

Cleaning & Sanitizing the Kitchen

Using inexpensive household food-safe products

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Consumers can protect themselves by preventing the spread of germs by both cleaning and sanitizing surfaces where food is prepared.

Cleaning definition: removing dirt from food preparation surfaces in the kitchen. Surfaces can be counters, cutting boards, dishes, knives, utensils, pots and pans.

Cleaning steps:

1. Wash surface with soap and warm water.
2. Rinse with clean water.
3. Air dry OR dry with a clean paper towel.

Sanitizing definition: the reduction of germs to a safe level so illness is unlikely to occur. The most commonly known germs causing illness are *Salmonella*, *Campylobacter*, and *Norovirus*. Toxin-producing *E. coli* and *Listeria monocytogenes* are less common in the kitchen, but cause very serious, if not deadly, illnesses.

Sanitizing steps: (See the table on page two)

1. Spray surface with sanitizer of choice.
2. Leave sanitizer on the surface for the suggested amount of time.
3. Allow to air dry OR dry with a clean paper towel.

Effective cleaning involves both cleaning and sanitizing surfaces BEFORE and AFTER use.

Common household products effective as sanitizers on food preparation surfaces:

ITEM	CONCENTRATION	TEMPERATURE	CONTACT TIME	<i>LISTERIA MONOCYTOGENES</i>	<i>E. COLI</i>	<i>SALMONELLA</i>
Chlorine Bleach (6%)	1 scant teaspoon to 1 quart water	Room Temperature (77°F or 25°C)	1 minute	✓	✓	✓
Hydrogen Peroxide (3%)	Undiluted	130°F or 55°C	1 minute	✓	✓	✓
Hydrogen Peroxide (3%)	Undiluted	Room Temperature (77°F or 25°C)	10 minutes		✓	✓
White Distilled Vinegar (5%)	Undiluted	130°F or 55°C	1 minute	✓	✓	✓
White Distilled Vinegar (5%)	Undiluted	Room Temperature (77°F or 25°C)	10 minutes			✓
Baking Soda	Not an effective sanitizer at any temperature or time, even after 10 minutes of contact time					

✓ means that the product was effective at reducing the presence of the pathogen with more than 99.999% reduction.

Source: Yang, H., Kendall, P., Medeiros, L., Sofos, J. (2009) Inactivation of *Listeria monocytogenes*, *Escherichia coli* O157:H7, and *Salmonella* Typhimurium with compounds available in households. *J. Food Prot.* 72(6); 1201-1208

Points to remember when using household chlorine bleach:

- tip** • Diluted chlorine bleach is a **very effective sanitizer**. The amount needed is very small and no chlorine residue will be left behind using a concentration of 1 scant teaspoon of chlorine bleach to 1 quart of water.
- Chlorine reacts quickly and becomes inactive quickly. Detergents and dirt inactivate chlorine; surfaces must be cleaned first to ensure effective sanitation.

- Chlorine solutions need to be made at least weekly and must be stored in a dark place.
- Do not use chlorine with added fragrance - this is not food-safe.



Steps for using vinegar OR hydrogen peroxide to sanitize:

Both products when heated will produce an odor. This odor is not harmful to you. Test sanitizer in an unseen place to be sure hydrogen peroxide will not discolor or fade the surface.

tip Option 1:

1. Heat either 4 oz (1/2 C) white distilled vinegar **OR** hydrogen peroxide in a sauce pan to 150°F or 66°C. (Handle **CAREFULLY** when heating as the liquids will be warm but not hot.)
2. Using a funnel pour the **warm** solution into a spray bottle.
3. Immediately spray on kitchen surfaces, counter tops, sink, refrigerator interior, faucets.
4. Let sit for 1 minute then wipe with a clean paper towel.

tip Option 2: *(if warming the solution is not an option)*

1. Use either 4 oz (1/2 C) white distilled vinegar **OR** hydrogen peroxide
2. Using a funnel, pour **room temperature** solution into spray bottle.
3. Spray onto kitchen surfaces, counter tops, refrigerator interior, and faucets.
4. To be effective solution **MUST sit for 10 minutes** then wipe with a clean paper towel.

WARNING: NEVER MIX HYDROGEN PEROXIDE OR VINEGAR TOGETHER.

How often should you sanitize?

Sanitizers kill living organisms, which is why they are so important in controlling harmful pathogens. How often should the kitchen be sanitized is best determined by your personal situation. Some questions to think about when trying to decide how often the kitchen should be sanitized are:

1. Do you have elderly people living with you?
2. Do you have someone in your house that is severely ill or immune-compromised?
3. Do you have children under the age of 5 in your home?
4. Do you have indoor or outdoor pets?

You can sanitize daily. Think about your situation and decide what is right for you.



What about “GREEN” sanitizers?

“Green” is a commonly used term by the public or the media to convey a product is “safe” for the environment. Over the past 10 years there has been an increase in the number of cleaning products labeled; “environmentally friendly”, “eco-safe”, and “environmentally safe” as a result of consumer demand. These terms suggest that the product is not going to cause harm to the environment; however, there is no standard or regulation for when or how these statements can be used. The Environmental Protection Agency (EPA) has started a

program to help the consumer purchase environmentally safe products. Industries may submit their products to be reviewed by an EPA approved scientific team. Each ingredient in the product is reviewed for chemicals that are the least concern for their class; e.g. low concern to humans, biodegrades easily, degraded by-products will not produce pollutants, etc. If you would like more information about the EPA’s Design for the Environment (DfE) program, please go to the website:

http://www.epa.gov/oppt/dfe/product_label_consumer.html.



Look for the label!

The household products suggested for use as sanitizers at the recommended dilutions are safe for home use and are safe for the environment. Vinegar and hydrogen peroxide will not be found on the DfE website although these two products do meet the DfE criteria.

WANT TO KNOW MORE?

Check out these additional resources...

Government Food Safety Information:
www.foodsafety.gov

Centers for Disease Control and Prevention:
www.cdc.gov/foodsafety

Food Safety Information from OSU:
foodsafety.osu.edu

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