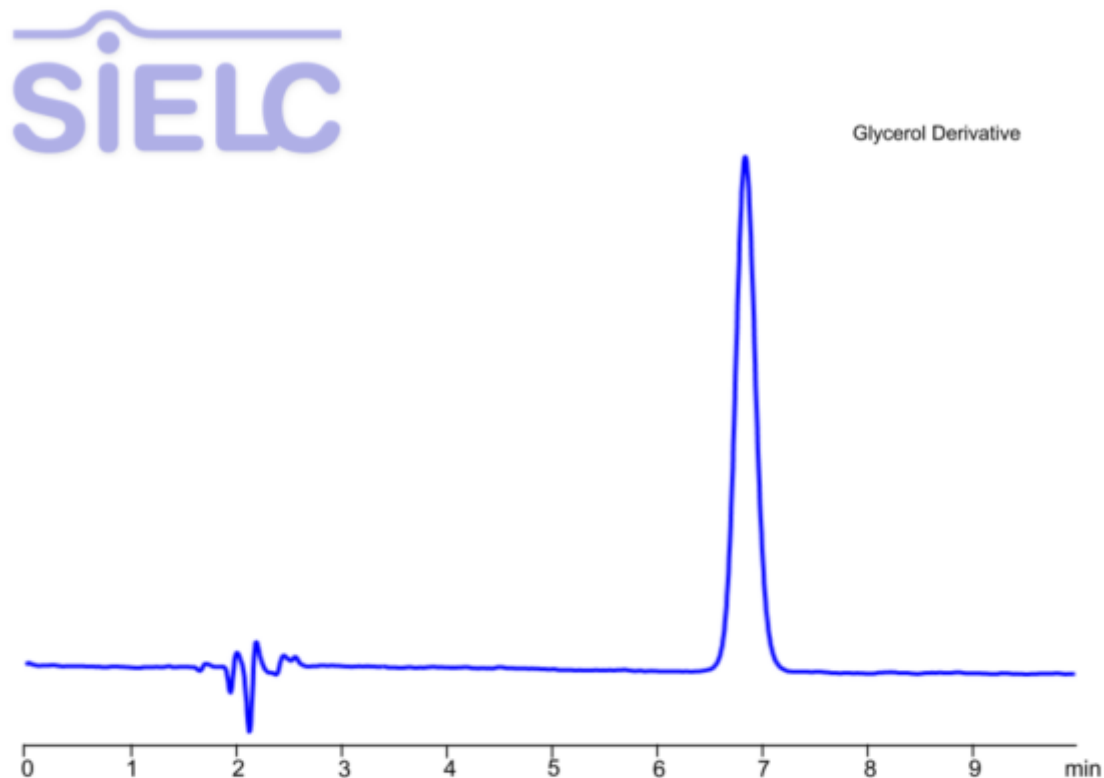


HPLC Method for the Analysis of Glycerol Following Chemical Derivatization on Primesep 100 Column

<https://sielc.com/hplc-analysis-of-glycerol-post-derivatization-ps-100>

Chromatogram



Column	Primesep 100
Column Size	4.6 × 150 mm, 5 µm
Part Number	100-46.150.0510
Mobile Phase	MeCN/H ₂ O - 20/80%
Injection volume:	5.0 µL
Buffer	H ₂ SO ₄ - 0.1%
Detection	Vis 410 nm
Limit of Detection*	2 ppm
Sample	5 mg/ml
Diluent	H ₂ O

Description

· High Performance Liquid Chromatography (HPLC) Method for Analysis of Glycerol

Glycerol is an organic compound with the molecular formula $C_3H_8O_3$. It is a humectant, solvent, and sweetener that is used in various industries including skin care, hygiene products, pharmaceuticals, and food. It is said to improve lubrication and smoothness in products. Historically, before ethylene glycol took over, glycerol was used as an antifreeze. There is no UV-Vis absorption found with standard glycerol.

This derivatization was done using two reagents:

Reagent A (Periodate reagent): 6.5mg NaIO₄ in 9mL of water, 1mL acetic acid, and 0.77g ammonium acetate

Reagent B (Acetylacetone reagent): 0.25mL of Acetylacetone in 24.75mL of isopropanol.

The sample was created by adding 0.2mL of Reagent A to 0.5mL hydrolysate and mixing for 5 minutes at room temperature. Afterwards, 0.5 mL of Reagent B was added to the solution and mixed for 20 minutes.

Glycerol can be retained and analyzed using the Primesep 100 stationary phase column. The analysis utilizes an isocratic method with a simple mobile phase consisting of water and acetonitrile (MeCN) with a sulfuric acid buffer. Detection is performed using UV.

Method Parameters

Mobile Phase	MeCN – 20%
Buffer	H2SO4 – 0.1%
Flow Rate	1.0 ml/min
Detection	Vis 410
Limit of Detection*	2 ppm
Class of Compounds	Sugar
Analyzing Compounds	Glycerol

HPLC Column Used

Primesep 100, 4.6 x 150 mm, 5 µm, 100 Å, dual ended

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