



Safety Data Sheet

SECTION 1: Product and Company Identification

1.1. Product identifier

Trade Name	Dakota
CAS No.	Mixture
EPA Registration Number	83100-38-83979

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/preparation Herbicide

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Rotam North America, Inc.
4900 Koger Blvd. Suite# 140
Greensboro, NC 27407
Phone: 1-(866) 927-6826 (toll free); 1-(336) 346-8802
msds@rotam.com

1.4. Emergency telephone number

Emergency number	1-800-858-7378 (NPIC)
	1-800-222-1222 (Poison Control Center)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

<u>Hazard Class</u>	<u>Category</u>	<u>Hazard Statement</u>
Flammable Liquids	4	H227
Serious Eye Damage/Eye Irritation	2B	H320
Aspiration Hazard	1	H304

If applicable, full text of H-phrases appear in "Label elements" below

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

GHS Labeling Elements

Hazard pictograms (CLP)



GHS07

GHS08

Signal word

DANGER

Hazard statements

H227 – Combustible liquid

H320 – Causes eye irritation

H304 – May be fatal if swallowed and enters airways

Precautionary statements (prevention)

P210 – Keep away from flames and hot surfaces. No smoking.

P264 – Wash thoroughly after handling.

P280 – Wear protective gloves and eye/face protection.

Precautionary statements (response)

P370+P378 – In case of fire: Use dry chemical, CO₂, water spray (fog) or foam.

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 or attention

P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P331 – Do NOT induce vomiting.

Precautionary statements (storage)

P403+P233, P235 – Store in a well-ventilated place. Keep cool.

P405 – Store locked up

Precautionary statements (disposal)

P501 – Dispose of contents/containers in accordance with local/regional/national/international regulations

2.3. Other hazards/labeling information

Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

SECTION 3: Composition/information on ingredients

Name	Product identifier	%/wt.
Clethodim *(E)-2-[1-[[[(3-chloro-2-propenyl)oxy]imino] propyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one	(CAS No.) 99129-21-1	26.4
Aromatic Hydrocarbon	(CAS No.) 64742-94-5	58-62
Naphthalene	(CAS No.) 91-20-3	<6%
Pseudocumene	(CAS No.) 95-63-6	<1%

SECTION 4: First aid measures

4.1. Description of first aid measures

GENERAL	Have the product container or label with you when calling a poison control center or doctor, or going for treatment. This product is identified as CLETHODIM MUP, EPA Reg. No. 81598-13. For information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378, Monday through Friday, 9 a.m. to 5 p.m. After 5:00 p.m. call your poison control center at 1- 800-222-1222.
IF INHALED	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 poison control center or doctor for 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 poison control center or doctor for treatment advice.
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 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 by a poison control center or doctor. Do not give anything to an unconscious person.
Notes to Physician	Contains petroleum distillate. Vomiting may cause aspiration pneumonia. If ingested, probably mucosal damage may contraindicate the use of gastric lavage.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms of eye contact may include eye pain, watering and redness.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Carbon dioxide (CO ₂), dry chemical, foam, water spray (fog)
Unsuitable extinguishing media	Do not use water jet or water-based fire extinguishers

5.2. Special hazards arising from the substance or mixture

Fire hazard	Combustible liquid. Can form explosive mixtures at temperatures at or above 149°F (65°C). In fire can burn and form explosive vapors from ruptured containers.
Explosion hazard	Combustible liquid. Can form explosive mixtures at temperatures at or above 149°F (65°C). In fire can burn and form explosive vapors from ruptured containers.

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Reactivity Thermal decomposition will produce nitrogen oxides, sulfur oxides, and may produce toxic chlorine compounds.

5.3. Advice for firefighters

Firefighting instructions Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Prevent material from entering drains and water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures Wear appropriate personal protective equipment (PPE): Eye and face protection, coveralls, gloves, boots. Clean up spills immediately observing the precautions in Section 8 of this MSDS. Isolate hazard area and keep unnecessary and/or unprotected personnel from entering the spill area. Read label for additional information.

6.1.1. For non-emergency personnel

Protective equipment Wear appropriate personal protective equipment (PPE) detailed in Section 8.

Emergency procedures No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment detailed in Section 8.

6.1.2. For emergency responders

Protective equipment Wear appropriate personal protective equipment (PPE) detailed in Section 8.

6.2. Environmental precautions

Prevent material from entering sewers, waterways, or low areas. Do not allow material to contaminate water systems. The use of this product may pose a hazard to the federally designated endangered species of Solano Grass and Wild Rice.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Small Spills: Absorb small spills with sand, vermiculite or other inert absorbent material. Place contaminated material in a container for disposal.

Large Spills: Control spill at the source and prevent material from entering soil, sewers, waterways or low areas. Dike large spills using absorbent or impervious material such as clay or sand. Recover materials for reuse or disposal. After removal, clean contaminated area thoroughly with water being sure to recover the wash liquid with additional absorbent material and place in a container for disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area.

SECTION 8: Exposure controls/personal protection

8.1. Personal protective equipment

Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves (e.g., nitrile, butyl, or neoprene). An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: If vapors or mists are present, wear NIOSH approved air-purifying respirator with cartridges/canisters.

