AR 201-12764

October 11, 2000

The Honorable Carol Browner
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
Room 3000, #1101-A
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Subject: Comments on "Robust Summary on Tris (NonylPhenyl) Phosphite"

Dear Administrator Browner:

The following comments on the "Robust Summary on Tris (NonylPhenyl) Phosphite (TNPP)" are submitted on behalf of Physicians Committee for Responsible Medicine, People for the Ethical Treatment of Animals, the Humane Society of the United States, the Doris Day Animal League, and Earth Island Institute. These animal protection and environmental organizations have a combined membership of more than nine million Americans.

This test plan, submitted by the Phosphite Producers HPV Consortium, is a gross violation of the letter and spirit of the EPA's October 14, 1999, guidance letter to HPV participants, specifically violating seven of the ten major points of the letter. Most glaringly, this is a plan for a single compound, whose testing is specifically delayed by that October 14 letter until November 2001. In its posted letter of clarification, General Electric states that EPA "requested deferment of testing of individual chemicals unless there were reasons for testing sooner than that." This is false: the October letter specifically states that "individual chemicals (i.e., those not proposed for testing in a category) that require further testing on animals ***shall*** be deferred until November 2001."

Furthermore, this plan violates the original HPV program framework in which sponsors pledge to evaluate the adequacy of existing data and submit robust summaries for the sponsored chemicals. The TNPP test plan provides no rationale for the testing, gives no details of the specific testing procedures, and disregards pertinent information on the environmental fate and transport of this chemical. The TNPP test plan is unacceptable from both a technical and regulatory standpoint and should have been absolutely rejected by EPA.

For the third time, we reiterate the request made in our August 21 letter to you that the EPA specifically address our concerns and detail how the agency intends to ensure that the spirit and guidelines of the October 14, 1999, letter are followed. Almost two months after our original request, we have not received any response from the EPA regarding this important matter.

Because we anticipate the resubmission of this test plan at a later date, we are providing further comments. I can be reached at (202) 686-2210, ext. 302, or by e-mail at ncardello@pcrm.org. Correspondence should be sent to my attention at the following address 5 100 Wisconsin Ave., Suite 404, Washington, DC 20016. I look forward to your response on this important issue.

Sincerely,

Nicole Cardello, MHS
Research Coordinator

cc: The Honorable Robert C. Smith
The Honorable F. James Sensenbrenner, Jr.
The Honorable Ken Calvert
The Honorable Jerry Costello
Council on Environmental Quality

General Comments on the Test Plan for Tris (Nonylphenyl) Phosphite

This test plan violates the agreement arrived at by the Environmental Protection Agency (EPA), the Chemical Manufacturers Association, the Environmental Defense Fund, and animal protection representatives. The following points of the agreement, as outlined in the October 14, 1999, letter to HPV participants are violated entirely or in part by the TNPP test plan:

1. "In analyzing the adequacy of existing data, participants shall conduct a thoughtful, qualitative analysis rather than use a rote checklist approach.

2. Participants shall maximize the use of existing and scientifically adequate data

3. Participants shall maximize the use of existing and scientifically appropriate categories of related chemicals and structure activity relationships.

5. Participants are encouraged to use *in vitro* genetic toxicity testing to generate any needed genetic toxicity screening data, unless known chemical properties preclude its use.

6. Consistent with the OECD/SIDS program, participants generally should not develop any new dermal toxicity data.

8. As with all chemicals, before generating new information, participants should further consider whether any additional information obtained would be useful or relevant.

9. (b) individual chemicals (i.e., those HPV chemicals not proposed for testing in a category) that require further testing on animals shall be deferred until November 2001 to allow for non-animal test replacements for some SIDS endpoints."

This test plan is proposed for an individual chemical (violation of item 9(b)). Therefore, the test plan must be rejected by the EPA under the HPV program.

