



Ti (III) Reagent

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ABSTRACT

Used for washing off extracellular iron.

Please contact Dr. Steven Wilhelm (wilhelm@utk.edu) for any additional information regarding this protocol.

THIS PROTOCOL ACCOMPANIES THE FOLLOWING PUBLICATION

Modified Protocol form Limnology and Oceanography, 34(6), 1989, 1113-1120. Hudson & Morel.

PROTOCOL STATUS

Working

We use this protocol in our group and it is working

GUIDELINES

To prepare reagent, combine chelator solution and salts in a glass-stoppered bottle.

SAFETY WARNINGS

See SDS (Safety Data Sheet) for safety warnings and hazards.

BEFORE STARTING

Avoid stirring the solution for too long. Ti reacts with air very rapidly and will lose its reactivity.

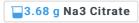
When finished, fill airspace with N₂ before parafilming for storage.

Chelator Solution

1 Per 250 mL, add 4.65 g of Na₂EDTA into distilled or Milli-Q water.



2 Add 3.68 g of Na₃ Citrate.



Salts

3 Add 2.5 mL of 0.1 M KCl.



4 Add 3.0 g of NaCl (s).

3 g NaCl

5 Add 7.77 mL of 20% TiCl₃ while stirring after salts and chelator solution are combined in glass-stoppered bottle.

■7.77 ml 20% TiCl3

Adjust pH

6 Using 10 M NaOH, adjust pH to 8. Add NaOH dropwise while stirring to attain desired pH, let equilibrate 30-60 minutes and re-check pH.

© 00:30:00 equilibration

Preparing the Ti(III) Reagent

7 To prepare reagent, combine chelator solution and salts in a glass-stoppered bottle. This will be the step where the 20% TiCl₃ is added in while stirring.

EXPECTED RESULT

The final result should be a clear purple solution.

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