



**Hangzhou Tianlong Biotechnology Co., Ltd.**

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

## MATERIAL SAFETY DATA SHEET

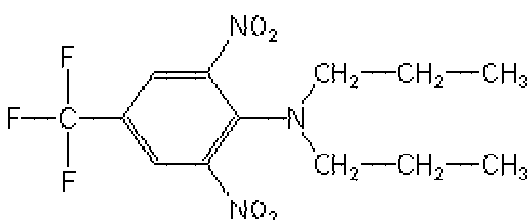
### 1. Chemical Product and Company Identification

Product Name: Trifluralin

Molecular Formula:  $C_{13}H_{16}F_3N_3O_4$

Molecular Weight: 335.3

Structural Formula:



Chemical Name: 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)benzenamine

CAS No.: 1582-09-8

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

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### 2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Trifluralin	1582-09-8	95.0
Other ingredients		5.0

### 3. Hazards Identification

Emergency Overview: Hazardous chemical. Light yellow granule with an aromatic odor. May cause eye irritation and/or corneal injury. May cause skin irritation. Toxic to aquatic organisms.

### 4. First Aid Measures

Eyes: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

Skin: Wash off in flowing water or shower.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Inhalation: No adverse effects anticipated by this route of exposure.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

#### **5. Fire-Fighting Measures**

Extinguishing Media: CO<sub>2</sub>, dry chemical, water spray or appropriate foam

Fire and Explosion Hazards: Heating benefit to temperatures above 90°C (194°F) can lead to violent reaction with rapid pressure build-up. If product is involved in fire, noxious, toxic fumes may also be formed.

Fire-Fighting Equipment: Wear full protective clothing and use positive- pressure, self-contained breathing apparatus.

Hazardous thermal decomposition and combustion products: Could cause fire in high temperatures. When heated to decomposition material emits toxic fumes (NO<sub>x</sub>).

#### **6. Accidental Release Measures**

Personal precautions: Evacuate area. Avoid contact with skin and eyes. Do not swallow. Do not breathe dust. Wear suitable protective clothing. Use rubber gloves and eye/face protection and use respirator.

Environmental precautions: Avoid contact with environment

Methods for cleaning up: Sweep up with sand or vermiculite and place into appropriate container for disposal. Ventilate and wash spill area and wash it with water.

#### **7. Handling And Storage**

Handling: Keep out of reach of children. Harmful if swallowed, inhaled or absorbed through the skin. Causes eye irritation. May cause allergic reaction in susceptible individuals. Avoid breathing dust and contact with skin, eyes or clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Storage: Store in original container. Avoid elevated temperatures. See product label for handling/storage precautions relative to the end use of this product.

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

Engineering Controls: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

Respiratory Protection: No respiratory protection should be needed. In dusty atmospheres, use a NIOSH approved dust respirator.

Skin Protection: Use gloves impervious to this material when prolonged or frequently repeated contact could occur.

Eye Protection: Use chemical goggles.

#### **9. Physical and Chemical Properties**

Appearance: Orange crystal

Boiling Point: 139°C

Melting point: 48.5°C

Vapor Pressure: 6.1mPa@25°C

Solubility: insoluble In Water, soluble in many organic solvents

Specific Gravity: 1.294  
pH: (aqueous 50/50) 7.5 to 8.5  
Partition Coefficient: 5.0719 @ pH 7 and 25 C  
Adsorption Coefficient: 8000

## 10. Stability and Reactivity

Stability: Stable at room temperature.

Conditions to avoid: Moisture

Materials to avoid: Strong oxidizing agents.

Hazardous decomposition products: Hydrogen fluoride, Nitrogenoxides  
Carbon monoxide, Carbon dioxide.

Hazardous polymerization: None

## 11. Toxicological Information

Acute oral LD<sub>50</sub>: rat >10000mg/kg, mouse 5000mg/kg, dog >2000mg/kg

Acute dermal LD<sub>50</sub>: rabbit >2000mg/kg

Reproductive effects: The reproductive capacity of rats fed dietary concentrations of trifluralin as high as 10 mg/kg/day was unimpaired through four successive generations. Trifluralin administered to pregnant rabbits at doses as high as 100 mg/kg/day, and to rats at doses as high as 225 mg/kg/day, produced no adverse effect on either the mothers or offspring. Loss of appetite and weight loss followed by miscarriages were observed when pregnant rabbits were fed high doses of 224 or 500 mg/kg/day. Fetal weight decreased and there was an increase in the number of fetal runts at the 500 mg/kg/day dosage. It is unlikely effects on reproduction will be produced in humans at expected exposure levels.

Teratogenic effects: No abnormalities were observed the offspring of rats fed doses as high as 10 mg/kg/day for four generations. Studies in the rat and rabbit show no evidence that trifluralin is teratogenic. The highest doses tested in these studies were 1000 mg/kg/day in rats and 500 mg/kg/day in rabbits. Trifluralin does not appear to be teratogenic.

Mutagenic effects: No evidence of mutagenicity was observed when trifluralin was tested in live animals, and in assays using bacterial and mammalian cell cultures.

Carcinogenic effects: In a 2-year study of rats fed 325 mg/kg/day, the highest dose tested, malignant tumors developed in the kidneys, bladder, and thyroid. However, more data are needed to characterize its carcinogenicity.

Organ toxicity: Liver, kidney, and thyroid damage appear to be the main toxic effects in chronic animal studies.

## 12. Ecological Information

Effects on birds: practically nontoxic to birds. The LD50 in bobwhite quail is greater than 2000 mg/kg, as it is in female mallards and pheasants.

Effects on aquatic organisms: very highly toxic to fish and other aquatic organisms. The 96-hour LC50 is 0.02 to 0.06 mg/L in rainbow trout, and 0.05 to 0.07 mg/L in bluegill sunfish. The 96-hour LC50 in channel catfish is

approximately 1.4 to 3.4 mg/L.  
Effects on Bees: nontoxic to bees.

### **13. Disposal Considerations**

Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of at an approved waste disposal facility in accordance with applicable local, state and federal regulations.

### **14. Transport Information**

Class: 9  
UN NO.: 3077  
Packing group: III

### **15. Regulatory Information**

Risk phrases:

36: Irritating to eyes.

43: May cause sensitization by skin contact.

50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

24: Avoid contact with skin.

37: Wear suitable gloves.

60: This material and its contents must be disposed of as a hazardous waste

61: Avoid release to the environment. Refer to special instructions / Safety Data Sheet

### **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 produces formulations containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.