

THE TEFLON TOXIN

HOW PFCS GOT TO CHINA

Sharon Lerner

The Wilson Center

November 1, 2016



- NJ's DWQI had been suspended after it began work setting a drinking water level for PFOA that would have been the most stringent in the country.
- DuPont was lobbying the state hard

<https://theintercept.com/series/the-teflon-toxin/>



PART 10

DuPont May Dodge Toxic Lawsuits

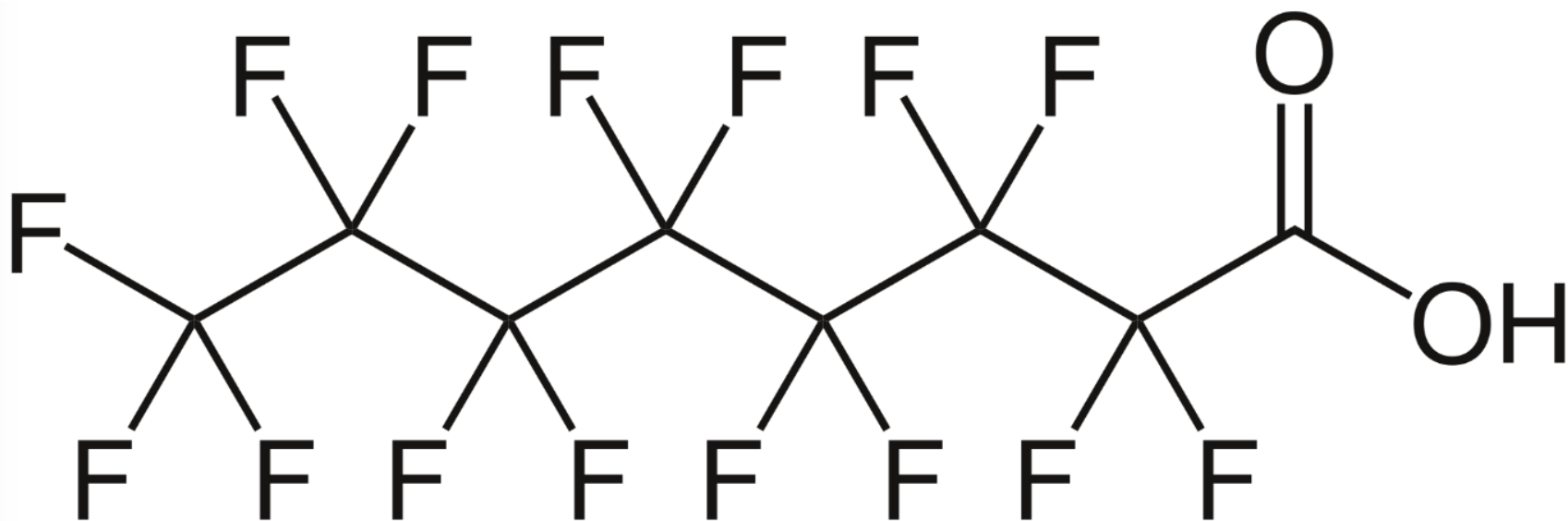


PART 11

The Teflon Toxin Goes to China



PFOA or C8



CONFIDENTIAL SUBJECT TO MDL PROTECTIVE ORDER

Expert Report

For

Carla Marie Bartlett v. E.I. DuPont de Nemours and Company;
Civil Action 2:13-CV-170 (Southern District of Ohio)

AND

John M. Wolf v. E.I. DuPont de Nemours and Company;
Civil Action 2:14-0545 (Southern District of West Virginia)

Prepared For:

Plaintiffs' Steering Committee

In Re: E.I. du Pont de Nemours and Company C-8 Personal Injury Litigation
Case No. 2:13-MD-2433 (Southern District of Ohio)





By 2012 C8 Science Panel find probable link to
high cholesterol, ulcerative colitis, thyroid
disease, testicular cancer, kidney cancer and
pregnancy-induced hypertension (preeclampsia)



C8 Science Panel

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The Science Panel

Panel Members

C8 Probable Link Reports

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The Science Panel Website

During 2005-2013, the C8 Science Panel carried out exposure and health studies in the Mid-Ohio Valley communities, which had been potentially affected by the releases of PFOA (or C8) emitted since the 1950s from the Washington Works plant in Parkersburg, West Virginia. They then assessed the links between C8 exposure and a number of diseases. The C8 Science Panel has completed its work and no longer exists; this website summarizes the results.

