

November 18, 2003

Anne P. LeHuray
Manager, Phosgene Panel
The American Chemistry Council
1300 Wilson Boulevard
Arlington, VA 22209

Dear Ms. LeHuray:

The Office of Pollution Prevention and Toxics is transmitting EPA's comments on the robust summaries and test plan for Phosgene posted on the ChemRTK HPV Challenge Program Web site on July 23, 2003. I commend The American Chemistry Council Phosgene Panel for its commitment to the HPV Challenge Program.

EPA reviews test plans and robust summaries to determine whether the reported data and test plans will provide the data necessary to adequately characterize each SIDS endpoint. On its Challenge Web site, EPA has provided guidance for determining the adequacy of data and preparing test plans used to prioritize chemicals for further work.

EPA will post this letter and the enclosed comments on the HPV Challenge Web site within the next few days. As noted in the comments, we ask that the Panel advise the Agency, within 60 days of this posting on the Web site, of any modifications to its submission. Please send any electronic revisions or comments to the following e-mail addresses: oppt.ncic@epa.gov and chem.rtk@epa.gov.

If you have any questions about this response, please contact Richard Hefter, Chief of the HPV Chemicals Branch, at 202-564-7649. Submit questions about the HPV Challenge Program through the "Contact Us" link on the HPV Challenge Program Web site pages or through the TSCA Assistance Information Service (TSCA Hotline) at (202) 554-1404. The TSCA Hotline can also be reached by e-mail at tsca-hotline@epa.gov.

I thank you for your submission and look forward to your continued participation in the HPV Challenge Program.

Sincerely,

Oscar Hernandez, Director
Risk Assessment Division

Enclosure

cc: W. Penberthy
M. E. Weber

EPA Comments on Chemical RTK HPV Challenge Submission: Phosgene

Summary of EPA Comments

The sponsor, the Phosgene Panel of the American Chemistry Council, submitted a test plan and robust summaries to EPA for Phosgene (CAS No. 75-44-5) dated July 7, 2003. EPA posted the submission on the ChemRTK HPV Challenge Web site on July 23, 2003.

EPA has reviewed this submission and has reached the following conclusions:

1. Physicochemical Properties. The data provided by the submitter for these endpoints are adequate for the purposes of the HPV Challenge Program.
2. Environmental Fate. The submitter needs to clarify in the fugacity robust summary the assertion that the diffusion coefficient is the key parameter for determining transport of phosgene from the atmosphere to condensed aqueous phases.
3. Health Effects. Available data for acute toxicity, repeated-dose toxicity, and *in vitro* gene mutation are adequate for the purposes of the HPV Challenge Program. EPA agrees with the submitter that because of the known high reactivity of phosgene, additional testing is not necessary.
4. Ecological Effects. EPA agrees with the submitter that because of the known rapid reactivity of phosgene with water to form hydrochloric acid and carbon dioxide, ecotoxicity testing is not necessary. The endpoints for ecotoxicity have been addressed adequately by technical discussion.

EPA requests that the submitter advise the Agency within 60 days of any modifications to its submission.

EPA Comments on Phosgene Challenge Submission

Test Plan

Physicochemical Properties (melting point, boiling point, vapor pressure, water solubility, and partition coefficient)

The data provided by the submitter for these endpoints are adequate for the purposes of the HPV Challenge Program.

Environmental Fate (photodegradation, stability in water, biodegradation, fugacity)

The data provided by the submitter for photodegradation, stability in water and biodegradation are adequate for the purposes of the HPV Challenge Program.

Fugacity. No fugacity data were provided by the submitter for phosgene. The submitter stated that “due to the instantaneous reaction of phosgene in water, the transport of the material between environmental compartments can not be predicted using equilibrium distribution coefficients involving the water phase.” The submitter further stated that “the liquid-phase diffusion coefficient, as reported by Manogue and Pigford (1960) is a key parameter for determining transport of phosgene from the atmosphere to condensed aqueous phases.” However, EPA believes that the aqueous-phase diffusion coefficient does not describe the transport of phosgene from the air to the condensed aqueous phase, but describes the diffusion of phosgene within the aqueous phase. The submitter should clarify in a technical discussion the assertion that the liquid-phase diffusion coefficient is the key parameter for determining transport of phosgene from the atmosphere to condensed aqueous phases.

Health Effects (acute toxicity, repeated-dose toxicity, genetic toxicity, and reproductive/developmental toxicity)

Available data for acute toxicity, repeated-dose toxicity, and *in vitro* gene mutation are adequate for the purposes of the HPV Challenge Program. EPA agrees with the submitter that because of the known high reactivity of phosgene, additional testing is not necessary.

Ecological Effects (fish, invertebrates, and algae)

EPA agrees with the submitter that because of the known rapid reactivity of phosgene with water to form hydrochloric acid and carbon dioxide ($t_{1/2} = 0.026$ seconds), ecotoxicity testing is not necessary.

Followup Activity

EPA requests that the submitter advise the Agency within 60 days of any modifications to its submission.