

# MATERIAL SAFETY DATA SHEET – CLETHODIM 2E

## SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**COMPANY ADDRESS:**

RedEagle International LLC  
1925 E. Edgewood Dr – Ste. 105  
Lakeland, Florida 33803

**EMERGENCY TELEPHONE NUMBERS:**

For emergency information, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 Mon. to Fri., 7:30 am to 3:30 pm Pacific Time or your poison control center at 1-800-222-1222.

**PRODUCT NAME: Clethodim 2E**

**CHEMICAL NAME:** (E)-2[1-[[[3-chloro-2-propenyl]oxy]imino]propyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one

**EPA REG NO:** 85678-23

**PRODUCT USE:** HERBICIDE

## SECTION 2 – COMPOSITION, INFORMATION OF INGREDIENTS

Active Ingredient	CAS No.	Weight	OSHA PEL	ACIGH TLV
Clethodim	99129-21-2	26.4%	N/A	N/A
<b>Contains:</b>				
Petroleum distillates	64742-94-5	52.4%	N/A	100 ppm

## SECTION 3 – HAZARDS IDENTIFICATION SUMMARY

**EMERGENCY OVERVIEW:** CAUTION. Harmful if swallowed. Avoid contact with skin, eyes or clothing. Causes moderate eye irritation.

**HEALTH HAZARDS:** Harmful if swallowed. Moderate eye irritant.

**PHYSICAL HAZARDS:** Combustible, may release toxic fumes if burned.

**ENVIRONMENTAL HAZARDS:** Slightly toxic to fish, other water organisms, and bees.

## SECTION 4 – FIRST AID MEASURES

### FIRST AID

**IF SWALLOWED:**

- Call a poison control center or doctor immediately for treatment advice.
- Do not induce vomiting unless told to do so by a 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 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.

**NOTE TO PHYSICIAN:** May pose an aspiration pneumonia hazard. Contains petroleum distillate.

**HOT LINE NUMBER:** Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 Mon. to Fri., 7:30 am to 3:30 pm Pacific Time or your poison control center at 1-800-222-1222.

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## SECTION 5 – FIRE FIGHTING MEASURES

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<b>FLASHPOINT (METHOD):</b>	70°C (Closed cup)
<b>FLAMMABLE LIMITS (LFL – UFL)</b>	Not available
<b>FIRE AND EXPLOSION HAZARD:</b>	Combustible liquid. Can form explosive mixtures at temperatures at or above the flashpoint. Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.
<b>EXTINGUISHING MEDIA:</b>	Foam, Water spray, Carbon dioxide (CO <sub>2</sub> ), or Dry chemical
<b>FIRE FIGHTING INSTRUCTIONS:</b>	Evacuate nonessential personnel from area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Explosive vapor could form from ruptured containers. Dike and collect water used to fight fire to prevent environmental damage from excessive water runoff.
<b>FIRE FIGHTING EQUIPMENT:</b>	Full fire fighting turn out gear (Bunker gear) including self-contained breathing equipment.
<b>HAZARDOUS COMBUSTION PRODUCTS:</b>	Oxides of nitrogen and sulfur. May produce toxic compounds of chlorine.

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## SECTION 6 – ACCIDENTAL RELEASE MEASURES

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Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

### Steps to be taken in case material is released or spilled:

**Small spill:** Absorb small spills with sand, vermiculite or other inert absorbent. Place contaminated material in appropriate container for disposal.

**Large spill:** Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify and then dispose. After removal, clean contaminated area thoroughly with water. Pick up wash liquid with additional absorbent and place in a disposable container. Keep the spill out of all sewers and open bodies of water.

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## SECTION 7 – HANDLING AND STORAGE

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KEEP OUT OF REACH OF CHILDREN.

**HANDLING:** Use in a well ventilated area. Do not reuse this container.

**PESTICIDE STORAGE:** Store product in original container only. Store in a cool, dry place. Do not store diluted spray. Open dumping is prohibited.

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## SECTION 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

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The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation, packaging and use of this product. For commercial applications and/or on-farm applications consult the product label.

### PERSONAL PROTECTIVE EQUIPMENT:

**Eye Protection:** Wear goggles or face shield

**Skin Protection:** Wear long sleeved shirt and long pants, shoes plus socks, and chemical resistant gloves.

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**Respirator:** When handling in enclosed areas where exposure limits may be exceeded, use a respirator approved for pesticides.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS:** Wash thoroughly with soap and water after handling and 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.

