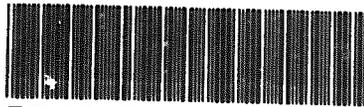


**ARCO Chemical Company**

3801 West Chester Pike  
Newtown Square, Pennsylvania 19073-2387  
Telephone 610 359 2000



8EHQ-96-13687



Health Sciences and Regulatory Programs

July 8, 1996

*8EHQ-0796-13687*

**ORIGINAL**

TSCA Document Control Office (7408)  
Office of Pollution Prevention and Toxics  
U. S. Environmental Protection Agency  
401 M Street, S.W.  
Washington, D. C. 20460

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**Contains No CBI**

Attention: TSCA 8(e) Coordinator

Dear Sir or Madam:

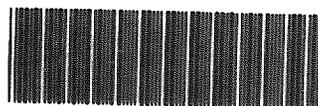
As a member of the Propylene Oxide Panel of the Chemical Manufacturers Association, ARCO Chemical Company has received preliminary data from a study measuring DNA adducts of propylene oxide (PO), CAS number 75-56-9. The information obtained is being submitted in accordance with Section 8(e) of the Toxic Substances Control Act (TSCA) and EPA's 1991 Section 8(e) Reporting Guide.

The first annual meeting to review findings in an ongoing three-year research program on PO was held June 17-18, 1996. Results of studies to measure PO adducts of DNA in rat tissues were reported to PO producers on June 18. These results indicated the presence of adducts in liver DNA from male F344 rats exposed to 500 ppm PO vapors 6 hr/day, 5 days/week for 4 weeks. A three-day recovery group of animals also was included. To put these exposures into perspective for human experience, employee exposure to PO routinely is much lower than the 500 ppm, generally less than 5 ppm on a time-weighted average basis.

Liver DNA adducts with PO exposure have previously been reported. In the present study, however, adducts of PO with DNA derived from nasal tissue also were measured. This result is not surprising, since nasal epithelium is the first point of contact in rats with PO upon vapor exposure. Further, exposure of rats and mice to 300-400 ppm PO vapors for their lifetime has previously been reported to damage nasal tissue and to cause nasal tumors in a few exposed animals. While we believe that the finding of PO adducts in nasal tissue DNA does not represent any new significant risk for humans, it is, to our knowledge, the first report of this finding in F344 rat nasal tissue and supports the observation that, with PO, tumors are being seen only at the sites of cell damage. A chart describing the preliminary data is attached.

This research is part of a voluntary program sponsored by PO producers to better understand the mechanism of animal nasal tumor formation and its implications for hazard assessment. Results of the research program will be reported in the form of peer-review publications at the discretion of the researchers. The research being reported in this letter is being conducted by Dr. Dan Segerbäck, Karolinska Institute, Center for Nutrition and Toxicology, Huddinge, Sweden.

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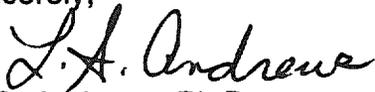


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July 8, 1996  
U. S. Environmental Protection Agency  
Propylene Oxide  
Page 2

The Agency will be apprised of ongoing data from this program as a supplement to this notice.

