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April 7, 1998

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(Attn.: Section 8(e) Coordinator)
Office of Toxic Substances
U.S. Environmental Protection Agency
401 "M" Street, S.W.
Washington, D.C. 20460

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TSCA Section 8(e) Notification on: Hydrogenated C-8 dimer

Dear Sir/Madame:

is submitting a TSCA 8(e) notification for 1 octene, dimer, hydrogenated (CAS No. 173994-67-7). This submission is based on a draft report from the contract laboratory conducting an acute inhalation study (Study 67206) in which the test material was coded as "Alkane 1". In this study, the LC50 was between 1.05 and 2.09 mg/L for a 4-hour exposure period in rats. "Alkane 1" has application as a base stock for various lubricants. However, we do not believe that these results demonstrate a significant risk to human health or the environment, given the low probability of the generation of aerosols from this material in concentrations sufficient to be acutely toxic. The non-confidential identification for the material is "branched alkanes".

The 4-hour LC50 in the rat for a related material, a hydrogenated dimer of 1-decene, was 1.17 mg/L (P.D.Guiney. Acute toxicity assessment of polyalphaolefin (PAO) synthetic fluids. Presented at the Division of Petroleum Chemistry, Inc., American Chemical Society, Las Vegas, March 26-April 2, 1982).

Results of Acute Inhalation Exposures

Two acute (4-hour) inhalation exposures were performed with aerosolized "Alkane 1". Aerosol concentrations were 1.05 and 2.09 mg/L. Five male and five female Sprague-Dawley rats were exposed to each concentration and observed for up to 2 weeks following exposure. Mass median aerodynamic diameters and the geometric standard deviations were $3.1 \mu\text{m} \pm 1.8$ and $2.5 \mu\text{m} \pm 1.8$ for 1.05 and 2.09 mg/L, respectively.

Several animals died within a few days following these exposures, as shown in the following table of the number of deaths/number of exposed animals. Based on these exposures, the LC50 is between 1.05 and 2.09 for a 4-hour exposure period in rats. This approximation of the LC50 is in the same range as the LC50 for the hydrogenated dimer of 1-decene cited above.

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No. of deaths/No. exposed			
Mg/L	Males	Females	Total
1.05	4/5	0/5	4/10
2.09	4/5	5/5	9/10

Among the clinical observations after exposure were decreased activity, wobbly gait, and abnormal breathing. At necropsy of the animals which died after exposure, all had darkened lung lobes. In addition, the meningeal vessels were congested in 2/4 exposed to 1.05 mg/L and 3/9 exposed to 2.09 mg/L.

The final report is not yet available from the contract laboratory which conducted the study; a copy of the final report will be submitted to the EPA upon completion. Confidentiality is being claimed for the company name, names of company employees, chemical identity, and trade name. All pages containing this information have been stamped "Confidential". Two copies of the notification are being submitted; the confidential information has been circled in one copy and excised from the other. The latter is intended for the EPA's Public File. The substantiation for this confidentiality claim is attached.

Sincerely,

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This report is being made in compliance with Section 8(e) of the Toxic Substances Control Act (15 U.S.C. 2607), pursuant to our understanding of the Statement of Interpretation and Enforcement Policy (43 Fed. Reg. 11110 et.seq.). It has been compiled based on information available within the time period given. While we believe the tests reported were properly performed, no representation can be made as to their accuracy of content. The corporation and individual signator also reserve the right to supplement any or all of the data contained herein and to revise or amend any conclusion drawn therefrom.

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