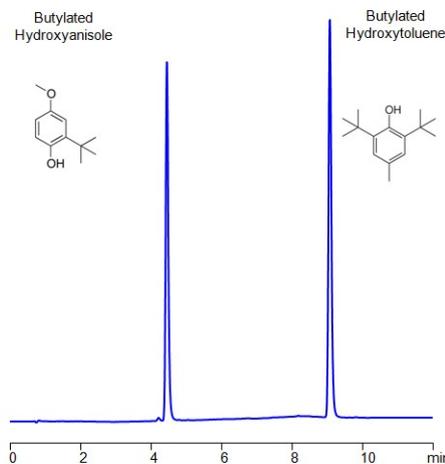


HPLC Method for Separation BHA and BHT on Newcrom R1 Column



Column:	Newcrom R1
Column size:	3.2 × 100 mm, 5 µm
Column part number:	NR1-3.2.100.0510
Mobile phase:	Gr MeCN 50 - 90% in 6 min, with 4 min hold afterwards
Buffer:	H ₂ SO ₄ – 0.1%
Flow rate:	0.5 mL/min
Detection:	UV 280 nm

Separation type: Liquid Chromatography Reversed-phase

3-tert-butyl-4-hydroxyanisole (BHA) is a synthetic antioxidant commonly used as a food preservative. It is an aromatic compound with the chemical formula C₁₁H₁₆O₂. BHA belongs to a class of compounds known as butylated hydroxyanisoles.

Function: BHA is used as an antioxidant to prevent the spoilage of fats and oils in various food products. It helps protect these substances from oxidative degradation, extending the shelf life of processed foods.

Chemical Structure: The compound has a molecular structure with a tert-butyl group (tert-butyl radical) attached to the oxygen atom of a hydroxyanisole group. The IUPAC name for BHA is 2-tert-butyl-4-methoxyphenol.

Usage: BHA is commonly used in a variety of food products, including snack foods, baked goods, cereals, and fats and oils. It is also used in certain cosmetic and pharmaceutical products.

Butylated Hydroxytoluene (BHT) is a synthetic antioxidant belonging to the class of compounds known as butylated hydroxytoluenes. Like BHA (butylated hydroxyanisole), BHT is commonly used as a food preservative to prevent the oxidation of fats and oils in various processed foods. It is also used in other products, including cosmetics, pharmaceuticals, and industrial applications.

Function: BHT acts as an antioxidant by inhibiting the oxidation of fats and oils. It helps prevent the development of off-flavors and odors in foods, extending their shelf life.

Usage: BHT is commonly used in a variety of food products, including snacks, cereals, baked goods, and processed meats. It is also used in some cosmetic and personal care products and in the packaging of

certain products to prevent oxidation.

BHA and BHT can be retained, separated and analyzed on a reversed-phase Newcrom R1 column with a mobile phase consisting of water, Acetonitrile (MeCN), and sulfuric acid. This analytical method can be detected with high resolution and peak symmetry at a wavelength of 280 nm using UV detection

Method Parameters

Column	Newcrom R1, 3.2 x 100 mm, 5 µm, 100 Å, dual ended
Mobile Phase	Gradient MeCN – 50 -90%, 6 min, 4 min hold
Buffer	H2SO4 – 0.1%
Flow Rate	0.5 mL/min
Detection	UV 280 nm
Sample	1 mg/ml
Injection Volume	1 µL

Quelle: <https://sielc.com/hplc-determination-of-bha-bht>