

CLETHODIM 2EC**MATERIAL SAFETY DATA SHEET****1. PRODUCT AND COMPANY IDENTIFICATION****PRODUCT NAME:** CLETHODIM 2EC**DESCRIPTION:** A liquid herbicide.

EPA Reg. No. 83520-22

COMPANY IDENTIFICATION:Tacoma Ag, LLC
P.O. Box 14073
Durham, NC 27709**Emergency Telephone Numbers:**Tacoma Ag, LLC: 1-970-590-0113
CHEMTREC: 1-800-424-9300**2. COMPOSITION / INFORMATION ON INGREDIENTS**

<u>Ingredient</u>	<u>Chemical Name</u>	<u>Chemical Formula</u>	<u>CAS Number</u>	<u>Composition</u>
Clethodim	(E)-2-[1-[[[3-chloro-2-propenyl]oxy]imino] propyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one]	C ₁₇ H ₂₆ ClNO ₃ S	99129-21-2	26.4%
Aromatic Hydrocarbon	Solvent Naphtha (Petroleum), Heavy Aromatic		64742-94-5	58-62%
Naphthalene	Naphthalene	C ₁₀ H ₈	91-20-3	< 6%

3. HAZARD IDENTIFICATION**HAZARDS TO HUMANS AND DOMESTIC ANIMALS:** Causes substantial but temporary eye irritation. Harmful if swallowed or inhaled. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.**ENVIRONMENTAL HAZARDS:** 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.**PHYSICAL HAZARDS:** Combustible liquid.**4. FIRST AID**

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information concerning this product, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 seven days a week, 6:30 am to 4:30 pm Pacific Time or your poison control center at 1-800-222-1222.

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 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.**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 by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.**NOTE TO PHYSICIAN:** Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid, which can cause pneumonitis. Contains petroleum distillate.

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5. FIRE-FIGHTING MEASURES

Flash Point (Closed Cup): >142°F

Flammable Limits (LFL-UFL): Unknown.

Fire and Explosion Hazards: Combustible liquid. Can form explosive mixtures at temperatures at or above the flashpoint. In fire can burn and form explosive vapors from ruptured containers.

Means of Extinction: Water fog, foam, dry chemical or CO₂

Fire Fighting Instructions: Evacuate nonessential personnel to prevent exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area and equipment until decontaminated. Dike and collect any runoff to prevent entry to drains or water bodies.

Firefighting Equipment: Self-contained breathing apparatus and full bunker gear.

Hazardous Combustion Products: Thermal decomposition will produce nitrogen oxides, sulfur oxides and may produce toxic chlorine compounds.

NFPA Ratings: Health – 1 / Flammability – 2 / Instability – 0

6. ACCIDENTAL RELEASE MEASURES

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.

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.

7. HANDLING AND STORAGE

Keep out of reach of children. Avoid contact with skin. Do not get in eyes, on skin, or on clothing. Harmful if swallowed or inhaled. Avoid breathing vapors or spray mist.

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Handle only with adequate ventilation. Facilities storing or utilizing this material should be equipped with an eyewash station and a safety shower.

Protective Clothing: Wear long-sleeved shirt and long pants, shoes, socks, chemical resistant gloves and protective eyewear.

General: 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.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Dark Amber Liquid

Odor: Mild Aromatic

pH: 4.0 – 4.5

Solubility: Emulsifies

Specific Gravity: 0.961 g/ml

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Heat, flame and extreme temperatures.

CHEMICAL STABILITY: Stable under normal use and storage conditions.

HAZARDOUS DECOMPOSITION PRODUCTS: May release nitrogen oxide, sulfur oxides, carbon oxides (CO and CO₂) and aniline when thermally decomposed.

INCOMPATIBILITY WITH OTHER MATERIALS: None Known.

POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL TOXICITY

Oral LD₅₀ (rat): > 5,000 mg/kg

ACUTE DERMAL TOXICITY

Dermal LD₅₀ (rat): > 5,000 mg/kg

ACUTE INHALATION TOXICITY

Inhalation LC₅₀ (rat): > 2.0 mg/L (4-hour)

EYE IRRITATION

Rabbit – Moderately irritating

SKIN IRRITATION

Rabbit – Moderately irritating

SENSITIZATION

Guinea Pig – Not a contact sensitizer

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Exposure to vapors may increase tendency to respiratory or bronchial infections.

CARCINOGENICITY:

ACGIH: Not listed

IARC: Not listed

NTP: Not listed

OSHA: Not listed

MUTAGENIC DATA: No evidence of mutagenic effects during *in vivo* and *in vitro* assays.

ADDITIONAL DATA: Not known to cause reproductive or birth defects at normal exposure levels.

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12. ECOLOGICAL INFORMATION

The following information is for the active ingredient, Clethodim:

AQUATIC TOXICITY

Bluegill Sunfish (96hr LC₅₀): 120 mg/L

Rainbow Trout (96hr LC₅₀): 65 mg/L

AVIAN TOXICITY

Bobwhite Quail (LD₅₀): > 6,000 ppm

Mallard (LD₅₀): > 6,000 ppm

OTHER

Bees (LD₅₀): > 100 µg/bee

13. DISPOSAL CONSIDERATIONS

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

CONTAINER DISPOSAL-

Nonrefillable Container: Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). Refer to the product label for additional instructions.

Refillable Containers: Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. Refer to the product label for additional instructions.

14. TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME: Not Regulated by DOT - Shipping Class 60

MARINE POLLUTANT: No

15. REGULATORY INFORMATION

FIFRA –

All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act. The regulatory information presented below is pertinent only when this product is handled outside of the normal use and application as a pesticide.

SARA Title III – Section 302 Extremely Hazardous Substances

Not Listed

SARA Title III – Section 311/312 Hazard Categories

Immediate, Delayed, Fire

SARA Title III – Section 312 Threshold Planning Quantity

The threshold planning quantity (TPQ) for this product treated as a mixture is 10,000 lbs. This product contains no ingredients with a TPQ of less than 10,000 lbs.

SARA Title III – Section 313 Reportable Ingredients

Naphthalene (< 6%) – CAS No. 91-20-3

CERCLA –

Reportable Quantity: Naphthalene (CAS 91-20-3) - 180 gal. of product

CALIFORNIA PROP 65 STATUS –

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

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16. OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.

NOTICE: The information herein is presented in good faith and believed to be accurate as on the effective date shown above. However, no warranty, expressed or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with Federal, State and Local laws and regulations.

Original Date: October 19, 2010