic Toxicity		H410

**2.2 Label elements**



Signal word: DANGER

Hazard Statement: H302 – Harmful if swallowed.  
H332 – Harmful if inhaled.  
H315 – Causes skin irritation.  
H320 – Causes eye irritation.  
H351 – Suspected of causing cancer.  
H370 – Causes damage to the central nervous system  
H373 – May cause damage to the central nervous system through prolonged or repeated exposure.  
H400 – Very toxic to aquatic life.  
H410 – Very toxic to aquatic life with long lasting effects.

Precautionary Statement: P264 – Wash hands and face thoroughly after handling.  
P270 – Do not eat, drink or smoke when using this product.  
(Prevention): P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.  
P271 – Use only outdoors or in a well-ventilated area.  
P280 – Wear protective gloves/protective clothing/eye protection/face protection.  
P201 – Obtain special instructions before use.  
P202 – Do not handle until all safety precautions have been read and understood.  
P260 – Do not breathe dust/fume/gas/mist/vapors/spray.  
P273 – Avoid release to the environment.

Precautionary Statement: P301+P312: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell.  
(Response): P330 – Rinse mouth.  
P304+P340: IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.  
P312 – Call a POISON CENTER or doctor/physician if you feel unwell.  
P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
P321 – Specific treatment (see additional First Aid information on the product label)  
P332 – If skin irritation occurs: Get medical advice/attention  
P362 – Take off contaminated clothing and wash it before reuse.  
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – Continue rinsing.  
P337+P313 – If eye irritation persists: Get medical advice/attention.



# SAFETY DATA SHEET

SDS NUMBER: 000447-15-LPI

SDS REVISIONS: FORMAT

DATE OF ISSUE: 01/13/15

**CARBARYL 4L**  
SUPERSEDES: 04/30/14

Precautionary Statement: (Storage): (Disposal):  
P308 – If exposed or concerned: Get medical advice/attention.  
P405 – Store locked up.  
P501 – Dispose of contents/container to an approved waste disposal plant.

### 2.3 Other hazards

None known

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## 3. COMPOSITION, INFORMATION ON INGREDIENTS

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### 3.1 Substances

### 3.2 Mixtures

#### Classification according to 29 CFR 1910.1200

Chemical Name:	CAS No.	Classification	Concentration [%]
Carbaryl	63-25-2	Oral tox. 4; H302	43.00
Propylene Glycol	57-55-6	Inh tox. 4; H332 Skin Corr/Irrit. 2; H315 Eye dam/Irrit. 2B; H320 Carcin. 2; H351	5.00
*Other ingredients	Trade Secret	STOT-SE. 1; H370 STOT-RE. 2; H373	52.00

\*Ingredients not specifically listed are non-hazardous or are to be considered proprietary or confidential business information per 29 CFR 1910.1200(i)

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## 4. FIRST AID MEASURES

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### 4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

**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 a 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.

### 4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Harmful if swallowed or inhaled. Causes eye irritation. 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.

### 4.3 Immediate Medical Attention and Special Treatment

**FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565**

Take container, label or product name with you when seeking medical attention.

**NOTES 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. Consultation on therapy can be obtained at all hours by calling the appropriate emergency number 1-866-944-8565 (U.S.A.).



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## 5. FIRE FIGHTING MEASURES

### 5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Use medium appropriate to surrounding fire. Dry chemical, carbon dioxide (CO<sub>2</sub>), foam, water spray or fog.

### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: May produce toxic combustion gases.

### 5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters: Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Avoid inhalation of mists and vapors, and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

### 6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: Carbaryl is extremely toxic to aquatic invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Discharge from rice fields may kill aquatic and estuarine invertebrates. Do not apply when weather conditions favor drift from area treated. Drift and runoff may kill aquatic invertebrates in water adjacent to treated areas. Do not contaminate water by cleaning equipment or disposal of wastes. Do not contaminate water when disposing of equipment washwaters.  
**BEE CAUTION: MAY KILL HONEYBEES AND OTHER BEES IN SUBSTANTIAL NUMBERS.** This product is highly toxic to bees exposed to direct treatment or to residues on crops or weeds in bloom. Notifying beekeepers within 1 mile of treatment area at least 48 hours before product is applied will allow them to take additional steps to protect their bees. Limiting application times when bees are least active, e.g. within 2 hours of sunrise or sunset, will minimize risk to bees.

