"Contains NO CBI"

UNION CARBIDE

UNION CARBIDE CORPORATION 39 OLD RIDGEBURY ROAD, DANBURY, CT 06817-0001

2pp

March 5, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Document Processing Center (TS-790)
Office of Pollution Prevention & Toxics
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

93 MAR -9 PM 1:24

Attn: FYI Coordinator

Dear Sir or Madam:

Union Carbide Corporation ("Union Carbide") herewith submits a copy of the following abstract from Human & Experimental Toxicology [(1992), 11, 383-434] concerning 2-ethylhexanoic acid (CASRN 149-57-5) which the Agency may find of interest. While this journal is abstracted by one of the 6 abstracting services defined in the 1978 guidance for TSCA §8(e) reporting (43 Fed. Reg. 11110-11116; Mar. 16, 1978), it is unclear that the Agency is aware of this information because of the time delay between publication and abstract service availability.

Union Carbide received this abstract a few days ago.

FYI-93-000877
INIT 03/09/93

FYI-0393-0877

Very truly yours,

William C. Kuryla, Ph.D.
Associate Director
Product Safety
203/794-5230

WCK/cr
Attachment

84930000015

0 0 0 5

Human & Experimental Toxicology (1992), 11, 383–434 © Macmillan Press Ltd 1992

Proceedings of The British Toxicology Society, Royal College of Physicians, Edinburgh, 18–20 September, 1991. In Association with The Faculty of Occupational Medicine, The Society of Occupational Medicine and The Finnish Society of Toxicology

Invited communications

page 426

Reproduction Toxicity of 2-Ethylhexanoic Acid in Wistar Rats

S. Pennanen, K. Tuovinen, H. Huuskonen & H. Komulainen
National Public Health Institute, Department of Environmental Hygiene and Toxicology, P.O.B. 95, SF-70701 Kuopio, Finland

The reproductive toxicity of the wood preservative agent 2-ethylhexanoic acid (2-EHA) was studied in Wistar rats. The animals (24 animals in each group) were given 2-EHA as a sodium salt in drinking water at daily doses of 100, 300 or 600 mg kg^{-1} (control animals received plain water). Male rats were exposed to 2-EHA for 12 weeks and females for 2 weeks prior to mating and both sexes during the subsequent 21-d breeding period. For counting of spermatozoa and evaluation of their morphology, the caudal segment of the left epididymis was weighed, and minced in PBS-buffer. The motility of the sperm was measured with the Hamilton-Thorn motility analyser and the morphology was evaluated microscopically. 2-EHA did not cause visible clinical signs nor were there statistically significant changes in body weight or food and water consumption of the animals at these doses. 2-EHA caused a dose-dependent decrease in fertility. Control animals became pregnant in the course of two oestrous cycles while for several 2-EHA-treated animals 3 to 4 cycles were needed. The relative weights of the epididymides (epidiymis/body weight) were increased by 12% ($P < 0.05$) at 600 mg kg^{-1}. Epididymal sperm counts were reduced by 14% at 600 mg kg^{-1} and the motility of spermatozoa decreased by 37% at 100 mg kg^{-1} ($P < 0.05$) and 22% at 600 mg kg^{-1} ($P < 0.05$). The frequency of sperm abnormality was slightly higher (agglutinated, abnormal head of spermatozoa) at the two highest dose levels. The average litter size was reduced by 16% ($P < 0.05$) at 600 mg kg^{-1}, but did not differ significantly from that of the control group at the lower dose levels. However, the body weights of the pups at birth were unaffected. The data indicate that 2-EHA affects reproduction of rats. 2-EHA reduces sperm motility and affects sperm morphology in male rats. 2-EHA caused