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DOW CORNING

8EHQ-0198-14098

Contains No CBI

January 6, 1998

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TSCA Document Processing Center (7407)
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Attn: TSCA Section 8(e) Coordinator
401 M Street S.W.
Washington, D.C. 20460

Re: TSCA Section 8(e) Notification: 1,2-Bis(triethoxysilyl)ethane

RECEIVED OPPT NCIC 98 JAN 12 AM 9:10

Dear Sir:

In accordance with the provisions of Section 8(e) of the Toxic Substances Control Act (TSCA), as interpreted in the Statement of Interpretation and Enforcement Policy (40 FR 11110, 16 March 1978), Dow Corning is reporting the following information concerning an ongoing study.

Chemical Substance:

16068-37-4 3,8-Dioxa-4,7-disiladecane, 4,4,7,7-tetraethoxy-
(1,2-Bis(triethoxysilyl)ethane)

Manufacturer:

Dow Corning Corporation
2200 West Salzburg Road
Midland, Michigan 48686-0994

8EHQ-98-14098

Ongoing Study:

1,2-BIS(TRIETHOXYSILYL)ETHANE. A 4-WEEK INHALATION TOXICITY STUDY IN THE RAT VIA WHOLE BODY EXPOSURE

(Dow Corning Study No. 8510)

8898000057

Summary:

In an ongoing whole body vapor inhalation study with 1,2-bis(triethoxysilyl)=ethane, rats were exposed to mean measured concentrations of 0, 0.19, 0.57, and 1.4 ppm six hours daily, five days per week for four weeks. No deaths or clinical signs of toxicity were seen. However, signs of degeneration of the upper respiratory tract epithelium were detected histopathologically in all treated groups.

Dow Corning Corporation
Midland, Michigan 48686-0994
Phone: (517) 496-4000

The maximum concentration tested in this study (*i.e.*, 1.4 ppm; target value = 1.2 ppm) was the maximum concentration of the test material that could be reliably generated and maintained as a vapor without aerosol formation. Because this material has such a low vapor pressure and is readily hydrolyzed, we believe that the potential for exposure is low. Consequently, we do not believe that this material necessarily represents a risk to humans or the environment. However, we are reporting these findings to ensure our compliance with both the letter and the spirit of TSCA Section 8(e).

Study Details:

Groups of five male and five female Sprague-Dawley rats were exposed by whole body vapor inhalation to 1,2-bis(triethoxysilyl)ethane six hours daily, five days per week for four weeks. The target exposure concentrations for Groups I, II, III, and IV were 0, 0.12, 0.36, and 1.2 ppm, respectively; the mean measured concentrations were 0, 0.19, 0.57, and 1.4 ppm. There were no mortalities and no clinical signs of toxicity. No significant treatment related effects on body weight, body weight gain, or food consumption were seen. Urinalyses were unaffected. At necropsy, there were no gross findings. Although hemoglobin and erythrocyte counts were statistically significantly elevated for females at all exposure concentrations, the increases did not exhibit a dose-response relationship. Total protein was statistically significantly elevated for Group IV males. Other clinical chemistry parameters were unaffected. Statistically significant decreases in liver weights were noted among the Group IV females. No other statistically significant, treatment related effects on organ weights were seen.

Histopathological analysis detected alterations in the nasoturbinal tissues, larynx, and nasopharynx in both males and females. In the nasoturbinal tissues, degeneration and atrophy of the olfactory epithelium were seen in all treated groups. The respiratory mucosa had signs of epithelial and goblet cell hypertrophy and hyperplasia, as well as ulceration and scattered foci of squamous metaplasia; the incidence and severity of these findings were increased in a treatment related fashion. Minimal to slight osseous hyperplasia was evident in rats from all treated groups. The nasal lumen frequently contained inflammatory cells or cell debris. In the larynx, squamous cell metaplasia and hyperplasia were seen in rats of both sexes from Groups III and IV. In the nasopharynx, slightly increased incidences of eosinophilic material and goblet cell hyperplasia were observed, primarily in Group IV rats.

Actions:

Dow Corning is communicating these findings to our Hazard Communications group, Industrial Hygiene department, and other appropriate internal groups. Dow Corning will notify EPA of any further relevant information that may be

developed concerning this material. Dow Corning will provide EPA with a copy of the final report from this study when it is available.

If you have any questions with the aforementioned study, please contact me at 517-496-4057 or at the address provided herein. If you require further general information regarding this supplemental submission, please contact Dr. Rhys G. Daniels, Regulatory Compliance Specialist, Product Stewardship and Regulatory Compliance Department, at 517-496-4222 or at the address provided herein.

Sincerely,

Michael P. Hill
Americas Vice-President and Corporate Director
Health and Environmental Sciences

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