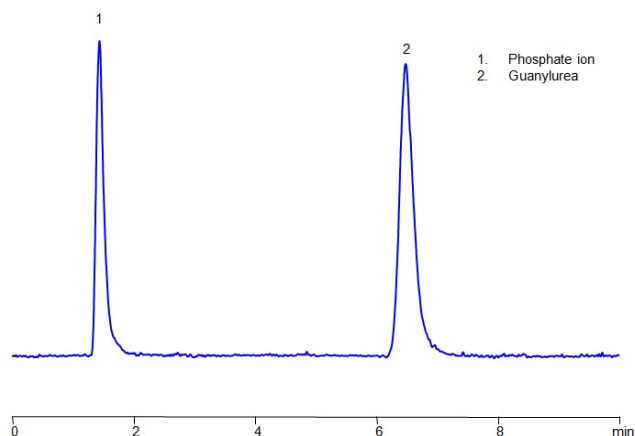


HPLC ELSD Method for Analysis of Guanylurea on Primesep 100 Column



Column:	Primesep 100
Column size:	2.1 x 100 mm, 5 µm
Column part number:	100-21.100.0510
Mobile phase:	MeCN/H ₂ O – 5/95%
Buffer:	HCOOH - 5%
Flow rate:	0.2 mL/min
Sample:	Guanylurea phosphate 2 mg/ml in H ₂ O
Injection volume:	1 µl
Detection:	ELSD, the nebulizer and evaporator temperatures 50°C, with a gas flow rate of 1.6 Standard Liters per Minute (SLM)
LOD:	2 ppm

Guanylurea, also known as guanylurea phosphate or imidodicarbonimidic diamide, is a chemical compound with the formula C₂H₆N₄O. It is derived from guanidine, a compound found in the urine of mammals, which is itself a derivative of urea.

The structure of guanylurea is characterized by a urea molecule (carbonyl group flanked by two amine groups) connected to an additional amine group. This structure imparts unique chemical properties to guanylurea, making it distinct from simpler urea.

In terms of its applications and uses:

Agriculture : Guanylurea can be used as a source of nitrogen in fertilizers, similar to urea. Its efficacy as a fertilizer comes from its ability to release nitrogen slowly into the soil, which can be beneficial for plant growth.

Chemical Synthesis : It may be used as an intermediate in the synthesis of other chemical compounds, particularly in pharmaceuticals and agrochemicals.

Research : In scientific research, guanylurea may be studied for its chemical properties and potential applications in various fields.

Guanylurea can be retained, and analyzed on a Primesep 100 mixed-mode stationary phase column using an isocratic analytical method with a simple mobile phase of water, Acetonitrile (MeCN), and a formic acid as a buffer. This analysis method can be detected using ELSD.

*LOD was determined for this combination of instrument, method, and analyte, and it can vary from one laboratory to another even when the same general type of analysis is being performed.

Method Parameters

Column	Primesep 100, 2.1 x 100 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN/H ₂ O – 5/95%
Buffer	Formic acid – 5%
Flow Rate	0.2 mL/min
Detection	ELSD, the nebulizer and evaporator temperatures 50°C, with a gas flow rate of 1.6 Standard Liters per Minute (SLM)
Sample	Guanylurea phosphate 2 mg/ml in H ₂ O
Injection Volume	1 µl

Quelle: <https://sielc.com/hplc-method-for-analysis-of-guanylurea-elsd>