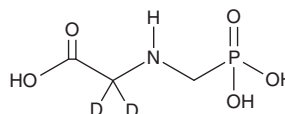


PRODUCT INFORMATION



Glyphosate-d₂ Item No. 43145

CAS Registry No.: 2734001-36-4
Formal Name: N-(phosphonomethyl)-glycine-2,2-d₂
MF: C₃H₆D₂NO₅P
FW: 171.1
Chemical Purity: ≥98% (Glyphosate)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₂); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Special Conditions: This product will back-exchange (lose deuterium content) if stored in a protic solvent such as methanol or water.

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Glyphosate-d₂ is intended for use as an internal standard for the quantification of glyphosate (Item No. 28858) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Glyphosate-d₂ is supplied as a solid. A stock solution may be made by dissolving the Glyphosate-d₂ in the solvent of choice, which should be purged with an inert gas. Glyphosate-d₂ is slightly soluble in the organic solvent DMSO.

Description

Glyphosate is a broad-spectrum, post-emergence herbicide.¹ It inhibits the activity of 5-enolpyruvyl-shikimate-3-phosphate synthase (EPSPS; IC₅₀ = 5-7 μM in a cell-free *A. aerogenes* extract), an enzyme in the shikimate pathway that catalyzes the conversion of shikimic acid to anthranilic acid.^{2,3} Foliar application of glyphosate induces foliage and rhizome necrosis of johnsongrass (*S. halepense*) when applied at concentrations ranging from 0.56 to 2.24 kg/hectare.⁴ It has been found in soil, surface water, and groundwater samples.³ Formulations containing glyphosate have been used for weed control in agriculture and horticulture.

References

1. Araújo, A.S.F., Monteiro, R.T.R., and Abarkeli, R.B. *Chemosphere* **52(5)**, 799-804 (2003).
2. Steinrücken, H.C., and Amrhein, N. *Biochem. Biophys. Res. Commun.* **94(4)**, 1207-1212 (1980).
3. Kanissery, R., Geirhe, B., Kadyampakeni, D., et al. *Plants (Basel)* **8(11)**, 499 (2019).
4. Parochetti, J.V., Wilson, H.P., and Burt, G.W. *Weed Sci.* **23(5)**, 395-400 (1975).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM