



## Product Information Sheet

**P679**

### **DL-Phosphinothricin, Monoammonium Salt**

Synonym: PPT; 2-Amino-4-(hydroxymethylphosphinyl)butanoic Acid,  
Monoammonium Salt; Glufosinate-ammonium

CAS: 77182-82-2

Formula: C<sub>5</sub>H<sub>15</sub>N<sub>2</sub>O<sub>4</sub>P

Molecular Wt: 198.19

#### **Properties**

Form: Powder

Appearance: White to Yellow Crystalline

Application: Molecular Biology

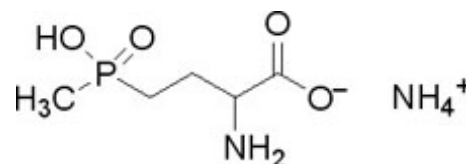
Solubility: Water

Storage Temp: Room Temperature

Typical Working Concentration: 0.5 to 400 µg/mL – See Application Notes Below

Storage Temp of Stock Solution: 2 – 6 °C; See Product No. G523

Other Notes: For Research Use Only



#### **Application Notes**

DL-phosphinothricin is also known as glufosinate-ammonium (GLA) and is an active ingredient in Basta®. It functions by inhibiting the glutamine synthase in the chloroplast from synthesizing glutamine to glutamate, which causes ammonia accumulation, thus results in plant death.<sup>2, 3, 4</sup>

Typical working concentration of GLA varies by applications. It has been reported that treatment of GLA at 0.5 µg/mL stimulates the somatic embryo formation of *Vitis interspecific hybrid*<sup>2</sup>, while GLA concentrations range from 50 µg/mL to 400 µg/mL are used in the transformation of *Magnaporthe grisea*<sup>3</sup>.

PhytoTechnology Laboratories® also carries DL-Phosphinothricin solution at 1 mg/mL, Product No. G523.

Please Note: 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**, 7425
2. Droge, W., I. Broer, and A. Puhler. 1992. Transgenic plants containing the phosphinothricin-*N*-acetyltransferase gene metabolize the herbicide L-phosphinothricin (glufosinate) differently from transformed plants. *Planta*. 187:142-151.
3. Droge-Laser, Wolfgang, Ulrich Siemeling, Alfred Puhler, and Inge Broer. 1994. The metabolites of the herbicide L-phosphinothricin (glufosinate). *Plant Physiol.* 105:159-166.
4. You, Wenqi and Allen V. Barker. 2002. Herbicidal actions of root-applied glufosinate ammonium on tomato plants. *J. Amer. Soc. Hort. Sci.* 127(2):200-204.
5. Hebert-Soule D, Kikkert JR, Reisch BI, 1995. Phosphinothricin stimulates somatic embryogenesis in grape (*Vitis* sp. L.), *Plant Cell Reports* 14(6):380-384.
6. Leung H, Loomis P, and Pall ML. Transformation of *Magnaporthe grisea* to phosphinothricin resistance using the bar gene from *Streptomyces hygrosopicus*. <http://www.fgsc.net/fgn42/leung.html> (accessed 9 Apr 2014)

#### **PhytoTechnology Laboratories®**

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