

A black frying pan is shown from a top-down perspective, filling most of the frame. The pan's surface is smooth and dark. In the center of the pan, there is white text. The pan's handle is visible at the bottom center, extending downwards.

PFOA and nonstick coatings

**The rumors, the facts,
and what consumers
need to know**

Whitford

*Presented as a public service by Whitford, makers of the
world's largest, most complete line of fluoropolymer coatings*

There has been a series of confusing reports in the media regarding “PFOA”, an ingredient used in the manufacture of fluoropolymers (which are ultimately used in many products, including nonstick coatings). The result: confusion, concern, and distortion of the facts. What follows attempts to set the record straight for those who may be called on to respond to any of these questions.

1. Just what is this “PFOA”?

PFOA, also known as APFO and C-8, stands for “perfluorooctanoic acid”. It is a surfactant and an essential polymerization aid used in very small quantities to help make certain fluoropolymers. It is an important chemical — crucial to the manufacture of materials used to make products that span the entire U.S. economy.

2. What is PFOA used for?

Its primary use is to help manufacture high-performance, heat- and chemical-resistant materials known as fluoropolymers.

3. What are fluoropolymers?

Fluoropolymers are high-performance plastic materials used in harsh chemical and high-temperature environments, primarily in performance-critical applications in defense-related industries and in automotive, aerospace, electronics and telecommunications.

4. How are fluoropolymers used?

Typical uses include wire insulation for computer networks, semi-conductor manufacturing equipment, automotive fuel hoses. About 85 percent of fluoropolymers is used in industrial applications like these. The other 15 percent is used in consumer products such as nonstick cookware and weather- and chemical-protective fabrics.

5. Why all the noise about PFOA?

PFOA has been detected at low levels in blood-serum samples in people around the world. It has also been found in wildlife, including polar bears and seals in the Arctic. In 2005, the Environmental Protection Agency (EPA) estimated PFOA levels in the general population to be approximately 5 parts per billion — the equivalent in time of 5 seconds in 32 years.

6. Is PFOA dangerous?

In 2005, DuPont and Environ International

investigated PFOA, publishing a risk assessment using a margin of exposure (MOE) approach, also referred to as a margin of safety. Under this methodology, *higher* MOE values represent *lower* levels of risk. The values in this report, ranging from 30,000 to greater than 9 billion (nonstick cookware), represent substantial protection of the general population.

In addition, no study has ever shown that the trace levels of PFOA in the blood of Americans (and most people on the planet) has ever resulted in any illness. Extensive studies of workers exposed to much higher levels of PFOA in chemical plants have never found any association between the chemical and illness of any kind.

7. What about PFOA and nonstick cookware?

All nonstick coating manufacturers use aqueous fluoropolymer (nonstick) dispersions that contain PFOA — without exception. What little PFOA may have been in the dispersions used to make the coating is removed by the curing (baking) process through which all nonsticks pass — to the point at which it is undetectable in the toughest migration tests.

In every study of cookware with nonstick coating by every regulatory agency worldwide, conducted under normal cooking conditions, the results have been the same: There is no detectable PFOA.

It has been, is, and will always be safe to use nonstick cookware, bakeware and small appliances as intended.

8. Who has conducted studies of PFOA and what do they say?

The safety of nonstick coatings was recently reaffirmed by many, including the US Food & Drug Administration (FDA), the EPA, the European Food Safety Authority, ministers of the European Union, the People’s Republic of China, the government of Taiwan and the government-

approved Danish Technological Institute. Here are some of their statements:

- EPA Administrator Stephen L. Johnson: "...to date EPA is not aware of any studies specifically relating current levels of PFOA exposure to human health effects".

- Paul Honigfort, Ph.D., Consumer Safety Officer, U.S. FDA: "At this time, we have no reason to change our position that the use of perfluorocarbon resin and telomer-based coatings are safe for use in contact with food as described in the applicable regulations or notifications".

Pesticide & Toxic Chemical News: "EU ministers have rejected changes made to a proposal on chemical restrictions that could lead to the banning of products such as Teflon® nonstick pans and Gore-Tex® clothing."

- Dr. Robert Rickard, DuPont Director, Health and Environmental Sciences: "Since there is no significant potential for exposure to PFOA from using these products and no known human health effects, there is no risk to consumers".

- The American Heart Association on the healthful aspects of nonsticks: "A pan made with nonstick metal or coated with a nonstick surface is a terrific investment, because it lets you use little or no oil without having food stick".

9. Will PFOA always be in the environment?

No. Eight fluoropolymer manufacturers have joined an EPA program to reduce emissions of PFOA into the environment. The objective is a reduction of 95% by 2010 (compared to the base year of 2000), and to achieve the virtual elimination of PFOA by 2015.

