



Hangzhou Tianlong Biotechnology Co., Ltd.

Add: Room 1906, Fengqi Times Tower, No.338, Fengqi East Road, Hangzhou, Zhejiang, China.

MATERIAL SAFETY DATA SHEET

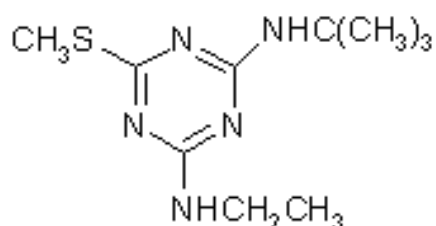
1. Chemical Product and Company Identification

Product Name: Terbutryn

Molecular Formula: C₁₀H₁₉N₅S

Molecular Weight: 241.36

Structural Formula:



Chemical Name:

N-(1,1-dimethylethyl)-N'ethyl-6-(methylthio)-1,3,5-triazine-2,4-diamine

CAS No.: 886-50-0

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

Address: Room 1906, Fengqi Times Tower, No.338 Fengqi East Road, Hangzhou, China, 310020

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2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Terbutryn	886-50-0	96.0
Other ingredients		4.0

3. Hazards Identification

Environmental hazard in case of accident (Spillage/Leakage): Very toxic to algae. Toxic to fish. Harmful to daphnia.

4. First Aid Measures

General: Remove the affected person from the danger zone to a well-ventilated room or to fresh air, and protect from undercooling. In case of suspected poisoning: Immediately call a physician.

Eye Contact: Rinse eyes with clean water for several minutes and immediately call a physician.

Ingestion: Repeatedly administer medicinal charcoal in a large quantity of water. Note: Never give anything by mouth to an unconscious person. Do not induce vomiting.

Skin Contact: Remove contaminated clothing and thoroughly wash the affected parts of the body with soap and water, including hair and under fingernails.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Dry chemical extinguisher, foam, carbon dioxide or water spray (do not use direct jet of water)

Special Hazards during Fire Fighting: Combustion products are toxic and/or irritant. Measures have to be taken to prevent the contaminated extinguishing agent from seeping into the ground or from spreading uncontrollably.

Protective Equipment for Fire Fighting: Use self contained breathing apparatus. Wear protective equipment.

6. Accidental Release Measures

Environmental Protection Measures following Accidents: Soak up with absorptive material such as sand, soil, diatomaceous earth, etc. Prevent material from spreading, e.g. by damming in with absorptive material. Collect material in specially marked, tightly closing containers. Spilled product cannot be used further and must be disposed of. If safe disposal is not possible, contact the manufacturer, the dealer or the local representative. Do not contaminate waters and sewers.

7. Handling And Storage

Handling information

General: Avoid contact with skin, eyes and clothing. Avoid inhalation of fog and vapours. Do not eat, drink or smoke while working. In addition to the measures usually taken in chemical works like splashproof filling and measuring equipment (including vapour stripping), further personal protection measures may have to be implemented to avoid possible contact with the product.

Storage information

Special Instructions for Storage: Store the product in closed original containers. Protect from light. Store away from frost.

Storage Compatibility with other Products: Store separate from food and

8. Exposure Controls/Personal Protection

Personal protective equipment: When using this product refer to the label for details. In all other cases, use the following Personal Protective Equipment:

In General: Change working clothes daily.

Breathing Protection: In case of heavy exposure, wear: Gas mask.

Eye Protection: Goggles or face-shield.

Hand Protection: Gloves.

Body Protection: Heavy duty cotton or synthetic fabric working clothes (e.g. overalls).

Precautionary measures after work: Wash thoroughly (shower, bathe, wash hair). Change clothing. Thoroughly clean protective gear. Thoroughly clean contaminated equipment with soap or soda solution.

9. Physical and Chemical Properties

Appearance: White powder

Water Solubility: 25 mg/l at 20 degrees C

Solubility in Other Solvents: Readily soluble in isopropanol, xylene, dioxane, chloroform, carbon tetrachloride, and acetone

Melting Point: 104-105 degrees C

Vapor Pressure: 0.225 mPa (25 degrees C)

Partition Coefficient: 3070

Adsorption Coefficient: Not Available

10. Stability and Reactivity

Chemical Stability Assessment: Stable under standard conditions.

Corrosiveness / Non-appropriate Material: Iron.

11. Toxicological Information

Chronic toxicity: NOEL (rat) = 300 ppm (2 years)

NOEL (mice) = 3,000 ppm (2 years)

NOEL (dog) = 100 mg/kg/day (1 year).

Reproductive Effects: A three generation reproduction study of rats showed that doses of 150 mg/kg/day of terbutryn caused decreased fertility indices in both male and female rats..

Teratogenic Effects: Above doses of 500 mg/kg/day, pregnant rats produced offspring with reduced weight and reduced bone formation in the front and rear paws. Pregnant rabbits exposed to doses of 75 mg/kg/day also had offspring with reduced bone formation.

Mutagenic Effects: In tests of terbutryn, no mutagenic effects were observed.

Carcinogenic Effects: In a two-year feeding study of rats, doses of 150 mg/kg of terbutryn caused cancerous tumor growth. However, there is no evidence of carcinogenicity in mice. Terbutryn has been classified as a possible human carcinogen by the U.S. EPA .

Organ Toxicity: Long-term feeding at high doses of terbutryn can cause growth retardation, kidney damage, liver damage and a decreased number of white blood cells.

Fate in Humans and Animals: When given orally to mammals, 73 to 85% of a terbutryn dose is eliminated in metabolized form in the feces within 24 hours.

12. Ecological Information

Ecotoxicity: Fish

LC50 (96 hours) rainbow trout (*oncorhynchus mykiss*) = 1.1 mg/L

bluegill sunfish (*lepomis macrochirus*) = 1.3 mg/L

carp (*cyprinus caprio*) = 1.4 mg/L

Daphnia magna: EC50 (48 hours) = 2.66 mg/L

Algae: (*selenastrum capricornutum*)

EC50 (7 days) = 0.013 mg/L

Birds: LC50 (5 day feeding) bobwhite quail (*colinus virginianus*) = 5,000

ppm mallard duck (*anas platyrhynchos*) > 4,640 mg/kg

Bees: Oral LD50 > 225 g/bee

Contact LD50 > 100 g/bee

Toxic to aquatic organisms. Low toxicity: birds. Non toxic: bees.

13. Disposal Considerations

Methods of disposal: Dispose of in a pesticide approved landfill or in a chemical incinerator equipped with scrubbers, In accordance with national and regional regulations.

14. Transport Information

Class: 9,

PG III

UN NO.: 3077

15. Regulatory Information

Keep locked up out of reach of children and other, unauthorized persons.

Keep away from food, drink and animal feeding stuffs.

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Do not get in eyes, on skin or on clothing. Do not breathe dust, vapor or spray mist.

In case of accident or if you feel unwell, seek medical advice immediately.

This material and its container must be disposed of in a safe way.

Do not contaminate any body of water.

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.