Phosphoryl Chloride, Polymer with Resorcinol Phenyl Ester - Comments of Environmental Defense

(Submitted via Internet 4/25/02)

Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for Phosphoryl Chloride, Polymer with Resorcinol Phenyl Ester CAS #125997-21-9.

In its test plan/robust summary for Phosphoryl Chloride, Polymer with Resorcinol Phenyl Ester (Fyroflex RDP), Akzo Nobel Polymer Functional Chemicals LLC proposes no additional testing. We agree with this conclusion, as available data appear to be adequate to fulfill requirements of the HPV program.

However, we note that no information is provided on the uses of this compound. While such information is not required under the HPV program, its inclusion is extremely helpful in evaluating the toxicity data. In addition, because of the nature of this compound, we believe that some post-HPV testing may be warranted . Suggestions for additional (non-HPV) information/data that would be particularly useful are listed below.

1. Based on the structure and properties, Fyroflex RDP appears to be a polymeric phosphorous compound used as in the plastics industry as flame retardant and to enhance the elasticity of plastics; however information on uses is not provided. A description of primary uses and possible sources of environmental contamination would be of considerable public interest.

2. By the same token, we assume that potential for high levels of exposure is largely limited to occupational settings. However, depending on the primary uses of Fyroflex, the public may be exposed in the course of use of plastics containing Fyroflex RDP and/or the breakdown of these products with subsequent release into the environment. Therefore, information regarding its primary uses and possible sources of exposure would be of interest.

3. The primary impurity in Fyroflex RDP, triphenyl phosphate, may account for 1-5% of the formulation. Our brief review of data describing the toxicity of triphenyl phosphate data that were not included in the test plan for Fyroflex indicates it is relatively nontoxic and should not contribute significantly to the toxicity of formulations of Fyroflex RDP. However, given the toxicity of some other organophosphates, it would be desirable to have a brief description of triphenyl phosphate toxicity presented in this report.

4. Data presented indicate Fyroflex RDP has low acute toxicity to all laboratory species tested. Application of high concentrations to skin of rabbits indicated no evidence of dermal irritation and application to the eyes of rabbits indicated Fyroflex RDP was only slightly irritating (even though dermal and eye irritation are not endpoints required under HPV, Akzo appropriately reported these existing data on these non-required endpoints). However, in two repeat dose studies with rats, inhibition of plasma cholinesterase was observed. This effect was more dramatic in females and persisted to the end of the 60-day recovery period. The effect on erythrocyte cholinesterase was variable, being observed in the gavage study and not in the inhalation study. Though it is not required, a statement as to the significance of the observed inhibition of plasma cholinesterase would seem in order.

In summary, we agree with the sponsor's conclusion that no additional testing of Fyroflex is needed to fulfill the obligations under the HPV program. It would, however, be desirable for the sponsors to also provide some use information, and consider conducting additional post-HPV testing, to address some of the points mentioned above.

Thank you for this opportunity to comment.

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