

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 PRODUCT IDENTIFIER:

TRADE NAME: PERMETHRIN

1.2 RECOMMENDED USE: INSECTICIDE (FOR USE AS RECOMMENDED BY THE LABEL)

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
Aspiration Hazard	Category 1	H304
Acute Toxicity – Inhalation (Dusts/Mists)	Category 4	H332
Carcinogenicity	Category 2	H351
Specific Target Organ Toxicity (Single Exposure)	Category 2	H371
Specific Target Organ Toxicity (Repeated Exposure)	Category 2	H373
Eye Damage/Irritation	Category 2B	H320
Flammable Liquids	Category 4	H227

2.2 Label elements



Signal word: DANGER

Hazard Statement: H302 – Harmful if swallowed.
H304 – May be fatal if swallowed and enters airways.
H320 – Causes eye irritation.
H332 – Harmful if inhaled.
H351 – Suspected of causing cancer.
H371 – May cause damage to organs.
H373 – May cause damage to organs through prolonged or repeated exposure.
H227 – Combustible liquid.

Precautionary Statement: (Prevention):

P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P264 – Wash face, hands and any exposed skin thoroughly after handling.
P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 – Use only outdoors or in a well-ventilated area.
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.
P270 – Do not eat, drink or smoke when using this product.



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Precautionary
Statement:
(Response):

P301+P312: IF SWALLOWED: Call a poison center/doctor/physician if you feel unwell.
P330 – Rinse mouth.
P301+P310: IF SWALLOWED: Immediately call a poison center/doctor/physician.
P331 – Do NOT induce vomiting.
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+P315 – If eye irritation persists: Get medical advice/attention.
P304+P340: IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P312 – Call a poison center/doctor/physician if you feel unwell.
P308+P315 – If exposed or concerned: Get medical advice/attention.
P308+P311 – If exposed or concerned: Call a poison center/doctor/physician.
P314 – Get medical advice/attention if you feel unwell.
P370 – In case of fire: Use dry chemical, carbon dioxide, foam, water spray or fog to extinguish.

Precautionary
Statement:
(Storage):

P403 – Store in a well-ventilated place.
P405 – Store locked up.

Precautionary
Statement:
(Disposal)

P501 – Dispose of contents/container to an approved waste disposal facility according to local, state, and federal regulations.

2.3 Other hazards

None known.

3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures

Classification according to 29 CFR 1910.1200

Chemical Name:	CAS No.	Concentration [%]
Permethrin	52645-53-1	38.40
Other ingredients*, contains	n/a	61.60
Solvent Naphtha (Petroleum) Heavy Aromatic	64742-94-5	51.56 – 54.74
Naphthalene	91-20-3	< 5.00
1,2-4 Trimethylbenzene	95-63-6	< 1.00

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

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

- If swallowed:** Immediately call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give **any** liquid to the person. 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.



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4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Central nervous system effects.

4.3 Immediate Medical Attention and Special Treatment

Treatment: This product contains petroleum distillates.

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: Contains petroleum distillates. Vomiting may cause aspiration pneumonia. Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Use medium appropriate to surrounding fire. Foam, carbon dioxide (CO₂), dry chemical, soft stream or water fog only if necessary.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: None known.

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 vapors and spray mist and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark except as noted on appropriate labels. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash waters or rinsate. This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to Remove residual contamination. Never return spills to original containers for re-use.



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7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe Handling:

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:

Open dumping is prohibited. Avoid contamination of fertilizers, seeds, plants, insecticides, and fungicides in storage. Store in original container and out of reach of children, preferably in a locked storage area. Handle and open container in a manner as to prevent spillage. If product is stored below freezing, it is suggested that it be allowed to warm to at least 40°F and be agitated before use. If the container is leaking, invert to prevent leakage. If container is leaking or material spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides below. In spill or leak incidents, keep unauthorized people away. 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
Naphthalene	TWA	52 mg/m ³ (Skin)

U.S. Workplace Exposure Level (OSHA) PELs

Components	Type	Value
Naphthalene	TWA	50 mg/m ³

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Specimen
No listings		

8.2 EXPOSURE CONTROLS:

Engineering Measures

Pilots must use an enclosed cockpit that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

Individual Protection Measures:

Eye / Face Protection:

Goggles or shielded safety glasses are recommended.

Skin Protection:

Coveralls over long-sleeved shirt and long pants. Chemical-resistant gloves. Chemical-resistant footwear plus socks. Chemical-resistant headgear for overhead exposure. Chemical-resistant apron when cleaning equipment, mixing or loading. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

Respiratory Protection:

Not normally required. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard.



