Nitrite reagent for dissolved cobalt analyses

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Abstract

This protocol describes the procedures for making a 1.5 mol L^{-1} nitrite reagent for measuring total dissolved and labile cobalt using cathodic stripping voltammetry.

Citation: Randie Bundy Nitrite reagent for dissolved cobalt analyses. **protocols.io** dx.doi.org/10.17504/protocols.io.evgbe3w
Published: 17 Apr 2016

Materials

Sodium nitrite View by P212121
MilliQ water by Contributed by users
Chelex-100 resin by Contributed by users

Protocol

Dissolved cobalt analyses

Step 1.
Add 12.9 g of sodium nitrite per 125 mL of Milli-Q, by weighing the sodium nitrite directly into a large trace metal clean bottle.

Dissolved cobalt analyses

Step 2.
Add 125 mL of Milli-Q to the bottle by weight.

Dissolved cobalt analyses

Step 3.
Add clean Chelex-100 resin to the bottle and place it on a shaker overnight to ensure the Chelex mixes throughout the solution.

Dissolved cobalt analyses

Step 4.

The following morning, slowly pour the solution through an HPLC column with a frit in order to filter the chelex and allow the solution to pass into a trace metal clean bottle. Make sure to test the reagent before use to ensure it is clean.