

As you try to create a healthier home and buy fewer products with toxic materials, toasters may not be top-of-mind. But like many consumer products, toasters and toaster ovens can contain materials and chemicals associated with negative health effects. It's not always easy to know what to avoid and appliance manufacturers are not often transparent about the materials used to make their products. This guide is designed to help you know what to look out for and which brands and models to consider.

Features of Potential Concern

Non-Stick PTFE or PFOA Coating

Some toaster ovens have a non-stick interior to make them easier to clean. The non-stick coating may contain polytetrafluoroethylene (PTFE). Teflon is one of, but not the only, brand name for PTFE. PTFE is part of a family of chemicals known as PFAS. These "forever chemicals" bioaccumulate in the environment and are associated with a number of negative health effects. PFOA, a chemical that was used in the process of making PTFE, has been largely phased out due to a voluntary agreement between manufacturers and the EPA. However, according to the Environmental Working Group (EWG), there is no evidence that the chemicals used to replace it are any safer. EWG recommends avoiding all PFAS chemicals.

Any toaster that uses a PFAS-based coating is on the list of products to avoid.

Plastic Cases

According to madehow.com, flame retardants and smoke suppressants are added to the petroleum and coal compounds of plastic to make heat-resistant plastic cases. These plastics off-gas, particularly when heated. Toasters with plastic cases are easily avoided, with most manufacturers offering stainless steel models. If the product description does not specify that it is made of stainless steel, make sure to confirm that it is not made of plastic. Silver-colored plastic can sometimes look like stainless steel.

Models with plastic cases are not included in this guide and are not recommended.

California's Proposition 65 Warning Label

California Proposition 65 is intended to help Californians make more informed decisions about protecting themselves from chemicals that could cause cancer, birth defects or reproductive harm. There is a list of approximately 900 chemicals that can only be used in levels that fall below an established limit. Products sold in California that use one or more of the restricted chemicals in levels above their limit need to have a warning label on the product. These limits are more stringent than federal regulations. Some manufacturers put the label on all of their products that require it, while some just put it on the products that are being sold in California. Therefore, if you do not live in California and do not find a warning label on a product it does not necessarily mean it does not contain one of the restricted chemicals.

The labels can be confusing because they are not required to say how much of the chemical is in the product nor how a consumer might be exposed to it. In some instances, the consumer has very little exposure to the chemical with normal use of the product. For example, appliances often have a warning label because there is lead in the power cord. If you wash your hands after plugging in the appliance, it would not be a significant exposure.

Aluminum

Exposure to an excess of aluminum has been linked to numerous health effects including nervous system problems and bone disease. Studies show aluminum can migrate from food contact materials and that migration increases with more contact time and greater acidity of the food. Fortunately, most toaster oven surfaces that come into contact with food are not made of aluminum. Readers have questioned whether internal aluminum components on pop-up toasters, specifically the “support bar” that holds the bread, are of concern. While this is not likely a significant exposure due to the short duration of food contact, there are toasters available that do not use untreated aluminum support bars.

Non-Stick Ceramic Coatings

This is an emerging area of concern so more research is needed. Non-stick ceramic coatings are becoming more common in food-prep appliances and cookware. Products with ceramic coatings are often marketed as non-toxic and a safer alternative to non-stick coatings made with PTFE or PFOA coatings. This type of coating is unproven as a truly safe alternative and there are multiple areas of concern.

Nanoparticles

Ceramic or “sol-gel” coatings usually contain ceramic nanoparticles that are applied in a thin coat to the cooking surface. Some use titanium dioxide nanoparticles which have been shown to migrate into food, particularly after the coating is scratched from normal use. Chronic exposure to titanium dioxide nanoparticles has been linked to immune disruption and precancerous lesions in the gut. The use of nanoparticles in food contact materials is not yet well studied and more research is needed.

Degradation

According to a major supplier of all types of coatings, the best ceramic coatings last just 15% as long as PTFE-based coatings. Where does the coating go? If the surface comes in contact with food, I think it’s safe to assume that the coating ends up in your food.

Unknown Additives

Ceramic coating formulations can be combined with epoxies, acrylics, or alkyds to give them additional functionality. Many manufacturers will not release the ingredients in their coatings because they consider them proprietary. Some hybrid ceramic coatings also contain PTFE. Limited Regulation

Small appliances used for food preparation must comply with the FDA’s Code of Federal Regulations Title 21 ([21 CFR](#)) which prohibits use of a list of substances that have not

been shown to be safe for use in food. This does not guarantee that substances not on the list have been proven to be safe. California Proposition 65 is similarly limited. It provides stringent regulations for lead and cadmium but it does not currently regulate nanoparticles, PTFE, aluminum, non-airborne titanium dioxide, nor other ingredients of concern.

If the coating is on the interior of the toaster and does not touch the food there is probably not a high risk of migration. Racks and pans that come with a toaster and have this coating should be avoided.

Zinc Coatings

Zinc coatings provide durability and contribute to heat and energy distribution. I have not been able to find any study that shows that zinc coatings present a health risk. There has been emerging data that shows zinc nanoparticles can migrate from plastic coatings used in food packaging, but that is not the same as zinc-coated steel. If zinc is heated to or near its boiling point it can produce toxic fumes but toasters do not come close to those temperatures.



