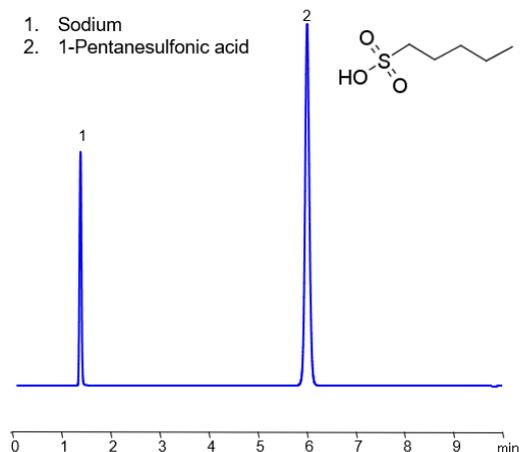


## HPLC Method for Analysis of 1-Pentanesulfonic acid on Newcrom BH Column



|                            |                                 |
|----------------------------|---------------------------------|
| <b>Column:</b>             | Newcrom BH                      |
| <b>Column size:</b>        | 4.6 × 150 mm, 5 µm, 100Å        |
| <b>Column part number:</b> | NBH-46.150.0510                 |
| <b>Mobile phase:</b>       | Gradient MeCN – 40-80%          |
| <b>Buffer:</b>             | Ammonium formate pH 3.0 – 40 mM |
| <b>Flow rate:</b>          | 1.0 mL/min                      |
| <b>Detection:</b>          | ELSD, 50C                       |

Separation type: Liquid Chromatography Mixed-mode

Pentanesulfonic acid, also known as Amyl sulfonic acid or Valeric acid, is an aliphatic sulfonic acid. It has a five-carbon chain (which is where “penta-” comes from) and a sulfonic acid group attached (-SO<sub>3</sub>H), which is a strong acid group. Its molecular formula is C<sub>5</sub>H<sub>12</sub>O<sub>3</sub>S.

This compound is often used as an ion pairing reagent in reverse-phase chromatography, a type of high performance liquid chromatography (HPLC). As an ion-pairing reagent, it helps retain analytes with ionic (particularly cationic) properties on a reverse phase column by forming a neutral ion pair. This ion pair can then interact with the hydrophobic stationary phase and can be separated based on its hydrophobic properties.

It is also used in the synthesis of a variety of chemical compounds in the laboratory and industrial settings. As with all chemicals, it should be handled with appropriate care, considering its physical and chemical properties, and potential hazards.

The Pentanesulfonic acid can be retained and analyzed using a mixed-mode Newcrom BH, 4.6 x 150 mm, 5 µm, 100 Å, dual ended column. The mobile phase for this method consists of water, acetonitrile (MeCN), and Ammonium formate, which serves as a buffer. This analytical method can be detected with an Evaporative Light Scattering Detector (ELSD) or any other evaporative detection method (CAD, ESI-MS).

## Method Parameters

|                     |   |
|---------------------|---|
| <b>Column</b>       | Newcrom BH, 4.6 x 150 mm, 5 µm, 100 Å, dual ended |
| <b>Mobile Phase</b> | Gradient MeCN -40-80%, 10 min                     |
| <b>Buffer</b>       | Ammonium formate pH 3.0 – 40 mM                   |
| <b>Flow Rate</b>    | 1.0 mL/min  |
| <b>Detection</b>    | ELSD, 50C   |

Quelle: <https://sielc.com/hplc-separation-pentanesulfonic-acid>