

MR# 315986



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TSCA Document Control Center (7407)  
Office of Pollution Prevention and Toxics  
US Environmental Protection Agency  
Attn: TSCA Section 8(e) Coordinator  
Ariel Rios Building  
1200 Pennsylvania Avenue, NW  
Washington, DC 20004

Re: TSCA Section 8(e) Notification of Substantial Risk: Y-17081 (Composed of ~80% 1,1,1,3,5,5,5,-Heptamethyl-3-(propyl(poly(EO))methyl) Trisiloxane; CAS No. 27306-78-1)

Dear TSCA Section 8(e) Coordinator:

In accordance with the provisions of Section 8(e) of the Toxic Substances and Control Act (TSCA), as interpreted in the TSCA Section 8(e) Policy Statement and Guidance, Fed. Reg. 33129 (June 3, 2003) and other Agency guidance, Dow Corning submits information from a toxicology study conducted with Y-17081, which contains approximately 79% of 1,1,1,3,5,5,5,-Heptamethyl-3-(propyl(poly(EO))methyl) Trisiloxane (CAS No. 27306-78-1). This information was identified during a scientific review for establishing dose levels for a repeated dose study. Dow Corning has not made a determination at this time that any significant risk of injury to human health or the environment is presented by these findings

**Chemical Substances**

27306-78-1 1,1,1,3,5,5,5-Heptamethyl-3-(propyl(poly(EO))methyl) trisiloxane

**Study**

Dose Range-Finding Study for a Combined Repeated Dose Toxicity Study with the Reproductive/Developmental Toxicity Screening Test in the Han Wistar Rat. Conducted at RCC Ltd. Please note that the limited nature of this study design - only 3 animals per dose group were used and no organ weights were taken following necropsy.

**CONTAINS NO CBI**  
Contains No CBI

## **Summary**

Findings from this study include reduction in mean number of corpora lutea per dam; increase in pre-implantation loss; reduced number of implantation sites; and a reduced number of embryos. These findings were observed in animals exposed to 300 mg/kg.

## **Details**

### ***Study Design***

In a dose range-finding study for a combined repeated dose toxicity study with the reproductive/developmental toxicity screening test conducted with 1,1,1,3,5,5,5-heptamethyl-3-(propyl(poly(EO))methyl) trisiloxane, male and female Han Wistar rats (3/sex/dose group) were exposed by oral gavage to dose levels of 0, 100, 300, 600, or 1000 mg/kg bw/d.

Initially, the test material was administered neat and followed by water to try to avoid irritation of the esophagus. The 600 and 1000 mg/kg dose groups were terminated due to distress and discomfort of the animals during the administration of the test material. It is believed that the test material came into contact with the esophagus and caused irritation. Using another mode of administration, the test material and water are mixed in the syringe before administration, 2 additional groups of animals were dosed with 600 and 1000 mg/kg bw/d.

Males were treated over a 14-day pre-pairing period and during the pairing period and up to one day before necropsy (for a total of at least 28 days of treatment). Females were treated throughout the pre-pairing, pairing, and gestation period up to 13 days post coitum. The purpose of this study was to select suitable dose levels to be used in the subsequent combined repeated dose toxicity study with the reproduction/developmental toxicity screening test in the Han Wistar rat.

### ***Results***

In the 1000 mg/kg dose group, one female died and the remaining two females had rales. The males in the 1000 mg/kg dose group all exhibited signs of toxicity (ruffled fur, decreased activity, and/or rales). In the 600 mg/kg dose group, one female died and all the males showed signs of toxicity (ruffled fur, decreased activity, and/or rales). Because of the toxicity associated with the 600 and 1000 mg/kg dose groups and the deaths of two

of the females, the reproductive results are difficult to interpret from these two groups (600 and 1000 mg/kg). In the 300 mg/kg dose group, there were no clinical signs of toxicity observed in either male or female animals. The following reproductive findings were observed in the female rats exposed to 300 mg/kg of test material: the mean number of corpora lutea per dam was reduced (13 compared to 16.3 in the control group) and pre-implantation loss was increased (10.3% of the corpora lutea compared to 2.0% in the control group). The increase in pre-implantation loss led to a reduced number of implantation sites (89.7% of the corpora lutea compared to 100% in the control group) and a reduced number of embryos (11 per dam compared to 16 in the control group).

The study director did not identify these as test article related findings, however due to the lack of robustness of this study design it can not be ruled out that these findings represent potential reproductive effects. In addition, these findings are similar to the reproductive effects reported in a range-finding study with 1,1,1,3,5,5,5-Heptamethyltrisiloxane (CAS 1873-88-7), a structurally similar material.

### **Actions**

Testing on this material was conducted as a part of a research program to develop health and safety information for silicone materials sponsored by the silicone industry, Silicones Environmental, Health and Safety Council (SEHSC). This material is currently undergoing additional testing including a repeated dose toxicity study with reproduction/developmental toxicity screening (OECD 422) in the Han Wistar rat. Dow Corning will submit any additional findings from this repeated dose study, when it is available.

If you have any questions concerning this submission, please contact me at (989) 496-8046, [Kathy.plotzke@dowcorning.com](mailto:Kathy.plotzke@dowcorning.com), or at the address provided herein.

Sincerely,



Kathleen P. Plotzke  
Director, Health and Environmental Sciences