

AR 226-3956
Dyno Nobel Americas

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Dyno Nobel

Mr. Jim Willis
 US EPA, OPPT, Chemical Control Division
 1200 Pennsylvania Ave., NW, 7405M
 Washington, DC 20460

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DYNO NOBEL INC.
 2650 Decker Lake Blvd.
 Suite 300
 Salt Lake City, Utah
 84119 USA
 Telephone: 801-364-4800
 Fax: 801-328-6452
 www.dynonobel.com

Date 21 June 2010

Re: Pentaerythritol Tetranitrate (PETN) Biodegradation Study

Dear Mr. Willis:

Please see attached the enclosed letter from the US Army Public Health Command (Provisional) [(USAPHC (Prov))] that is respectfully submitted by Dyno Nobel Inc.

The USAPHC (Prov) has decided to perform the biodegradation test on PETN using ASTM E 1625. Upon review of the method, they propose a modification to ASTM E 1625 due to the impracticality of monitoring Dissolved Organic Carbon.

Regards



Neal Olsen
 Senior Director / Environment
 Phone: 801.328.6425
 e-mail: neal.olsen@am.dynonobel.com

cc: Document Control Office (OPPT)
 USEPA
 1200 Pennsylvania Ave., NW
 Rm 6428, 7407M
 Washington, DC 20460

Catherine Roman
 USEPA
 1200 Pennsylvania Ave., NW
 7405M
 Washington, DC 20460

CONTAINS NO CBI

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DEPARTMENT OF THE ARMY
US ARMY PUBLIC HEALTH COMMAND (PROVISIONAL)
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MD 21010-5403

JUNE 14, 2010

Directorate of Laboratory Sciences

Mr. Jim Willis
Director, Chemical Control Division
Office of Chemical Safety and Pollution Prevention
US Environmental Protection Agency
MC 7101
1200 Pennsylvania Avenue, N.W.
Washington, District of Columbia 20460

Dear Mr. Willis:

This letter is provided in response to your letter dated March 02, 2010 regarding the incorrect application of ASTM E1279 for the determination of the biodegradation of Pentaerythritol tetranitrate (PETN, CAS 78-11-5) to meet the TSCA section 4 test rule entitled "Testing of Certain High Production Volume Chemicals" (71 FR 13708). Two guidelines were cited within the letter, ASTM 1625 and ISO 9888, as being appropriate methods to satisfy the test rule and avoid violation of the test rule stated in 40 CFR 790.59.

The US Army Public Health Command (Provisional) [USAPHC (Prov)], formerly US Army Center for Health Promotion and Preventive Medicine (USACHPPM), Directorate of Laboratory Sciences (DLS) has determined that due to the extremely low solubility of PETN in aqueous solution and its low percent carbon by mass, the application of ISO 9888 to determine biodegradation is not practical.

The USAPHC (Prov), DLS proposes to establish the biodegradability of PETN using ASTM E1625-94(2008), "Standard Test Method for Determining Biodegradability of Organic Chemicals in Semi-Continuous Activated Sludge (SCAS)". ASTM E1625-94, section 1.3 and 8.2, state that other "specific chemical analysis" may be utilized for test chemicals. Since monitoring Dissolved Organic Carbon (DOC) is not practical for the degradation of PETN in aqueous solution; USAPHC (Prov) proposes to only monitor the PETN concentration using a quantitative method as permitted in section 8.2.5, and report results as described in section 13.2.6 of the ASTM method.

If no apparent loss of PETN is observed after the first twelve weeks of the study, the study will be terminated.

Upon conclusion of this study, a final report will be generated following section 13 of ASTM E1625-94(2008) with the exclusion of 13.2.5 (DOC removal).

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We request concurrence from your office that the proposed method and procedures as described above meet the requirements of 40 CFR 790.59 and 71 FR 13708.

The point of contact for this action is Mr. David Morrow, (410) 436-2637, email david.morrow2@us.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "R. P. Duncan", with a stylized flourish at the end.

Richard P. Duncan, Ph.D.
Lieutenant Colonel, US Army
Director, Laboratory Sciences

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