

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name : Clodinafop Propargyl 97% TC
Chemical Name : Prop-2-ynyl (R)-2-[4-(5-chloro-3-fluoropyridin-2-yloxy) phenoxy] propionate
Type : Herbicide
Molecular formula : C₁₇H₁₃ClFNO₄

2. Composition/Information on ingredients

Chemical Name	CAS#	Percent or content(w/w)
Clodinafop Propargyl	105512-06-9	97.0
Other ingredients	-	3.0

3. Health Hazards Identification

Risk phrases: R36/38 Irritating to eyes and skin.

R43 May cause sensitisation by skin contact.
R65 Harmful: may cause lung damage if swallowed.
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

Safety Phrases: S2 Keep out of reach of children.
S13 Keep away from food, drink and other animal foodstuffs.
S24/25 Avoid contact with skin and eyes.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection

4. First Aid Measures

FIRST AID

Ingestion: If poisoning occurs, contact a Doctor or Poisons Information Centre. If swallowed do NOT induce vomiting. Give water to drink.

Eye contact: If in eyes, immediately flush with copious amounts of water until chemical is removed. If irritation occurs and persists, obtain medical attention.

Skin contact: Remove contaminated clothing and launder before re-use. Wash skin with soap and water. If skin irritation persists, seek medical advice.

Inhalation: Remove to fresh air and observe until recovered.

Advice to Doctor: No specific antidote exists. Treat symptomatically. However, the formulation contains hydrocarbon liquid that if aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary oedema; therefore, vomiting is not recommended, and lavage requires intubation. Treatment is otherwise symptomatic and supportive.

5. Fire Fighting Measures

Specific Hazard: Clodinafop Selective Herbicide is flammable and classified as a Combustible Liquid (C1).

Extinguishing media: Extinguish fire using carbon dioxide, foam or dry agent. Use water spray if there is no alternative. Contain all runoff. Prevent run off from entering drains or waterbodies.

Hazards from combustion products: Will produce toxic and noxious vapours (eg. oxides of carbon and/or nitrogen and hydrogen cyanide gas and oxides of sulphur can also be produced). Eruption of containers is likely if confined at high temperatures. Intact containers exposed to excessive heat should be cooled with water to reduce drum pressure.

Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind residents. Wear full protective clothing and self contained breathing apparatus. Do not breathe smoke or vapours generated.

6. Accidental Release Measures

Emergency procedures / Material and methods for containment and cleanup procedures: Wear As a minimum, wear overalls, elbow-length butyl rubber gloves and face shield or goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, the use of a respirator is recommended. In the case of spillage, contain and absorb spilled material with absorbent material such as sand, clay or cat litter and dispose of waste. Keep out animals and unprotected persons. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Thoroughly launder protective clothing before storage or re-use.

7. Handling and Storage

Precautions for safe Handling: No smoking, eating or drinking should be allowed where material issued or stored. Harmful if swallowed. Will irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid inhaling spray mist. Avoid contact with eyes and skin. When opening the container, preparing spray wear and using the product wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), a washable hat, elbow-length butyl rubber gloves and face shield or goggles. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

Conditions for safe Storage: Not classified as a Dangerous Good. This product is a Schedule 6 Poison (S6) and must be stored, transported and sold in accordance with the relevant Health Department regulations. Store in the closed, original container in a well ventilated area away from children, animals, food, feedstuffs, seed and fertilizers. Do not store for prolonged periods in direct sunlight. Do not re-use container for any purpose.

8. Exposure Controls/Personal Protection

Exposure Guidelines: Exposure guidelines have not been established for this product. However the following standard applies for one of the ingredients of this product:

Biological Limit Values:

No biological limit allocated.

Engineering controls:

Use in ventilated areas - generally natural ventilation is sufficient. Keep containers closed when not in use. No special engineering controls are required.

Personal Protective equipment (PPE):

General: When opening the container, preparing spray wear and using the product wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), a washable hat, elbow-length butyl rubber gloves and face shield or goggles. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

Hygiene measures: Clean water should be available for washing in case of eye or skin contamination. Wash skin before eating, drinking or smoking. Shower at the end of the workday.

9. Physical and Chemical Properties

Appearance:	Light beige to brown powder
Odour:	Specific
Specific Gravity:	1.37 g/ml
pH:	4.0-6.0
Melting point:	59.5°C
Corrosive hazard:	Not corrosive
Flashpoint (°C):	>80°C

10. Stability and Reactivity

Chemical Stability: Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.

Conditions to avoid: Do not store near naked flame, heat sources or leave in direct sunlight for long periods.

Incompatible materials: Avoid strong oxidizing agent such as chlorates, nitrates, peroxides etc.

Hazardous decomposition products: Oxides of carbon and nitrogen are released when burned. It is possible that hydrogen cyanide gas and oxides of sulphur to also be produced. Hydrogen cyanide is very poisonous.

Hazardous reactions: Hazardous polymerisation will not occur.

11. Toxicological Information

ACUTE EFFECTS

Acute Oral LD50, Rats	:	>300-2000 mg/kg bw
Acute Dermal LD50, Rats	:	>2000 mg/kg bw
Acute Inhalation LC50, Rats	:	0.06 mg/l
Skin irritant, White rabbit	:	Mild irritant
Eye irritant, White rabbit	:	Mild irritant
Skin Sensitization, Guinea Pig	:	Non sensitizer

12. Ecological Information

Acute Oral LD50 Pigeon	:	142.76 mg/kg
Acute Oral LD50 Chicken	:	>500 mg/kg
Acute LC50 Tilapia	:	0.34 mg/l
Acute LC50 Rohito	:	0.76 mg/l
Acute LC50 Daphnia (48h)	:	6.8 µg/l
Bees LD50 (oral)	:	>100 µg/bee
Bees LD50 (Topical)	:	>100 µg/bee
Algae EC50	:	>20 mg/l

13. Disposal Considerations

Spills and Disposal:

After intended use (disposal of empty containers): Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. Empty containers and product should not be burnt.

After spill or accident Clear area of all unprotected personnel. Wear protective clothing and equipment including chemical resistant gloves. Prevent spill from spreading or entering waterways, sewers or underground drains. Absorb spill with absorbent material such as sand clay or cat litter. Place material into an approved drum. To decontaminate spill area, tools and equipment wash with a suitable solution (e.g. organic solvent, detergent, bleach or caustic) and add the solution to the drums of waste already collected.

14. Transport Information

Product Name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID N.O.S.
UN No.	:	3077
UN Hazard Class	:	9
UN Packing Group	:	III
Marine Pollutant status	:	YES
EMS	:	F-A, S-F

15. Regulatory Information

Risk phrases: R36/38 Irritating to eyes and skin.

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16. Other Information

The information herein is presented in good faith and believed to be accurate. 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.

PREPARED BY : Agrow Allied Ventures Pvt. Ltd., SAFETY DIVISION