



The Nitrate Elimination Co., Inc.

TO PLACE AN ORDER:

Tel: 1-888-NITRATE (Toll Free)
1-906-296-1000

Email: info@nitrate.com

Mail: 217 Calumet St., Lake Linden, MI 49945 USA

Secure OnLine: www.nitrate.com

Fax: 1-906-296-8003

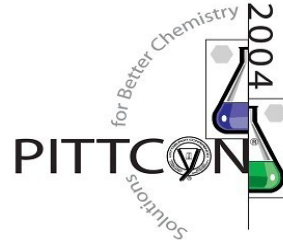
Website: Nitrate.com

For Immediate Release:

NECi at Pittcon – come see us in booth #3977!

February 21, 2004

Contact: Ellen R. Campbell, VP, 906-296-1000, ellenr@nitrate.com



Pitt Con 2004

NECi will be traveling again this year to the “Pittsburgh Conference on Analytical Chemistry”, in Chicago, March 7-12. We will be arriving in full-force with our biggest show ever featuring three new products.

New NECi Superior Stock Nitrate Reductase (YNaR1)

The Nitrate Elimination Co., Inc. (NECi) has introduced a new and improved Nitrate Reductase (NaR). The new NaR is called NECi Superior Stock NaR and its catalog item No. is YnaR-1. (See article “YNaR1” in this newsletter)

NECi is the only commercial provider of NADH nitrate reductase. We have sold NaR purified from corn seedlings since 1993. This rare enzyme is difficult to purify, and the seed stocks used as enzyme source are increasingly difficult to obtain. We have therefore been working for some years to develop an alternative, recombinant enzyme with similar catalytic properties for nitrate analysis applications. We are pleased to report that our efforts have been successful, and we believe that your company will be interested in carrying this improved product.

YNaR1 has these desirable characteristics:

- 1) Better stability. This is the most stable nitrate reductase on the market.
 - Stability in the freeze-dried form is minimum 12 months at room temperature (below 25°C).
 - Stability in solution after reconstitution is one to three weeks at 4°C.
 - This product can be shipped at room temperature.
- 2) Scalable production. Recombinant YnaR1 is produced by fermentation. NECi's production capacity for this enzyme is 100 to 1000 times production capacity for the nature corn leaf NaR enzyme.
- 3) Reduced production costs. YNaR1 is cheaper to produce and sells for less. YNaR1 can be priced competitively with any commercially available nitrate reductase, when ordered in bulk.



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Automated Reagent Kits (ARK) for Nitrate Analysis:

NECi has developed two new Automated Reagent Kits (AKW) for Nitrate Analysis. These ARK are due in large part to the work of Dr. Charles Patton with the US Geological Survey (USGS). NECi now sells ARK for your CFA/FIA protocols for enzymatic nitrate determination.

Recently, the USGS cooperated with NECi to demonstrate that the combination of NECi corn leaf NaR and NADH is an effective replacement for cadmium in automated nitrate analysis (1). Subsequent to this published work, Patton and coworkers at USGS have shown that new NECi Superior Stock NaR is a very satisfactory replacement for the corn leaf enzyme. In fact, NECi Superior Stock NaR gives better results since it is easier to handle due to its stability at room temperature in dilute solutions. Lower cost for NECi Superior Stock NaR makes the enzymatic automated nitrate analysis method more competitive in price with cadmium reduction method. If you are interested in trying NaR-based automated nitrate analysis with your equipment, contact NECi to discuss your needs and new NECi Superior Stock NaR.

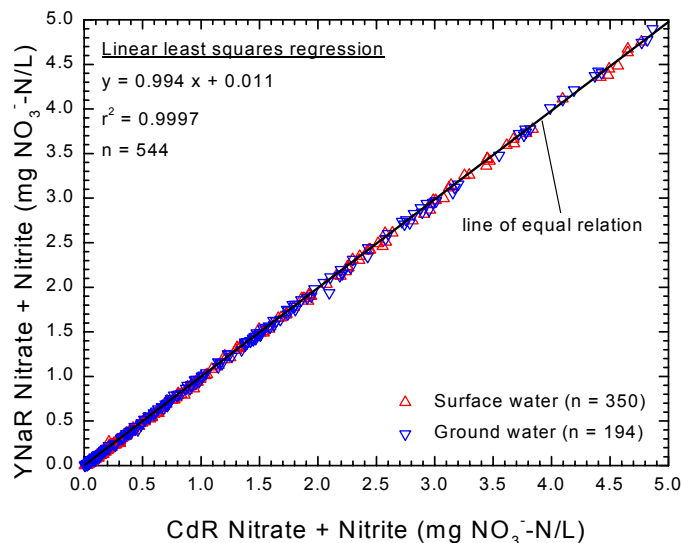


Figure 1. Linear regression of surface- and ground-water samples determined by automated air-segmented continuous flow analysis at the USGS NWQL using cadmium deduction (CdR, x-axis) and nitrate reductase reduction (YNaR, y-axis) methods as described (1), except that nitrate reductase purified from corn-leaves (NaR) was replaced by double the amount of purified yeast nitrate reductase (YNaR1). EDTA concentration was 750 times greater than used in ES&T paper (1).

Reference: 1. Patton, Charles J., Anne E. Fischer, Wilbur H. Campbell, and Ellen R. Campbell (2002) Corn leaf nitrate reductase: A nontoxic alternative to cadmium for photometric nitrate determinations in water samples by air-segmented continuous-flow analysis. *Environmental Science and Technology*, 36: 729-35.



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New Agriculture Nitrate Test Kits (Ag-NTK)

NECi has adapted its enzyme Nitrate Test Kits (NTK) to your most difficult samples:

- S-NTK-100 for soil samples and
- P-NTK-100 for plant extracts.

Our new soil and plant kits combined with our traditional water sample test kits give you total nitrate testing capability. Maximize yield while minimizing cost of inputs.

For more information on these new NECi products being introduced at Pitt Con 2004:

Contact NECi Toll-free (1-888-NITRATE)

or visit our website: www.nitrate.com