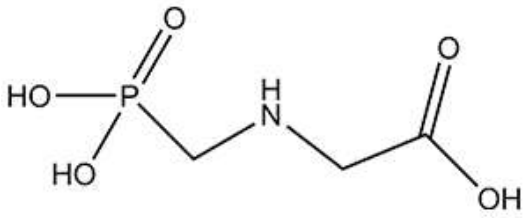
Product Information Sheet

G345
Glyphosate

Synonym:	N-(Phosphonomethyl)glycine
CAS:	1071-83-6
Formula:	$C_3H_8NO_5P$
MW:	169.07 g/mol

Properties:

Form:	Powder
Appearance:	White to Off-white Powder
Application:	Plant Growth Regulator
Solubility:	Water
Storage Temp:	2-8°C
Typical Working Concentration:	Varies by application. Concentration should be determined by end user.
Storage Temp of Stock Solution:	2-8°C
Other Notes:	Plant Tissue Culture Tested; For Research Use Only



Application Notes:

Glyphosate is a potent plant growth regulator and herbicide. Its mode of action is to interfere with the shikimate pathway by inhibiting the 5-enolpyruvylshikimate-3-phosphate (*EPSP*) synthase (Steinrücken and Amrhein, 1980), which is responsible for the biosynthesis of the aromatic compounds (e.g. tryptophan, phenylalanine, and tyrosine) and the 3-deoxy-d-arabino-heptulosonate 7-phosphate (DAHP) synthase isozyme. An *EPSP* gene conferring resistance to glyphosate was isolated first from *Salmonella* sp. (Comei *et al.* 1983).

Glyphosate is stable to autoclaving (Haderlie *et al.* 1977). Herbicidal activity has been shown at 0.5 mM in soybean (Hinchee *et al.* 1988) and 1 mM in tobacco (Singer and McDaniel, 1985).

Please Note: While *Phyto*Technology 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:

Comei L, Sen LC, and DM Stalker (1983) An Altered aroA Gene Product Confers Resistance to the Herbicide Glyphosate. *Science.* Vol. 221(4608):370-371.

Haderlie LC, Widholm JM, and FW Slife (1977) Effect of Glyphosate on Carrot and Tobacco Cells. *Plant Physiol.* 60:40-43.

Hinchee MAW, Connor-Ward DV, Newell CA, McDonnell RE, Sato SJ, Gasser CS, Fischoff DA, Re DB, Fraley RT, and RB Horsch (1988) Production of Transgenic Soybean Plants Using Agrobacterium-Mediated DNA Transfer. *Nat. Biotech.* 6(8):915-922.

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Singer SR and CN McDaniel (1985) Selection of Glyphosate-Tolerant Tobacco Calli and the Expression of this Tolerance in Regenerated Plants. *Plant Physiol.* 78:411-416.

Steinrücken HC and N Amrhein (1980) The herbicide glyphosate is a potent inhibitor of 5-enolpyruvylshikimic acid-3-phosphate synthase. *Biochem. Biophys. Res. Commun.* 94(4):1207-1212

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