

ORIGINAL

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COMMENTS:

DOES NOT CONTAIN CBI

MR#331737



DuPont Haskell Global Centers
for Health and Environmental Sciences
1090 Elkton Road, P.O. Box 50
Newark, DE 19714-0050

December 14, 2010

Via Federal Express



Document Processing Center (Mail Code 7407M)
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-1210-18209A
DCN: 8811000093



12DEC15 PM 12:11

Dear 8(e) Coordinator:

Ethylenediamine
CAS # 107-15-3

This letter is to inform you of the results of pre-1977 (1937) toxicity studies, which we recently became aware of with the above-referenced test substance.

Repeat Dose Oral Toxicity

Six white rats received doses of 1 cc. of a 10 per cent aqueous solution of ethylene diamine by stomach tube on four days, with an interval of two days between the first two and the last two administrations. After the first treatment all animals showed great discomfort and after the second day of treatment the respiration became labored. One animal was killed after three treatments, one died over the week and after the fourth treatment, and the remaining four animals were killed on the sixth day of the experiment. On autopsy it was found that the mucosa of the gastrointestinal tract, especially of the stomach, was more or less markedly edematous, the latter showing also small hemorrhagic areas in its upper portion. The gastric mucosa of the four animals killed after six days was covered with necrotic pseudo membranes.

In order to reduce the irritant action of ethylene diamine on the gastro-intestinal tract, which might interfere with the absorption and hence with the systemic action of this compound, six animals were given daily doses of 1 cc. of a 10 per cent aqueous solution of ethylene diamine hydrochloride on five days, eight such doses being given altogether, three of the these after a two day interval. One animal was killed on the eighth day after having received five daily doses, and the remaining animals were killed on the thirteenth day after a total of eight treatments. These animals showed no toxic signs and gained weight normally. None of these animals showed abnormalities of the gastrointestinal tract and there was only a moderate congestion of the spleen and the kidney and a mild hyperemia of the lungs, which was probably due to the ether used as anesthetic before killing the animals.

Inhalation Toxicity

In order to evaluate the potential dangers resulting from the inhalation of the vapors of ethylene diamine, five white rats were exposed four hours daily for three days, with a two day interval between the second and third exposure, to vapors liberated from ethylene diamine at room temperature (about 27°C.) by an air current flowing at the rate of

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about four liters per minute. Shortly after the beginning of the exposure all animals showed irritation of the mucous membranes. All animals lost weight and one rat died over the week and after a total of eight hours of exposure, and the remaining animals were killed on the fifth day of the experiment. Although these animals were emaciated, they showed no appreciable macroscopic lesions in the internal organs.

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". The signature is fluid and cursive, with a prominent initial "S" and a long, sweeping underline.

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

SSA: clp
(302) 366-5314



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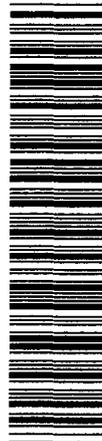
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Form No. 0215

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