In addition, the proposed test plan is nothing more than a rote reproduction of the checkboxes for each chemical outlined in the original HPV guidance (violation of items 1 and 8). A thoughtful evaluation of the feasibility and necessity of the various tests cannot be conducted without some knowledge of the basic properties or application of the chemical. At a minimum, the Phosphite Producers HPV Consortium needs to state the use of the chemical, its physical properties, the order of testing, the data needed to conduct subsequent tests, specifically refer to the exact method to be used for each human health endpoint test, with information on whether the tests are *in vivo* or *in vitro*, list the species to be used, outline the exposure method, and list the exposure time.

Additionally, this test plan disregards the environmental fate and transport of the compound. Existing data on food products indicates that foods in contact with TNPP additives may contain levels of free nonylphenol, a product of a hydrolysis reaction of TNPP. Nonylphenol is a potential endocrine disrupter for which an abundance of data on the toxicological and

physicochemical properties exists'. Since nonylphenol may well be the environmentally relevant moiety, a critical review of its properties and behavior is essential for a thorough analysis of TNPP.

GE has apparently failed to include some of the basic toxicological data on TNPP in its test plan. TNPP is listed by the Food and Drug Administration (FDA) as an approved food contact substance[2]. In order to apply for FDA approval, the manufacturer typically follows the premarket notification (PMN) procedure. The toxicology data package for a premarket notification should contain both a safety narrative (SN) and comprehensive toxicological profile (CTP) of the food contact. The SN should provide the basis for the notifier's determination that the intended use of the food contact substance is safe. The CTP should provide summaries and critical evaluations of all of the available toxicological information pertinent to the safety evaluation of the food contact substance. The toxicology data are public information under the Freedom of Information Act (FOIA), therefore we have tiled a FOIA request to obtain any toxicology information on TNPP. In keeping with the spirit and terms of the October 14, 1999, letter as well as the original HPV agreement, GE should gather this relevant toxicological data and incorporate it into its robust summary (violation of item 2).

The Phosphite Producers HPV Consortium also failed to compare TNPP with other similar chemicals to form a group of phenol compounds (violation of item 3). TNPP is one of many phenyl-phosphorus antioxidant stabilizers that are included in the HPV Program, and would logically fall into the same group in the development of a test plan. Modification and evaluation of phenyl phosphorus compounds has been ongoing for over 35 years[3]. This group provides an ideal opportunity to apply structure-activity relationships to evaluate the toxicity of the compounds. Summaries of chemicals in this group should also refer to testing and work done by others evaluating alkyl phenols. For example, it is clear that some nonylphenol is liberated from TNPP stabilized plastics into water[4], indicating the need to evaluate the aqueous stability of TNPP and the free nonylphenol content of technical TNPP products. If the solubility of phenyl-phosphorus compounds is much lower than phenyl hydrolysis products, and hydrolysis occurs relatively rapidly, the phenyl hydrolysis products may be the relevant toxic moieties in the environment. It is critical to understand these chemical and physical properties that control the environmental toxicity of these compounds to prevent the need for conducting cruel and unnecessary tests on animals. A brief list of potential compounds for this group (along with their sponsors) is presented in Table 1[5]. It is important to note that this brief list of compounds has 10 different sponsors for the various compounds listed.

As has been referenced in previous comments[6], we are concerned that a specific company or industry may not cooperate in the development of groups, as stated in the October guidance. For example, in the list of potential phenyl phosphorus compounds, ten different groups have

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[1] Janet Byron. Suspected endocrine disruptors migrate from plastic food packages. ***Pesticide and Toxic Chemical*** News. September 1998.
[2] http://vm.cfsan.fda.gov/~dms/opa-indt.html
[3] For example, see US patents 3026264, 4474917, 4025486,4379219
[4] Janet Byron. ***Op cit.***
[5] Note: This table is not a comprehensive list of compounds that could be included in a group, but rather an example to provide a starting point for discussions. Some compounds are listed multiple times due to multiple sponsors.
[6] PETA letter to Carol Browner dated August 21, 2000

sponsored compounds. It is critical that EPA play a leadership role in developing this cross fertilization, so that unnecessary, expensive, and poorly conceived testing is avoided.