The Science Panel consisted of three epidemiologists: Tony Fletcher, David Savitz, and Kyle Steenland, who were chosen jointly by the parties to the legal settlement of a case between plaintiffs and DuPont regarding releases of C8 from the plant. The Panel, its research programme, and links to other sources of information can be found via the links on the left.

The main conclusions are in the form of Probable Link reports which summarize in each case whether the Science Panel found or did not find a link between exposure and disease. The detailed science behind the summaries in the Probable Link reports is published in articles in scientific journals. Many articles have been published and a few more are still in the process of publication. Follow the links at the left. For six disease categories, the Science Panel concluded that there was a Probable Link to C8 exposure: diagnosed high cholesterol, ulcerative colitis, thyroid disease, testicular cancer, kidney cancer, and pregnancy-induced hypertension.

Health Problems Linked to PFOA and PFOS in Humans

- High cholesterol
- Decreased immune function
- Testicular and kidney cancer
- Preeclampsia
- Thyroid disorders
- Impaired sperm quality
- Low birth-weight
- Ulcerative colitis (PFOA)
- Reduced fertility and fecundity (PFOS)
- Possible: prostate, bladder and colon cancers (PFOS)

source: EPA drinking water advisory reports <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>

Health Problems Linked to PFOA and PFOS in Lab Animals

- Cancer (liver, testicular, pancreatic)
- Insulin resistance in adult offspring (PFOS)
- Altered learning and memory in offspring (PFOS)
- Developmental effects
- Survival, altered puberty, mammary gland development
- Kidney and liver toxicity, liver

DEVELOPING FETUSES ARE MOST VULNERABLE

Terms of 2006 Settlement

- 8 companies including DuPont would “voluntarily” phase out PFOA by 2015
- Also applies to any PFC with a 7-carbon chain or longer
- DuPont paid fine for withholding information from the EPA

In May, the EPA set voluntary drinking water levels for PFOA and PFOS



Illustration: T



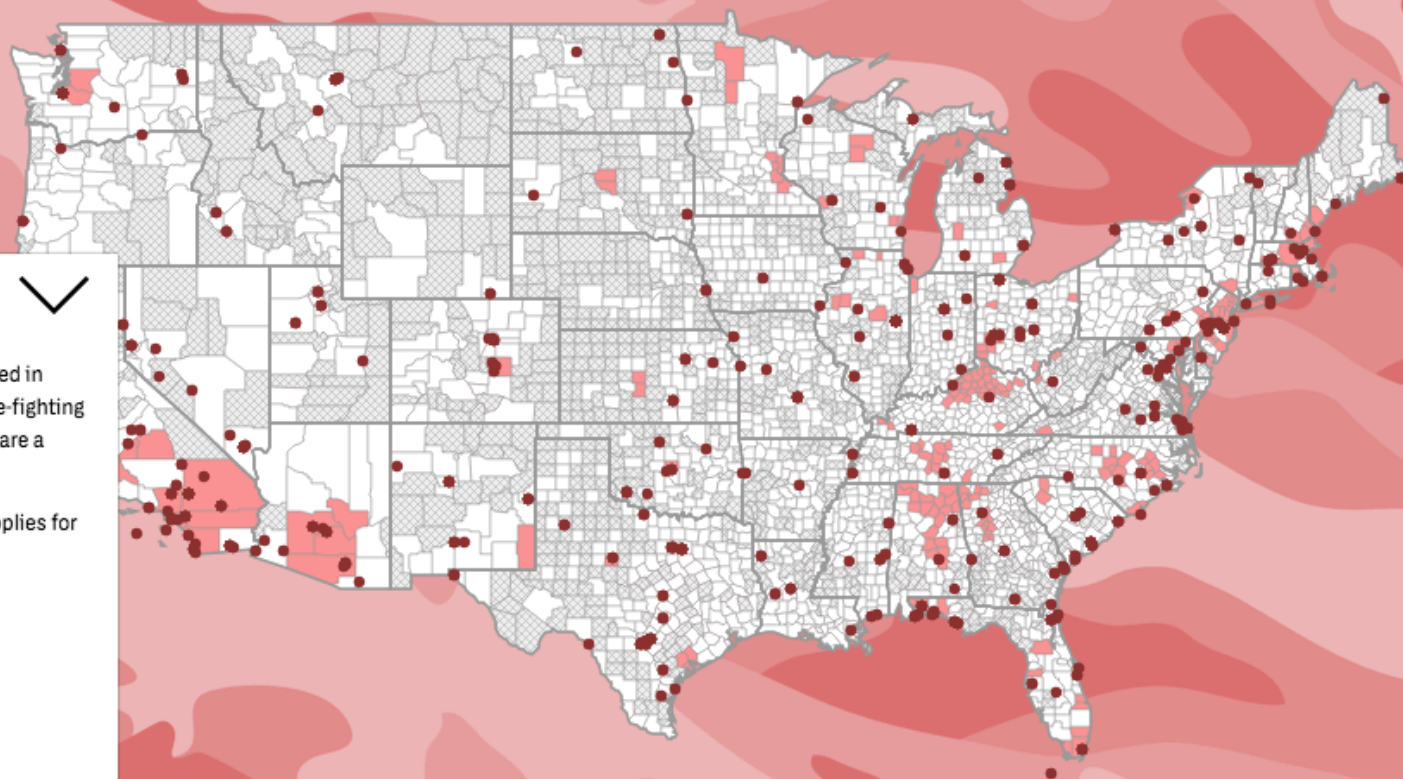
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WITH NEW EPA ADVISORY, DOZENS OF COMMUNITIES SUDDENLY HAVE DANGEROUS DRINKING WATER



