



**PhytoTechnology  
Laboratories®**

# SAFETY DATA SHEET

## 1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Trifluralin  
PRODUCT NUMBER: T828  
COMPANY INFO: *PhytoTechnology Laboratories®*  
PO Box 12205, Shawnee, KS 66282-2205  
Phone: 1-888-749-8682 or 1-913-341-5343; Fax: 1-888-449-8682 or 1-913-341-5442  
www.phytotechlab.com

EMERGENCY PHONE NUMBER: 1-800-535-5053 - US Only  
1-352-323-3500 - International

RECOMMENDED USE: For Research Use Only

RESTRICTIONS ON USE: Products sold by *PhytoTechnology Laboratories®* are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

## 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification:

- H302 - Acute toxicity, Oral (Category 4)
- H331 - Acute toxicity, Inhalation (Category 3)
- H317 - Skin sensitization (Category 1)
- H351 - Carcinogenicity (Category 2)
- H400 - Acute aquatic toxicity (Category 1)
- H410 - Chronic aquatic toxicity (Category 1)

GHS Label elements, including hazard and precautionary statements:



Signal Word: **Danger**

Hazard Statements:

- H302 – Harmful if swallowed.
- H317 – May cause an allergic skin reaction.
- H331 – Toxic if inhaled.
- H351 – Suspected of causing cancer.
- H410 – Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

- P202 – Do not handle until all safety precautions have been read and understood.
- P261 – Avoid breathing dust.
- P273 – Avoid release to the environment.
- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms:  $\alpha,\alpha,\alpha$ -Trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine  
CAS No.: 1582-09-8  
Formula:  $C_{13}H_{16}F_3N_3O_4$   
Molecular Weight: 335.28 g/mol  
EC No.: 216-428-8

Ingredient	CAS Number	Percent	Hazardous
Trifluralin	1582-09-8	>99 %	No exposure limits established by OSHA or ACGIH

#### 4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Route of Entry	Symptoms	First Aid Procedures
Ingestion	May cause irritation if swallowed	If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. <b>Get medical attention.</b>
Inhalation	May cause irritation to respiratory tract	Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. <b>Get medical attention.</b>
Eye Contact	Direct contact may cause irritation. May cause redness, tearing, or blurred vision.	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. <b>Get medical attention if irritation persists.</b>
Skin Contact	Irritating. May cause reddening, itching or inflammation.	Wash area thoroughly with soap and water. Remove and wash contaminated clothing. <b>Get medical attention if irritation persists.</b>

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

#### 5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.
Special Protective Equipment and Precaution for Firefighters:	In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.
Hazardous Combustion Products:	May emit toxic fumes under fire conditions.
Toxic Gases Produced:	Carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen fluoride

#### 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Method of Containment and Cleanup:	Wear suitable protective clothing. Avoid dust formation. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water. Do not let products enter drains.

#### 7. HANDLING AND STORAGE

Precaution for Safe Handling:	Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Wash thoroughly after use.
Conditions for Safe Storage:	Keep in a tightly closed container and store in a cool, dry, and well-ventilated area.

Incompatibilities: Strong oxidizing agent

Recommended Storage Temperature: Room Temperature

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA's Permissible Exposure Limits (PELs): No data available

Threshold Limit Values (TLVs): No data available

Engineering Controls: Handle in accordance to general industrial hygiene and safety practice.

Personal Protective Equipment (PPE):

Eye/Face Protection: Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.

Skin Protection: Protective gloves

Body Protection: Lab coat

Respiratory Protection: Appropriate respirator.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Yellow to orange powder

pH: No data available

Solubility: Soluble in DMSO or EtOH

Melting Point: 47-49 °C

Vapor Density: No data available

Vapor Pressure: 3.5 hPa (2.6 mmHg) at 20 °C (68 °F)

Odor: Odorless

Odor Threshold: No data available

Viscosity: No data available

Relative Density: No data available

Evaporation Rate: No data available

Initial Boiling Point and Boiling Range: 96 - 97 °C (205 - 207 °F) at 1,013 hPa (760 mmHg)

Flammability (solid, gas): No data available

Partition coefficient: No data available  
n-octanol/water):

Auto-ignition Temperature: No data available

Decomposition Temperature: No data available

Flash Point (Closed Cup): 100.00 °C (212.00 °F)

Flammable Limits: Upper (%) – No data available Lower (%) – No data available

## 10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical Stability: Stable under normal conditions of use. Solutions may be flammable.

