AR226-2721

the society of the plastics industry, inc.

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8EHQ-0605-16079

Via Courier

June 30, 2005

TSCA Confidential Business Information Center (7407 M)
EPA East – Room 6428 – Attn: Section 8(e)
U. S. Environmental Protection Agency
1201 Constitution Avenue NW
Washington, DC 20004-3302

CONTAIN NO CBI

Attn: TSCA 8(e) Notice
Re: CAS Number 72968-38-8, carboxylic acids, C_{7-13}, perfluoro, ammonium salts

This submission is made by:
The Society of the Plastics Industry (SPI), Inc.
APFN Work Group
1667 K Street, NW – Suite 1000
Washington, DC 20006-1620

Dear TSCA Section 8(e) Coordinator:

On behalf of the members of the APFN Work Group (Arkema Inc.; Asahi Glass Co., Ltd. and Solvay Solexis, Inc.), SPI is reporting research results pursuant to Section 8(e) of the Toxic Substances Control Act. None of the members of the APFN Work Group has determined that these results indicate a potential substantial risk of injury to human health or the environment.

This notice does not involve effects in humans. It does not contain confidential business information. It is to report findings contained in a draft audited study report.

An oral (gavage) two-generation reproductive toxicity study of carboxylic acids C_{7-13}, perfluoro, ammonium salts (CAS# 72968-38-8) was conducted according to U.S. E.P.A. OPPTS 870.3800 and OECD Guideline 416 to evaluate the potential adverse effects on the reproductive capabilities, including gonadal function, estrous cyclicity, mating behavior, conception, gestation, parturition, lactation and weaning of the F_0 and F_1 generations and F_1 and F_2 neonatal survival, growth and development. One litter was produced in each generation. In addition, blood levels of the test material were determined one week prior to mating, and during gestation and lactation for maternal animals and their offspring.

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Dosage levels were 0.025, 0.125 and 0.6 mg/kg/day, administered at a dosage volume of 2 mL/kg, for the F_0 and F_1 generations. A concurrent control group of 30 rats/sex/group received the vehicle deionized water. The test article was administered to offspring selected to become the F_1 parental generation following weaning. In addition to the standard guideline parameters, blood samples were collected to assess the blood levels of the test material from four F_0 satellite females per test article-treated group at 0 (prior to dosing), 1, 2, 4, 8 and 16 hours following dose administration during the last week prior to mating and on gestation day 19. These females were euthanized, examined to determine pregnancy status, and discarded without further examination. Similarly, blood samples were collected from five F_0 females per group and one randomly selected pup/sex from the litters, 2 hours following maternal dose administration on lactation day 13. Developmental landmarks (balanopreputial separation and vaginal patency) were evaluated for selected F_1 rats. Selected organs were weighed from one F_1 and one F_2 pup/sex/litter necropsied on postnatal day (PND) 21. Spermatogenic endpoints (sperm motility [including progressive motility], morphology and numbers) were recorded for all F_0 and F_1 males, and ovarian primordial follicle counts were recorded for all F_1 females in the control and high-dose groups.

One 0.6 mg/kg/day group male in the F_0 generation was euthanized *in extremis* during study week 14. Severe body weight loss and related clinical findings were attributed to test material administration. One F_1 male in the 0.125 mg/kg/day group died as a result of an intubation error during study week 30, and one F_1 female in the 0.6 mg/kg/day group was euthanized *in extremis* on gestation day 24 due to dystocia.

Based on the results of this study, a dosage level of 0.6 mg/kg/day was considered to be the no observed adverse effect level (NOAEL) for reproductive toxicity of the test material when administered orally to rats. When evaluated across two generations, no effects on reproductive performance, mean estrous cycle length, spermatogenic endpoints, mean gestation length, parturition, former implantation sites, or unaccounted-for sites were observed. There were no test article-related effects on F_0 or F_1 reproductive organ weights or macroscopic or microscopic findings for the reproductive tissues, mean numbers of F_1 or F_2 pups born, pup sex ratio, pup survival, general physical condition of the pups and pup body weights during the pre-weaning period. Mean ages and body weights at attainment of balanopreputial separation or vaginal patency in the F1 and F2 pups were unaffected by F_0 and F_1 maternal and/or F_1 direct test article administration.

A dosage level of less than 0.025 mg/kg/day was considered to be the NOAEL for F0 and F1 parental systemic toxicity based on the microscopic hepatic findings of hepatocellular hypertrophy and vacuolation observed in the 0.025, 0.125 and 0.6 mg/kg/day group males and 0.6 mg/kg/day group females. Clear cell foci and higher incidences foci of hepatocellular necrosis were also noted for several F0 and F1 males at all dosage levels. Higher kidney weights correlated to the microscopic finding of renal tubule hypertrophy in both sexes at 0.6 mg/kg/day.

Based on higher liver weights at 0.125 and 0.6 mg/kg/day for F_1 and F_2 pups, a dosage level of 0.025 mg/kg/day was considered to be the NOAEL for neonatal toxicity. The analysis of blood samples on lactation day 13 indicated, in general, that the total concentration of the major components of the test material (i.e.,$\sum$ [ammonium salts of C_{7-13} perfluorocarboxylic acids]) in

the serum of male and female pups was 1.2- to 1.4-fold higher concentration in the serum of the pups than in the serum of the dams. Concentrations of the individual components ranged from approximately 2.5 fold lower to 2.5 fold higher in the pups than that of the dams.

Please contact me if you have any questions or require additional information. I can be reached by telephone at (202) 974-5217.

Sincerely,

Lynne R. Harris
Vice President, Science and Technology

cc: APFN Work Group