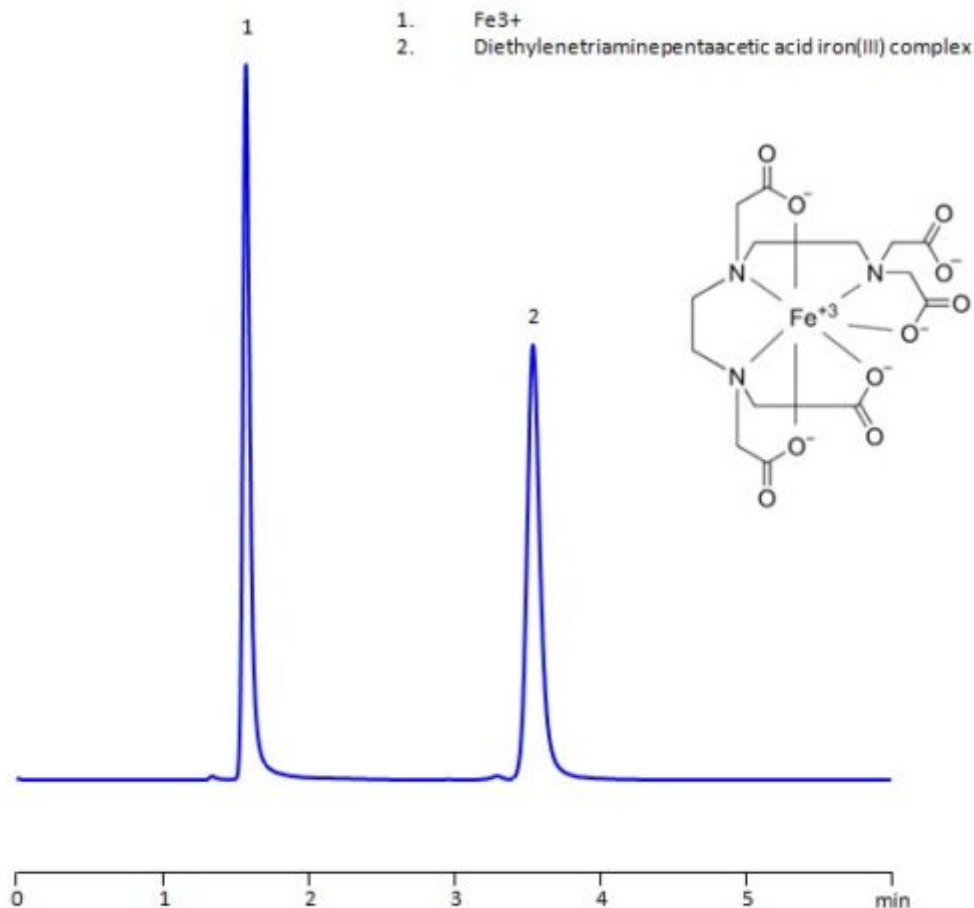


HPLC Method for Analysis of Diethylenetriaminepentaacetic acid (DTPA) on Newcrom BH Column

<https://sielc.com/hplc-determination-of-dtpa-on-newcrom-bh-column>

Chromatogram



Column:	Newcrom BH
Column size:	3.2 × 150 mm, 3 μm , 100A
Column part number:	NBH-32.150.0310
Mobile phase:	MeCN/ H_2O – 2/98%
Buffer:	H_2SO_4 – 0.2%
Flow rate:	0.5 mL/min
Detection:	UV 260 nm

Description

· HPLC Method for Analysis of Pentetic Acid (DTPA) on Newcrom BH by SIELC Technologies

Diethylenetriaminepentaacetic acid (DTPA) is a chelating agent with the chemical formula $\text{C}_{14}\text{H}_{23}\text{N}_3\text{O}_{10}$. It is used as a gadolinium chelate (Gd-DTPA) in MRI contrast agents to enhance the clarity of the images and in chelation therapy to treat poisoning by heavy metals like lead, plutonium, and americium by binding these metals and facilitating their excretion from the body. Agriculturally, DTPA is used to chelate micronutrients like iron, manganese, zinc, and copper in fertilizers, making these nutrients more available to plants, especially in alkaline soils where nutrients are less soluble. It is used in water treatment to sequester metal ions, preventing scale formation and improving the efficiency of detergents and cleaners and is included in

formulations to stabilize and enhance the efficacy of cosmetic products by binding metal ions that might otherwise degrade the product. DTPA works by binding to metal ions through its multiple donor atoms (nitrogen and oxygen), forming stable, water-soluble complexes that can be easily excreted or removed. Its ability to form stable complexes with metal ions makes it valuable in treating metal poisoning, enhancing plant nutrition, and improving industrial processes. You can find detailed UV spectra of Pentetic Acid (DTPA) and information about its various lambda maxima by visiting the following link.

Pentetic Acid (DTPA) can be retained and analyzed on the Newcrom BH column with a mobile phase consisting of water and Acetonitrile (MeCN) This analytical method can be detected with high resolution and peak symmetry at a wavelength of 260 nm using UV detection

Method Parameters

Mobile Phase	MeCN/H ₂ O – 2/98%
Buffer	H ₂ SO ₄ – 0.1%
Flow Rate	0.5 ml/min
Detection	UV 260 nm
Injection volume:	1 µl
Sample*	0.1 mg/ml
Sample Diluent	0.01 NaOH
LOD**	5 ppb
Class of Compounds	Acid, Hydrophilic
Analyzing Compounds	Pentetic Acid (DTPA)

HPLC Column Used

Newcrom BH, 3.2 x 150 mm, 5 µm, 100 Å, dual ended

[Order this column at hplc-shop.de →](https://www.hplc-shop.de)