Sharon Lerner

May 19 2016, 2:36 p.m.



PFC CONTAMINATION IN U.S. DRINKING WATER



Perfluorinated chemicals (PFCs) have been used in hundreds of products, including Teflon and fire-fighting foams. U.S. military fire or crash training sites are a potential source of contamination.

The **EPA currently monitors** drinking water supplies for six PFCs:

- PFOS (perfluorooctanesulfonic acid)
- PFOA (perfluorooctanoic acid)
- PFNA (perfluorononanoic acid)
- PFHxS (perfluorohexanesulfonic acid)
- PFHpA (perfluoroheptanoic acid)
- PFBS (perfluorobutanesulfonic acid)

 PFCs detected  No PFCs detected  Not tested

 U.S. Military Fire/Crash Training Area Sites

A SAMPLING OF GLOBAL PFC CONTAMINATION



AUSTRALIA

Highest average levels of PFOS in human blood



CANADA

PFCs in three arctic lakes



CHINA

Highest level of PFOS ever detected in human blood



DENMARK

PFOS and PFOA levels in children's blood tied to immune suppression



FRANCE

PFOS detected in 27 percent of samples from French public water systems



GERMANY

PFCs detected in drinking water consumed by more than 5 million people



GREENLAND

Rising PFC levels in polar bears



INDIA

15 different PFCs detected in the Ganges River



ITALY

Two chemical plants near the Po River are a major source of PFOA



JAPAN

PFOA contamination near former DuPont plant



NORWAY

12 different PFCs detected in samples of food and beverages



SOUTH AFRICA

PFOA and PFOS were detected in 100 percent of samples from 3 major rivers



SPAIN

PFCs detected in tap water, river water, and bottled water in Tarragona Province



