

Background Information on
PFOS and PFOA

Health

No adverse human health effects have resulted from exposure to PFOS or PFOA. This is supported by research involving thousands of 3M production employees over 30 years. This research was conducted by 3M and by the University of Minnesota under grants from 3M. The results of these studies have been published in peer-reviewed scientific journals and shared with the EPA and other regulatory agencies.

In addition, more than 1,500 laboratory studies have been performed by 3M and independent researchers. The overall weight of all of this evidence clearly indicates that no adverse human health effects are attributable to these compounds.

Another important fact is that the level of exposure in the general population is much lower than that of production employees working directly with these materials.

A note on laboratory studies

At high doses, adverse effects have been observed in laboratory animals. The objective of laboratory studies is to find out the biological effects of a chemical and how much does it take to produce that effect. The concept of dose is critical. An analogy is aspirin. People understand that two tablets might stop a headache, while one tablet may not (many more tablets, however, maybe harmful). The dose necessary to cause adverse effects in these studies are many times higher than the levels of exposure in the general population. Additionally, not all effects in laboratory animals occur in humans or other species because of biological differences. Scientists who do this type of work understand this basic premise.

The EPA is working on an assessment of PFOA that takes all of this into account. Some recent news media stories reporting on some aspects of this ongoing process have been misleading. Neither the EPA nor its advisers have reached a final determination and their reports are still months away from publication.

3M's monitoring of its production employees is real human experience that no adverse human health effects are attributable to PFOS or PFOA at the levels observed in employees. Levels in the general population are much lower.

Water

Beginning in late 2004 and through this year, 3M and the Minnesota Department of Health (MDH) conducted tests of municipal drinking water in Oakdale, Lake Elmo, North St. Paul, Woodbury, Cottage Grove and Hastings. In Lake Elmo, North St. Paul, Woodbury, Cottage Grove and Hastings, the test results showed no measurable levels of either PFOS or PFOA in municipal wells (using a detection limit of 25 parts per trillion – a concentration far below the Department of Health's health based-values for these compounds).

**Exhibit
2046**

State of Minnesota v. 3M Co.,
Court File No. 27-CV-10-28862

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In addition to municipal wells in Lake Elmo, MDH tested private wells. These tests showed 11 wells with levels above the state's health-based values for PFOS and seven have levels of PFOS and PFOA that, when combined, exceed a state action level index. MDH defines its health-based values (HBVs) as levels safe to be consumed over a lifetime for all users, including infants, children and pregnant women. The HBV for PFOS is 1 part per billion and the HBV for PFOA is seven parts per billion. These 18 homes have received bottled water from the state and are due to have installed home carbon treatment systems. Some home treatment systems have already been installed.

Throughout the environmental research conducted by MDH, 3M has been working with the state and Lake Elmo by sharing the company's expertise and historical data regarding the chemistry. 3M also appreciates Lake Elmo's interest to expand its water system which is why it donated land for a new water tower.

Background About PFOS and PFOA

PFOS and PFOA are man-made materials that have had many important and critical uses to our society. Examples include fire fighting foams, fluids to make electronic components and critical applications in military and civilian aircraft. Other product uses include stain resistant and non-stick coating applications. 3M was the leading manufacturer of PFOS-related products and PFOA until it decided to phase out its production of these products starting in 2000.

Other companies around the world continue to manufacture PFOS and PFOA.

PFOS and PFOA have been found widely distributed in the environment and in people at low levels. One of 3M's production facilities was in Cottage Grove. PFOS and PFOA were part of the waste stream from 3M Cottage Grove that was disposed at two landfills near Lake Elmo. This disposal complied with legal and regulatory requirements and commonly accepted practices at the time. One landfill was in Oakdale and used in the 1950s, while the Washington County landfill was used from 1969 to 1974.

Summary

The municipal drinking water in Lake Elmo is safe. PFOS and PFOA, along with other man-made and naturally occurring compounds, are closely monitored by MDH to make sure any compound in drinking water is within government guidelines. A full report of all of the materials found in drinking water, not just PFOS and PFOA, is available from MDH or Lake Elmo City Hall. Questions about the chemistry can be referred to MDH or to 3M (1-800-3M HELPS, or at 3M.com).

Links to other resources:

Minnesota Department of Health:

<http://www.health.state.mn.us/divs/eh/hazardous/sites/washington/oakdalewell.html>

City of Lake Elmo: <http://www.lakeelmo.org/>

U.S. EPA: <http://www.epa.gov/opptintr/pfoa/pfoainfo.htm>

08/09/2005