### 6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Absorb and/or contain spill with inert material, then place in a suitable container. Check local, state and federal regulations for proper disposal. Never return spills to original containers for re-use.  
**CAUTION:** Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

## 7. HANDLING AND STORAGE

### 7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe Handling: Do not breathe mist, vapors or spray. 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. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### 7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers: Store unused CARBARYL 4L 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. Do not contaminate water, food or feed by storage or disposal.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 CONTROL PARAMETERS:

#### OCCUPATIONAL EXPOSURE LIMITS

##### U.S. Workplace Exposure Level (ACGIH) TLVs

Components	Type	Value
Carbaryl	TWA	0.5 mg/m <sup>3</sup> IFV*

##### U.S. Workplace Exposure Level (OSHA) PELs

Components	Type	Value
Carbaryl	TWA	5 mg/m <sup>3</sup>

**Biological limit values**

**ACGIH Biological Exposure Indices**

Components	Value	Specimen
Carbaryl	70% of individual's baseline	Cholinesterase activity in red blood cells

**8.2 EXPOSURE CONTROLS:**

**Engineering Measures**

When engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation or engineering controls specific to the task at hand (refer to product labeling for specific information).

**Individual Protection Measures:**

- Eye / Face Protection: Goggles or shielded safety glasses are recommended.
- Skin Protection: Long-sleeved shirt and long pants. Chemical-resistant gloves. Shoes plus socks. Chemical resistant apron (for mixers loaders, and cleaners).
- Respiratory Protection: Not normally required, if vapors or dusts exceed acceptable levels, wear a MSHA/NIOSH approved dust mist filtering respirator with any N, R, P, or HE filter. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard. Wear air supplied respiratory protection if exposure concentrations are unknown.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

- 9.1 APPEARANCE: Liquid.
- ODOR: Mild.
- ODOR THRESHOLD: No data available.
- COLOR: White to beige.
- pH: 4 – 6 (5% suspension)
- MELTING POINT / FREEZING POINT: 27°F / -3°C (Freezing point)
- BOILING POINT: 208°F / 97.8°C
- FLASH POINT: > 212°F / > 100°C.
- FLAMMABILITY (solid, gas): No data available.
- UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: UFL: 19%/V; LFL: 2.6%/V.
- VAPOR PRESSURE: 17.8 mm Hg @ 20°C.
- SOLUBILITY: Miscible.
- PARTITION CO-EFFICIENT, n-OCTANOL / WATER: No data available.
- AUTO-IGNITION TEMPERATURE: No data available.
- DECOMPOSITION TEMPERATURE: 175 – 190°C (Exothermic decomposition).
- VISCOSITY: (kinematic): No data available.
- SPECIFIC GRAVITY (Water = 1): 1.10 g/ml
- DENSITY: 9.18 lbs./gal. / 1.1 kg/L

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

**10. STABILITY AND REACTIVITY**

**10.1 REACTIVITY**

Stable

**10.2 CHEMICAL STABILITY**

Stable under normal temperature conditions

**10.3 POSSIBILITY OF HAZARDOUS REACTIONS**

Will not polymerize.

**10.4 CONDITIONS TO AVOID**

Excessive heat, open flame or extreme cold.

**10.5 INCOMPATIBLE MATERIALS**

Strong acids and bases.

**10.6 HAZARDOUS DECOMPOSITION PRODUCTS**

Oxides of nitrogen, oxides of carbon, and trace amounts of methyl isocyanate from thermal decomposition.

**11 TOXICOLOGICAL INFORMATION**

**11.3 LIKELY ROUTES OF EXPOSURE**

Ingestion. Inhalation. Skin contact. Eye contact.

**LC<sub>50</sub> (rat):** > 3.84mg/L (4 HR)

**LD<sub>50</sub> Oral (rat):** 669 mg/kg

**LD<sub>50</sub> Dermal (rat):** > 4,000 mg/kg

**Acute Toxicity Estimates:** No data available

**Skin Irritation (rabbit):** Slightly irritating.

**Eye Irritation (rabbit):** Minimally irritating.

**Specific Target Organ Toxicity (Single Exposure):** Causes damage to the central nervous system.

**Specific Target Organ Toxicity (Repeated Exposure):** May cause damage to the central nervous system through prolonged or repeated exposure.

