

DuPont™ Teflon® non-stick coatings

USING YOUR NON-STICK COOKWARE SAFELY

Is cookware made with DuPont non-stick coatings safe?

Yes. DuPont Teflon® non-stick coatings on cookware are safe. Confidence in the safety and performance of DuPont non-stick coatings is based on more than 40 years of laboratory testing and use in home and commercial kitchens. Moreover, a stringent certification program ensures that non-stick coatings by DuPont are used only in suitable applications.

How can I be sure DuPont non-stick coatings are safe?

Prior to market introduction, DuPont non-stick coatings were subjected to exhaustive studies at The Haskell Laboratory for Health & Environmental Sciences. DuPont provided the U.S. Food and Drug Administration (FDA) with full disclosure of materials used in its non-stick coatings, and the FDA found them acceptable for conventional kitchen use. In addition, health regulatory agencies throughout the world have approved the use of DuPont non-stick coatings on cookware and housewares.

Cooks in more than 40 countries around the world have purchased and used billions of pots and pans with DuPont non-stick coatings. In all this experience, there has been no record of serious or chronic health effects, including cancer and birth defects.

Are there steps I can take to make sure I am using non-stick cookware safely?

Cookware should never be overheated. Low or medium heat is recommended for cookware with Teflon® non-stick coatings. The coatings are completely safe for normal kitchen use, including baking or frying, and can be used at a temperature of approximately 500°F (260°C). Empty cookware should not be left on a hot stove or in a hot oven. Reading the manufacturers' instructions before using cookware is recommended.

What is “normal” or “conventional” kitchen use?

Cookware with DuPont non-stick coatings can be used at temperatures up to approximately 500°F (260°C) without damage to the coating. This is well above the temperatures required for boiling, frying and baking.



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For example:

- Boiling temperature of water is 212°F.
- Normal temperatures for frying meat range from about 400°F to 470°F.
- The highest temperatures used in baking – such as roasting poultry or vegetables – is about 450°F. Cookies or cakes are typically baked at temperatures ranging from 325°F to 400°F.

Temperatures of 500°F to 550°F are typically used for broiling. DuPont does not recommend use of non-stick coated cookware at those temperatures.

What happens if non-stick coated cookware is overheated?

At high temperatures, the quality of the coating may begin to deteriorate – it may discolor or lose its non-stick quality. This can begin to occur at temperatures above 500°F.

If heated to an extremely high temperature, the coating may begin to decompose and give off fumes. Fats, butter, or cooking oil will begin to scorch and smoke at about 400°F (204°C). DuPont non-stick coatings will not begin to significantly decompose until temperatures exceed about 600°F (316°C) – more than 200°F above the smoke point for cooking oil, fats or butter. It is therefore unlikely that decomposition temperatures for non-stick cookware would be reached while cooking without burning food to an inedible state.

How can I prevent non-stick cookware from overheating?

It is best if a coated pan is used on low or medium heat. Higher temperatures (above 500°F) can be reached while cooking, but the food will likely burn and smoke to unacceptable levels. Even higher temperatures (above 600°F) can be reached within minutes, if dry or empty cookware is left on a hot burner or in a hot oven. Non-stick cookware should not be left unattended or allowed to get very hot without food in the pan.

Are fumes from overheated non-stick coated cookware harmful to people?

All fumes can be irritating or even harmful. Butter, fats, and cooking oils will begin to smoke at 400°F (204°C), producing fumes that can irritate eyes, nose and throat and possibly cause respiratory distress.

DuPont non-stick coatings will not begin to deteriorate in appearance or performance until the temperature of the cookware reaches about 500°F (260°C). The coating will not show significant decomposition unless temperatures exceed about 600°F (316°C). Only at these extremely high temperatures (600°F and above) could non-stick coatings emit fumes that could produce a temporary flu-like condition called “polymer fume fever.”



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What is “polymer fume fever”?

“Polymer fume fever” is a temporary flu-like condition that occurs as a result of exposure to fumes from significantly overheated and decomposed fluoropolymer materials. It occurs primarily in industrial settings, in areas where extreme high heat processes such as welding or sintering might occur. “Polymer fume fever” requires no special treatment and has no long-term health effects associated with it.

Can I get polymer fume fever?

Polymer fume fever occurs primarily in industrial settings, in areas where extreme high heat processes such as welding or sintering might occur. In conventional cooking situations, there is no coating decomposition and therefore no potential exposure to polymer fumes. However, if a consumer believes he or she has overheated a non-stick pan, the pan should be removed from the heat source and the area ventilated. Any pan heated to a high enough temperature to result in coating decomposition would likely be so severely damaged it would be unusable thereafter.

Are fumes from over-heated non-stick cookware hazardous to household pets?

With the exception of birds, household pets are not adversely affected by fumes from overheated non-stick cookware

Because they have particularly sensitive respiratory systems, birds can be injured by many kinds of household fumes, including those from aerosol sprays, burning butter or cooking oils, and cleaning solvents.

In addition, with their high respiration rate and low body weight, birds are susceptible to fumes long before they affect people. (You’ve probably heard stories of miners who took canaries into mines with them to detect the presence of dangerous gas because birds would be affected by the gas before the miners would.) The effect of any fumes on a bird depends on the bird’s size and species, and the amount and duration of exposure to the fumes.

Bird owners can take several precautions to protect pet birds from cooking fumes (1) keep birds out of the kitchen; (2) observe good cooking practices and never allow cookware to overheat; and (3) keep the cooking area well ventilated.



Can I get sick from eating particles of non-stick coatings?

DuPont non-stick coatings on cookware are formulated and quality tested to resist peeling or chipping which will occur if cookware is misused. However, in the event that particles from DuPont non-stick coatings are accidentally eaten, there is no danger. These particles are harmless. They are nontoxic and inert. If eaten, they pass directly through the body and are not absorbed. The FDA has stated that eating particles of non-stick coating poses no health threat.

Are all non-stick cookware coatings made with Teflon®?

No. Consumers frequently use the term “Teflon®” to refer to any non-stick coating. However, Teflon® is a DuPont-owned registered trademark for non-stick coatings and other products.

Other companies make non-stick coatings that are marketed under different brand names. While non-stick coatings may vary somewhat, most are based on the same basic materials – known as fluoropolymers.



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