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December 3, 2010



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Office of Pollution Prevention and Toxics
Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington DC 20460-0001

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Attention: TSCA Section 8(e) Coordinator

RE: TSCA Section 8(e) for Ethylene (or Ethene) CASRN 74-85-1 – Preliminary
Results – Rat 4-Week Inhalation Study

Dear Sir or Madam:

Equistar Chemicals LP (Equistar) hereby submits this letter pursuant to Section 8(e) of the Toxic Substances Control Act (TSCA) and EPA's 1991 Section 8(e) Reporting Guide because it includes findings that EPA may consider reportable. Equistar has not made a determination as to whether a significant risk of injury to health or the environment is actually presented by the findings.

The preliminary and screening test results are reported for a 4-week (20-day) ethylene inhalation study.

Female F344 rats were exposed to 0, 10 ppm, 50 ppm, 300 ppm or 10,000 ppm ethylene six hours/day, five days/week for four weeks (20 days of exposure). Groups of rats were sacrificed after 1, 3, 5 or 10 days of exposure (0 and 10,000 ppm) and 20 days of exposure (all exposure concentrations). Nasal tissues were analyzed to identify exposure-dependent alterations in inflammation, cell proliferation, epithelial morphology and gene expression. Analysis of nasal tissues is still ongoing, but preliminary data indicate increased gene expression of TH2 cytokines (IL-5 and IL-13) and proteins related to airway mucus production/secretion (IL-13, Gob5 and Muc5AC) in rats exposed to 10,000 ppm ethylene for 20 days.

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

Equistar Chemicals LP
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CONTAINS NO CBI

If you have any questions, please contact me at 713-321-5143 or betsy.duncan@lyondellbasell.com.

Yours truly,

A handwritten signature in cursive script that reads "Betsy Duncan". The signature is written in black ink and is positioned above the printed name.

Betsy Duncan
Senior Business Consultant – Global Chemical Control



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