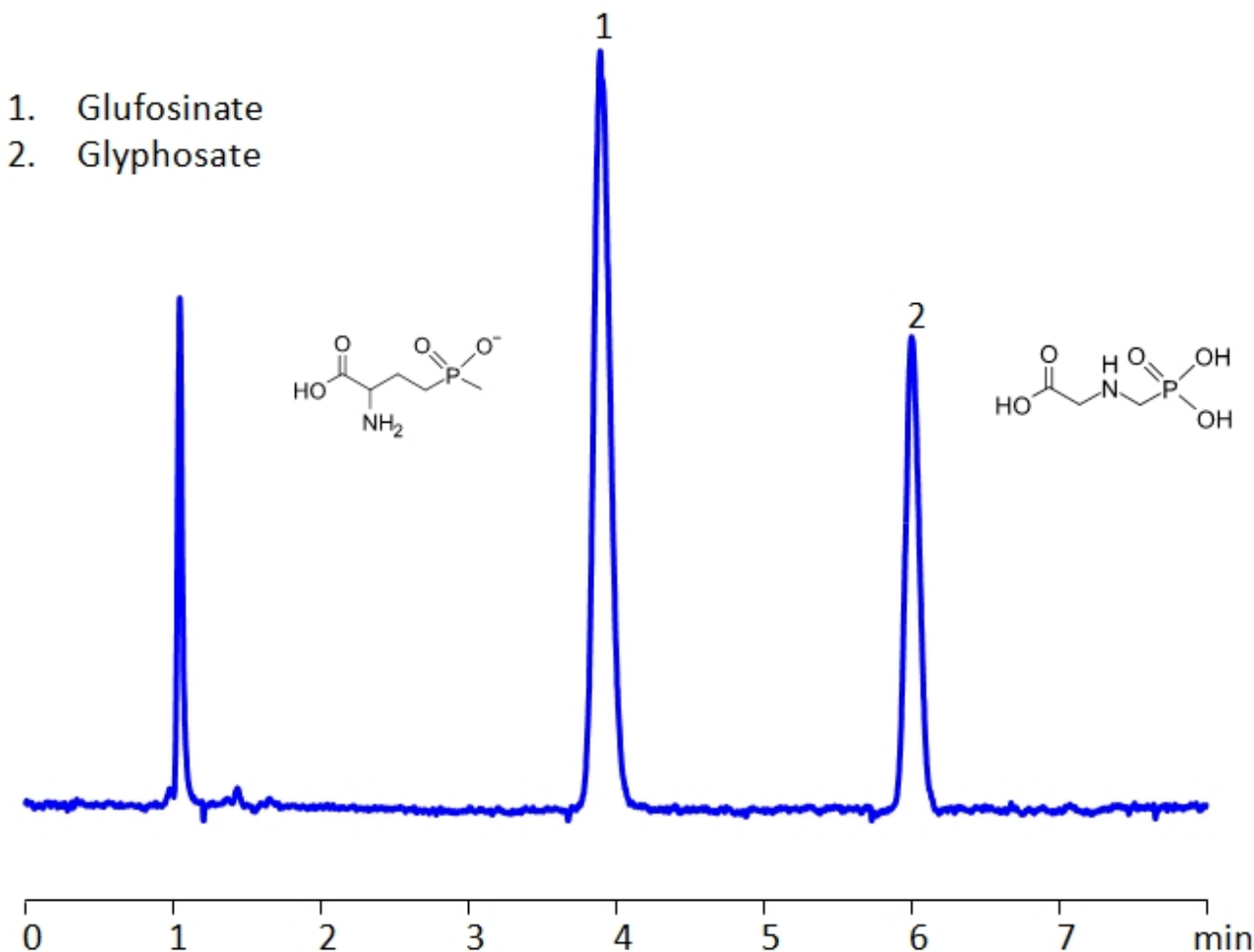


HPLC Separation of Glufosinate, Glyphosate and Glyphosine on Newcrom B Column

<https://sielc.com/hplc-separation-of-glufosinate-and-glyphosate-on-newcrom-b-column>

Chromatogram



Column:	Newcrom B
Column size:	4.6 × 150 mm, 5 μm
Mobile phase:	MeCN/H ₂ O – 5/95%
Buffer:	Formic Acid gradient 0.1 - 0.5%, 8 min
Detection:	CAD
Flow rate:	1.0 ml/min

Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of Glufosinate , Glyphosate , Glyphosine .

Glufosinate is a naturally occurring herbicide. It is produced by *Streptomyces* soil bacteria and is used for weed control against broadleaf and grass weeds. Its chemical formula is C₅H₁₂NO₄P. The herbicide works through inhibiting glutamine synthetase, which is a key enzyme in plant metabolism. It is a skin and eye irritant, therefore it is encouraged to wear protective gear when handling Glufosinate.

Glyphosate is a broad-spectrum herbicide. It works through inhibiting the plant enzyme 5-enolpyruvylshikimate-3-phosphate synthase. The enzyme is essential for producing amino acids within the plant. Glyphosate is used across agriculture and forestry, as well as rare aquatic environments. Its chemical formula is $C_3H_8NO_5P$.

Glyphosine is a synthetic plant growth regulator. It is primarily used to hasten maturity of sugarcane., but at high levels it can also be used as herbicide due to its ability to cause chlorosis in emerging leaves. Its chemical formula is $C_4H_{11}NO_8P_2$.

Glufosinate, Glyphosate, Glyphosine can be retained and analyzed using the Newcrom B stationary phase column. The analysis utilizes an isocratic method with a simple mobile phase consisting of water and acetonitrile (MeCN) with a formic acid buffer. Detection is performed using UV.

Method Parameters

Mobile Phase	MeCN/H ₂ O – 5/95%
Buffer	Formic Acid Gradient
Flow Rate	1.0 ml/min
Detection	CAD
Class of Compounds	Hydrophobic, Herbicide, Pesticide
Analyzing Compounds	Glufosinate, Glyphosate, Glyphosine

HPLC Column Used

Newcrom B, 4.6 x 150 mm, 5 µm, 100 Å, dual ended

[Order this column at hplc-shop.de →](http://hplc-shop.de)