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COMMENTS:

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April 5, 2012

Via Federal Express



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Attention: 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
1201 Constitution Ave., NW
Washington, DC 20004

8EHQ-0412-18623A
88120000166



Dear 8(e) Coordinator:

Pentanenitrile, 2,2'-azobis[2,4-dimethyl-
CAS No. 4419-11-8

This letter is to inform you of the results of toxicity studies with the above referenced test substance.

Acute Daphnia Toxicity

This is a range-finding study designed to provide an estimate of aquatic toxicity using fixed test concentrations and data measurements at predetermined intervals. Immobilities were 0, 0, 0, 100, 100, and 100% in the 0, 0.5, 1.0, 50, 500 and 5000 mg/L test concentrations, respectively. The 48-hour EC50, based on nominal concentrations and immobility, was between 1.0 and 50 mg/L.

Acute Algal Toxicity

This is a range-finding study designed to provide an estimate of aquatic toxicity using fixed test concentrations and data measurements at predetermined intervals. Mortalities were 0, 0, 0, 100, 100, and 100% in the 0, 0.5, 1.0, 50, 500 and 5000 mg/L test concentrations, respectively. The 96-hour LC50, based on nominal concentrations and mortality, was between 1.0 and 50 mg/L.

Acute Inhalation Toxicity

The approximate lethal concentration of thermal decomposition products of the test substance was evaluated. Approximately 100 g of the test substance were placed in a reaction flask each day and heated to simulate thermal degradation. Vapor concentration was regulated by varying the temperature of the flask. Concentrations were determined nominally, based on weight differences before and after exposure and dilution air flow. A metered flow of air (4.2 L/m) swept the vapors into a 45-liter glass exposure chamber. For each 4-hour exposure, 6 young adult ChR-CD, male rats, were exposed to various concentrations of the test substance decomposition products. All rats were allowed food and water ad libitum except during exposure. Surviving rats were weighed and observed for a 14-day recovery period. Since the test substance decomposes exothermally, it can auto-decompose at elevated temperatures liberating nitrogen, thus causing a pressure buildup. In 4 of 5 exposures when the temperature exceeded 63°C, pressure buildup occurred, with sharp temperature rises. Smoke filled the chamber, indicating a concentration surge. The chamber was aired out and the temperature reduced of the reaction flask. In these cases, the rats were not exposed to the full amount of decomposition products that the nominal concentration indicated. The mortalities (number dead/number exposed) in the mg test substance/L of air concentrations of 0.37, 1.15, 5.98, 6.20, 13.08, 15.96 and 18.91 were 0/6, 0/6, 6/6, 3/6, 2/6, 0/6, and 4/6. The Approximate Lethal Concentration (ALC) of the thermal decomposition products of the test substance was nominally determined to be 5.98 mg/L of air. In all but the 2 low-level exposures (0.37 and 1.15 mg/L), uneven labored respiration and spasms were noted.

CONTAINS NO CBI

Red-tinged ocular discharge was frequently seen shortly after exposure. Deaths occurred from 90 minutes into the exposure to 40 minutes post-exposure.

This information is submitted in accordance with current guidance issued by EPA indicating EPA's interpretation of Section 8(e) of the Toxic Substances Control Act or, where it is not clear that reporting criteria have been met, it is submitted as a precautionary measure and because it is information in which EPA may have an interest.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Satheesh Anand', with a stylized flourish at the end.

S. Satheesh Anand, Ph.D., DABT
Senior Research Toxicologist

SSA/TLS: jhh
(302) 366-5314

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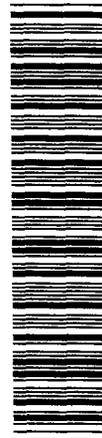
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