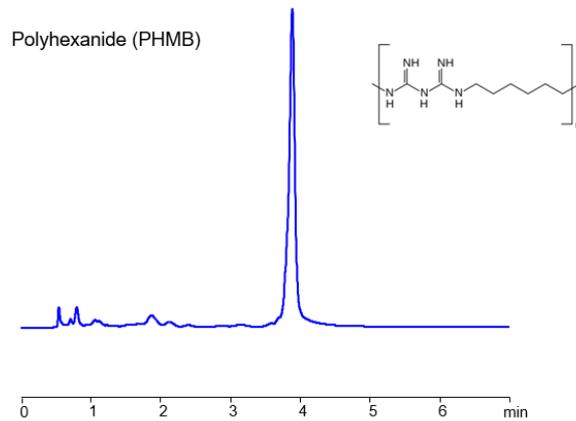


HPLC Method for Analysis of Polyhexanide (polyhexamethylene biguanide, PHMB) on BIST B+



Column:	BIST™ B+
Column size:	4.6 × 50 mm, 5 μm
Column part number:	TBP-46.50.0510
Mobile phase:	Solvent A: MeCN – 60%, H ₂ SO ₄ – 0.2% for 2 min then Solvent B: MeCN – 0%, H ₂ SO ₄ – 0.2%
Flow rate:	1.0 mL/min
Detection:	UV 200 nm
LOD:	0.05 ppm

Polyhexanide (polyhexamethylene biguanide , PHMB) is a disinfectant with the chemical formula (C₈H₁₇N₅) n . It has multiple industrial, medical, biological and research applications especially for materials that could be a possible source of bacterial contamination. Dermatologically, it is sold as polihexanide. From 2011, it has been classified as a category 2 carcinogen.

Using SIELC's newly introduced BIST™ method, Polyhexanide (polyhexamethylene biguanide, PHMB) can be retained on a positively-charged anion-exchange BIST B+ column. There are two keys to this retention method: 1) a multi-charged, negative buffer, such as Sulfuric acid (H₂SO₄), which acts as a bridge, linking the positively-charged analytes to the positively-charged column surface and 2) a mobile phase consisting of a majority of organic solvent (such as MeCN) to minimize the formation of a solvation layer around the charged analytes. Utilizing a step gradient to switch to a completely aqueous MP after 2 minutes allows for retention to occur while also preventing the method from being too long. Using this new and unique analysis method, Polyhexanide PHMB can be separated, retained, and UV detected at 200 nm.

Method Parameters

Column	BIST B+, 4.6 x 50 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN Step gradient
Buffer	H2SO4 – 0.2%
Flow Rate	1.0 mL/min
Detection	UV 200 nm

Quelle: <https://sielc.com/hplc-method-of-polyhexanide>