Toaster Report Card

<p>BEST </p> <ul style="list-style-type: none">• Black + Decker models: #TO1760SS, TO3210SSD, TO3280SSD, TO3290XSD, CTO6335S• Cuisinart model: CPT 2400	<p>BETTER </p> <ul style="list-style-type: none">• KitchenAid models: All pop-up models
<p>USE WITH CAUTION </p> <ul style="list-style-type: none">• KitchenAid models: #KCO211BM #KCO255BM• Cuisinart models: #TOB-1010, TOB-260N1, TOB-135N, TOB-40N, TOB-60N1	<p>AVOID </p> <ul style="list-style-type: none">• Rosewill all models• Breville all models

Best Toasters and Toaster Ovens

Black + Decker

Model #TO1760SS, 4-Slice Toaster Oven

Model #TO3210SSD, 6-Slice Convection Oven

Model # TO3280SSD, 6-Slice Convection Oven

Model #TO3290XSD, 8- Slice Convection Oven

Model #CTO6335S, 6-Slice Convection Oven

Exterior Material: Stainless steel

Interior Material: Stainless steel

Rack Material: Stainless steel with no coating Finish:

Zinc coating on interior.

Proposition 65: Yes, there is styrene used in small plastic feet.

Overall:

These models are made with a stainless steel exterior, interior and rack. The zinc coating has no known health effects at this time. It does have a warning label for styrene which is a toxic substance that is used to create polystyrene. It is best to avoid polystyrene but the amount in this application is so low that it is not a concern. Some Black + Decker models not listed here are made with a plastic housing and are not recommended.

Cuisinart:

Model #CPT 2400 Pop-up Toaster

Exterior Material: Stainless steel

Interior Material: Chrome support bar

Proposition 65 Warning: No Overall:

None of the pop-up toasters I investigated had a non-stick coating. There are no known ingredients of concern in this model.

Better Toasters

Kitchen Aid (all pop-up models)

Exterior Material: Die cast aluminum

Interior Material: Stainless steel support bar Proposition

65: Yes, probably due to lead in the cord Overall:

The interior is made of uncoated stainless steel. The die cast aluminum housing does not come in contact with food and is therefore not a concern. KitchenAid puts the California Proposition 65 warning label on all of their appliances so that they are in compliance in case any product contains a restricted chemical. They don't disclose exactly what is in any given product. It is likely due to lead in the power cord which is common for small appliances. I have rated this as "Better" choice rather than a "Best" choice because this can't be confirmed.

Buy with Caution

KitchenAid

Model #KCO211BM

Model #KCO255BM

Exterior Material: Stainless steel

Interior Material: Stainless steel

Rack Material: Chrome-plated steel

Finish: Ceramic coating (PFOA- and PTFE-free)

Proposition 65 Warning: Yes, probably due to lead in the cord.

Overall:

More research is needed on the health effects of ceramic coatings. The risk of ceramic coatings comes from direct food contact. A coating on the toaster interior should not have direct contact with food but I recommend avoiding products with this type of coating until more research is available.

Cuisinart

Models #TOB-1010, TOB-260N1, TOB-135N, TOB-40N, TOB-60N1

Exterior Material: Stainless steel

Interior Material: Stainless steel

Rack Material: Aluminum-plated steel. The baking pan is also aluminum coated steel.

Finish: Ceramic coating (PFOA- and PTFE-free)

Proposition 65 Warning: No Overall:

More research is needed on the health effects of ceramic coatings. The risk of ceramic coatings comes from direct food contact. A coating on the toaster interior should not have direct contact with food but I recommend avoiding products with this type of coating until more research is available.

Using the included aluminum-plated rack and baking pan is not recommended but you can find stainless steel pans and racks to replace them.

Avoid Buying These Toaster Ovens

Rosewill – All toaster oven models have a PFAS-based non-stick coating.

Breville- All toaster oven models have a non-stick coating similar to Teflon.

Discontinued Brands

There are two brands of toaster ovens that are good choices but are no longer being made. Waring made toaster ovens without non-stick coatings but they no longer make them for

residential use. hOmELabs made a stainless steel toaster oven with no coating but has discontinued them. If you have an older model of either of these toaster ovens, hang onto it!

The Dangers of Burnt Toast

A study by the University of Texas found that burnt toast creates fine particle air pollution that is 150 times the W.H.O. limit. Bread toasted to golden brown has one-tenth the fine particle pollution as bread toasted to dark brown. So, no matter which toaster you decide to buy, make sure you don't overcook your toast and clean any debris before use!

Methodology and Limitations

Appliance manufacturers are not required to disclose the materials or ingredients used in their products. Many company representatives are reluctant to disclose information or simply don't know the answers. I made multiple points of contact with each of the manufacturers listed here in an attempt to verify the accuracy of the information provided. The information provided is not always consistent and while I worked hard to reconcile any discrepancies, I can't guarantee the accuracy. I can only report the information that I have received. I recommend calling the company and confirming the information reported here before buying a new toaster or toaster oven.

Sources:

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