

June 28, 2002

James A. Deyo, D.V.M., Ph.D., D.A.B.T.
Technical Associate
Eastman Chemical Company
P. O. Box 511
Kingsport, Tennessee 37662

Dear Dr. Deyo:

The Office of Pollution Prevention and Toxics is transmitting EPA's comments on the robust summaries and test plan for 5-methyl-2-hexanone, posted on the ChemRTK HPV Challenge Program Web site on December 7, 2001. I commend Eastman Chemical Company 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 HPV 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 attached Comments on the HPV Challenge Web site within the next few days. As noted in the comments, we ask that Eastman Chemical Company advise the Agency, within 60 days of this posting on the Web site, of any modifications to its submission.

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 HPV Challenge Program Web site "Submit Technical Questions" button or through the TSCA Assistance Information Service (TSCA Hotline) at (202) 554-1404. The TSCA Hotline can also be reached by e-mail at tsc hotline@epa.gov.

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

Sincerely,

/s/

Oscar Hernandez, Director
Risk Assessment Division

Attachment

cc: W. Sanders
A. Abramson
C. Auer
M. E. Weber

**EPA Comments on Chemical RTK HPV Challenge Submission:
5-Methyl-2-Hexanone (Methyl Isoamyl Ketone)**

SUMMARY OF EPA COMMENTS

The sponsor, Eastman Chemical Company, submitted a test plan and robust summaries to EPA for 5-methyl-2-hexanone (methyl isoamyl ketone, CAS No. 110-12-3) dated October 29, 2001. EPA posted the submission on the ChemRTK HPV Challenge Web site on December 7, 2001.

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

1. Physicochemical and Environmental Fate Endpoints. The submitter needs to provide the inputs used for the transport and distribution model.
2. Health Endpoints. All appropriate SIDS-level endpoints have been addressed.
3. Ecotoxicity. Data provided for fish and aquatic invertebrate toxicity are inadequate. The submitter needs to conduct testing for these endpoints. Data for algae are adequate.

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

EPA COMMENTS ON THE METHYL ISOAMYL KETONE CHALLENGE SUBMISSION

Test Plan

Chemistry (melting point, boiling point, vapor pressure, water solubility, and partition coefficient).

Adequate data are available for these endpoints for the purposes of the HPV Challenge Program.

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

Adequate data are available for these endpoints for the purposes of the HPV Challenge Program. However, the submitter needs to address a few deficiencies in the robust summaries.

Health Effects (acute toxicity, repeat dose toxicity, genetic toxicity, and reproductive/developmental toxicity).

Adequate data are available for these endpoints for the purposes of the HPV Challenge Program. However, the submitter needs to address a few deficiencies in the robust summaries.

Ecotoxicity

Fish and Invertebrates. The fish and invertebrate toxicity studies were conducted at 100 µl/L and no effects were reported. Data for these two endpoints are inadequate because the loss of chemical during the test was not accounted for. The submitter needs to redo the fish and invertebrate toxicity tests. More information on testing volatile chemicals can be found in the Guidance Document on Aquatic Toxicity Testing of Difficult Substances and Mixtures (OECD, June 2000 - available on the OECD website at <http://www.oecd.org/ehs/test/monos.htm>).

Algae. Data for the algae endpoint are adequate.

Specific Comments on the Robust Summaries

Environmental Fate.

Fugacity. The submitter needs to provide the inputs used for the transport and distribution model. EPA recommends that the submitter use the measured physicochemical data as inputs for the transport and distribution model. The use of estimated values introduces uncertainties that then become magnified in modeling applications.

Health Effects.

Repeated-Dose Toxicity. In both summaries, the submitter needs to define the specific tissues that were examined histopathologically.

Genetic Toxicity (in vitro). In both summaries, the submitter needs to list concentrations that were tested. The submitter also needs to provide the number of replicate plates per concentration for the reverse mutation in bacteria study and the number of metaphases per concentration that were examined for the chromosomal aberration assay.

Ecotoxicity.

Algae. Missing study details included number of replications performed, water hardness, and TOC.

Followup Activity

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