SWEDEN

Elevated levels of PFOA and PFOS near military bases



UNITED KINGDOM

Elevated levels of airborne PFOA in Manchester



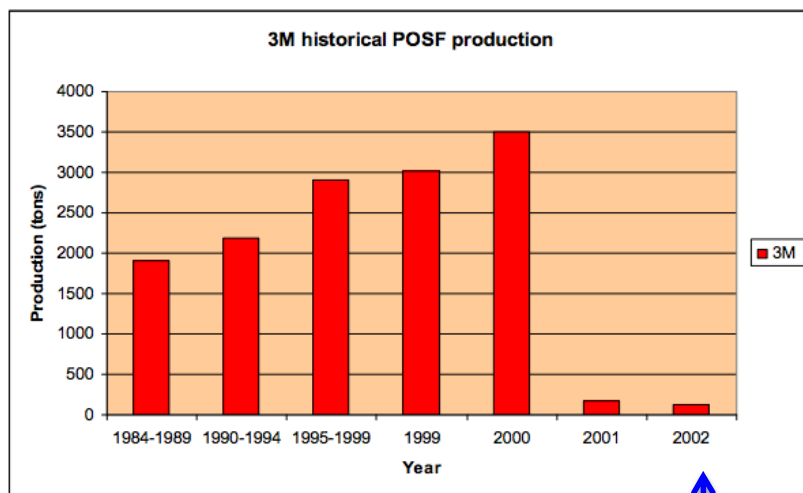
VIETNAM

Study found PFCs in 98–100 percent of Vietnamese women giving birth

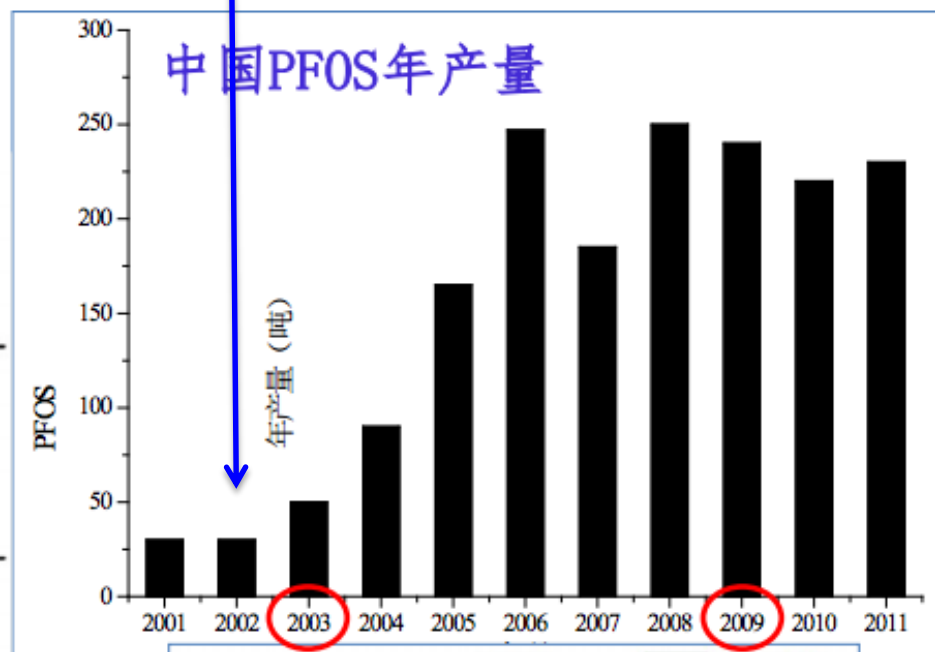


科慕(常熟)氟化物科技有限公司

The Chemours (Changshu) Fluoro Technology Company Limited



Source: 3M (converting 1 kg=2.2 pounds)



自主创新 打破垄断 建设世界科技强国











M 有机氟材料

M 高性能膜材料

M 特种纤维

M 工程塑料

M 聚氨酯材料

M 电子化学材料

GenX



**NEW TEFLON
TOXIN CAUSES CANCER
IN LAB ANIMALS**

- Reproductive problems
- Cancer
- Altered immune response
- Changes in the size of liver and kidneys
- Cholesterol level changes

“It’s the same constellation of effects you see with PFOA”

– Deb Rice, retired EPA toxicologist





The Good News

- PFOA/PFOS market/production is shrinking
- Stockholm Convention added PFOS, likely to add PFOA
- Supply chain awareness heightened within China
 - IPE even asks about PFOA, consumer pressure helps
- Reporting has helped
 - Stockholm Convention used journalism
 - In August, the US Air Force announced they're going to stop using PFOS-containing firefighting foam
 - Lawsuits moving forward against DuPont/military

The Less Good News

- Part of bigger problem, China gets “leftovers”
 - Not that profitable chemicals that go there to die
- lag behind industry
 - We may have to go through same cycle with C6
- PFOA ranks low given its other enviro issues
 - Heavy metals, air pollution
- No accountability means inadequate cleanup
- PFOA/S just 2 of thousands of chemicals