Great Lakes
Chemical Corporation



P.O. BOX 2200 • ONE GREAT LAKES BOULEVARD • WEST LAFAYETTE, IN 47906 • PHONE: 317-497-6100 • FAX: 317-497-6123



30 August 1995

ORIGINAL



Document Control Office (7404)
Office of Toxic Substances
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

Contains No CBI



ATTN: TSCA Section 8(e) Coordinator

RE: TSCA Section 8(e) Notification on Tetrahydrofurfuryl Alcohol
(CAS No. 97-99-4)
(When responding, please refer to JAB-95-149)

Gentlemen:

Great lakes Chemical Corporation is submitting a TSCA Section 8(e) substantial risk notification concerning a 90-day subchronic inhalation toxicity study in rats with tetrahydrofurfuryl alcohol (THFA). The following information was received via an unaudited draft report from WIL Research Laboratories, Inc., Ashland, Ohio 44805-9281.

The test article was administered via whole body inhalation to three test groups, each comprised of 14 male and 10 female rats. Exposures were for six hours per day, five days per week, for 13 weeks (at least 65 exposures). Exposure concentrations were 50, 150, and 500 parts per million (ppm). A concurrent control group of identical design received only filtered air per a comparable regimen. After 34 exposures four males per group were terminated for assessment of spermatogenic endpoints. The remaining 10 animals per sex per group were terminated following 65 exposures (13 weeks on study). The animals were observed for clinical signs of toxicity and effects on body weight, food consumption, and clinical pathology parameters. Spermatogenic endpoints were evaluated for all males. Necropsies were performed on all animals and selected organs were weighed. A microscopic examination was conducted on selected tissues from all animals at the terminal necropsy.

All animals survived to the scheduled necropsies, except for one female animal (50 ppm) that expired during the first week of exposure due to findings unrelated to test article exposure.

During periods of exposure to THFA, the predominant clinical finding was intermittent whole-body spasms, which were observed frequently, in a dose-related manner in all exposed groups. Occasional incidences of hypoactivity and excessive grooming were observed for a few animals of each sex in the high exposure group. One-hour post-exposure clinical examinations revealed hyperactivity in a dose-related manner in all test groups. Wet yellow urogenital matting and a low incidence of salivation were noted in the high exposure group, as well.

Mean body weight gains in the high exposure group males decreased several times throughout the study and, therefore, resulted in decreased mean body weights, as well. Results were similarly noted in the mid-exposure group males beginning study week eight. At the end of study week 13 (terminal necropsy), mean body weights in both the mid- and high-exposure group males were 9.2 and 13.3% lower, respectively, than the control group male value. In addition, mean food consumption in both the mid- and high-exposure group males was lower than the control group males throughout the study. Test females revealed body weight and food consumption means that were similar to those of the control group female values.

Test article related changes in hematology parameters consisted of decreased platelet and hemoglobin means in the high exposure group males and females at study weeks three and 13. Also a decrease in MCH values was noted in high exposure group males at study week three and in high exposure group males and females at study week 13.

At both study weeks six and 13 (interim and terminal necropsies, respectively), decreased epididymal sperm numbers and sperm motility, and an increased incidence of morphologically abnormal sperm were observed in the high exposure group males. Mean absolute and relative prostate weights were decreased in both the mid- and high-exposure groups. Mean absolute seminal vesicle weight, and absolute and relative epididymides weights were also decreased in the high exposure group males. The only microscopic lesion suggestive of a test article related effect was mild multifocal atrophy of the testes in a single high exposure group male.

Based on the data obtained, a no observable effect level (NOEL) could not be established for THFA via whole body inhalation after 13 weeks of exposure.

If you have any questions, please feel free to contact me at (317) 497-6223.

Sincerely,

John A. Biesemeier

John A. Biesemeier
Regulatory Toxicologist
Regulatory Affairs

JAB/clw