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Phone: 703.788.6570
Fax: 703.788.6545
www.sehsc.com
2325 Dulles Corner Boulevard
Suite 500
Herndon, VA 20171

Via Certified Mail

August 6, 2009



TSCA Confidential Business Information Center (7407M)
EPA East – Room 6428
Attn: Section 8(e)
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, DC 20460-0001



Re: TSCA Section 8(e) Notification of Substantial Risk: 1,1,1,3,5,5,5-Heptamethyltrisiloxane

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, the Silicones Environmental, Health and Safety Council (SEHSC)¹ submits, on behalf of its member companies, information concerning an ongoing study with 1,1,1,3,5,5,5-Heptamethyltrisiloxane (CAS No. 1873-88-7). Neither SEHSC, nor any member company, has 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

1873-88-7 1,1,1,3,5,5,5-Heptamethyltrisiloxane

Ongoing Study

Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test in the Han Wistar Rat

¹ SEHSC is a not-for-profit trade association whose mission is to promote the safe use of silicones through product stewardship and environmental, health, and safety research. The Council is comprised of North American silicone chemical producers and importers.

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Summary

Results from a repeated-dose toxicity study with reproductive/developmental screening endpoints conducted with 1,1,1,3,5,5,5-heptamethyltrisiloxane in Han Wistar rats show microscopic findings in kidneys at 200 and 800 mg/kg bw/day, and higher postnatal loss and lower pup weight gain at the highest dose tested, 800 mg/kg bw/day.

Details

Study Design

In an OECD test guideline 422 study, rats were exposed by oral gavage to 1,1,1,3,5,5,5-Heptamethyltrisiloxane (CAS No. 1873-88-7) over approximately 28 days. 1,1,1,3,5,5,5-Heptamethyltrisiloxane was administered to male rats for at least 28 days and to female rats for 14 days prior to pairing, through the pairing and gestation periods until the F1 generation reached day 4 post-partum. The dose levels were 0, 50, 200 and 800 mg/kg bw/day. A standard dose volume of 5 ml/kg body weight with a daily adjustment to the actual body weight was used. Control animals were dosed with the vehicle alone (dried and deacidified corn oil).

Preliminary Results

A reduction of food consumption during the second week of treatment was seen in Male rats administered a dose of 800 mg/kg bw/day. Body weight and body weight gain results were reduced throughout the study. Cholesterol was increased and total bilirubin was decreased. Liver and kidney weights were increased. An increase in liver weight was also noted in females at 800 and 200 mg/kg bw/day. Total number of pups lost postnatally was statistically significantly increased relative to the controls at 800 mg/kg bw. Pup weight gain was lower though it did not attain statistical significance.

Histopathological examination revealed an increase in focal or multifocal tubular degeneration/regeneration and of hyaline droplets/granules in kidneys of males administered 200 and 800 mg/kg bw/day. These tubular lesions were accompanied by an increase in pelvic dilation, causing renal enlargement.

In the liver, minimal to slight centrilobular hypertrophy of minor severity in was noted in females at 200 mg/kg bw/day and in males and females at 800 mg/kg bw/day. Minimal to moderate bile retention within portal bile ducts with minimal to moderate bile duct hyperplasia and periportal fatty change was observed in high dose males (800 mg/kg bw/day).

Minimally to slightly increased incidence of diffuse thyroid follicular hypertrophy in high dose (800 mg/kg bw/day) males and females and mid dose (200 mg/kg bw/day) females.

In the spleen, minimally to slightly increased severity of extramedullary hematopoiesis in mid dose females (200 mg/kg bw/day) and high dose (800 mg/kg bw/day) males and females.

Total postnatal loss was statistically significantly increased in high dose group (800 mg/kg bw/day) and the viability index was statistically significantly decreased. In the high dose group (800 mg/kg bw/day), pup weight gain was lower but it did not attain statistical significance.

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Based on the histopathology findings in kidneys noted at 200 and 800 mg/kg bw/day, a general NOEL (No Observed Effect Level) was established at 50 mg/kg bw/day.

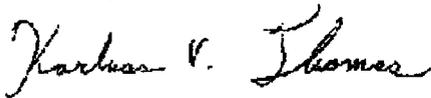
Based on the higher incidence of postnatal loss and on lower pup weight gain, the NOEL (No Observed Effect Level) for reproduction/developmental toxicity was considered to be 200 mg/kg bw/day.

Action

SEHSC will provide U.S. EPA with a copy of the final report for this study when it is available.

If you have any questions concerning this submission, please contact me at (703) 788-6570, kthomas@sehsc.com, or at the address provided herein.

Sincerely,

A handwritten signature in cursive script that reads "Karluss V. Thomas".

Karluss Thomas
Executive Director