



## Product Information Sheet

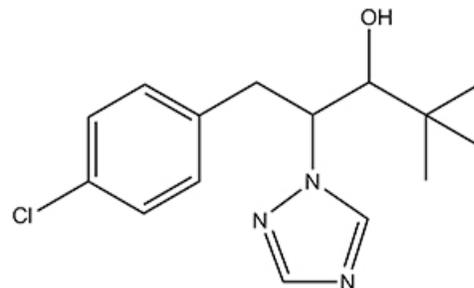
**P687**

### Paclobutrazol

Synonyms: 1-*tert*-Butyl-2-(*p*-chlorobenzyl)-2-(1,2,4-triazol-1-yl)ethanol  
CAS: 76738-62-0  
Formula: C<sub>15</sub>H<sub>20</sub>ClN<sub>3</sub>O  
Mol. Weight: 293.80

#### Properties

Form: Powder  
Appearance: White to Off-White  
Application: Plant Growth Regulator  
Solubility: DMSO  
Storage Temp: Room Temperature  
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

Paclobutrazol is known as a growth retardant containing an N-containing heterocycle. It functions by inhibiting cytochrome P450-dependent monooxygenases, which are enzymes that catalyze the oxidation of *ent*-kaurene into *ent*-kaurene acid, thus it inhibits the gibberellins biosynthesis which leads to the inhibition of internodes elongation.<sup>2</sup>

It has been reported that Paclobutrazol enhances tuberization of potato at any sucrose concentration.<sup>3</sup> Paclobutrazol also aids in preventing seed germination. A treatment of silver maple seeds with 1 mM paclobutrazol has been shown to delay germination by 50%.<sup>4</sup>

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

1. Merck **13**, 7053
2. Rademacher, Wilhelm. 2000. Growth Retardants: Effects on Gibberellin Biosynthesis and Other Metabolic Pathways. *Annu. Rev. Plant Physiol. Plant Mol. Biol.* 51:501-531.
3. Saos, F. Le Guen-le, A. Hourmant, F. Esnault, and J.E. Chauvin. 2002. *In vitro* Bulb Development in Shallot (*Allium cepa*. L. Aggregatum Group): Effects of Anti-gibberellins, Sucrose and Light. *Annals of Botany.* 89:419-425.
4. Marshall J, T Beardmore, CA Whittle, B Wang, RG Rutledge & E Blumwald (2000) The effects of paclobutrazol, abscisic acid, and gibberellin on germination and early growth in silver, red, and hybrid maple. *Can. J. For. Res.* 30: 557-565.

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