



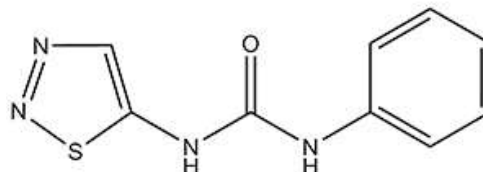
## Product Information Sheet

### T7999 Thidiazuron Solution (1 mg/mL in DMSO)

Synonyms: 1-Phenyl-3-(1,2,3-thiadiazol-5-yl)urea; TDZ  
CAS: 51707-55-2  
Formula: C<sub>9</sub>H<sub>8</sub>N<sub>4</sub>OS  
MW: 220.25 g/mol

#### Properties:

Form: Liquid  
Appearance: Clear-colorless solution  
Application: Plant Growth Regulator  
Solubility: Miscible with water  
Storage Temp: -20°C  
Typical Working Concentration: Varies by application. Concentration should be determined by end user.  
Other Notes: Plant Tissue Culture Tested; For Research Use Only



#### Application Notes:

Thidiazuron (TDZ) was originally used as a cotton defoliant and is the active ingredient in Dropp®. TDZ was later found to have cytokinin activity in bean (Mok *et al.* 1982). It is a derivative of a N,N'-diphenylurea (DPU), which belongs to a substituted phenylurea class of compounds that exhibits similar cytokinin activity to that of adenine-based cytokinins (Takahashi *et al.* 1978). The main mode of action of phenylurea-cytokinins is to inhibit cytokinin oxidases and allow for endogenous cytokinins to have a longer half-life (Mok and Mok 2001).

PhytoTechnology Laboratories® also carries TDZ Solution (1 mg/mL), Product No. T8118 (aqueous solution) and a powder, Product No. T888 (>98%).

DMSO has a melting point of 19°C and can freeze in cool environments. TDZ is not stable to autoclaving.

Please Note: While PhytoTechnology Laboratories™ tests each lot of this product with two or more plant cell/ tissue culture lines, it is the sole responsibility of the purchaser to determine the appropriateness of this product for the specific plants that are being cultured and applications that are being used.

#### References:

Merck **13**, 9384

Mok, DWS and M Mok (2001) Cytokinin metabolism and action. *Annu. Rev. Plant Physiol. Plant Mol. Biol.* 52:89-118.

Mok MC, Mok DWS, Armstrong DJ, Shudo K, Isogai Y, and T Okamoto (1982) Cytokinin Activity of N-Phenyl-N'-1,2,3-thiadiazol-5-ylurea (Thidiazuron). *Phytochemistry* Vol. 21(7):1509-1511.

Takahashi S, Shudo K, Okamoto T, Yamada K, and Y Isogai (1978) Cytokinin Activity of N-Phenyl-N'-(4-pyridyl)urea (Thidiazuron). *Phytochemistry* Vol. 17:1201-1207.

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