

February 13, 2004

Randy Deskin, Ph.D.  
Director, Toxicology and Product Regulatory  
Compliance Department  
Cytex Industries, Inc.  
5 Garret Mountain Plaza  
West Patterson, NJ 07424

Dear Dr. Deskin:

The Office of Pollution Prevention and Toxics is transmitting EPA's comments on the robust summaries and test plan for tris(4-t-butyl-3-hydroxy-2,6-dimethylbenzyl)-s-triazine-2,4,6-(1H,3H,5H)-trione posted on the ChemRTK HPV Challenge Program Web site on October 15, 2003. I commend Cytex Industries, Inc. 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 Cytex 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](mailto:oppt.ncic@epa.gov) and [chem.rtk@epa.gov](mailto: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](mailto:tsca-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

Enclosure

cc: W. Penberthy  
M. E. Weber

**EPA Comments on Chemical RTK HPV Challenge Submission:  
Tris(4-t-butyl-3-hydroxy-2,6-dimethylbenzyl)-s-triazine-2,4,6-(1*H*,3*H*,5*H*)trione (Cyanox 1790)**

**Summary of EPA Comments**

The sponsor, Cytec Industries, Inc., submitted a test plan and robust summaries to EPA for tris(4-t-butyl-3-hydroxy-2,6-dimethylbenzyl)-s-triazine-2,4,6-(1*H*,3*H*,5*H*)trione (Cyanox 1790, CAS No. 40601-76-1) dated September 9, 2003. EPA posted the submission on the ChemRTK HPV Challenge Web site on October 15, 2003.

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

1. Physicochemical Properties. The submitted data for melting point, boiling point, vapor pressure and partition coefficient are adequate for the purposes of the HPV Challenge Program. EPA agrees with the submitter's plan to test for water solubility.
2. Environmental Fate. The submitted data for all endpoints are adequate for the purposes of the HPV Challenge Program.
3. Health Effects. Data submitted for the acute, repeated-dose, and genetic toxicity endpoints are adequate for the purposes of the HPV Challenge Program. The submitted data for reproductive toxicity are not adequate; however, EPA agrees with the submitter's plan to conduct a combined reproductive/developmental toxicity screening test according to OECD guidelines to address these endpoints.
4. Ecological Effects. EPA reserves judgement on all ecological effects endpoints pending the results of the water solubility test.

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

**EPA Comments on the Tris(4-t-butyl-3-hydroxy-2,6-dimethylbenzyl)-s-triazine-2,4,6-(1*h*,3*h*,5*h*)trione (Cyanox 1790) Challenge Submission**

**Test Plan**

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

The submitted data for melting point, boiling point, vapor pressure and partition coefficient are adequate for the purposes of the HPV Challenge Program. EPA agrees with the submitter's plan to test water solubility.

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

The submitted data for all endpoints are adequate for the purposes of the HPV Challenge Program. Health Effects (acute toxicity, repeated-dose toxicity, genetic toxicity, and reproductive/developmental toxicity)

Data submitted for the acute toxicity, repeated-dose toxicity, and genetic toxicity endpoints are adequate for the purposes of the HPV Challenge Program. The submitted data for reproductive toxicity are not

adequate; however, EPA agrees with the submitter's plan to conduct a combined reproductive/developmental toxicity screening test according to OECD TG 421 to address these endpoints.

*Repeated-Dose Toxicity.* The 30-day feeding bioassay in rats adequately addresses this endpoint; however, neither of the 90-day assays selected by the submitter as critical studies for the endpoint were adequate because the NOAELs were the highest tested doses (400 mg/kg/day for rats and 46 mg/kg/day for dogs) that were significantly below the limit dose recommended according to the OECD guidelines.

*Reproductive/Developmental Toxicity.* The submitter's plan to use the reproductive organs evaluations (histopathology) from the 90-day studies in partial fulfillment for this endpoint is not acceptable because the studies failed to include an adverse effect level and the highest tested doses were significantly below the OECD guideline recommended limit dose of 1000 mg/kg/day. However, the submitter's plan to conduct a combined reproductive/developmental toxicity screening test according to the OECD TG 421 is appropriate. The submitter will need apply the limit dose or select a high dose that results in some evidence of systemic toxicity for the test to be adequate. In addition, the submitter needs to identify the intended route of exposure.

#### Ecological Effects (fish, invertebrates, and algae)

EPA reserves judgement on adequacy of fish, aquatic invertebrates, and green algae endpoints pending the results of the proposed water solubility test.

#### **Specific Comments on the Robust Summaries**

##### Health Effects

*Repeated-Dose Toxicity.* For the 30-day oral toxicity study, the dietary concentration of 1% should be a NOAEL and 2% should be a LOAEL based on decreased body weights in females. These concentrations need to be expressed in mg/kg/day.

##### **Followup Activity**

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