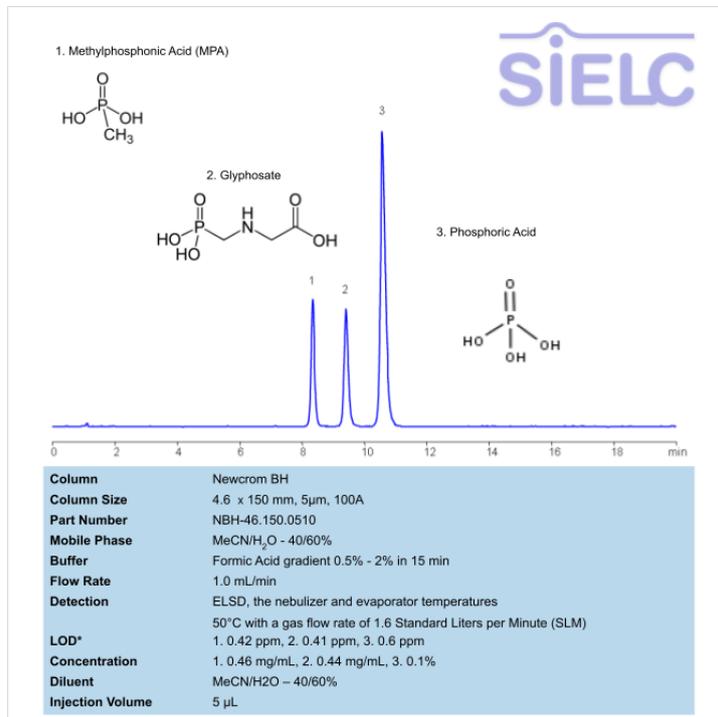


## HPLC–ELSD Method for the Analysis of Methylphosphonic Acid, Glyphosate, and Phosphoric Acid Using a Newcrom BH Column



High Performance Liquid Chromatography (HPLC) Method for Analysis of Methylphosphonic Acid , Glyphosate , Phosphoric Acid .

Methylphosphonic acid is an organophosphorus compound with the chemical formula  $\text{CH}_3\text{P}(\text{OH})_2$  . It is often used in some lubricant additives, textile treatments, and in synthesis of phosphonate compounds, like Glyphosate.

Glyphosate is an herbicide with a chemical formula of  $\text{C}_3\text{H}_8\text{NO}_5\text{P}$  . It works through blocking enzymes, like 5-enolpyruvylshikimate-3-phosphate synthase, essential for plant growth. It is typically found in agricultural work, but can occasionally be found in forestry and garden care. You can find detailed UV spectra of Glyphosate and information about its various lambda maxima by visiting the following link.

Phosphoric acid is an inorganic compound with chemical formula  $\text{H}_3\text{PO}_4$  . It is odorless and colorless, which leads to it's common use in soft drinks to help preserve the product. It is also used in fertilizers, metal treatment, and corrosion inhibition. Excessive intake of it is not recommended.

Methylphosphonic Acid , Glyphosate , Phosphoric Acid can be retained and analyzed using the Newcrom BH stationary phase column. The analysis utilizes a gradient method with a simple mobile phase consisting of water and acetonitrile (MeCN) with a phosphoric acid buffer. Detection is performed using UV.

## Method Parameters

<b>Column</b>	Newcrom BH, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
<b>Mobile Phase</b>	MeCN/H <sub>2</sub> O – 40/60%
<b>Buffer</b>	Formic Acid gradient 0.5% – 2% in 15 min
<b>Flow Rate</b>	1.0 mL/min
<b>Detection</b>	ELSD, the nebulizer and evaporator temperatures 50°C with a gas flow rate of 1.6 Standard Liters per Minute (SLM)

Quelle: <https://sielc.com/hplc-method-for-mpa-glyphosate-phosphoric-acid>