According to research, the bulk of NPEs and their by-product NPs end up in the water environment via the wastewater system with an estimated 37% reaching the wider aquatic environment and 46% reaching the soil via sludge spreading on agricultural land. Only 17% are degraded or destroyed.

Therefore, NPE and NP can ultimately find its way to wildlife and possibly humans via drinking water and even food sources. These passive routes of ingestion don’t factor in the more active routes of exposure, such as those that involve using a product that contains NPE.

The expectation is that NPEs will degrade easily. However, in reality while the ethoxylate does readily degrade, the Nonylphenol (NP) does not.

What are NPEs?

Nonylphenol Ethoxylates (NPEs) have many uses, but they are primarily used as surfactants in cleaning chemical formulations, as wetting agents and as dispersants or emulsifiers in some pesticide formulations.

Nonylphenol Ethoxylates (NPEs) are used in many common cleaning chemicals including...

- Hand Soaps
- Degreasers
- Glass Cleaners
- Oven Cleaners
- Laundry Detergents
- Toilet Bowl Cleaners
- All-Purpose Cleaners
- Hard-Surface Cleaners
- Carpet Shampoos and Spotters
Why should you care?

There are a number of ill effects caused by Nonylphenol Ethoxylates (NPE), and more specifically Nonylphenols (NP), including but not limited to:

- Reproductive disorders
- Birth defects
- Decreased sperm counts in men
- Suspected link to cancer, most notably, breast cancer

Endocrine Disrupting Chemicals: Nonylphenol Ethoxylates (NPE)

The endocrine system plays a fundamental role in the development and metabolism of animals and humans. It is instrumental in the control of growth and development of tissues and organs from conception through adulthood.

Some of its most profound and irreversible effects occur during the early stages of development of the embryo or young offspring. The potential for serious or irreversible damage to occur as a result of exposure to endocrine disrupting substances is clear.

The World Wildlife Fund said the effects of NPEs can be seen over a long term.

“These compounds don’t kill you dead on the spot. They have very subtle, long term effects…and they can act in very small concentrations.”

“NPEs can also disrupt the body's hormonal system by mimicking the female hormone estrogen and high estrogen levels have been linked to birth defects, learning disabilities, even some forms of cancer. These chemicals are quite toxic, they aren’t biodegradable and they can cause all sorts of problems. We think the industry should take precautionary action and stop using these compounds.”

Source: Julia Langer, WWF Director of Wildlife Toxicology.
Nonylphenol (NP) is considered “toxic” to aquatic life by the EPA.

Concerns have focused on the potential for NP and NPE to cause feminization in wildlife, especially fish, reptiles and seaborne mammals. Nonylphenol has also been shown to mimic the action of the female hormone estrogen.

This manifests itself in variety of ways including reproductive organ disorders and even birth defects—there are documented cases of fish being born with both male and female reproductive organs.

Ultimately, the result is significant reductions in populations of waterborne creatures exposed to NP.
What is being done?

European regulators, often accused of being too conservative, have completely banned the use of NPEs. Canada has also declared a ban on the use of NPEs for certain applications and is in the process of phasing them out completely. Japan is also seriously reviewing the issue.

While NPEs are a hotly contested topic, they are not presently banned in the United States, and, in fact, their use has increased due to their suitability for liquid detergents, their availability and the fact that they are inexpensive.

However, regulations regarding NPEs are on the near horizon.

In 2005, United’s Research and Development department did a comprehensive review of the Company’s existing product line. At that time, an attempt was made to revise the chemistry of all NPE-containing products.

While not a regulatory requirement at this time, United Laboratories has once again set itself apart from the industry by opting not to formulate any new products using NPEs.

As a result of that initiative, 100% of all products in United’s line are NPE-Free!

Our NPE-replacements biodegrade much more quickly than NPEs in the environment. Therefore, they do not persist in the environment as long as NPE causing adverse effects.

Moreover, our NPE-replacements are much more effective cleaner/degreasers than NPEs. This results in environmentally friendly cleaning products with enhanced cleaning power.

This is just another example of how United Laboratories continues to provide leading-edge, innovative technologies for the ultimate in user and environmental safety and product efficacy.
The Destructive and Dangerous Path of Nonylphenol Ethoxylate (NPE)

**Creation**

**Formulation**
- Hand Soaps
- Degreasers
- Glass Cleaners
- Oven Cleaners
- Laundry Detergents
- Toilet Bowl Cleaners
- All-Purpose Cleaners
- Hard-Surface Cleaners
- Carpet Shampoos and Spotters

**Disposal/Conversion**
- Only 17% Degrades

**Contact**
- 37% NP in Water
- 46% NP in Air/Soil

**Ingestion/Inhalation**

**How does it end?**

**UNIVERSAL LABORATORIES**
Proud to be employee-owned

**NPE Free**
Nonylphenol Ethoxylates (NPE) and Nonylphenols (NP) are bad for the environment, bad for wildlife and bad for YOU.

Potential Effects of NP and NPE on Humans
• Reproductive disorders
• Endocrine disruption
• Decreased sperm count in men
• Learning disabilities
• Birth defects
• Cancer (suspected)

Potential Effects of NP and NPE on Animals
• Reproductive disorders
• Endocrine disruption
• Feminization of males
• Birth defects
• Significantly reduced populations

United Laboratories is committed to formulating without Nonylphenol Ethoxylates (NPEs). **100% of all products in United’s line are NPE-Free!**

Not only are our NPE-replacements safer than traditional NPEs, they are much more effective cleaner/degreasers than NPEs. This results in environmentally friendly and safer cleaning products with enhanced cleaning power.

This is just another example of how United Laboratories continues to provide leading-edge, innovative technologies for the ultimate in user and environmental safety and product efficacy.

United Laboratories is a “responsible solutions” company leading the way with Earth Smart® products and keeping customers well informed about current and future issues relating to chemical safety.