



# SAFETY DATA SHEET

## 1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Thidiazuron, Aqueous Solution (1 mg/mL)

SKU NUMBER: TDZ100

COMPANY INFO: Plant Cell Technology, Inc.  
1601 Connecticut Ave NW, Suite 400, Washington, DC 20009  
Phone: +1 (202) 506-5608  
www.plantcelltechnology.com

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

RECOMMENDED USE: For Research Use Only  
Products sold by Plant Cell Technology are intended for research and laboratory use only.

RESTRICTIONS ON USE: Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticide products, food additives, or as household chemicals.

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

GHS Classification:

- H315 – Causes skin irritation (Category 2)
- H319 – Causes serious eye irritation (Category 2A).
- H335 – Specific target organ toxicity – single exposure – Respiratory system (Category 3)
- H400 – Acute aquatic toxicity (Category 1)
- H410 – Chronic aquatic toxicity (Category 1)

GHS Label elements, including hazard and precautionary statements:

Pictogram:



Signal Word: **Warning**

Hazard Statements:

- H315 – Causes skin irritation.
- H319 – Causes serious eye irritation.
- H335 – May cause respiratory irritation.
- H410 – Very toxic to aquatic life with long lasting effects

Precautionary Statements:

- P273 – Avoid release to the environment.
- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 + P312 – IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P332 + P313 – If skin irritation occurs: Get medical advice/ attention.
- P337 + P313 – If skin irritation persists: Get medical advice/ attention.

Hazards not otherwise classified (HNOC) or not covered by GHS: - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: 1-Phenyl-3-(1,2,3-thiadiazol-5-yl)urea; TDZ  
CAS No.: 51707-55-2  
Formula: C<sub>9</sub>H<sub>8</sub>N<sub>4</sub>OS  
Molecular Weight: 220.27  
EC No.: 257-356-7

Ingredient	CAS Number	Percent	Hazardous
Thidiazuron	51707-55-2	0.1%	No exposure limits established by OSHA or ACGIH
Potassium Hydroxide 1.0 N	1310-58-3	1-5 %	ACGIH TLV: 2 mg/m <sup>3</sup>

#### 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:	No data available

#### 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid dust formation. Avoid breathing vapours, 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:

-20°C

## 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:

Respiratory protection is not required.  
Use N95 (US) or type P1 (EN 143) dust mask where dust level is nuisance.  
A NIOSH/MSHA approved air purifying respirator is recommended where airborne concentrations are expected to exceed exposure limits. Protection provided by purifying respirators is limited.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form: liquid

pH:

No data available

Solubility:

Soluble in DMSO, KOH, MeOH, Miscible with water

Melting Point:

No data available

Vapor Density:

No data available

Vapor Pressure:

No data available

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

No data available

Boiling Range:

No data available

Flammability (solid, gas):

No data available

Partition coefficient:

No data available

n-octanol/water):

No data available

Auto-ignition Temperature:

No data available

Decomposition Temperature:

No data available

Flash Point (Closed Cup):

No data available

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
Possibility of Hazard Reactions:	Will not occur
Conditions to Avoid:	Incompatibilities
Incompatibles Materials:	Strong oxidizing agents
Hazardous Decomposition Products:	Carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides

## 11. TOXICOLOGICAL INFORMATION

Toxicity:	LD <sub>50</sub> (Oral-Rat)(mg/Kg):	5,350
	LD <sub>50</sub> (Inhalation-Rat)(mg/m <sup>3</sup> )(4h):	2300
	LD <sub>50</sub> (Dermal-Rabbit)(mg/Kg):	>1000
Carcinogenicity:	NTP:	No
	IARC:	No
	OSHA Reg:	No
Reproductive Toxicity:	No data available (Oral-Rat) – Paternal effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).	
Specific Target Organ Toxicity:	Single Exposure:	Inhalation – may cause respiratory irritation
	Repeated Exposure:	No data available
Target Organs:	None identified	
Routes of Entry:	Inhalation, Ingestion	
NIOSH/RTECS NO:		

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

## 12. ECOLOGICAL INFORMATION

Ecotoxicity:	Toxicity to Fish: LC50 – <i>Oncorhynchus mykiss</i> (rainbow trout) - > 19 mg/L – 96 h
	Toxicity to daphnia and other aquatic invertebrates: EC50 – <i>Daphnia magna</i> (Water flea) – 10 mg/L – 48 h
	Toxicity to algae – EC50 – <i>Skeletonema costatum</i> (marine diatom) – 0.86 mg/L – 96 h
Persistence and Degradability:	No data available
Bioaccumulative Potential:	No data available
Mobility in Soil:	No data available
Other Adverse Effects:	Toxic to aquatic life

## 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: ENVIROMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1-Phenyl-3-(1,2,3-thiadiazol-5-yl)urea)  
Hazard Class: 9  
UN/NA: 3077 Packing group: III EMS-No.: F-A, S-F  
Marine Pollutant: Yes

IATA: Proper Shipping Name: ENVIROMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1-Phenyl-3-(1,2,3-thiadiazol-5-yl)urea)  
Hazard Class: 9  
UN/NA: 3077 Packing group: III EMS-No.: F-A, S-F  
Labels: N/A

**15. REGULATORY INFORMATION**

TSCA: No

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: This does not contain any components on the Massachusetts Substance List (MSL).

Pennsylvania Right to Know Components: CAS No.: 1310-58-3 Potassium Hydroxide

New Jersey Right to Know Components: CAS No.: 1310-58-3 Potassium Hydroxide

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:**

Health Hazard	Chronic Health Hazard	Flammability	Physical Hazard
2	*	0	0

**NFPA Rating:**

Health Hazard	Fire Hazard	Reactivity Hazard	Special Hazard
2	0	0	

Revision Date: 25 January, 2024

Plant Cell Technology 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. Plant Cell Technology 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.