

# A P E R E S E A R C H C O U N C I L

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## **ALKYLPHENOLS & ETHOXYLATES RESEARCH COUNCIL STATEMENT SUPPORTING CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION ADOPTION OF US EPA WATER QUALITY CRITERIA FOR NONYLPHENOL IN CONNECTICUT WATER QUALITY STANDARDS**

**February 3, 2010**

Thank you for the opportunity to comment on the revisions to the Connecticut Water Quality Standards proposed by the Connecticut Department of Environmental Protection (DEP). I am Barbara Losey, Deputy Director of the Alkylphenols & Ethoxylates Research Council, which we call "APERC" for short.

APERC's mission is to promote the safe use of alkylphenol-based products, such as nonylphenol (NP) and nonylphenol ethoxylates (NPE), within the framework of responsible chemical management. As such, we support CT DEP's proposal to adopt the US EPA Ambient Aquatic Life Water Quality Criteria for NP as the numeric water criteria for this compound in the Connecticut Water Quality Standards.<sup>1,2</sup>

US EPA conducted a review of the hundreds of available ecotoxicity studies for NP when they developed the Water Quality Criteria for NP. The Agency used data from a wide range of taxa and species to develop Water Quality Criteria that are, as EPA states, "an estimate of the highest concentration to which an aquatic community can be exposed indefinitely without unacceptable effects."<sup>3</sup>

US EPA also used studies on the long-term effects of NP in deriving the chronic NP Water Quality Criteria. These types of studies look at effects at the level of the fish or organism, such as their ability to reproduce and developmental effects in offspring. These types of effects reflect the culmination of changes that can occur at the molecular, biochemical and tissue level. So the NP Water Quality Criteria address all mechanisms of toxicity— including any that might be due to its weak estrogenic activity.

<sup>1</sup> US Environmental Protection Agency (US EPA). (2006, February 23). Notice of availability of final aquatic life ambient water quality criteria for nonylphenol. Federal Register, 71 (36), 9337-9339.  
<http://www.epa.gov/fedrgstr/EPA-WATER/2006/February/Day-23/w2558.htm>.

<sup>2</sup> Connecticut Department of Environmental Protection (CTDEP). (2009, December 22). Proposed Revisions to Connecticut Water Quality Standards.  
[http://www.ct.gov/dep/lib/dep/water/water\\_quality\\_standards/water\\_quality\\_standards\\_proposed\\_12\\_22\\_09.pdf](http://www.ct.gov/dep/lib/dep/water/water_quality_standards/water_quality_standards_proposed_12_22_09.pdf)

<sup>3</sup> US Environmental Protection Agency (US EPA). (2005). Aquatic life ambient water quality criteria - nonylphenol. Report 822-R-05-005. US Environmental Protection Agency, Washington, DC, USA.  
<http://www.epa.gov/waterscience/criteria/nonylphenol/final-doc.pdf>

EPA finalized the Water Quality Criteria for NP in 2006 and since that time a significant amount of research has been published on this compound. So, APERC sponsored a project to summarize and assess the recent data to see if the criteria are still valid. That assessment, which is summarized in our written comments, found that the most recent data still support EPA's criteria for NP.

NP and NPEs are treatable in wastewater treatments plants and they are neither persistent nor bioaccumulative; therefore they can be effectively managed using Water Quality Standards and, as necessary, National Pollutant Discharge Elimination System (NPDES) permits to monitor and control effluent concentrations.<sup>4,5,6,7</sup> So incorporating the federal WQC for NP into Connecticut WQS is not likely to be a technical or economic burden on either the DEP or the local business community in Connecticut.

Adopting the federal Water Quality Criteria for NP will provide a clear definition of aquatic concentrations of NP that are protective of the aquatic environment; thereby assuring that surface and ground waters in Connecticut are protected from degradation as required under the Clean Water Act.

We have referenced the US EPA Water Quality Criteria Document for NP and its related Federal Register notice in this statement and request that the hearing officer take administrative notice of these documents and incorporate them by reference into the record.

Barbara S. Losey  
Deputy Director  
February 3, 2010

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<sup>4</sup> Melcer, H., Klečka, G., Monteith, H., Staples, C. (2007) Wastewater Treatment of Alkylphenols and Their Ethoxylates : A State of the Science Review. Published by Water Environment Federation, Alexandria, VA.

<sup>5</sup> Environment Canada (EC). (2007). Ecological categorization of substances on the Domestic Substance List; Categorization decisions. (Completed in September 2006).

[http://www.ec.gc.ca/substances/ese/eng/dsl/cat\\_index.cfm](http://www.ec.gc.ca/substances/ese/eng/dsl/cat_index.cfm)

<sup>6</sup> Staples, C.A., Klecka, G.M., Naylor, C.G., & Losey, B.S. (2008). C8- and C9-alkylphenols and ethoxylates: I. Identity, physical characterization, and biodegradation pathways analysis. Human and Ecological Risk Assessment, 14 (5), 1007–1024.

<sup>7</sup> Klecka, G.M., Staples, C.A., Naylor, C.G., Woodburn, K.B., & Losey, B.S. (2008). C8- and C9-alkylphenols and ethoxylates: II. Assessment of environmental persistence and bioaccumulation potential. Human and Ecological Risk Assessment, 14 (5), 1025–1055.