APE RESEARCH COUNCIL

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Barbara S. Losey, Deputy Director
Statement for California Air Resources Board
Public Hearing: Revisions to Consumer Product Regulations
In Opposition to
Proposed Regulation to Prohibit Alkylphenol Ethoxylates
November 18, 2010

I am Barbara Losey, Deputy Director of the Alkylphenols & Ethoxylates Research Council, which is also known as APERC. APERC is composed of manufacturers, processors and raw material suppliers of alkylphenols and alkylphenol ethoxylates (or APEs). APEs are highly effective surfactants. The most commonly used APEs are nonylphenol ethoxylates (or NPEs).

APERC has been in existence for over 25 years. During that time the group has conducted over $4 million in research and continuously monitored the published scientific literature on these compounds. We now have over four thousand studies on this chemical family in our database.

I offer the following comments to the members of the Air Resources Board (the Board) about why NP and NPE do not warrant regulation to prohibit their use in certain consumer cleaning and degreasing products.

- The fact that APEs are toxic to aquatic life is not surprising; all surfactants are toxic to aquatic life.

- What makes APEs different than other surfactants is that we know a lot more about them than most other surfactants.

    - We know how much is in the environment. There are numerous ongoing monitoring studies, including in California, that routinely look at concentrations of these compounds in the environment.
    - We know what levels in the environment are protective of aquatic life. US EPA has finalized Water Quality Criteria (WQC) for NP in fresh and marine surface waters that can be used to assess the risk of AP/APEs in the environment.
    - We know the Predicted No Effect Concentrations (PNECs) have been calculated for NP in sediment and can be used to assess the risk to benthic species.

- We know that levels of AP\APEs in California waters and sediment are very, very low. With very few exceptions, concentrations do not exceed the WQC and PNEC values for NP.
- We know that AP\APE are not persistent or bioaccumulative. Several governmental authorities (the European Union PBT Work Group, Environment Canada, Washington State and the State of Oregon) have conducted assessments on these compounds and concluded that they are not persistent or bioaccumulative. Their half-lives in the environment are in the range of days or weeks, though longer when entrained in anoxic sediments.

- The State Water Resources Control Board and the Air Resources Control Board have expressed concern about the estrogenic activity of APs.
  - First, while AP display weak estrogenic activity in screening studies their potency is ten thousand to one million times less potent that human estrogen, which also occurs in the aquatic environment.
  - It is important to remember that estrogenicity is a mode of action – not an effect. The real test of whether a compound is an endocrine disruptor is not in the screening test, it is in more robust studies that look at adverse effects mediated by hormones.
  - The US EPA Endocrine Disruptor Screening and Testing Committee (EDSTAC) agreed to the following general definition of an endocrine disruptor:

"... an endocrine disruptor as an exogenous chemical substance or mixture that alters the structure or function(s) of the endocrine system ***and causes adverse effects at the level of the organism****, its progeny, populations, or subpopulations of organisms, based on scientific principles, data, weight-of-evidence, and the precautionary principle."*(emphasis added)

  - US EPA developed chronic WQC for NP that that considered effects caused by estrogenic modes of action, like reproductive and developmental effects.
  - Studies conducted and cited by the Southern California Coastal Water Research Project (Schlenk, 2005, Bay, 2008) have – in the conclusions of the authors - not found any definitive links between vitellogenin expression and feminization in fish to any compounds – including APs – in surface water or sediment. In fact, these authors have recommended additional study.

- So, it seems that the basis provided in the staff report to justify a prohibition of APEs in certain consumer products is weak. There are references to only a handful of studies, no acknowledgement that current levels of AP/APEs in the environment are very low, and speculation that there will be an increase in the

use of APEs to reformulate to avoid VOCs in cleaning products that will be so great as to overwhelm the treatment facilities and pose risk to the environment.

- While it is not likely that APEs will be a "go to" reformulation option, such a regulation would unnecessarily restrict reformulation options for formulators trying to achieve the VOC reduction goals – based on speculation.

- APEs are highly effective surfactants and current monitoring data in California do not indicate a need for concern about risk from the presence of trace levels of APEs or their degradants in the environment.

- California has ongoing programs to monitor contaminants in surface water and sediment. The state also has other regulatory mechanisms available under the Clean Water Act to assess and regulate site specific problem areas that might be found to exceed the US EPA WQC for NP and sources that contribute to them.

- APERC recommends that the Board not approve the proposed regulation to prohibit APEs in certain consumer product and take more time to review the facts and science related to APEs.