

PFOA at the Du Pont Spruance plant

The Virginia Department of Environmental Quality has been actively investigating perfluorooctanoic acid, also known as PFOA, at the Du Pont Spruance plant in Chesterfield County since March 2006. That is when representatives of the Sierra Club, United Steelworkers Union and Amthill Rayon Workers Union first brought their concerns to DEQ. Following is a general summary of what has been learned and actions that have been taken to protect public health and the environment.

PFOA use at the Spruance plant

Du Pont operated a Teflon fibers production unit at the Spruance plant between 1953 and 2004. In manufacturing the Teflon fiber, Du Pont imported containers of a solution with a low concentration of PFOA. The Teflon fiber was then sent to other manufactures to make cookware and other consumer products. Teflon-coated products are not believed to be the source of PFOA in human blood. Chemicals containing PFOA are no longer stored or used at the Spruance plant, and all Teflon manufacturing equipment has been removed from the site.

About PFOA

PFOA is highly attracted to water and takes a long time to degrade. When it is ingested it accumulates and stays in the blood for a long time. PFOA has been detected at low levels in the blood of humans and animals globally.

PFOA health studies

Although some studies have found that PFOA may have toxic effects on animals, no studies to date have identified significant human health problems. A long-term study of exposed workers at the Du Pont Washington Works plant in Parkersburg, W.Va., found no significant change in death or disease rates. A scientific advisory panel has recommended that PFOA be classified a "likely carcinogen" so it can continue to be studied; however, the U.S. Environmental Protection

Agency has not made a classification decision, nor has it established any public health standards for this chemical.

Spruance workers' blood

Du Pont tested the blood of 89 volunteer Spruance plant workers. As expected, workers who were involved in the Teflon process showed generally higher levels of PFOA in their blood than workers who were not directly involved. Blood concentrations ranged from 0.5 parts per billion to 800 ppb. Du Pont plans to continue monitoring the same workers' blood to

determine whether the concentration of PFOA is reducing over time as expected.

Perfluorooctanoic acid, or PFOA, is highly attracted to water and takes a long time to degrade.

What's being done?

DEQ has been working closely with EPA, the Virginia Department of Health and the Virginia Department of Labor and Industry for their expertise on the environment, public health and employee safety. As a first step, an investigation of PFOA in ground water and surface water at the Spruance plant and the James River was completed in August 2006. A total of 32 ground water samples and 23 surface water samples were tested for PFOA. The results verified that there were higher-than-normal levels of PFOA in the ground water and surface water on the site. Concentrations in the James River were low.

There is an ongoing ground water cleanup project at the Spruance plant under the supervision of EPA and DEQ. A large portion of the ground water under the site is being collected and treated with activated carbon filters that remove most pollutants, including PFOA. The Sierra Club and the unions have pointed out a small spring-fed stream on the site called the "east ditch," which is discharging to the James River and has been found to contain PFOA and some other contaminants. DEQ is working with the EPA and Du Pont to determine the most effective way to eliminate this discharge and minimize any potential environmental impacts.

The numbers and what they mean

The highest concentration of PFOA found on the Spruance plant site so far has been about 7.5 ppb in the ground water and 7.1 ppb in surface water. The highest level found in the James River was about 0.019 ppb. The highest level of PFOA found so far in local drinking water was about 0.007 ppb. The agencies participating in the PFOA investigation believe these levels do not pose a significant health concern.

Everyone is exposed to potentially toxic chemicals daily. The EPA and DEQ continually evaluate the risks associated with those chemicals and determine allowable levels in our water, air and land that are considered to be safe for the most sensitive animals and humans. Some chemicals are known to be toxic at high concentrations but safe at low concentrations. The chemical PFOA is unusual in that it accumulates in the blood;

however, it has not been shown to cause human health problems, even after long-term exposure.

What's next?

A second monitoring study is being planned to gather additional data that will help the participating state and federal agencies determine appropriate actions. The study is being designed to better understand where the PFOA is concentrated on the Spruance plant site and to evaluate ways to minimize exposure to people and the environment. At the same time, the EPA will continue evaluating health studies associated with this chemical and will adopt appropriate protective standards, as needed. When such standards are established, DEQ will take appropriate actions to see that they are met at the Du Pont Spruance plant and throughout Virginia.

Additional information about PFOA is available on the EPA website at www.epa.gov/oppt/pfoa/.