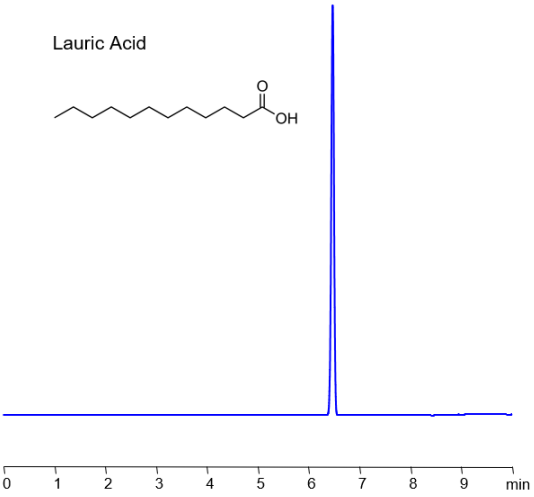
HPLC Method for Analysis of Lauric acid on Newcrom BH Column



Column:	Newcrom BH
Column size:	4.6 × 150 mm, 5 µm, 100A
Column part number:	NBH-46.150.0510
Mobile phase:	Gradient MeCN – 40-80%, 10 min
Buffer:	Ammonium formate pH 3.0 – 20 mM
Flow rate:	1.0 mL/min
Detection:	ELSD, 50C

Separation type: Liquid Chromatography Mixed-mode

Lauric acid, also known as dodecanoic acid, is a saturated fatty acid. Its chemical formula is CH3(CH2)10COOH. It is white in color, and it is a solid at room temperature with a melting point of around 44 degrees Celsius (111 degrees Fahrenheit). It is relatively inexpensive and has a long shelf life, which makes it an attractive ingredient in various commercial products.

Lauric acid is found naturally in various plant and animal fats and oils, but the largest amounts of lauric acid are found in coconut oil and palm kernel oil. In these oils, lauric acid can make up to 50% of the total fat content.

Lauric acid is commonly used in the manufacturing of soaps and cosmetics due to its ability to form a lather when mixed with water. It is also used in food for its role in digestion and metabolic processes. It's a medium-chain fatty acid, which means it is more easily absorbed and utilized by the body compared to long-chain fatty acids.

Research suggests that lauric acid may have several health benefits. For instance, it is believed to have antimicrobial properties, as it can kill harmful pathogens like bacteria, viruses, and fungi. Some studies also suggest that lauric acid could be beneficial for heart health, although more research is needed in this area.

The Lauric 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).

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Method Parameters

Column	Newcrom BH, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
Mobile Phase	Gradient MeCN -40-80%, 10 min
Buffer	Ammonium formate pH 3.0 – 20 mM
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) (MS- compatible mobile phase)

Quelle: https://sielc.com/hplc-separation-lauric-acid