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8EHQ-1197-13585

November 11, 1997

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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

Contains No CBI

Re: Supplemental Submission to 8EHQ-0296-13585
TSCA Section 8(e) Notification: Octamethylcyclot[illegible]siloxane

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 submitting the following information as a supplemental submission to our TSCA Section 8(e) Notification of February 13, 1996 (8EHQ-0296-13585). The information presented in this supplemental submission was obtained from an ongoing two-generation inhalation reproductive toxicity and developmental neurotoxicity study in Sprague-Dawley rats with octamethylcyclotetrasiloxane (OMCTS, D_4) that we are conducting as part of our Siloxane Research Program. This program was the subject of a Memorandum of Understanding, dated April 9, 1996, between Dow Corning and EPA.

Chemical Substance:

556-67-2 Octamethylcyclotetrasiloxane

8EHQ-96-13585

Manufacturer:

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

89980000051

Ongoing Study:

A TWO-GENERATION INHALATION REPRODUCTIVE TOXICITY AND DEVELOPMENTAL NEUROTOXICITY STUDY OF OCTAMETHYLCYCLOTETRASILOXANE (D4) IN RATS

Dow Corning Study No. 8713

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Summary:

The purpose of this letter is to inform EPA that the increased incidence of dystocia noted among the F0 dams in an ongoing two-generation inhalation reproductive toxicity study was greatly reduced in the subsequent generation (*i.e.*, in the F1 dams) in the same study.

On May 15, 1997, Dow Corning notified EPA under TSCA Section 8(e) of the preliminary results of an ongoing two-generation reproductive toxicity study in which an increased incidence of dystocia was seen in F0 females at 500 and 700 ppm. Subsequent to that notification, the study has progressed to the point where the F1 animals have been mated, and the F2 offspring have been born. During parturition, only one of 21 dams in the F1 at 700 ppm showed signs of dystocia; no dystocia was seen at 500 ppm.

The dystocic effects in the F0 occurred only at exposure concentrations that far exceed typical workplace or consumer exposure levels. Moreover, the incidence of dystocia was reduced in the second generation. Consequently, we do not believe that the effects on parturition represent a substantial risk to human health or the environment. Nevertheless, we will continue to report such findings to EPA to ensure our compliance with the letter and spirit of TSCA Section 8(e).

Background:

Previous Findings

In an ongoing two-generation inhalation reproductive toxicity study in Sprague-Dawley rats, the F0 males and females were exposed to concentrations of 0, 70, 300, 500, and 700 ppm OMCTS for 70 consecutive days prior to mating, throughout the mating interval, and throughout gestation until gestation day (GD) 20. Maternal exposures were suspended from GD20 through postnatal day (PND) 4. F0 maternal exposures were then resumed on PND 4 and continued through weaning on PND 21.

Following possible indirect exposure *in utero*, during lactation, and by contact with maternal fur during the lactation period, direct inhalation exposure of the F1 commenced on PND 22 and continued for at least 70 consecutive days prior to pairing and mating of the F1 to produce the F2.

In a letter dated 15 May 1997, Dow Corning notified EPA of preliminary results obtained in the ongoing studies previously conducted with OMCTS. That notification included the observation that an increased incidence of dystocia was seen in F0 dams at 500 and 700 ppm OMCTS. The incidences of dystocia in the F0 were 0/27 (control), 2/23 (500 ppm), and 3/23 (700 ppm).

It is noteworthy to add that dystocia was seen in only one of several single-generation inhalation studies previously conducted with OMCTS. In an earlier range-finding study, a single dam (out of a total of 18 dams) at 700 ppm showed signs of dystocia. No dystocia

dams were seen in a second rangefinding study, in a female crossover study, or in either of two male crossover studies. Copies of the reports for these studies have already been submitted to EPA under TSCA 8(d).

New Information

In the F1, only one dystocic dam (out of a total of 21 dams that had litters) was seen at 700 ppm. No dystocia was noted in any other group.

Actions:

Dow Corning is now conducting further studies to understand the basis and potential relevance for reproductive effects seen in earlier rangefinding studies as well as in the ongoing two-generation study. Dow Corning is also preparing an exposure assessment to provide support for a quantitative risk assessment. These findings will be communicated to appropriate internal and external audiences.

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 any of the aforementioned studies, 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 the address provided herein.

Sincerely,

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