This test plan calls for excessive animal testing above and beyond HPV Chemical Challenge Program requirements (violation of item 2). For example, the test plan fails to provide justification for conducting an *in vivo* genetic toxicity study. *In vitro* genetic toxicity tests should be used to generate any needed genetic toxicity screening date, unless known chemical properties preclude its use (violation of item 5).

The test plans also calls for a dermal toxicity study, which is also proscribed in the October 14 letter (violation of item 6).

Additionally, the TNPP test plan includes an acute oral toxicity test and a reproductive toxicity test, even though acceptable studies for these two endpoints have already been conducted and presented in the robust summary.

Conclusions

In short, the HPV Phosphite Producers Consortium has developed a greatly flawed work plan both from technical and regulatory perspective. The EPA must require that TNPP be considered for inclusion into a larger substituted phenyl-phosphorus category and that the consortium provide additional existing data on the toxicity and chemistry of TNPP and its hydrolysis products. The test plan must have clear documentation of the test methods and provide for evolution of the experimental plan based on early physical and chemical determinations about the compound. As it stands, the EPA must reject this workplan in its entirety due to its blatant violations of the October agreement and the original HPV framework.

Table 1: Potential Compounds for Inclusion in a Phenyl-Phosphorus UV Stabilizer Test Group

CAS Number	Compound	Sponsor
101020	Phosphorous acid, triphenyl ester	Chemical Manufacturers Association (CMA) Health, Environmental, and Research-Task Group (HERTG) [F] 2001
101020	Phosphorous acid, triphenyl ester	Phosphite Producers HPV Consortium [F] 2003
101020	Phosphorous acid, triphenyl ester	Dover Chemical Corporation [F] 2003
115866	Phosphoric acid, triphenyl ester	Chemical Manufacturers Association (CMA) Aryl Phosphates Panel [P]
115866	Phosphoric acid, triphenyl ester	Akzo Nobel Functional Chemicals LLC - Phosphorus Chemicals [F] 2003
115866	Phosphoric acid, triphenyl ester	Bayer AG Corporation [I]
144354	Phosphorous acid, cyclic neopentanetetrayl diphenyl ester	General Electric (GE) [F] 2000
20227536	Phosphorous acid, 2-tert-butyl-.alpha.-(3-tert-butyl-4-hydroxyphenyl)-p-cumenyl bis(p-nonylphenyl) ester	Chemical Manufacturers Association (CMA) Rubber and Plastics (RAPA) Panel [F] 2003
25550985	Phosphorous acid, diisodecyl phenyl ester	Phosphite Producers HPV Consortium [F] 2001
25550985	Phosphorous acid, diisodecyl phenyl ester	Dover Chemical Corporation [F] 2001
26523784	Phenol, nonyl-, phosphite (3:1)	Phosphite Producers HPV Consortium [F] 2000
26523784	Phenol, nonyl-, phosphite (3:1)	CK Witco Corp [F] 2003
26523784	Phenol, nonyl-, phosphite (3: 1)	Dover Chemical Corporation [F] 2000
26544230	Phosphorous acid, isodecyl diphenyl ester	Phosphite Producers HPV Consortium [F] 2001
26544230	Phosphorous acid, isodecyl diphenyl ester	Dover Chemical Corporation [F] 2001
26741537	Phosphorous acid, cyclic neopentanetetrayl bis(2,4-di-tert-butylphenyl) ester	General Electric (GE) [F] 2002
3 1570044	Phenol, 2,4-di-tert-butyl-, phosphite (3:1)	Ciba Specialty Chemicals Corporation - Additives [F] 2000
3 1570044	Phenol, 2,4-di-tert-butyl-, phosphite (3:1)	Ciba Specialty Chemicals Corporation - Additives [F] 2000