

ALKYLPHENOLS BULLETIN

An Update from the Alkylphenols & Ethoxylates Research Council

Revised April 12, 2006

EPA FINALIZES NONYLPHENOL WATER QUALITY CRITERIA *Levels in US Waters Not a Cause for Concern*

US EPA announced final Water Quality Criteria (WQC) for Nonylphenol (NP) on February 23, 2006 (71 FR 9337). The final WQC were developed pursuant to Section 304 (a)(1) of the Clean Water Act. According to EPA, an “ambient WQC is a level of a pollutant or other measurable substance in water that, when met, will protect aquatic life.” Acute WQC protect against effects due to short-term exposures and chronic WQC protect against effects due to long-term exposures (4-day average).

Final EPA WQC for NP (micrograms/liter)	
Acute (Fresh Water): 28	Acute (Salt Water): 7.0
Chronic (Fresh Water): 6.6	Chronic (Salt Water): 1.7

EPA’s WQC for NP provides guidelines to states and users about ambient levels of NP that are protective of aquatic life; they do not represent enforceable regulatory limits. The WQC must still be incorporated into state level water quality standards and the timing for incorporation or implementation of the WQC will vary by state.

Levels in US Waters Not a Cause for Concern

The Alkylphenols & Ethoxylates Research Council (APEREC) sponsored a statistical analysis of environmental monitoring studies that examined samples take from 40 states during 1989 through 2004. The analysis shows that levels of NP in US surface waters are almost always below EPA’s final chronic WQC value. The analysis, which includes samples recently taken by the US Geological survey and other researchers, indicates that only five locations in the country (less than 0.5% of the 1255 samples tested), had NP concentrations above EPA’s final chronic WQC.¹ In fact, NP was not even detected in 53% of samples tested. These results confirm the ability of industrial and municipal wastewater treatment plans to effectively manage NP.

NP has been the subject of attention due to its toxicity to aquatic organisms and because some studies have indicated that NP exhibits weakly estrogenic properties. In its final WQC document, EPA dismissed the concern for endocrine effects noting, “the ability of

¹ Klecka, G., Zabik, J., Woodburn, K., Naylor, C., and Staples, C. Exposure analysis of alkylphenol ethoxylates and their metabolites in surface water systems within the United States: comparison to ecological endpoints. Report in preparation for the Alkylphenols & Ethoxylates Research Council, Washington, DC.

nonylphenol to induce estrogenic effects has seldom been reported at concentrations below the freshwater final chronic value of 6.5965 µg/L.”

EPA Announces Detergent Initiative

A development that coincided with the finalization of the NP WQC was an announcement by EPA’s Design for Environment (DfE) office about a new program -- Safer Detergents Stewardship Initiative (SDSI) -- that encourages companies to deselect nonylphenol ethoxylates (NPEs) as ingredients in detergents. According to EPA, SDSI is intended to reduce the amount of NPE surfactants and NP in streams and “assist in attainment of the Aquatic Life Criteria for Nonylphenol.”

Since concentrations of NP found in US surface waters are, with only a few exceptions, already less than the final NP WQC, APERC believes that a national program that deselects NPEs is not warranted. Instead, APERC advocates that local risk management mechanisms should be used to manage the infrequent situations where an exceedance might occur.

APERC is planning to meet with EPA to discuss this issue.

The Alkylphenols Bulletin periodically notifies manufacturers and users of alkylphenols and their derivatives of national and international developments of interest. For further information, please contact APERC at the address below.

APE Research Council