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BEHQ-0601-14959

DOW CORNING

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June 14, 2001

Document Control Office (7407)
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Room G-099
Attn: TSCA Section 8(e) Coordinator
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Contain NO CBI

Re: TSCA Section 8(e) Notification of Substantial Risk:
Material 02675234 Toxicity Study by Oral Administration to CD Rats for
4 weeks

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 concerning an ongoing study,

Chemical Substance:

170424-65-4 Silicic acid, 1,2-ethanediyl ethyl ester

Manufacturer:

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



BEHQ-01-14959

Ongoing Study:

MATERIAL 02675234 TOXICITY STUDY BY ORAL ADMINISTRATION
TO CD RATS FOR 4 WEEKS

Dow Corning Study No. 9547



88010000170

Summary:

Preliminary results from an ongoing four-week oral gavage study with the test material (silicic acid, 1,2-ethanediyl ethyl ester) show organ-specific effects on the kidneys that were significantly altered compared to control animals. These

findings include increased kidney weights at 1000 mg/kg and histopathology findings consistent with signs of kidney toxicity at 1000 mg/kg/day and milder effects at 300 mg/kg/day. The No-Observed-Adverse-Effect-Level (NOAEL) for these organ-specific effects was considered to be 100 mg/kg/day.

Details:

The test material was administered by oral gavage in sesame oil to three groups of five male and five female CD rats for 29 days at dosages of 100, 300 or 1000 mg/kg/day. A concurrent control group received sesame oil. In total three animals, two males and one female, treated at 1000 mg/kg/day were either euthanized *in extremis* or found dead. One male (Group 4, 1000 mg/kg/day) was found dead on day 4 of treatment. This animal had no clinical signs prior to its death. A second male (Group 4, 1000 mg/kg/day) was killed *in extremis* on day 6 of treatment. Clinical signs observed in this animal prior to sacrifice included thin build, dark eyes, piloerection, hunched posture and fast respiration. Macroscopic examination of both of these male animals at necropsy revealed pale and enlarged kidneys, dark areas on the stomach and one animal with a hard aorta and pale areas on the heart. Microscopic examination revealed findings in the kidneys, heart, stomach, liver, colon and lungs. A female in Group 4 (1000 mg/kg/day) was killed *in extremis* on day 16 of treatment. Clinical signs observed prior to sacrifice included thin build, hunched posture, piloerection and reduced body temperature. Pale and enlarged kidneys were observed during macroscopic examination at necropsy.

Clinical signs observed for animals receiving 1000 mg/kg/day included thin build, reduced body temperature, piloerection, hunched posture and salivation after dosing. These signs were observed throughout the treatment period, however, not all animals were affected. These effects were considered secondary to the marked kidney damage observed in the animals in this dosage group. Further, there was a significant reduction in body weight gain, food consumption and food conversion efficiency in males and females receiving 1000 mg/kg/day throughout the treatment period when compared with the controls. These effects also could have contributed to the other clinical signs discussed above.

Total leukocyte counts, associated with high neutrophil and eosinophil counts, were elevated in males and females at the 1000 mg/kg/day dose. The myeloid to erythroid ratio in the bone marrow also was slightly higher in male and female animals treated at 1000 mg/kg/day when compared to the controls. Activated partial thromboplastin clotting times were shorter for the animals treated at 1000 mg/kg/day than in the controls.

Absolute and relative kidney weights were significantly increased in male and female animals administered 1000 mg/kg/day. Further, high blood urea and creatinine levels were observed in both sexes receiving 1000 mg/kg/day. Females

treated at 1000 mg/kg/day had high spleen weights when compared with the controls.

A high incidence of enlarged and/or pale kidneys in males and females at 1000 mg/kg/day was observed during macroscopic examination of animals killed at the end of the treatment period. The kidneys of individual males at this dosage were noted to have cysts, contain calculus, and have a granular appearance or pelvic dilation.

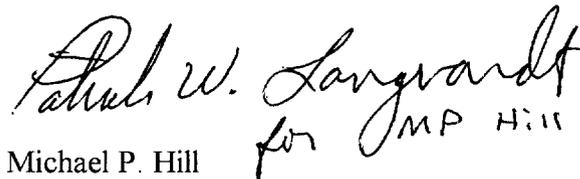
Microscopic examination showed an increased incidence and/or severity of a number of inflammatory and degenerative/regenerative changes in the kidneys of animals given the test material at 300 mg/kg/day and above. These findings were considered related to administration of the test material.

Actions:

These findings from the aforementioned study will be communicated to appropriate internal and external audiences including employees and customers. Dow Corning will notify EPA of any further relevant information that may be developed concerning this material and will provide the Agency with a copy of the final report from this study when it is available.

If you have technical questions concerning these studies, please contact Dr. Robert G. Meeks, Scientific Director of Toxicology and Risk Assessment, at 989-496-8629 or at the address provided herein. If you require further general information regarding this submission, please contact Dr. Rhys G. Daniels, Senior Regulatory Compliance Specialist, Regulatory Compliance Group, HERA Americas, at 989-496-4222 or at the address provided herein

Sincerely,

A handwritten signature in cursive script that reads "Paul W. Langvardt" followed by "for M.P. Hill" written in a smaller, less cursive hand.

Michael P. Hill
Executive Director of
Environmental, Health and Safety
(989) 496-4057

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