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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 APPEARANCE :	Liquid
ODOR:	Aromatic.
ODOR THRESHOLD:	No data available.
COLOR:	Amber.
pH:	4.63 (1% solution)
MELTING POINT / FREEZING POINT:	No data available
BOILING POINT:	No data available.
FLASH POINT:	154 °F / 67.8 °C (TCC).
FLAMMABILITY (solid, gas):	No data available.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:	No data available.
VAPOR PRESSURE:	No data available.
SOLUBILITY:	Emulsifies.
PARTITION CO-EFFICIENT, n-OCTANOL / WATER:	No data available.
AUTO-IGNITION TEMPERATURE:	No data available.
DECOMPOSITION TEMPERATURE:	No data available.
VISCOSITY:	No data available.
SPECIFIC GRAVITY (Water = 1):	1.013 g/ml
DENSITY:	8.45 lbs./gal / 1.01 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
No data available. Will not polymerize.
- 10.4 CONDITIONS TO AVOID
Excessive heat and fire.
- 10.5 INCOMPATIBLE MATERIALS
No data available.
- 10.6 HAZARDOUS DECOMPOSITION PRODUCTS
Oxides of carbon, chlorine and hydrogen chloride may be formed in a fire situation.

11 TOXICOLOGICAL INFORMATION

11.3 LIKELY ROUTES OF EXPOSURE

Ingestion. Eye contact. Skin absorption. Skin contact.

LC₅₀ (rat): 1.4 mg/L (4 HR)

LD₅₀ Oral (rat): 789 - 1030 mg/kg

LD₅₀ Dermal (rabbit): > 2000 mg/kg

Acute Toxicity Estimates: No data available

Skin Irritation (rabbit): Moderately irritating.

Eye Irritation (rabbit): Moderately irritating.

Specific Target Organ Toxicity (single exposure): May cause damage to organs.

Specific Target Organ Toxicity (repeat exposure): May cause damage to organs through prolonged or repeated exposure

Aspiration: May be fatal if swallowed and enters airways.

Skin Sensitization (guinea pig): Not a sensitizer

Carcinogenicity: Permethrin: IARC-3 (Unclassifiable as to Carcinogenicity in Humans). Naphthalene is listed as IARC-2B (limited evidence for carcinogenicity in humans), NTP-R (Reasonably anticipated to be a Human Carcinogen), and TLV-A4 (Not Classifiable as a Human Carcinogen by ACGIH. Not listed by OSHA or ACGIH.

Germ Cell Mutagenicity: No data available.

Interactive Effects: None known.



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12 ECOLOGICAL INFORMATION

12.3 ECOTOXICITY

This pesticide is extremely toxic to aquatic organisms, including fish and invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash waters. Under some conditions, it may also have a potential for transport into surface water in runoff (primarily adsorbed to suspended soil particles) for several months or more after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, and areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-lying tile drainage systems that drain to surface waters. This pesticide is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water board or Regional Office of the EPA.

Ecotoxicological Data

	Species	Test Results
Permethrin	Fish	0.79 mg/L – 96-hour LC ₅₀
	Daphnia magna	0.001 mg/L – 48-hour EC ₅₀
Solvent Naphtha (Petroleum) Heavy Aromatic	Oncorhynchus mykiss	>=2 - <=5 mg/L – 96-hour LC ₅₀
	Daphnia magna	>=3 - <=10 mg/L – 48-hour EC ₅₀

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: Permethrin is moderately persistent. Does not hydrolyze. Not readily biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: Permethrin has a potential for Bioconcentration.

12.4 MOBILITY IN SOIL

Immobile. Not expected to reach groundwater.

12.5 OTHER ADVERSE EFFECTS

Assessment: No data available.

13 DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: 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.

14 TRANSPORT INFORMATION

14.3 LAND TRANSPORT

DOT Shipping Description: 119 gallons AND LESS: NOT REGULATED BY DOT

DOT Shipping Description: 119 gallons AND GREATER: NA1993, COMBUSTIBLE LIQUIDS, N.O.S (NAPHTHALENE), III ERG GUIDE 128

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



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15 REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

NFPA & HMIS Hazard Ratings:

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

SARA Hazard Notification/Reporting

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

Reportable Quantity (RQ) under U.S. CERCLA: Naphthalene (CAS: 91-20-3) 100 pounds

SARA, Title III, Section 313: Permethrin (CAS: 52645-53-1) 38.40%; Naphthalene (CAS: 91-20-3) <5.0%; 1,2-4 Trimethylbenzene (CAS: 95-63-6): <1.0%

RCRA Waste Code: U165 (Naphthalene).

CA Proposition 65: Not listed.

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:

WARNING

Harmful if swallowed, absorbed through skin or inhaled.

Causes skin irritation.

Causes moderate eye irritation.

Do not get on skin or clothing.

Avoid breathing vapor or spray mist.

Avoid contact with eyes.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove and wash contaminated clothing before reuse.

16 OTHER INFORMATION

SDS STATUS: Format revised.

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental Health and Safety

EPA REG. NO.: 34704-873

This product is a Restricted Use Pesticide (Toxic to Fish and Aquatic Organisms)

U.S. Patent No. 4,024,163

*cis/trans ratio: Max. 55% (±) cis and min. 45% trans

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