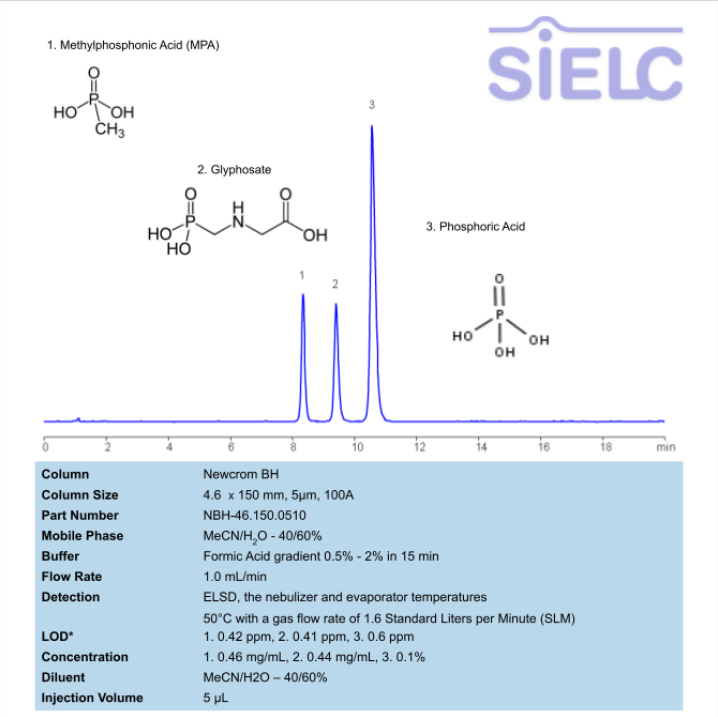
# HPLC–ELSD Method for the Analysis of Methylphosphonic Acid, Glyphosate, and Phosphoric Acid Using a Newcrom BH Column

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|---|---|
| **Column** | Newcrom BH |
| **Column Size** | 4.6 x 150 mm, 5µm, 100A |
| **Part Number** | NBH-46.150.0510 |
| **Mobile Phase** | MeCN/$H_2O$ - 40/60% |
| **Buffer** | Formic Acid gradient 0.5% - 2% in 15 min |
| **Flow Rate** | 1.0 mL/min |
| **Detection** | ELSD, the nebulizer and evaporator temperatures 50°C with a gas flow rate of 1.6 Standard Liters per Minute (SLM) |
| **LOD*** | 1. 0.42 ppm, 2. 0.41 ppm, 3. 0.6 ppm |
| **Concentration** | 1. 0.46 mg/mL, 2. 0.44 mg/mL, 3. 0.1% |
| **Diluent** | MeCN/H2O – 40/60% |
| **Injection Volume** | 5 µL |

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

Methylphosphonic acid is an organophosphorus compound with the chemical formula CH3P(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 C3H8NO5P . 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 H3PO4 . It is odorless and colorless, which leads to it’s common use in soft drunks 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

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|---|---|
| **Column** | Newcrom BH, 4.6 x 150 mm, 5 µm, 100 Å, dual ended |
| **Mobile Phase** | MeCN/H2O – 40/60% |
| **Buffer** | Formic Acid gradient 0.5% – 2% in 15 min |
| **Flow Rate** | 1.0 mL/min |
| **Detection** | 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