



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

Cary B. Jackson, Ph.D.
Director of Regulatory Sciences
Hach Company
5600 Lindburgh Drive
Loveland, CO 80539

June 20, 2007

RE: ATP # N05-0015; N05-0016; N05-0017; N05-0018; and N05-0021

Dear Dr. Jackson:

We are returning your applications for the use of prepackaged reagents (e.g., TNTplus™ Ammonia, and TNTplus™ Nitrite) because use of these prepackaged reagents with methods approved for (1) determination ammonia in distillates, in samples that do not require distillation (per 40 CFR Part 136.3, Table 1B, Footnote 6); and in (2) samples that have been prepared for determination of Total Kjeldahl Nitrogen (per the procedures approved at 40 CFR Part 136.3, Table 1B); and (3) for the determination of nitrite does not require our approval as alternate test procedures. Under recently adopted changes (40 CFR Part 136.6) to EPA's Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, approval for use of such technology and method is not required if certain requirements are met. Consequently, the Engineering and Analysis Division (EAD) will no longer review applications for approval of such uses under EPA's Alternate Test Procedures (ATP) Program. We recommend that you inform your customers of these recent developments. Previously, in a Memorandum (Flexibility to Modify CWA Methods - Automated Methods), dated April 2, 2007, Richard Reding, Chief, Engineering & Analytical Support Branch, EAD, OST stated that: (1) The Methods Update Rule, published March 12, 2007 (72 FR 11200), added a provision that provides the regulated community with the flexibility to automate analysis by an approved Clean Water Act (CWA) method without further EPA action; and (2) The amended regulations at 40 CFR Part 136.6 (72 FR 11239-40) authorize an analyst to modify an approved test procedure in certain circumstances, provided that the underlying chemistry of the method or the determinative technique is not changed.

In the applications that are being returned to you, the underlying chemistry used for the determination of ammonia and that used for the determination of nitrite is the similar as that used in the approved methods. Although there are some minor differences in the reagents used, the underlying reactions and the principles behind them remain virtually the same. The TNTplus™ Ammonia chemistry is based on the salicylate chemistry used in EPA Method 351.2 and the phenate chemistry used in EPA Method 350.1 and 351.1. The only difference between salicylate and phenate is that the aromatic ring in salicylate contains a carboxylate group. Both chemistries are essentially variations

of the Berthelot reaction and rely on electrophilic aromatic substitution. In all cases, ammonia (or organic, nitrogen containing compounds that have been converted to ammonia through TKN digestion) reacts with hypochlorite ion to form monochloramine which reacts with phenol (or a substituted phenol) in the presence of nitroprusside to form indophenol (or a substituted indophenol analog) that is measured colorimetrically and is directly proportional to the concentration of ammonia in the sample or the digestate. Similarly, the TNTplus™ Nitrite chemistry is based on the same reactions as those used in EPA Method 353.2. In both cases, nitrite in a sample reacts with an aromatic sulfonated amide under acidic conditions to form a diazonium compound. This compound is then coupled with a similar naphthylamine chromophore to form a reddish-purple azo dye that is measured colorimetrically and is directly proportional to the concentration of nitrite in the sample.

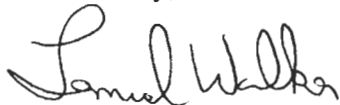
As a reminder the the following applications N05-0015; N05-0016; N05-0017 and N05-0018 for Hach Company's TNTplus™ Ammonia and TNTplus™ Nitrite prepackaged reagents should include stand-alone methods written in standard EPA format with method number and revision date. To ensure equivalency, we also recommend that Regions and permitting authorities require the following documentation listed below:

The manufacturer of the prepackaged reagents should:

- provide to their customers a side-by-side method comparison demonstrating similarities to and differences from the approved method(s)
- provide to their customers all data comparing the performance of the modified methods to the performance of the approved methods for all the requested procedures.

We appreciate your interest in the development of environmental monitoring methods. If you have any questions regarding the ATP program please contact me at walker.lemuel@epa.gov.

Sincerely,



Lemuel Walker
CWA ATP Coordinator
Engineering and Analysis Division (4303 T)
Engineering and Analytical Support Branch

cc:

Steve Wendelken, SDWA ATP Coordinator
Richard Reding, Chief, EASB

- N05-0015 - Hach TNTplus™ Ammonia for determination of ammonia as an alternate to EPA Method 350.1 (method not included with application)
- N05-0016 – Hach TNTplus™ Ammonia for determination of ammonia as an alternate to EPA Method 350.2 (method not included with application).
- N05-0017 - Hach TNTplus™ Ammonia for determination of TKN as an alternate to EPA Method 351.1 (method not included with application)
- N05-0018 - Hach TNTplus™ Ammonia for determination of TKN as an alternate to EPA Method 351.2 (method not included with application)
- N05-0021 - Hach TNTplus™ Nitrite (Method titled “Spectrophotometric Measurement of Nitrite in Water and Wastewater” included with application)