General Hygiene Considerations: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Wash clothing and other absorbent materials that have been exposed to this product. Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

8.2. Exposure controls

Provide adequate ventilation when product is used. Eyewash and shower should be provided in mixing and loading areas.

Exposure controls, if any, are listed in the table below:

Name	CAS #	OSHA (PEL-TWA)	OSHA (PEL-STEL)	ACGIH (TLV-TWA)
Aromatic hydrocarbon	64742-94-5	400 ppm	Not established	Not Established
Naphthalene	91-20-3	10 ppm; 50 mg/m ³	Not established	10 ppm (skin)

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Color	Dark amber
Odor	Mild Aromatic
Odor threshold	No data available
pH	4.0-4.5
Relative evaporation rate (butyl acetate=1)	Not applicable
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	65 °C (149 °F)
Self-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Not applicable
Vapor pressure	No data available
Relative vapor density at 20 °C	No data available
Relative density	0.93 – 0.98 at 25 °C
Solubility	Emulsifies
Log Pow	No data available
Log Kow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	Non explosive
Oxidizing properties	None
Explosive limits	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable at normal handling and storage conditions.

10.2. Chemical stability

Stable under normal conditions

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10.3. Possibility of hazardous reactions

None known. Polymerization will not occur.

10.4. Conditions to avoid

Keep away from heat, sparks, flames and extreme temperatures.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Thermal decomposition will produce nitrogen oxides, sulfur oxides and may produce toxic chlorine compounds

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity data for Dakota are given below:

Acute toxicity – Dakota	
LD50 oral rat	>5000 mg/kg
LD50 dermal rat	>5000 mg/kg
LC50 inhalation rat	>2 mg/L, 4 h
Skin corrosion/irritation	Causes moderate skin irritation
Serious eye damage/irritation	Causes moderate eye irritation
Respiratory or skin sensitization	Not a sensitizer

Information/data for individual components are provided below:

Germ cell mutagenicity	Does not contain ingredients classified as a mutagenic
Carcinogenicity	Naphthalene may cause cancer based on tests with laboratory animals (IARC 2B, NTP Suspected).
Reproductive toxicity	Does not contain ingredients classified as reproductive toxins
Specific target organ toxicity (single exposure)	Not classified per GHS criteria. Exposure to vapors may increase tendency to respiratory or bronchial infections.
Specific target organ toxicity (repeated exposure)	Not classified per GHS criteria.
Aspiration hazard	Heavy aromatic naphtha is an aspiration hazard
Additional toxicity comments	None

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological Summary

Not expected to be toxic to aquatic organisms.

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The use of this product may pose a hazard to the federally designated endangered species of Solano Grass and Wild Rice. Refer to the product label for additional information.

Ecotoxicity data

Ecotoxicity data are not available for Dakota. Active ingredient data are shown below:

Clethodim	
Fish (Bluegill and Rainbow Trout 96 hr.)	LC50: 120 mg/L (Trout) LC50: 65 mg/L (Bluegill)
Acute toxicity to Honey bee	LD50 >100 µg/bee
Acute toxicity mallard ducks, 8 day	>6000 ppm
Acute toxicity bobwhite Quail, 8 day	>6000 ppm

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

Product/ingredient name	Log P _{ow}	BCF	Potential
Aromatic hydrocarbon	2.8 to 6.5	99 to 5780	high

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal	Wastes of this product may be dangerous. Improper disposal of excess pesticide or rinse is a violation of Federal law. If these wastes cannot be disposed of according to the label instructions, contact your State Pesticide or Environmental Control Agency, or Hazardous Waste Representative at the nearest EPA Regional office for guidance.
Container disposal/handling	Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or

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store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, if allowed by state and local authorities Stay out of smoke from burning container.

SECTION 14: Transport information

Ground transport

Not Regulated by US DOT in containers 119 gallons or less
Not Regulated by Canadian TDG

Transport by sea (IMDG)

Not Regulated

Air transport (ICAO/IATA)

Not Regulated

SECTION 15: Regulatory information

TSCA Inventory:

All components in these products are listed on the TSCA Inventory or are exempt from listing thereunder.

FIFRA Information:

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:

Signal word	: WARNING
Hazard statements	: Causes substantial but temporary eye irritation. Harmful if swallowed or inhaled. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
Precautionary statements	: Avoid contact with skin. Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or spray mist.

SARA 313 Regulated Chemical(s): Naphthalene (<6%) – CAS No. 91-20-3

Title III hazard classification:

Acute Health Hazard: Yes
Chronic Health Hazard: Yes
Fire: Yes
Reactivity/Physical hazard: No
Pressure: No

CERCLA/DOT Reportable Quantities (RQ)

Naphthalene – 100 lbs

California Proposition 65

Warning: This product contains a chemical (naphthalene) known to the state of California to cause cancer.

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Canadian Regulatory Information:

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR. WHMIS Classification: Class B3 – Combustible Liquids, Class D2B – Toxic Material.

SECTION 16: Other information

NFPA:

Health: 2; Flammability: 2; Reactivity: 0; Specific:

HMIS:

Health: 2; Flammability: 2; Physical Hazard: 0; PPE: H

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