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8EHQ-0511-16929D

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TSCA Confidential Business Information Center (7407M)
Attn: TSCA Section 8(e)
EPA East – Room 6428
U.S. Environmental Protection Agency
1200 Pennsylvania Ave, NW
Washington DC 20460-0001



Attention: TSCA Section 8(e) Coordinator

RE: TSCA Section 8(e) Number 8EHQ-0807-16929A: Supplemental Information for Ethylene (or Ethene) CASRN 74-85-1 – Rat 4-Week Inhalation Study

Dear Sir or Madam:

The Olefins Panel (Panel) of the American Chemistry Council submits this letter on behalf of certain of its members¹ pursuant to Section 8(e) of the Toxic Substances Control Act (TSCA) to inform EPA of certain preliminary findings in rats exposed to ethylene. The Panel has not made a determination as to whether a significant risk of injury to health or the environment is actually presented by the preliminary findings.

On August 22, 2007, April 20, 2009 and July 28, 2009, the Panel submitted letters on behalf of its members pursuant to Section 8(e) of TSCA on two 90-day rat inhalation studies with ethylene. Final reports for these two studies were submitted to EPA on October 12, 2010. On December 3, 2010, Equistar Chemicals LP submitted a letter on preliminary findings from a 4-week mode of action study on ethylene, sponsored by the Panel. This letter provides additional preliminary information for the 4-week study which the Panel has just received from the researchers.

Female F344 rats were exposed to 0, 10, 50, 300 or 10,000 ppm ethylene six hours/day, five days/week for four weeks (20 days of exposure). Nasal tissues were analyzed to identify exposure-dependent alterations in inflammation, cell proliferation, epithelial morphology and gene expression. In this study, ethylene produced a minimal to mild eosinophilic rhinitis characterized by focal mucosal infiltrations of eosinophils and/or increases in intraepithelial mucus in proximal and distal regions of the rat nasal cavity at all exposure concentrations (10 through 10,000 ppm), consistent with findings that were seen in the two previous studies at 300 ppm (lowest exposure concentration tested). The gene expression findings in the current ethylene study were indicative of a

¹ The members of the Olefins Panel that support the ethylene program are: Chevron Phillips Chemical Company, The Dow Chemical Company, Eastman Chemical Company, Equistar Chemicals LP, ExxonMobil Chemical Company, NOVA Chemicals Inc., Shell Chemical LP, and Williams Olefins, LLC.

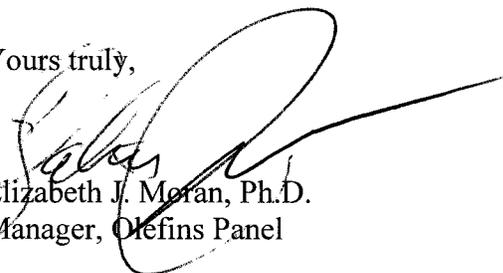


TH2 cytokine response. The study did not show any evidence of irritation effects associated with ethylene.

The final report from the 4-week ethylene study will be submitted to EPA when available.

If you have any questions, please contact me at 301 924 2006 or Elizabeth_Moran@americanchemistry.com.

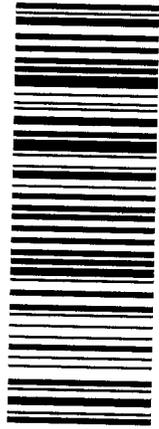
Yours truly,



Elizabeth J. Moran, Ph.D.
Manager, Olefins Panel



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