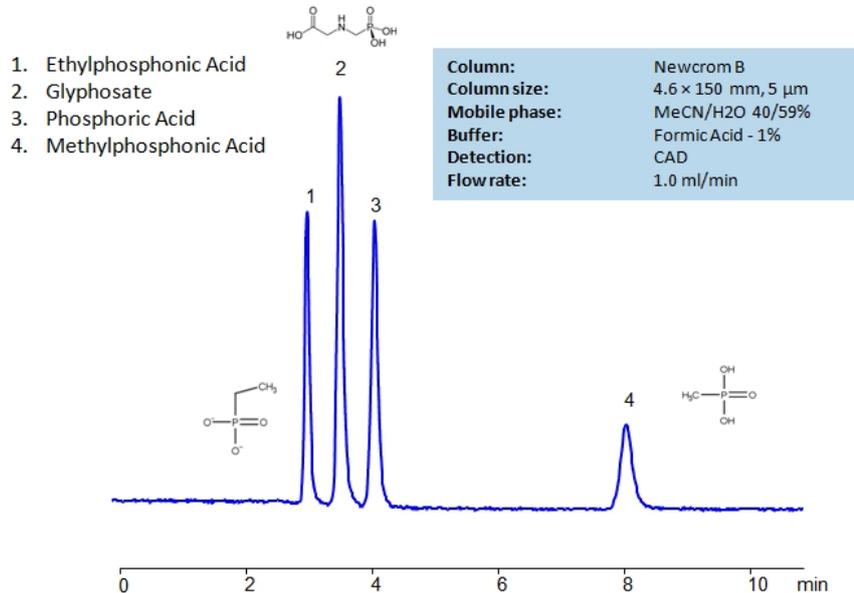


## HPLC Separation of Glyphosate, Ethylphosphonic Acid and Methylphosphonic Acid on Newcrom B Column



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

Ethylphosphonic acid has a  $C_2H_5P(O)(OH)_2$  chemical formula. It is typically found as white crystals or crystalline powder. It is often used as an internal standard when researching fosfomycin in human plasma as well as a synthetic nucleotide analog. Glyphosate is an herbicide with a chemical formula of  $C_3H_8NO_5P$ . 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.

Methylenediphosphonic acid has the chemical formula  $CH_2 [P(O)(OH)_2]_2$ . It is typically seen as a precursor in synthesis of Mesoporous aluminum organophosphate, if alkyltrimethylammonium, and Tetraester of methylenediphosphonic acids.

Phosphoric acid is an inorganic compound with chemical formula  $H_3PO_4$ . 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 , Ethylphosphonic Acid , Glyphosate , Phosphate 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 CAD.

## 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 – 40/59%                    |
| <b>Buffer</b>       | Formic Acid – 1%                                  |
| <b>Flow Rate</b>    | 1.0 mL/min  |
| <b>Detection</b>    | CAD   |

Quelle: <https://sielc.com/hplc-separation-of-glyphosate-ethylphosphonate-and-methylphosphonate>