

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-fluoro-2-pyridyloxy)phenoxy]propionate
Type : Herbicide
Molecular formula : $C_{17}H_{13}ClFNO_4$

2.Composition/Information on ingredients

Chemical Name	CAS#	Percent or content(w/v)
Clodinafop Propargyl	105512-06-9	97%
Other ingredients	-	3.0%

3.Health Hazards Identification

EMERGENCY OVERVIEW - This product is an herbicide with low oral and dermal toxicity. Dermal irritation and allergic dermatitis may be seen in susceptible individuals following exposure to mist. Inhalation may lead to irritation of respiratory tract.

4.First Aid Measures

Skin Contact: If skin contact occurs Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation. .

Eye Contact: If this product comes in contact with the eyes Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids byoccasionally lifting the upper and lower lids.

Inhalation: If dust is inhaled, remove from contaminated area. Encourage patient to blow nose to ensure clear passage of breathing. If irritation or discomfort persists seek medical attention.

Ingestion: IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.

ADVICE TO DOCTOR

For poisons (where specific treatment regime is absent).

BASIC TREATMENT

Establish a patent airway with suction where necessary. Watch for signs of respiratory insufficiency and assist ventilation as necessary. Administer oxygen by non-rebreather mask at 10 to 15 L/min. Monitor and treat, where necessary, for pulmonary oedema. Treat symptomatically.

5.Fire Fighting Measures

Specific Hazard : Do not cut, drill, grind or weld on or near this container.

Extinguishing Media : Foam.
Dry chemical powder.
BCF (where regulations permit).
Carbon dioxide.

Hazard From Combustion products : Combustible solid which burns but propagates flame with difficulty; it is estimated that most organic dusts are combustible (circa 70%) - according to the circumstances under which the combustion process occurs, such materials may cause fires and / or dust explosions.

Protective equipment : Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapors generated.

6.Accidental Release Measures

Steps to be taken if Material is Released or Spilled:

- ☐ **Contain spilled material if possible:**
- MINOR SPILLS**
Remove all ignition sources.
Clean up all spills immediately.
Avoid contact with skin and eyes.
Control personal contact by using protective equipment.
Environmental hazard - contain spillage.
- MAJOR SPILLS**
Environmental hazard - contain spillage.
Moderate hazard

Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

7. Handling and Storage

General Handling: PROCEDURE FOR HANDLING

Avoid all personal contact, including inhalation.
Wear protective clothing when risk of exposure occurs.
Use in a well-ventilated area.
Prevent concentration in hollows and sumps.
Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.
Do NOT cut, drill, grind or weld such containers.
In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

RECOMMENDED STORAGE METHODS

Polyethylene or polypropylene container.
Check all containers are clearly labelled and free from leaks.

Storage: Store in original containers.

Keep containers securely sealed.
Store in a cool, dry area protected from environmental extremes.
Store away from incompatible materials and foodstuff containers.

8. Exposure Controls/Personal Protection

Engineering Controls : Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Ingestion : Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating

Eye Protection : Safety glasses with side shields. Chemical goggles.

Skin Protection : The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include

Respiratory protection : Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. The following should be effective types of air-purifying respirators.

General Protection : Avoid contact with eyes and skin. While handling the product wear cotton overalls buttoned to the neck and wrist. Elbow-length PVC gloves and face shield. After use and before eating, drinking and smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves and contaminated clothing.

9. Physical and Chemical Properties

Colour : White

Physical state : Crystalline powder

Melting Point : 59°C

Solubility : 4.0mg/l (pH 7 , 25°C)

10. Stability and Reactivity

Chemical Stability : Thermally stable at typical use temperatures

Conditions to Avoid : Avoid temperatures above 100°C (212°F). Generation of oxides of carbon and nitrogen

Incompatible Materials : Avoid contact with: Strong oxidizing agents and strong alkali

11. Toxicological Information

Acute Oral LD50 : male - 1202 mg/kg body weight (Rat)
Female – 2785 mg/kg body weight (Rat)
Acute Dermal LD50 : >2000 mg/kg body weight (Rat)
Acute Inhalation LC50 : 2.325 mg/l (4 h) (rat)
Skin Irritation : No skin Irritant (Rabbit)
Eye Irritation : No irritation (Rabbit)
Skin Sensitization : May cause skin Sensitization (guinea pig).

12. Ecological Information

Bird : Acute oral LD50 (8d) for mallard ducks >2000 mg/kg
For bobwhite quail 1455mg/kg
Fish : LC50 (96 h) for rainbow trout 0.39 mg/l
For carp 0.43 mg/l
Daphnia : LC50 (48 h) >60 mg/l
Bees :LD50 (oral) and (contact) >100 µg/bee

13. Disposal Considerations

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

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

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express 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 or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal.

16. Other Information

This Material Safety Data Sheet summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.