

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product Name LADEM

Other means of identification

Product Code PST-0060
UN/ID no 3082
Synonyms None
Registration Number(s) 34704-1073

Recommended use of the chemical and restrictions on use

Recommended Use Herbicide.
Uses advised against No information available

Details of the supplier of the safety data sheet

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

Emergency telephone number

Company Phone Number 1-888-LPI-CUST (574-2878)
Emergency Telephone Chemtrec 1-800-424-9300
 Medical Emergencies: 1-866-944-8565
 US regulations require reporting spills of this material that could reach any surface waters.
 The toll-free phone number for the US Coast Guard National Response Center is
 1-800-424-8802

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Vapors)	Category 3 - (H331)
Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Skin sensitization	Category 1 - (H317)
Carcinogenicity	Category 1B - (H350)

Label elements



Signal word

DANGER

Hazard statements

H317 - May cause an allergic skin reaction
 H331 - Toxic if inhaled
 H350 - May cause cancer



SAFETY DATA SHEET

SDS REVISIONS: NEW

DATE OF ISSUE: 04/19/2018

LADEM
SUPERSEDES:

Precautionary Statements - Prevention

- P201 - Obtain special instructions before use
- P202 - Do not handle until all safety precautions have been read and understood
- P281 - Use personal protective equipment as required
- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
- P271 - Use only outdoors or in a well-ventilated area
- P272 - Contaminated work clothing should not be allowed out of the workplace
- P280 - Wear protective gloves

Precautionary Statements - Response

- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
- P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P311 - Call a POISON CENTER or doctor/physician
- P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
- P363 - Wash contaminated clothing before reuse

Precautionary Statements - Storage

- P405 - Store locked up
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

- P501 - Dispose of contents/ container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical Name	CAS No	Weight-%	GHS Classification	Trade Secret
S-Metolachlor Technical	87392-12-9	60 - 100	Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	*
Other ingredients	NOCAS	5 - 10		*
Naphthalene	91-20-3	3 - 7	Acute Tox. 4 (H302) Carc. 2 (H351) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.
OSHA Hazard Communication 29 CFR 1910.1200



SAFETY DATA SHEET

SDS REVISIONS: NEW

DATE OF ISSUE: 04/19/2018

LADEM

SUPERSEDES:

4. FIRST AID MEASURES

Description of first aid measures

General advice	Get medical attention if symptoms occur.
Eye contact	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Skin contact	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.
Inhalation	Remove to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferable by mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
Ingestion	Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed. Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also call 1-866-944-8565 for emergency medical treatment information.

Note to physicians No specific antidote. Treat symptomatically.

Antidotes No data available

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing agent suitable for type of surrounding fire, Use CO₂, dry chemical, or foam

Specific hazards arising from the chemical

In the event of fire and/or explosion do not breathe fumes. May cause sensitization in susceptible persons. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions 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.



SAFETY DATA SHEET

SDS REVISIONS: NEW

DATE OF ISSUE: 04/19/2018

LADEM

SUPERSEDES:

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place.

Incompatible materials None known based on information supplied.



SAFETY DATA SHEET

SDS REVISIONS: NEW

DATE OF ISSUE: 04/19/2018

LADDEM

SUPERSEDES:

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection Dependent on job function. If vapors or dusts exceed acceptable levels, wear a MSHA/NIOSH approved air-purifying respirator with any cartridges/filters approved for pesticides. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection Standard. Wear a supplied air respirator if exposure concentrations are unknown.

General Hygiene Considerations When using do not eat, drink or smoke. Wash contaminated clothing before reuse.



SAFETY DATA SHEET

SDS REVISIONS: NEW

DATE OF ISSUE: 04/19/2018

LADEM

SUPERSEDES:

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear liquid
Color	Dark brown
Odor	Petroleum
Odor threshold	No data available

<u>Property</u>	<u>Values (Remarks - Method)</u>	
pH	7.2 (1% solution)	
Melting point / freezing point	No data available	Not applicable
Boiling point	No data available	
Flash point	> 93.3 > 200 (Seta Closed Cup)	
Evaporation rate	No data available	
Flammability (solid, gas)	No data available	
Flammability Limit in Air		
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	2.8 x 10 ⁽⁻⁵⁾ mmHg	
Vapor density	No data available	
Specific Gravity	1.11 g/ml	
Water solubility	No data available	
Solubility in other solvents	S-Metolachlor 0.48 g/l	
Partition coefficient	No data available	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Kinematic viscosity	No data available	
Dynamic viscosity	No data available	
Explosive properties	No data available	
Oxidizing properties	No data available	

Other Information

VOC Content (%)	No data available
Density	9.26lbs/gal

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.



SAFETY DATA SHEET

SDS REVISIONS: NEW

DATE OF ISSUE: 04/19/2018

LADEM

SUPERSEDES:

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.



