

## Selecting an Appropriate Sanitizer or Disinfectant

One of the most important steps in reducing the spread of infectious diseases in child care settings is cleaning, sanitizing, and disinfecting surfaces that could possibly pose a risk to children or staff. Routine cleaning with detergent and water is the most useful method for removing germs from surfaces in the child care setting. However, some items and surfaces require an additional step after cleaning to further reduce the number of germs on a surface to a level that is unlikely to transmit disease.

### What is the difference between sanitizing and disinfecting?

Sometimes these terms are used as if they mean the same thing, but they are not the same.

**Sanitizer** is a product that reduces germs on inanimate surfaces to levels considered safe by public health codes or regulations. A sanitizer may be appropriate to use on food contact surfaces (dishes, utensils, cutting boards, high chair trays), toys that children may place in their mouths, and pacifiers.

**Disinfectant** is a product that destroys or inactivates germs on an inanimate object. A disinfectant may be appropriate to use on non-porous surfaces such as diaper change tables, counter tops, door and cabinet handles, and toilets and other bathroom surfaces.

The U.S. Environmental Protection Agency (EPA) recommends that EPA-registered products be used whenever possible. Only a sanitizer or disinfectant product with an EPA registration number on the label can make public health claims that they are effective in inactivating germs. Major manufacturers of chlorine bleach and hydrogen peroxide products offer products that are EPA-registered and sold either in retail stores or commercial janitorial supply stores.

Always follow the manufacturer's instructions when using EPA-registered products described as sanitizers or disinfectants. This includes pre-cleaning, how long the product needs to remain wet on the surface or item, whether or not the product should be diluted or used as is, and if rinsing is needed. Please note that the label instructions on most disinfectants indicate that the surface must be pre-cleaned before applying the disinfectant.

### Are there alternatives to chlorine bleach?

If a product that is not chlorine bleach is registered with the EPA and described as a sanitizer or as a disinfectant and is used according to the manufacturer's instructions, it can be used in child care settings. Check the label to see how long you need to leave the sanitizer or disinfectant in contact with the surface you are treating, whether you need to rinse it off before contact by children, and for any precautions when handling.

Some child care settings are using products with hydrogen peroxide as the active ingredient instead of chlorine bleach. Hydrogen peroxide breaks down into water and oxygen.

Check to see if the product has an EPA registration number and follow the manufacturer's instructions for use and safe handling. Remember that EPA-registered products will also have available a Material Safety Data Sheet (MSDS) that will provide instructions for the safe use of the product and guidance for first aid response to inadvertent exposure to the chemical.

If you are looking for environmentally friendly products, one EPA-registered product is a botanical-based disinfectant whose active ingredient is thymol which requires a ten minute contact time and, if applied to toys or food contact surfaces, a water rinse is required before use.

In addition, some manufacturers of sanitizer and disinfectant products are working towards developing "green cleaning products" that can attain EPA registration. As new environmentally friendly cleaning products appear in the market, check to see if they are EPA-registered.

### Household Bleach and Water

If purchasing an EPA-registered product for sanitizing or disinfecting is not an option, then household bleach diluted with water is a practical alternative. It is economical, convenient, and readily available. It is effective if the proportional amount of bleach to water is appropriate for the task. Using too little bleach may make the mixture ineffective. However, using too much bleach may create a potential health hazard.

When purchasing chlorine bleach, make sure that the bleach concentration is for household use, and not for industrial applications. Household chlorine bleach is typically sold in retail stores as 5-10% hypochlorite solution (regular strength). Use only unscented bleach.

Some chlorine bleach products sold in retail stores may be EPA-registered and described as a sanitizer or disinfectant. Check the label to see if the product has an EPA registration number and follow the manufacturer's instructions.

If the chlorine bleach product is for household use and does not have an EPA registration number, here are two recipes that you can use. Which recipe you choose will depend on whether you need to sanitize or disinfect a surface.

### To safely prepare bleach solutions:

- Dilute bleach with cool water and do not use more than the recommended amount of bleach.
- Select a bottle made of opaque material.
- Make a fresh bleach dilution daily; label the bottle with contents and the date mixed.
- Wear gloves and eye protection when diluting bleach.
- Use a funnel.
- Add bleach to the water rather than the water to bleach to reduce fumes.
- Make sure the room is well ventilated.
- Never mix or store ammonia with bleach or products that contain bleach.

Purpose	Recipe
<p>Sanitizer</p> <p>For food contact surface sanitizing (dishes, utensils, cutting boards, high chair trays), toys that children may place in their mouths, and pacifiers.</p>	<p>1 tablespoon of bleach + 1 gallon of cool water</p> <p>Let stand for 2 minutes or air dry.</p>
<p>Disinfectant</p> <p>For use on non-porous surfaces such as diaper change tables, counter tops, door and cabinet handles, toilets.</p>	<p>¼<sup>**</sup> - ¾ cup of bleach + 1 gallon of cool water (or 1 to 3 tablespoons of bleach + 1 quart of cool water) applied as a spray or poured fresh solution, not by dipping into a container with a cloth that has been in contact with a contaminated surface</p> <p>Let stand for 2 minutes or air dry.</p>

**To safely use bleach solutions:**

- Apply the bleach dilution after cleaning the surface with soap or detergent and rinsing with water.
- If using a spray bottle, adjust the setting to produce a heavy spray instead of a fine mist.
- Allow for a two minute contact time or air dry.
- Apply when children are not present in the area.
- Ventilate the area by allowing fresh air to circulate and allow the surfaces to completely air dry or wipe dry after two minutes of contact with the surface before allowing children back into the area.
- Store all chemicals securely, out of reach of children and in a way that they will not tip and spill.

**Adapted** from: California Childcare Health Program. 2009. Sanitize safely and effectively: Bleach and alternatives in child care programs. *Health and Safety Notes* (July).

**A Final Note**

Remember that any cleaning, sanitizing, or disinfecting product must always be safely stored and out of reach of children. Always follow the manufacturer’s instruction for safe handling to protect yourselves and those in your care.

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