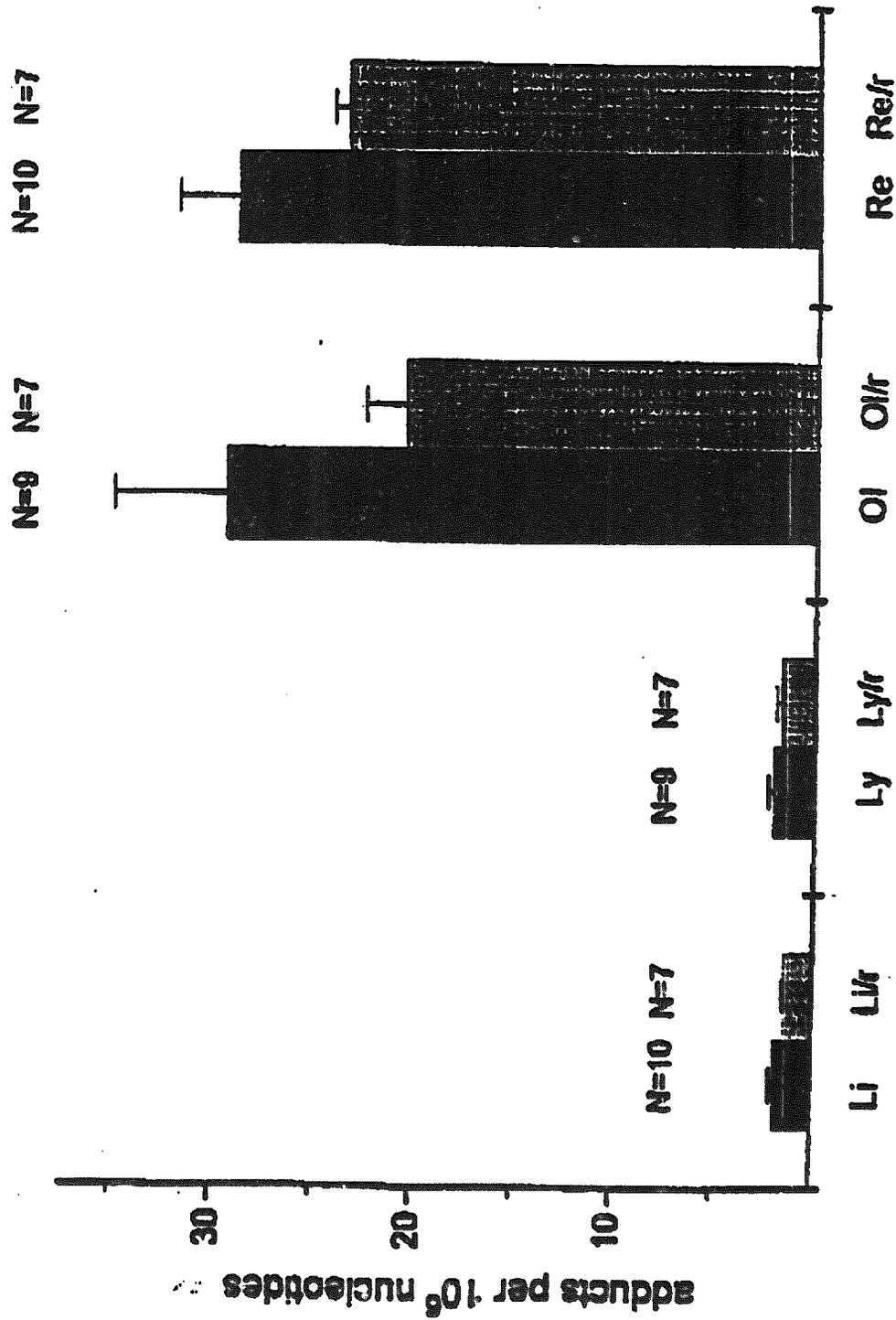
Sincerely,

A handwritten signature in cursive script that reads "L. S. Andrews".

L. S. Andrews, Ph.D.

Attachment

CC: Ms. Marian K. Stanley  
Associate Director, CHEMSTAR  
Manager, Propylene Oxide Panel  
Chemical Manufacturers Association  
1300 Wilson Boulevard  
Arlington, VA. 22209



Li = Liver  
 Li/r = Liver with recovery  
 Ly = Peripheral Lymphocytes  
 Ly/r = Peripheral Lymphocytes with recovery  
 OI = Olfactory epithelium  
 OI/r = Olfactory epithelium with recovery  
 Re = Respiratory epithelium  
 Re/r = Respiratory epithelium  
 N = Number of animals