10. Is it possible to achieve a 95% reduction?

Yes. In fact, DuPont has been hard at work at this for some time — and had already achieved a 94% reduction by 2005. DuPont continues working to reduce emissions of PFOA and its content in manufactured products. Other manu-

facturers are doing the same.

11. How are these reductions being achieved?

Through reformulation and improved manufacturing processes and controls, fluoropolymer manufacturers are substantially reducing emissions of PFOA. At the same time, processes have been developed to reduce the amount of PFOA in products that fluoropolymer manufacturers ship to coating companies such as Whitford.

Given the two-pronged attack on the problem, the EPA's goal of virtually eliminating the release of PFOA into the environment should be achieved long before the 2015 deadline.

12. What has Whitford been doing about this problem?

Whitford has been evaluating these new, low-PFOA alternatives for some time. Most (but not yet all) of Whitford's coatings use these low-PFOA materials to the point at which Whitford has reduced its use of PFOA considerably. We have been selling these new coatings for over a year with no problems whatsoever for our customers.

13. Any signs of change due to reductions?

Yes. Although the sources of the PFOA in the environment are not clearly understood, it is increasingly apparent that other fluorinated chemicals may play a significant role. The objective of the EPA's work is to identify all sources, then reduce or eliminate them.

In 2000, because of PFOS (a related chemical), 3M stopped making ScotchGard®. A professor at the University of Toronto has been measuring the levels of these chemicals found in arctic wildlife for years, and he has just reported that the levels found in arctic seals have been dropping ever since.

14. Is there any chance fluoropolymers will be banned?

Absolutely not.

Fluoropolymers are here to stay (they are not PFOA). For many years, they have made significant contributions to human well-being in hun-

***"At the present time, EPA does not believe there is any reason for consumers to stop using any consumer or industrial related products because of concerns about PFOA. EPA does not have any indication that the public is being exposed to PFOA through the use of Teflon®-coated or other trademarked nonstick cookware." US EPA
5 September 2006***

dreds of industries, including cookware, bakeware and small appliances. Our quality of life would be far less easy, less comfortable (and certainly not worry-free) without them.

What is changing are the methods used to manufacture such products — which, as mentioned above, has already reduced the emissions of PFOA significantly, and will virtually eliminate emissions in the near future.

15. Can PFOA from nonstick harm pet birds?

Since there is no measurable PFOA in nonstick cookware and bakeware (as evidenced by the studies conducted under normal cooking conditions), it's hard to imagine that any harm could be caused.

Nevertheless: Always observe the rules of sensible cooking and never let food or an empty nonstick pan overheat. Both may cause fumes which, while not dangerous to humans or other household pets, may harm or kill pet birds. Birds have unusually sensitive respiratory systems, and can be harmed or killed by such fumes. Pet birds should always be kept in a well ventilated room, and never in the kitchen.

Cooked foods will most likely burn beyond an edible state long before nonstick cookware surfaces are damaged and decomposed by extreme heat. Tests confirm that nonstick coatings only begin to deteriorate when consumers accidentally expose them to extremely high temperatures. Excessive exposure to any form of household fumes should be avoided. With this in mind, cooking should not be conducted in poorly ventilated areas.

16. Who's been leading the charge to study things like PFOA?

The EPA has been the principal agency,

although some environmental activists have been making noise. In fact, the Environmental Working Group, one of the harshest critics of DuPont and Teflon,[®] released a statement in which its president, Ken Cooke, said: "We've been very harsh in singling out DuPont for criticism for its handling of PFOA, but today we also want to single out the company and commend them because they're exhibiting some real leadership here as we go forward".

17. What can we expect in the future?

The virtual elimination of PFOA emissions with no harm done to those who manufacture and use fluoropolymers, and no inconvenience to the millions of consumers around the world who depend on and benefit greatly from products that contain fluoropolymers.

18. If I want to know more, where do I go?

There is a lot of good and highly detailed information available. If you go to the Whitford website (whitfordww.com), click on "Latest news" and then, in the sub-menu, click on "PFOA info". This will take you to the key links to other sites that cover the PFOA issue.

19. What's the bottom line?

Nonstick coatings were introduced into the housewares market about 50 years ago. Since then, billions of pieces of cookware and bakeware with nonstick coatings have been used around the world — virtually problem-free.

All available information tells us that nonstick coatings and nonstick cookware and bakeware are indeed among the safest and most useful items ever introduced into commerce.

Note: Some of the information used in this message is based on data from the sources mentioned above, for which we are grateful.

How to contact Whitford

Whitford manufactures in 7 countries, has employees in 8 more and agents in an additional 25. To find the office nearest you, please visit our website: www.whitfordww.com or email us at sales@whitfordww.com.

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