

Date: Jul.25th, 2024

MSDS OF CLODINAFOP-PROPARGYL

1.PRODUCT AND COMPANY IDENTIFICATION

Commercial product name : CLODINAFOP-PROPARGYL
Formula: $C_{17}H_{13}ClFNO_4$
CAS NO.: CAS:105512-06-9

2.COMPOSITION/INFORMATION ON INGREDIENTS

R,S- $C_{17}H_{13}ClFNO_4 \geq 95\%$
R- $C_{17}H_{13}ClFNO_4 \geq 95\%$
LOSS ON DRYING $\leq 0.5\%$
ACETONE INSOLUBLE $\leq 0.5\%$

3.HAZARD IDENTIFICATION

WARNING:

- CAUTION - POISON
- EYE AND SKIN IRRITANT
- MAY CAUSE ALLERGIC SKIN REACTIONS
- HARMFUL IF SWALLOWED
- ASPIRATION HAZARD
- COMBUSTIBLE
- DO NOT GET IN EYES OR ON SKIN

Chronic Health Hazards (Including Cancer): (Clodinafop-Propargyl) Liver changes, anemia and skin reactions. Increased incidences of benign tumors in mice (liver) and rats (ovary, prostate).

Teratology (Birth Defects) Information: No evidence of teratogenic effects was obtained.

Reproduction Information: No evidence of mutagenic or reproductive effects was obtained.

Potentially Aggravated Condition: Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

4.FIRST-AID MEASURES

Eyes: Flush eyes with clean water, holding eyelids apart for a minimum of 20 minutes. Remove contact lenses, if present. After 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. Obtain medical attention immediately if irritation persists.

Ingestion: If swallowed, immediately call a poison control center, doctor, or nearest hospital for treatment advice. DO NOT induce vomiting unless directed by a physician or a poison control center. Do not give any liquid to the person. Call a poison control center or doctor for treatment advice.

Skin: Immediately remove contaminated clothing and wash skin, hair and fingernails thoroughly with soap and water. Flush skin with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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Inhalation: Move victim to fresh air. If not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

Notes to Physician: There is specific antidote if this product is ingested. Treat symptomatically. Contains petroleum distillate-vomiting may cause aspiration pneumonia.

5.FIRE-FIGHTING MEASURES

Hazardous Combustion Products: Oxides or carbon and smoke are likely. Also toxic fumes of Cl and NO_x from decomposition of active ingredients. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Heavy vapors can flow along surfaces to distant ignition sources and flash back. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

6.ACCIDENTAL RELEASE MEASURES

Personal Precautions: Make sure all personnel involved in the spill cleanup follow good industrial hygiene practices. A small spill can be handled routinely. Wear suitable protective clothing and eye protection to prevent skin and eye contact. Use adequate

ventilation and wear equipment and clothing as described in Section 8 and/or the product label.

Procedures for dealing with release or spill: Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Sections 7 and 8. Pump or scoop large amounts of liquid into a disposable container. Absorb remaining liquid or smaller spills with clay, sand or vermiculite. Scoop or sweep up material and place into a disposal container. Wash area with detergent and water. Pick up wash liquid with additional absorbent and place into compatible disposal container. On soils, small amounts will naturally decompose. For large amounts, skim off the upper contaminated layer and collect for disposal. Spillage or uncontrolled discharges into watercourses must be reported to the appropriate regulatory authority.

7.HANDLING AND STORAGE

KEEP OUT OF REACH OF CHILDREN.

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Read entire label. Use strictly in accordance with label precautionary statements and directions. Do not use or store near flame, sparks or hot surfaces. Use only in well-ventilated area. Keep container closed. Do not weld, heat or drill container. Replace cap or bung. Emptied container still contains hazardous or explosive vapor or liquid. Before entry into confined spaces that may have contained hazardous material, determine concentrations and take appropriate measures for personal protection. Material presents a hazard that may require personal protective equipment for entry. Keep pesticide in original container. Do not store or transport near food or feed. Do not expose sealed containers to temperatures above 40°C.

8.EXPOSURE CONTROLS/PERSONAL PROTECTION

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Respiratory/Ventilation Requirements: Ensure work areas have ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV. Warehouses, production area, parking lots and waste holding facilities must have adequate containment to prevent environmental contamination. Provide separate shower and eating facilities.

Personal protective equipment for each exposure route:

GENERAL: Avoid breathing vapors or aerosols. Avoid contact with eye, skin and clothing. Wash

thoroughly after handling and before eating, drinking, applying cosmetics or handling tobacco.

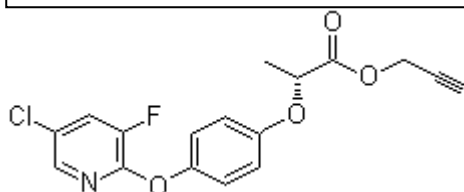
INGESTION: Do not eat, drink, handle tobacco, or apply cosmetics in areas where there is a potential for exposure to this material. Always wash thoroughly after handling.

