

## Glufosinate ammonium

## Chemical Properties

CAS No. :	77182-82-2
Formula:	C <sub>5</sub> H <sub>15</sub> N <sub>2</sub> O <sub>4</sub> P
Molecular Weight:	198.16
Storage:	Keep away from direct sunlight,Store under nitrogen Powder: -20°C for 3 years   In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>

## Biological Description

Description	Glufosinate ammonium is a phosphinic acid analogue of glutamic acid and is an herbicide. Glufosinate ammonium is converted by plant cells into PT (L-phosphinothricin). Glufosinate ammonium has neurotoxic activity.
Targets(IC50)	Others
In vitro	Glufosinate ammonium impairs ependymal cell capability to synthesize cilia. Glufosinate ammonium (1-100 μM; 12DIV) obviously reduces Celsr2 gene expression at 100 μM. Glufosinate ammonium (1-100 μM; 12DIV) disrupts cell-cell adhesion in differentiated V-SVZ neural stem cells (NSCs) [2].
In vivo	Glufosinate ammonium (10-250 mg/kg; gavage; daily; on days 6-15 of gestation) exhibits maternal toxicity at doses of 50 or 250 mg/kg in Wistar rats. In both male and female rats, the elimination of Glufosinate ammonium (oral intubation) from the blood has a half-life of less than 4 hours [3].

## Solubility Information

Solubility	H <sub>2</sub> O: 262.5 mg/mL (1324.69 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	5.0464 mL	25.2321 mL	50.4643 mL
5 mM	1.0093 mL	5.0464 mL	10.0929 mL
10 mM	0.5046 mL	2.5232 mL	5.0464 mL
50 mM	0.1009 mL	0.5046 mL	1.0093 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Feat-Vetel J, et al. Multiple effects of the herbicide glufosinate-ammonium and its main metabolite on neural stem cells from the subventricular zone of newborn mice. *Neurotoxicology*. 2018 Dec;69:152-163.

Ebert E, et al. Summary of safety evaluation toxicity studies of glufosinate ammonium. *Food Chem Toxicol*. 1990 May;28(5):339-49.

Áy Z, et al. The effect of high concentrations of glufosinate ammonium on the yield components of transgenic spring wheat (*Triticum aestivum* L.) constitutively expressing the bar gene. *ScientificWorldJournal*. 2012;2012: 657945.

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