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June 7, 2010

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Room 6428  
Attention: 8(e) Coordinator  
Office of Pollution Prevention and Toxics  
U.S. Environmental Protection Agency, ICC Building  
1201 Constitution Ave., NW  
Washington, DC 20004

8EHQ-0610-17971A  
DCN: 88100000300s



8EHQ-10-17971

Dear 8(e) Coordinator:

Mixture Containing Hydroxylamine 50% (7803-49-8) [ ]; Diglycolamine (929-06-6) [ ];  
Catechol (120-80-9) [ ]; Water (7732-18-5) [ ]; Diethylene glycol (111-46-6) [ ]

This letter is to inform you of the results of acute dermal and acute oral toxicity studies with the above referenced test mixture.

Acute Dermal Toxicity:

The test mixture was applied undiluted to the shaved backs of groups of five male and five female adult New Zealand White rabbits at a dose of 2.0 g/kg of body weight. The test sites were wrapped and the test substance was left in contact with the skin for 24 hours. Residual test substance was removed by wiping with a gauze pad moistened with saline or mineral oil. The rabbits were observed during the 24 hours following treatment and for 13 days thereafter. Doses of 1.9, 1.7, and 1.3 g/kg were similarly applied due to mortality in the 2 g/kg dose group.

Mortality incidences were 9/10 (2-4 days), 1/10 (day 6), 0/10, and 1/10 in the 2.0, 1.9, 1.7, and 1.3 g/kg dose groups, respectively. The rabbit at the 1.3 g/kg level died on Day 10 and necropsy findings (white foci on the lungs) for the animal were consistent with pulmonary infection. Therefore, the death of this rabbit was not considered test substance related. Based on these results, the acute dermal median lethal dose (LD<sub>50</sub>) of the test mixture in male and female rabbits was calculated to be 1.93 g/kg with 95% Confidence Limits of 1.79 to 2.09 g/kg of body weight.

Cyanosis (up to 4 days) was observed in all animals. Hydroxylamine has been reported to cause cyanosis<sup>1</sup>. Other clinical signs including ataxia, hypoactivity, and prostrate posture were observed only in the 2 and 1.3 g/kg dose groups. Necrosis was observed at the application site of all animals, except four of the animals that died by Day 2, and remained evident in all animals except two at study termination (Day 14).

Acute Oral Toxicity:

The test mixture was administered in aqueous solution by oral gavage to three groups of five male and five female Sprague-Dawley rats at doses of 300, 600, or 800 mg/kg of body weight. The surviving rats were observed for 14 days after test substance administration.

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Mortality incidences in the 300, 600, and 800 mg/kg dose groups were 0/10, 6/10, and 5/10, respectively. The acute oral median lethal dose (LD<sub>50</sub>) of the test mixture in male and female rats was calculated to be 678 mg/kg with 95% Confidence Limits of 367 to 1253 mg/kg. All deaths occurred on the day of dosing. All rats at all doses exhibited cyanosis up to 4 days. At 600 mg/kg – 8/10 rats had convulsions on the day of dosing (6 died); coma was noted in one moribund rat; hunched posture in 1 surviving rat and ataxia in 3 rats (one died) on the day of dosing were observed. At 800 mg/kg – 6/10 rats had convulsions on the day of dosing (5 died).

Sincerely,

<sup>1</sup> R.E. Gosselin et al., *Clinical Toxicology of Commercial Products*, Williams & Wilkins, 5th Edition, 1984