SAFETY DATA SHEET

SDS REVISIONS: NEW

DATE OF ISSUE: 04/19/2018

LADEM

SUPERSEDES:

11. TOXICOLOGICAL INFORMATION

Acute toxicity of the formulated product:

Oral LD₅₀ 2149 mg/kg
Dermal LD₅₀ > 2020 mg/kg
Inhalation (Vapors) LC₅₀ > 3.8 mg/l (4-hr)

Chemical Name	Oral LD ₅₀	Dermal LD ₅₀	Inhalation LC ₅₀
S-Metolachlor Technical	= 2267 mg/kg (Rat)		
Naphthalene	= 1110 mg/kg (Rat) = 490 mg/kg (Rat)	(= 1120 mg/kg (Rabbit) > 20 g/kg (Rabbit)	> 340 mg/m ³ (Rat) 1 h

Chemical Name	Skin corrosion/irritation	Eye damage/irritation	Respiratory sensitization	Skin sensitization
S-Metolachlor Technical 87392-12-9				Category 1

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Germ cell mutagenicity No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Naphthalene 91-20-3	A3	Group 2B	Reasonably Anticipated	X

*ACGIH (American Conference of Governmental Industrial Hygienists)
 A3 - Animal Carcinogen
 IARC (International Agency for Research on Cancer)
 Group 2B - Possibly Carcinogenic to Humans
 NTP (National Toxicology Program)
 Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
 OSHA (Occupational Safety and Health Administration of the US Department of Labor)
 X - Present*

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects.
Target Organ Effects blood, Central nervous system, Eye damage/irritation, kidney, liver, Skin.
Aspiration hazard No information available.

Information on likely routes of exposure

Product Information Dermal Inhalation
Inhalation No data available.
Eye contact Moderately irritating to the eyes.
Skin contact Slightly irritating.
Ingestion No data available.

**SAFETY DATA SHEET**

SDS REVISIONS: NEW

DATE OF ISSUE: 04/19/2018

LADEM

SUPERSEDES:

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Naphthalene 91-20-3	EC50 0.4 mg/L 72 h Skeletonema costatum	LC50 5.74 - 6.44 mg/L 96 h Pimephales promelas LC50 1.6 mg/L 96 h Oncorhynchus mykiss LC50 0.91 - 2.82 mg/L 96 h Oncorhynchus mykiss LC50 1.99 mg/L 96 h Pimephales promelas LC50 31.0265 mg/L 96 h Lepomis macrochirus	LC50 2.16 mg/L 48 h Daphnia magna EC50 1.96 mg/L 48 h Daphnia magna EC50 1.09 - 3.4 mg/L 48 h Daphnia magna

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available



SAFETY DATA SHEET

SDS REVISIONS: NEW

DATE OF ISSUE: 04/19/2018

LADEM

SUPERSEDES:

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

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.

Contaminated packaging

Do not reuse container.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Naphthalene 91-20-3	U165	Included in waste streams: F024, F025, F034, F039, K001, K035, K060, K087, K145	-	U165

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Naphthalene 91-20-3	-	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	-

14. TRANSPORT INFORMATION

Note: 216 GALLONS OR LESS: NOT REGULATED

DOT

UN/ID no	3082
Proper shipping name	Environmentally hazardous substance, liquid, n.o.s. RQ (NAPHTHALENE)
U.S. Surface Freight Classification:	COMPOUND, TREE OR WEED KILLING, NOI (NMFC 50320, SUB 2: CLASS: 60)
Hazard Class	9
Packing Group	III
Reportable Quantity (RQ)	100
Emergency Response Guide Number	171



SAFETY DATA SHEET

SDS REVISIONS: NEW

DATE OF ISSUE: 04/19/2018

LADEM
SUPERSEDES:

15. REGULATORY INFORMATION

<u>NFPA</u>	Health hazards 4	Flammability 0	Instability 0	Physical and Chemical Properties - Personal protection X	
<u>HMIS</u>	Health hazards 2	Flammability 0	Physical hazards 0		
	0 - Least	1 - Slight	2 - Moderate	3 - High	4 - Severe

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Naphthalene - 91-20-3	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Naphthalene 91-20-3	100 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Naphthalene 91-20-3	100 lb 1 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Naphthalene - 91-20-3	Carcinogen

US EPA Waste Number U165

U.S. EPA Label Information

EPA Registration Number 34704-1073

EPA Statement

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

Difference between SDS and EPA Pesticide label

Causes eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with eyes, skin, or clothing. This product may



SAFETY DATA SHEET

SDS REVISIONS: NEW

DATE OF ISSUE: 04/19/2018

LADEM

SUPERSEDES:

cause skin sensitization in some people.

16. OTHER INFORMATION

Prepared By Registrations and Regulatory Affairs

Reviewed By Environmental Health and Safety

Issue Date 04/19/2018

Revision Date 04/20/2018

Revision Note

NEW

LADEM is a trademark of Loveland Products, Inc.

Disclaimer

This data sheet was developed from information on the constituent materials identified herein and does not relate to the use of such materials in combination with any other material or process. No warranty is expressed or implied with respect to the completeness or ongoing accuracy of the information contained in this data sheet, and LOVELAND PRODUCTS, INC. disclaims all liability for reliance on such information. This data sheet is not a guarantee of safety. Users are responsible for ensuring that they have all current information necessary to safely use the product described by this data sheet for their specific purpose.

End of Safety Data Sheet