



## MATERIAL SAFETY DATA SHEET

### Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO.,LTD

ADD: NO.52 PUCHANG ROAD, PUZHOU INDUSTRIAL PARK, LONGWAN DISTRICT,  
WENZHOU ZHEJIANG P.R. CHINA

Tel: +86-577-88905587

Fax: +86-577-88905567

Email: info@rayfull.com

sales@rayfull.com

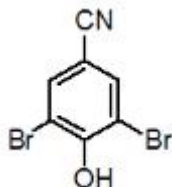
### 1. Chemical Product Identification

Product Name: Bromoxynil 97% TC

Molecular Formula:  $C_7H_3Br_2NO$

Molecular Weight: 276.92

Structural Formula:



Chemical Name: 3,5-dibromo-4-hydroxybenzonitrile

Color: brown

Odor: specific odor

CAS No.: 1689-84-5

UN No.: 3082

### 2. Composition / Information on Ingredients

Composition	CAS No.	Content
Bromoxynil	1689-84-5	97.0%
Others	---	3.0%

### 3. Hazards Identification

Component	Symbol	R phrases
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Bromoxynil	T	10 20/21 36
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More important danger for the man: none

Dangers for the environment: danger to fish.

Physical-chemical dangers: none

#### 4. First Aid Measures

Skin: remove contaminated clothing and shoes, flush with plenty of water and soap.

Eyes: flush with plenty of water for 15-20 minutes.

Inhalation: move to a fresh air place and give artificial respiration.

Ingestion: clean mouth; drink plenty of water, milk or egg white. Then see doctor immediately.

#### 5. Fire-Fighting Measures

Extinguishing media

To be used: water spray, foam, dry chemical powder and carbon oxide.

Don't use: not applicable

Particular risk: toxic decomposition products may be produced in a fire, keep unnecessary people away.

Measures of personal protection:

Fire fighters should wear full protective gear, including self-contained breathing apparatus.

#### 6. Accidental Release Measures

Personal cautions: The product is harmful if inhaled or swallowed. Will irritate the eyes, nose, throat and skin. Avoid inhaling spray mist. Keep people and animals away and upwind.

Cleaning methods

EX: contain spill and absorb with earth, sand, clay, or other absorbent material, collect and store in properly labeled, sealed drums for safe disposal. Deal with all spillages immediately.

Environmental cautions

EX: prevent the contamination of the floor and of beds of water.

#### 7. Handling And Storage

Handling: Keep out of reach of children. Avoid contact with the eyes, skin and clothing and avoid inhalation of product or spray mist. If in eyes, wash it immediately with water. After



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handling and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

Storage: Store in the closed, original container in a dry, cool, well-ventilated area, out of direct sunlight. Store in locked room or place away from children, animals, food, animal feed, seed and fertilizers.

## **8. Exposure Controls / Personal Protection**

PEL: 2.3 mg/m<sup>3</sup>

Personal protective equipment: full-length overalls

Respiratory protection: wear a respirator with an organic vapor cartridge if inhalation is likely.

Protective gloves: elbow-length PVC gloves

Eye protection: safety goggles or face shield.

Industrial hygiene: none

## **9. Physical And Chemical Properties**

Melting point: 188-192°C

Density: 2.243 g/cm<sup>3</sup> at 20°C

Water solubility: 130 mg/L (25°C)

Other solubility: In methanol 90g/L; in acetone 170g/L; in furanidine 410g/L

PH value: 2-5

Flash point: inflammable

Vapor pressure : 0.17 mPa at 25°C

Ignition temperature: not applicable

## **10. Stability And Reactivity**

Conditions to avoid: avoid extreme heat and fire.

Products to avoid: fertilizer and dilute alkaline liquor

Thermal decomposition: not applicable

Hazardous decomposition products: Toxic compounds of fluorine and bromine and oxides of carbon and nitrogen may be produced when heated to decomposition.

Hazardous reaction: not applicable



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## 11. Toxicological Information

Acute oral LD50 for rat: 130 a.i.mg/kg.

Acute dermal LD50 for rat: >2000 a.i.mg/kg.

Inhalation LC50 (4 h) for rat: 0.15 a.i. mg/L.

Skin Irritation: Not irritant to skin (rabbits).

Eye Irritation: mild irritant to eyes (rabbits).

Skin Sensitization: Is a skin sensitiser (guinea pigs).

## 12. Ecological And Eco-toxicological Information

Effect on birds: moderate toxicity to birds, acute oral LD50 for Bobwhites quail is 217 a.i.mg/kg.

Effect on fish: moderate toxicity to fish, acute 96 hour LC50 for Bluegill sunfish is 29.2 a.i.mg/L.

Effect on aquatic invertebrates: moderate toxicity to aquatic invertebrates, acute 48 hour EC50 for Daphnia magna is 12.5 a.i.mg/L.

Effect on algae: moderate toxicity to algae, acute 72 hour EC50 for Navicula pelliculosa is 0.12 a.i.mg/L.

Effect on honeybees: low-moderate toxicity to honeybees, contact acute 48 hour LD50 is 150 a.i.µg/bee; oral acute 48 hour LD50 is 10.9 a.i.µg/bee.

Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC50 for Eisenia foetida is 45 a.i.mg/kg.

## 13. Disposal Considerations

Product: Sprayed over the treated plot according to the descriptions of use. Do not pollute ponds, watercourses and canals with the product or the empty packaging. Never reuse the empty package for other materials. To avoid spraying solutions after treatment, calculate how much liquid is needed on the basis of the area that need to be treated and the amount of water needed for each hectare.

The empty container need to be rinsed with water by means of a manual system (three successive times shaking with water) or by means of a cleaning sys with water under pressure, placed on the spraying tank. The wash water needs to be poured in the spraying tank. The rinsed package must be brought to a specific collector.



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## 14. Transport Information

Class NO. : 9; UN NO. : 3082; Packing Group : III

## 15. Regulatory Information

Symbol: Xn

R phrases: R2, R20/21, R36, R38

S phrases: S2, S13, S16, S20/21, S24/25, S29

## 16. Other Information

All information and instructions provided in this MSDS are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product.