

# The Nitrate Elimination Co., Inc.

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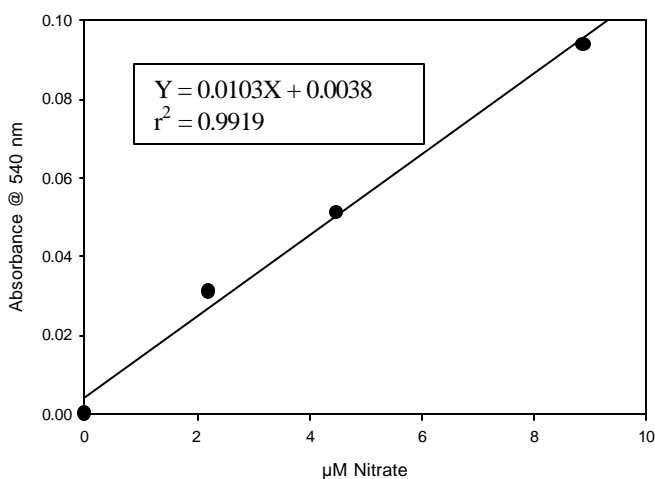
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## Low and Ultra-Low Range Nitrate Determination (less than 10 $\mu$ M)

NECi's Low Range Nitrate Test Kits (Catalog No. L-NTK-202 or L-NTK-204, or M-NTK-302 for the microplate format kit) can be used for Nitrate determinations in the **0.5 to 10  $\mu$ M** nitrate range.

Ultra Low Range Nitrate Assay with NADH/NaR



The reagent blank absorbance of 0.002 was subtracted prior to plotting these results. In the Low Range NTK, the final volume of the assay is ~2 ml so that a low volume cuvette may be needed to insure that the light beam of the spectrophotometer passes completely through the sample. The volume of a standard 1 x 1 cm cuvette is 4 ml.

**Nitrate below 1  $\mu$ M (0.014 ppm nitrate-N)** can be determined by using a longer pathlength cuvette. Adjust reagent volumes according to the total volume of your cuvette and the sensitivity of your detector.

## Ultra-Low Nitrate Determination in Sea Water

Chloride is a mild inhibitor of Nitrate Reductase. Use these modifications of our Low Range assay protocol to determine levels as low as **0.5  $\mu$ M (0.007 ppm nitrate-N)** in sea water with a standard 1cm cuvette.

1. Make up nitrate standards by spiking seawater (Instant Ocean can be used) instead of deionized water.
2. Use 40  $\mu$ l of NaR, or 0.02 NaR Units, per assay.
3. Reduce the NADH concentration to 0.15 mM; or use 10  $\mu$ l (not 50  $\mu$ l) of the NADH supplied with the kits.
4. Increase the incubation time of the nitrate reduction step to 60 minutes.
5. The color development steps stay the same.

**Determinations below 0.5  $\mu$ M** require a longer pathlength cuvette. Adjust reagent volumes according to the total volume of your cuvette and the sensitivity of your detector.

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