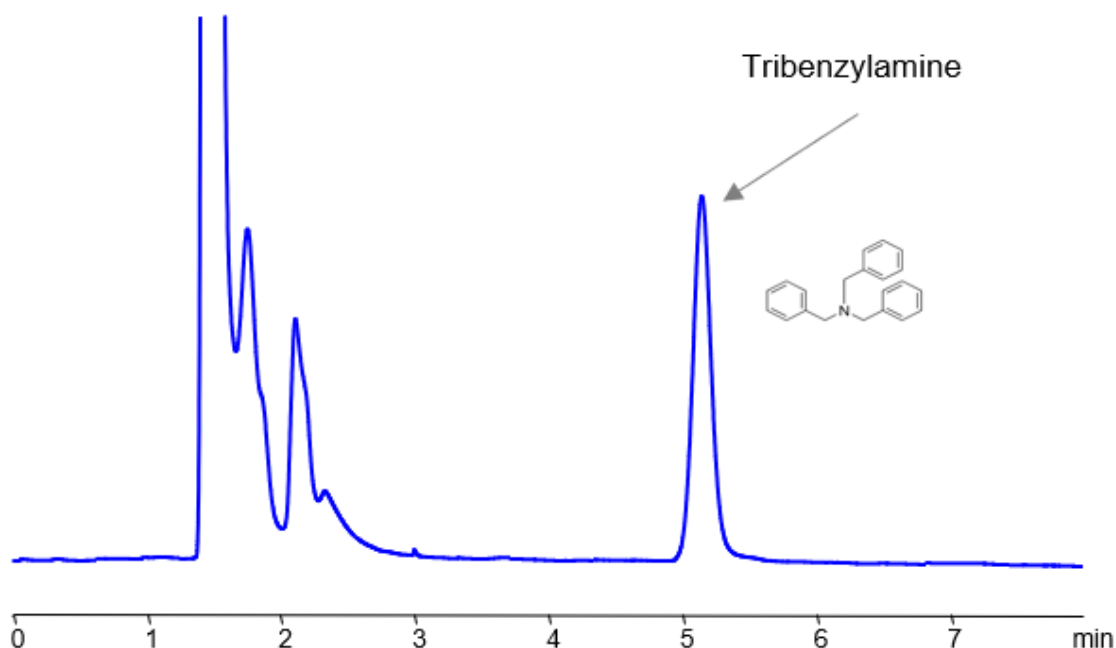


HPLC Method for Analysis of Tribenzylamine in Copper Plating Bath Solution on Primesep B Column

<https://sielc.com/hplc-method-tba-copper>

Chromatogram



Column:	Primesep B
Column size:	4.6 × 150 mm, 5 µm
Column part number:	B-46.150.0510
Mobile phase:	MeCN/H ₂ O – 20/80%
Buffer:	H ₂ SO ₄ – 0.1%
Flow rate:	1.0 mL/min
Detection:	UV 200 nm
Injection volume:	10 µl
Sample diluent:	H ₂ SO ₄ -10%, CuSO ₄ – 4% in H ₂ O

Description

· HPLC Method for Analysis of Tribenzylamine in Copper Plating Bath Solution on Primesep B Column

Tribenzylamine (TBA) is an organic compound with the chemical formula C₂₁H₂₁N. It falls under the class of triarylamines. It is occasionally used in the formulation of electrolyte solutions for copper plating. Copper plating is a process that involves the deposition of a layer of copper onto a substrate, and it requires an electrolyte solution to facilitate the transfer of copper ions to the substrate. Tribenzylamine can act as a leveler or brightener in the copper plating process. Levelers and brighteners are additives used in plating baths to improve the appearance and properties of the plated surface. They can help to achieve a

smoother, brighter, and more uniform finish by influencing the rate and distribution of metal ion deposition.

In a copper plating bath, tribenzylamine might be used alongside other components such as copper sulfate (the primary source of copper ions), sulfuric acid (which improves the conductivity of the bath and helps to control pH), and other additives that serve to fine-tune the properties of the plated layer.

In chemistry, it is commonly used as a reagent, particularly in the production of other complex organic compounds.

The Tribenzylamine can be retained and analyzed using a mixed-mode Primesep B column. The mobile phase for this method consists of water, acetonitrile (MeCN), and Sulfuric acid, which serves as a buffer. This analytical method can be monitored using UV detection at 200 nm.

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

Mobile Phase	MeCN -20%
Buffer	H2SO4 – 0.1%
Flow Rate	1.0 ml/min
Detection	UV 200 nm
Peak Retention Time	5.3 min
Sample concentration	0.01 mg/ml
Injection volume	10 µl
Sample diluent	H2SO4-10%, CuSO4– 4% in H2O
LOD	10 ppb
Class of Compounds	Triarylamines
Analyzing Compounds	Tribenzylamine

HPLC Column Used

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

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