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## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

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<b>Appearance:</b>	Light brown	<b>Water Solubility:</b>	Not available
<b>Physical State:</b>	Liquid	<b>Vapor Pressure:</b>	Not available
<b>Odor:</b>	Diesel smell		
<b>Viscosity:</b>	9.05 CST @ 25°C		
<b>Density:</b>	0.98 g/cm <sup>3</sup>		
<b>pH:</b>	4.6		

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## SECTION 10 – STABILITY AND REACTIVITY

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**CHEMICAL STABILITY:** Stable under recommended storage conditions

**CONDITIONS TO AVOID:** Do not expose to elevated temperatures (above 90°F). Avoid exposure to direct sunlight. Keep containers sealed to avoid exposure to air.

**INCOMPATIBILITY WITH OTHER MATERIALS:** Oxidizers

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of hydrogen, nitrogen and sulfur.

**HAZARDOUS POLYMERIZATION:** Hazardous polymerization does not occur.

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## SECTION 11 – TOXICOLOGICAL INFORMATION

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**ACUTE TOXICITY (Technical):**

**Oral LD<sub>50</sub> (rat): 5,000 mg/kg (females)**

**Dermal LD<sub>50</sub> (rat): >5,000 mg/kg**

**Inhalation LC<sub>50</sub> (rat): >2.0 mg/L (4 hour)**

**Eye Irritation (rabbit): Moderate**

**Skin Irritation (rabbit): Moderate**

**Sensitization (guinea pig): Not a skin sensitizer**

**Medical Conditions aggravated by exposure:** Exposure to vapors may increase tendency to respiratory or bronchial infections.

**Carcinogen Status: OSHA/NTP/IARC:** Not listed.

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**Mutagenic Data:** No evidence of mutagenic effects during *in vivo* or *in vitro* studies.

**Additional Data:** Not known to exhibit reproductive effects. Some teratogenic (birth defect) effects were noted in rats tested at elevated doses of 700 mg/Kg per day.

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## SECTION 12 – ECOLOGICAL INFORMATION

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**ENVIRONMENTAL HAZARDS:** Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply where runoff is likely to occur. Do not apply where weather conditions favor drift from areas treated. Do not contaminate water when disposing of equipment washwater or rinsate. The use of this product may pose a hazard to the federally designated endangered species of Solano Grass and Wild Rice.

**Fish Toxicity (Technical):**

Rainbow trout – 96 hrs LC<sub>50</sub> = 65 mg/L  
Bluegill sunfish – 96 hrs LC<sub>50</sub> = 120 mg/L

**Avian Toxicity (Technical):**

Bobwhite quail – LC<sub>50</sub> >6,000 ppm  
Mallard duck – LC<sub>50</sub> >6,000 ppm

**Bee Toxicity:** Contact LD<sub>50</sub>: >100 ug/bee

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## SECTION 13 – DISPOSAL CONSIDERATIONS

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**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 or refill this container. Triple-rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a 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 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, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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## SECTION 14 – TRANSPORT INFORMATION

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**DOT:** Containers ≤ 119 gallons: Not regulated  
Containers > 119 gallons: NA 1993, Combustible liquid, N.O.S. (contains petroleum distillates), PG III  
**DOT HAZARD CLASS:** Combustible liquid  
**ID Number:** NA 1993  
**DOT Packing Group:** PG III  
**DOT Primary Label:** N/A  
**DOT PRIMARY PLACARD:** Combustible (>119 gallons)

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## SECTION 15 – REGULATORY INFORMATION

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**SARA Title III Classification**

**Section 311/312 Hazard Class:** Immediate, Delayed health effects; Fire hazard

**Section 313 Toxic Chemicals:**

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CERCLA Reportable Quantity: N/A

California Proposition 65: Not listed.

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## SECTION 16 – OTHER INFORMATION

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### HMIS HAZARD RATINGS:

HEALTH:	2	0	Minimal
FLAMMABILITY:	2	1	Slight
PHYSICAL HAZARD:	1	2	Moderate
		3	High
		4	Severe

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**REVISED DATE:** New