Possibility of Hazard Reactions: Will not occur

Conditions to Avoid: Light, incompatibles

Incompatibles Materials: Strong oxidizing agents

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen fluoride

## 11. TOXICOLOGICAL INFORMATION

Toxicity:	LD <sub>50</sub> (Oral-Rat)(mg/Kg):	1930
	LD <sub>50</sub> (Inhalation-Rat)(mg/m <sup>3</sup> ):	2800
	LD <sub>50</sub> (Dermal-Rat)(mg/Kg):	>5000
Carcinogenicity:	NTP:	No
	IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Trifluralin)
	Z List:	No
	OSHA Reg:	No
	*This product is an EPA class C carcinogen	
Reproductive Toxicity:	No data available	
Symptoms Associated with Overexposure:	Irritation, nausea, fever, muscle aches, liver and kidney damage, effect on reproduction, cancer	
Specific Target Organ Toxicity:	Single Exposure:	No data available
	Repeated Exposure:	No data available
Target Organs:	Stomach	
Medical Conditions Aggravated By Exposure:	Pre-existing breathing disorders	
Routes of Entry:	Inhalation, ingestion, skin or eye contact	
NIOSH/RTECS NO:	XU9275000	

*The toxicological properties of this product have not been thoroughly investigated*

## 12. ECOLOGICAL INFORMATION

Ecotoxicity:	Toxicity to fish - mortality LOEC - Cyprinodon variegatus (sheepshead minnow) - 0.084 mg/l - 10 d LC50 - Cyprinus carpio (Carp) - 0.66 mg/l - 96 h Toxicity to daphnia - LC50 - Daphnia magna (Water flea) - 0.193 mg/l - 48 h Toxicity to algae - Growth inhibition LOEC - Pseudokirchneriella subcapitata - 0.3 mg/l - 96 h	
Persistence and Degradability:	No data available	
Bioaccumulative Potential:	No data available	
Mobility in Soil:	No data available	
Other Adverse Effects:	Very toxic to aquatic life with long lasting effects	

## 13. DISPOSAL CONSIDERATION

Disposal Procedure:	Dispose in accordance with all applicable federal, state, and local environmental regulations.	
EPA Hazardous Waste Number:	No data available	

## 14. TRANSPORT INFORMATION

Domestic (D.O.T.):	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

International:

IMDG:	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
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Hazard Class: N/A  
 UN/NA: N/A  
 Labels: N/A

IATA: Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)  
 Hazard Class: N/A  
 UN/NA: N/A  
 Labels: N/A

**15. REGULATORY INFORMATION**

TSCA: Yes

SARA TITLE III:

Section 302 (EHS) Ingredients: No

Section 313 Ingredients: No

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: Acute Health Hazard, Chronic Health Hazard

Massachusetts Right to Know Components: CAS No.: 1582-09-8 Trifluralin

Pennsylvania Right to Know Components: CAS No.: 1582-09-8 Trifluralin

New Jersey Right to Know Components: CAS No.: 1582-09-8 Trifluralin

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**16. OTHER INFORMATION**

HMIS Rating:	<b>Health Hazard</b>	<b>Chronic Health Hazard</b>	<b>Flammability</b>	<b>Physical Hazard</b>
	2	*	0	0
NFPA Rating:	<b>Health Hazard</b>	<b>Fire Hazard</b>	<b>Reactivity Hazard</b>	<b>Special Hazard</b>
	2	0	0	

\*Chronic Hazard: Chronic (long-term) health effects may result from repeated overexposure.

***PhytoTechnology Laboratories®* provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. The above information is intended to be used only as a guide to the appropriate precautionary handling of this material by a properly trained person. *PhytoTechnology Laboratories®* shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for LABORATORY USE ONLY. Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.**

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