EYES: Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

SKIN: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

INHALATION: A respirator is not normally required when handling this substance. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with any P, R or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES



Product Name: Clodinafop-propargyl

Synonyms: Propynyl (R)-2-[4-[(5-chloro-3-fluoro-2-pyridinyl)oxy] phenoxy] propanoate

Molecular Formula: C₁₇H₁₃ClFNO₄

Molecular Weight: 349.74

InChI:

InChI=1/C17H13ClFNO4/c1-3-8-22-17(21)11(2)23-13-4-6-14(7-5-13)24-16-15(19)9-12(18)10-20-16/h1,4-7,9-11H,8H2,2H3/t11-/m1/s1

10. STABILITY AND REACTIVITY

Chemical Stability:

Stable at room temperature

Hazardous Polymerization:

Polymerization will not occur.

Incompatibility With Other Materials:

Strong oxidizers, strong acids, alkalis

Hazardous Decomposition Products:

Can decompose at high temperatures forming toxic gases

Conditions to avoid:

Ignition sources. Temperatures below -17°C (2°F) or above

62°C (144°F)

Impact Explodability:

Not sensitive

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Oxidation/Reduction Properties: NDA

11. TOXICOLOGICAL INFORMATION

Acute toxicity/Irritation Studies (Finished Product):

Eye Irritation: Moderately Irritating (Rabbit)

Skin Irritation: Moderately Irritating (Rabbit)

Dermal Toxicity: Slightly Toxic. Dermal LD₅₀ (Rat) : >4,000 mg/kg body weight

Oral Toxicity: Slightly Toxic. Oral LD₅₀ (Rat) : >2,276 mg/kg body weight

Inhalation Toxicity: Slightly Toxic. Inhalation LC₅₀ (Rat): 3.5 mg/L air - 4 hours

Skin Sensitization: Sensitizer (Guinea Pig)

Chronic/Carcinogenicity: (Clodinafop-Propargyl) Liver changes, anemia and skin reactions. Increased incidences of benign tumors in mice (liver) and rats (ovary, prostate).

Teratology (Birth Defects) Information: No evidence of teratogenic effects was obtained.

Toxicity of Other Components:

Cloquintocet-Mexyl

Causes mild eye and skin irritation. May be harmful if inhaled. Allergic skin reactions are possible.

Naphthalene (£ 6%)

Exposure to naphthalene can cause cataracts, liver damage, kidney failure, respiratory failure, hematuria, anemia, damage to red blood cells, leukocytosis, or coma.

Carcinogen Status:

NTP: Anticipated Carcinogen

IARC: Group 2B Possible Human Carcinogen

Petroleum Solvent:

Inhalation of vapors at high concentrations can cause central nervous system (CNS) effects (e.g. dizziness, headache, etc.), irritation to eyes or respiratory tract.

N-Methylpyrrolidone (£ 9%)

May cause respiratory tract irritation. Repeated or prolonged exposure may cause drying and cracking of the skin.

12. ECOLOGICAL INFORMATION

Summary of effects

The active ingredient, Clodinafop-Propargyl, is highly toxic to fish, moderately toxic to water invertebrates (water flea), but has low toxicity to birds and practically non-toxic to bees.

Eco-Acute Toxicity

Clodinafop-Propargyl:

Green Algae 5-Day EC₅₀ > 3.9 ppm

Bee LC₅₀/EC₅₀ (Contact) > 100 µg/bee

Invertebrates (Water Flea) LC₅₀/EC₅₀ 2.0 ppm

Fish (Trout) 96-hr LC₅₀/EC₅₀ 0.39 ppm

Fish (Bluegill) 96-hr LC₅₀/EC₅₀ 0.21 ppm

Birds (8-day Dietary - Bobwhite Quail) LC₅₀/EC₅₀ > 5,200 ppm

Birds (8-day Dietary - Mallard Duck) LC₅₀/EC₅ > 5,200 ppm

Eco-Chronic Toxicity

Clodinafop-Propargyl:

Invertebrates (Water Flea) 21-Day NOEC 0.23 mg/L

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Fish)Trout) 21-Day NOEC

0.15 mg/L

Environmental Fate

The active ingredient Clodinafop-Propargyl is biologically degraded by microorganisms in soil or water, and is also degraded by soil hydrolysis and photolysis. It has a low bioaccumulation potential. It is not persistent in the environment,

with DT50 values of less than one day in soil or natural water. The mobility in soil is low to moderate. This material as a bulk liquid sinks in water (24 hr observations) and gradually disperses as an emulsion.

13.DISPOSAL CONSIDERATIONS

Waste disposal information: Do not reuse empty containers. Empty container retains product residue. Triple rinse, or equivalent, empty container, return rinse water to dilution mixture, and dispose of dilution mixture as a hazardous waste if it cannot be disposed of by use according to label instructions. Dispose of empty containers in accordance with local regulations. Consult provincial environment ministry for advice on waste disposal. Industrial/commercial waste may be handled at licensed facilities only. Waste shipments must be securely packaged and properly labeled. Only licensed carriers may be used, and proper documents must accompany the shipment.

14.TRANSPORT INFORMATION(CODES AND CLASSIFICATIONS)

Shipping information such as shipping classification:

TRANSPORTATION OF DANGEROUS GOODS CLASSIFICATION - ROAD/RAIL Not Regulated.

Dangerous goods class:9 UN NO:3077

15.REGULATORY INFORMATION

WHMIS classification for product: Exempt

A statement that the MSDS has been prepared to WHMIS requirements, except for use of the 16 headings. This MSDS has been prepared in accordance with WHMIS requirements, but the data are presented under 16 headings.

Other regulations; restrictions and prohibitions

Pest Control Products (PCP) Act Registrations No.: Unknown

16.OTHER INFORMATION

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