**Aspiration:** No data available.

**Skin Sensitization (guinea pig):** Not a sensitizer.

**Carcinogenicity:** IARC-3 (Unclassifiable as to Carcinogenicity in Humans)

**Germ Cell Mutagenicity:** No data available.

**Interactive Effects:** None known.

**Chronic Toxicity:** Reversible cholinesterase inhibition occurred in chronic toxicity studies in rats and dogs. Principal organs affected in rats from long-term exposure to high doses of Carbaryl included the urinary bladder, thyroid, kidneys and liver.

**12 ECOLOGICAL INFORMATION**

**12.3 ECOTOXICITY**

**Ecotoxicological Data**

	<b>Species</b>	<b>Test Results</b>
Carbaryl	Oncorhynchus mykiss (Rainbow trout)	1.4 mg/L – 96-hour LC <sub>50</sub>
	Daphnia Magna (Water flea)	0.00067 mg/L – 48-hour EC <sub>50</sub>
	Anas platyrhynchos (Mallard duck)	> 5,000 mg/kg – 8 days
	Colinus virginianus (Bobwhite quail)	> 5,000 mg/kg – 8 days
	Bees	1.54 – 26.5 µg/bee

Drift or runoff may adversely affect non-target plants.

Do not apply directly to water.

Do not contaminate water when disposing of equipment wash water.

Do not apply when weather conditions favor drift from target area.

**12.2 PERSISTENCE AND DEGRADABILITY**

Biodegradability: No data available.

**12.3 BIOACCUMULATIVE POTENTIAL**

Bioaccumulation: No data available.

**12.4 MOBILITY IN SOIL**

No data available.

**12.5 OTHER ADVERSE EFFECTS**

Assessment: No data available.

**13 DISPOSAL CONSIDERATIONS**

**13.1 WASTE TREATMENT METHODS**

Wastes may be disposed of on site or at an approved waste disposal facility. Triple rinse (or equivalent), adding rinse water to spray tank. Offer container for recycling or dispose of in a sanitary landfill or by other procedures approved by appropriate authorities. Recycling decontaminated containers is the best option of container disposal. The Agricultural Container Recycling Council (ACRC) operates the national recycling program. To contact your state and local ACRC recycler visit the ACRC web page at <http://www.acrecycle.org/>. Do not contaminate water, food or feed by storage or disposal. See product labeling for additional pesticide and container disposal information.



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## 14 TRANSPORT INFORMATION

### 14.3 LAND TRANSPORT

**DOT Shipping Description:** LESS THAN 25 GALLONS: NOT REGULATED BY USDOT.

**DOT Shipping Description:** 25 GALLONS AND GREATER: RQ UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CARBARYL), 9, III ERG GUIDE 171

**U.S. Surface Freight Classification:** INSECTICIDES, INSECT REPELLENTS, NOI, OTHER THAN POISON (NMFC 102120, CLASS: 60)

## 15 REGULATORY INFORMATION

### 15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

#### NFPA & HMIS Hazard Ratings:

NFPA		HMIS			
2	Health	0	Least	2	Health
1	Flammability	1	Slight	1	Flammability
1	Instability	2	Moderate	1	Reactivity
		3	High	H	PPE
		4	Severe		

#### SARA Hazard Notification/Reporting

<b>SARA Title III Hazard Category:</b>	Immediate	<u>Y</u>	Fire	<u>N</u>	Sudden Release of Pressure	<u>N</u>
	Delayed	<u>Y</u>	Reactive	<u>N</u>		

**Reportable Quantity (RQ) under U.S. CERCLA:** Carbaryl (CAS: 63-25-2): 100 pounds

**SARA, Title III, Section 313:** Carbaryl (CAS: 63-25-2) 43.0%

**RCRA Waste Code:** U279

**CA Proposition 65: WARNING:** This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

This chemical is a pesticide product registered by the United States 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 (SDS), 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 skin, or inhaled.  
Avoid breathing spray mist.  
Avoid contact with skin, eyes, or clothing.

## 16 OTHER INFORMATION

**SDS STATUS:** Format revised.

**PREPARED BY:** Registrations and Regulatory Affairs

**REVIEWED BY:** Environmental Health and Safety

**EPA REG. NO.:** 34704-447

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