



## MATERIAL SAFETY DATA SHEET

### Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO.,LTD

ADD: ROOM 601, 3A DAZIRAN CITY LIGHT BLDS., JINXIU ROAD, WENZHOU CITY,  
ZHEJIANG P.R. CHINA

Tel: +86-577-88905587

Fax: +86-577-88905567

Email: info@rayfull.com

sales@rayfull.com

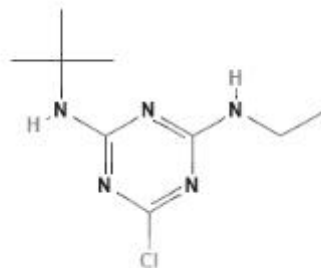
### 1. Chemical Product Identification

Product name: Terbutylazine 97%TC

Molecular formula: C<sub>9</sub>H<sub>16</sub>ClN<sub>5</sub>

Molecular weight: 229.71 g/mol

Structural formula:



Chemical name: N2-tert-butyl-6-chloro-N4-ethyl-1,3,5-triazine-2,4-diamine

Form: Powder

Colour: Off-white

### 2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Terbutylazine	5915-41-3	97%
Other	---	3%

### 3. Hazards Identification

Hazard Statement: Harmful if swallowed. Very toxic to aquatic life. Very toxic to aquatic life



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with long lasting effects.

Precautionary Statements (Prevention): Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment

Precautionary Statements (Response): IF exposed: Call a POISON CENTER or doctor/physician. IF IN EYES: Moderate irritant to eyes causing redness, pain and blurred vision.. IF ON SKIN: May be irritant to skin and cause redness and discomfort. It is moderate skin sensitizes in animal tests.

Precautionary Statements (Storage): Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Precautionary Statements (Disposal): Dispose of contents/container in accordance with local/regional/national regulations.

#### 4. First Aid Measures

Inhalation: Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.

Skin Contact: Remove contaminated clothing. Rinse with water. Continue to rinse for at least 15 minutes. Wash contaminated clothing before reuse. Get medical attention if symptoms are severe or persist.

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.

#### 5. Fire-Fighting Measures

Suitable extinguishing media: For small fires, use foam, carbon dioxide, dry powder or halon extinguishing agents. For large fires, use foam or water-fog; avoid use of water jet. Contain run-off water with, for example, temporary earth barriers.

Unsuitable extinguishing media for safety reasons: water jet

Specific hazards: Hazardous combustion products include oxides of carbon and nitrogen, hydrogen cyanide, other nitrogen compounds, hydrogen chloride, other chlorine compounds and smoke. This product is not flammable, but will burn if heated. May form explosive dust clouds in air. Containers close to fire should be removed if safe to do so.



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Special protective equipment: When fighting a major fire wear self-contained breathing apparatus and protective equipment.

Further information: In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

## 6. Accidental Release Measures

Personal precautions: Use of safe work practices are recommended to avoid eye or skin contact and inhalation of dust. May form explosive dust clouds in air. Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

Environmental precautions: terbuthylazine is very toxic to fish. Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs. Considered as Marine Pollutant.

Methods for cleaning up or taking up:

Stop leak if safe to do so and sweep granules into a pile and shovel into drums for subsequent disposal. Avoid generating dust. Consider vacuuming if appropriate. Provide adequate ventilation. After spills, wash area with water.

## 7. Handling And Storage

Handling: Avoid contact with eyes, skin and clothing. Avoid inhalation of spray and vapour. Use with adequate ventilation. Do not eat, drink or smoke while working. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the pesticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area.



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Not to be stored next to feeds, food and water supplies. Local regulations should be complied with.

## **8. Exposure controls / personal protection**

Components with occupational exposure limits: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Personal protective equipment:

Respiratory protection: Respiratory protection is not required under normal use conditions.

Where an inhalation risk exists (e.g. when mixing), wear a Class P1 (particulate) respirator.

At high dust levels, wear a powered air purifying respirator (PAPR) with Class P3 (Particulate) filter or an air-line respirator or a full-face Class P3 (particulate) respirator.

Hand protection: Employee must wear appropriate chemical-resistant gloves to prevent contact with this substance.

Eye protection: Safety glasses with side shields or goggles.

Body protection: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

General safety and hygiene measures: Wash hands before breaks and immediately after handling the product.

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

Appearance: Off white powders

Odour: Rancid odour

Melting point: 177-179°C

Vapour pressure at 20°C (mPa): 0.15

pH: 6.0-9.0

Moisture: ≤0.5%

Heat storage stability: Qualified

Low temperature stability: Qualified

## **10. Stability And Reactivity**

Reactivity: Spray solutions containing this product should be mixed or applied using stainless steel, aluminium, fiberglass or plastic-lined containers. Compatible with most herbicides at normal rates, but flocculation might occur with paraquat.



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Chemical stability: Relatively stable in neutral, weakly acids and alkaline media, but rapidly hydrolyzed to the hydroxy derivatives in strong acids and alkaline and at 70°C neutral media.

Possibility of hazardous reactions: None under normal processing.

Conditions to avoid: See section 7 - Handling and storage.

Incompatible materials: Strong oxidising agents, strong acids and strong bases.

Hazardous decomposition products: Oxides of carbon and nitrogen, hydrogen cyanide, other nitrogen compounds, hydrogen chloride, other chlorine compounds and smoke.

## 11. Toxicological Information

Acute oral LD50 for rats: >1000 a.i.mg/kg

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

Acute inhalation LC50 (4 h) for rats: >5.3 a.i.mg/L

Skin irritation: Slightly irritating to skin of rabbits

Eye irritation: Moderately irritating to eyes of rabbits

Skin Sensitization: Not a skin sensitizer (Guinea Pigs)

## 12. Ecological And Ecotoxicological Information

Effect on birds: Acute LD<sub>50</sub> for Bobwhite quail is >1236 a.i.mg/kg.

Effect on fish: Acute 96 hour LC<sub>50</sub> for Rainbow trout is 2.2 a.i.mg/L.

Effects on aquatic invertebrates: Acute 48 hour EC<sub>50</sub> for Daphnia magna is 21.2 a.i.mg/L.

Effects on algae: Acute 72 hour EC<sub>50</sub> for algae Selenastrum capricornutum is >0.012 a.i.mg/L.

Effect on honeybees: Contact acute 48 hour LD<sub>50</sub> is >32 a.i.µg/bee, oral acute 48 hour LD<sub>50</sub> is >22.6 a.i.µg/bee.

Effect on earthworms: Acute 14 day LC<sub>50</sub> is >141.7 a.i.mg/kg.

## 13. Disposal Considerations

Pesticide disposal: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal.

Container disposal: Emptied containers retain vapour and product residues. Observe all



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labelled safeguards until container is destroyed.

TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10% of that of the container. Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner. Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dump site. Prevent contamination of food, feedstuffs, drinking water and eating utensils. Comply with local legislation applying to waste disposal.

## **14. Transport Information**

Not applicable

## **15. Regulatory Information**

Not applicable

## **16. Other Information**

All information and instructions provided in this Material Safety Data Sheet (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 new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on 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. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.