

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

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APERC Statement About Wal-Mart Announcement on NPEs November 6, 2006

Wal-Mart is embarking on a program to encourage the development of more sustainable products; however its categorization of nonylphenol ethoxylates (NPEs) as “priority chemicals” of concern is inconsistent with both the science on these compounds and the company’s own criteria. “NPEs are not a priority concern,” said Robert Fensterheim, Executive Director of the Alkylphenols & Ethoxylates Research Council (APERC), “rather they are well-studied, safe, cost-effective and reliable cleaning ingredients.”

Wal-Mart’s Chemical Intensive Products (CIP) Preferred Principles Fact Sheet¹ states that the company’s immediate focus will be on “chemicals that, with regard to hazard, have been identified as known, likely, or probable human carcinogens (cause cancer), mutagens (damage human or animal genetic material), or reproductive toxicants (damage to a fetus or harm mothers’ or fathers’ ability to reproduce.” The CIP Preferred Principles Fact Sheet goes on to say that Wal-Mart “will also focus on chemicals that are persistent (slow to break down in the environment), bioaccumulative (build-up in plants and animals), and toxic (harmful to various species in the environment) and are often referred to as PBTs.” The CIP Preferred Principles Fact Sheet states that Wal-Mart will consider that “chemicals with all three attributes (persistence, bioaccumulation potential and toxicity) are of greater concern than are chemicals, which have two of the three attributes. Lesser concern is given to chemicals with only one attribute.”

According to Wal-Mart’s own criteria, NPEs should be considered as chemicals of lesser concern. NPEs and their biodegradation intermediates are not persistent or bioaccumulative. In fact, recent assessments conducted by Washington State² and Environment Canada³ reaffirmed this fact. In addition, neither NPEs, nor any of their biodegradation intermediates, are carcinogens, mutagens or reproductive toxins.

NPEs are chemicals that function as surfactants in detergents and cleaning products. They are the ingredients that carry the dirt away. The fact is all surfactants - including alternatives to NPEs - are toxic to fish and other aquatic life. NPEs have been used for over 50 years because they work so well and they typically require lower surfactant levels in cleaning products. They are high performance ingredients that bring cost-effective

¹ Wal-Mart. Chemical Intensive Products Preferred Principles Fact Sheet. October 2006.
<http://www.walmartfacts.com/articles/4556.aspx>

² Washington State Department of Ecology. (2006, January 13). Persistent Bioaccumulative Toxins (PBT) Regulation, Chapter 173-333 WAC. <http://www.ecy.wa.gov/biblio/wac173333.html>

³ Environment Canada. (2005, November 21). Response to APERC’s Proposal Regarding Environment Canada’s Preliminary Categorization of Nonylphenol, Octylphenol and their Ethoxylates.
<http://www.aperc.org/docs/environmentcanadadecision112105.pdf>

cleaning performance to the consumer. Wal-Mart's policy on NPEs does a disservice to its customers by removing the availability of cost-effective products that do not present a risk to consumers or the environment.

Nonylphenol (NP), a minor intermediate that can occur during the biodegradation of NPEs in the environment, has been the subject of attention primarily because of its toxicity to aquatic organisms. Some studies have indicated that NP exhibits very weak "estrogenic" properties. US EPA and other international authorities and scientists are still investigating whether the presence of low levels of compounds with estrogenic activity in the waste stream present any need for concern.^{4,5} The highly potent natural hormones from human waste are well recognized as the greatest source of estrogenicity in US waters. EPA established Water Quality Criteria (WQC) for NP that set safe levels for this compound in water and considered the compound's effect on the reproductive capabilities and development of fish and other aquatic plants and animals. The NP WQC document notes "the ability of nonylphenol to induce estrogenic effects has seldom been reported at concentrations below the freshwater final chronic value."⁶

APERC conducted a review of environmental monitoring studies in the United States by the United States Geological Survey (USGS) and other independent researchers over 15 years and found that except in a very few cases - where other problems with pollution exist - levels of NP/NPEs in the aquatic environment are not a concern.^{7, 8}

Governmental assessments conducted on NP/NPEs conclude that these compounds do not represent a risk to human safety in their current uses.⁹ In addition, a recently published study that evaluated the effects of NP in rats over the course of three generations found that there were no statistically significant effects on reproductive parameters or sperm counts in any generation even at the highest doses tested.¹⁰

Wal-Mart confirmed at a recent Molecule-to-Molecule meeting hosted by its CIP Network that it will promote the deselection of NPEs only in detergent and cleaning products.

APERC urges Wal-Mart to refocus its CIP program on the development of science-based criteria that are relevant to a product's use and disposal. The vast majority of detergents

⁴ US EPA. Endocrine Disruptors Research Initiative. <http://www.epa.gov/endocrine>

⁵ OECD. Conceptual Framework for the Testing and Assessment of Endocrine Disrupting Chemicals. http://www.oecd.org/document/58/0,2340,en_2649_201185_2348794_1_1_1_1,00.html

⁶ US EPA Office of Water. (December, 2005). Aquatic Life Ambient Water Quality Criteria - Nonylphenol - Final. EPA 822-R-05-005. <http://www.epa.gov/waterscience/criteria/nonylphenol/final-doc.pdf>

⁷ Klecka, G.M., Zabik, J.M., Woodburn, K.B., Naylor, C.G., Staples, C.A., and Huntsman, B. (2006, November). Exposure Analysis of Alkylphenol, Alkylphenol Ethoxylates and their Metabolites in U.S. Surface Water Systems. Poster presentation at the Society of Environmental Toxicology and Chemistry (SETAC) North America 27th Annual Meeting, Montreal, Quebec, Canada.

⁸ Klecka, G., Zabik, J., Woodburn, K., Naylor, C., Staples, C., and Huntsman, B. Exposure Analysis of C8- and C9-Alkylphenol, Alkylphenol Ethoxylates and their Metabolites in Surface Water Systems within the United States. Human and Ecological Risk Assessment. In-press.

⁹ Environment Canada and Health Canada. (2001). Priority Substances List Assessment Report: Nonylphenol and Its Ethoxylates.

¹⁰ Tyl, R.W., Myers, C.B., Marr, M.C., Castillo, N.P., Seely, J.C., Sloan, C.S., Veselica, M.M., Joiner, R.L., Van Miller, J.P., and Simon, G.S. (2006). Three-Generation Evaluation of Dietary *para*-Nonylphenol in CD (Sprague-Dawley) Rats. Toxicological Sciences, 92, 295-310.

and cleaning products are disposed and treated via wastewater treatment facilities. NPEs are effectively treated and removed in the most common forms of wastewater treatment in the US.¹¹ This should factor into decisions about product selection. A program that promotes product reformulation to remove an ingredient that has been demonstrated by extensive scientific research and risk assessment not to be a risk does not serve the consumer. It distracts research and administrative resources without ensuring a positive impact on human health or environmental safety.

¹¹ Melcer, H., Klecka, G., Monteith, H., and Staples, C. Wastewater Treatment of Alkylphenols and Their Ethoxylates. Water Environment Federation. In-press.