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 or disinfecting surfaces that could possibly pose a risk to children or staff. Routine cleaning with detergent and water is the most common method for removing some germs from surfaces in the child care setting. However, most items and surfaces in a child care setting require sanitizing or disinfecting 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 but does not eliminate 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. See Appendix K, Routine Schedule for Cleaning, Sanitizing and Disinfecting for guidance on use of sanitizer vs. disinfectant.

**Disinfectant** is a product that destroys or inactivates germs (but not spores) on an inanimate object. A disinfectant may be appropriate to use on hard, non-porous surfaces such as diaper change tables, counter tops, door & cabinet handles, and toilets and other bathroom surfaces. See Appendix K, Routine Schedule for Cleaning, Sanitizing and Disinfecting for guidance on use of sanitizer vs. disinfectant.

The U.S. Environmental Protection Agency (EPA) recommends that only EPA-registered products be used. Only a sanitizer or disinfectant product with an EPA registration number on the label can make public health claims that they are effective in reducing or inactivating germs. Many bleach and hydrogen peroxide products are EPA-registered and can be used to sanitize or disinfect. Please see the "How to Find EPA Registration Information" section below to learn more specific information on the products.

Always follow the manufactures' 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. Also check to see if that product can be used on a food contact surface or is safe for use on items that may go into a child's mouth. Please note that the label instructions on most sanitizers and disinfectants indicate that the surface must be pre-cleaned before applying the sanitizer or disinfectant.

Are there alternatives to chlorine bleach?

A product that is not chlorine bleach can be used in child care settings IF:

- It is registered with the EPA;
- It is also described as a sanitizer or as a disinfectant;
- It is used according to the manufacturer's instructions.

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, for any precautions when handling, and whether it can be used on a surface that may come in contact with child's mouth.
Some child care settings are using products with hydrogen peroxide as the active ingredient instead of chlorine bleach. Check to see if the product has an EPA registration number and follow the manufacturer's instructions for use and safe handling. (Please see the “How to Find EPA Registration Information” section below for more information.) Remember that EPA-registered products will also have available a Safety Data Sheet (SDS) that will provide instructions for the safe use of the product and guidance for first aid response to an accidental exposure to the chemical.

In addition, some manufacturers of sanitizer and disinfectant products have developed “green cleaning products” that have EPA registration. As new environmentally-friendly cleaning products appear in the market, check to see if they are EPA-registered.

Household Bleach & Water

Many household bleach products are now EPA-registered. When purchasing EPA-registered 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 an 8.25% sodium hypochlorite solution.

EPA-registered bleach products are described as sanitizers and disinfectants. Check the label to see if the product has an EPA registration number and follow the manufacturer's safety and use instructions. (Please see the “How to Find EPA Registration Information” section below for more information.) Pay particular attention to the mixing “recipe” and the required contact time (i.e., the time the solution must remain on a surface to be effective) for each use. Remember, the recipe and contact time are most likely different for sanitizing and disinfecting.

If you are not using an EPA-registered product for sanitizing and disinfecting, please be sure you are following state or local recommendations and/or manufacturer’s instructions for creating safe dilutions necessary to sanitize and/or disinfect surfaces in your early care and education environment. Using too little (a weak concentration) bleach may make the mixture ineffective; however, using too much (a strong concentration) bleach may create a potential health hazard.

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.

To safely use bleach solutions:
- Apply the bleach dilution after cleaning the surface with soap or detergent and rinsing with water if visible soil is present.
• If using a spray bottle, adjust the setting to produce a heavy spray instead of a fine mist.
• Allow for the contact time specified on the label of the bleach product.
• 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 the required contact time 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. 2013. Safe and Effective Cleaning sanitizing and Disinfecting. Health and Safety Notes (March).

To Review:

• Determine if the surface requires sanitizing or disinfecting;
• Check the labels of all products to see if they are EPA-registered; there are alternatives to chlorine bleach;
• Many chlorine bleach products (8.25% sodium, hypochlorite) are now EPA-registered
  o If EPA-registered, you must follow the label instructions for “recipes” and contact times;
• If using non-EPA-registered products, follow state or local recommendations for “recipes” and contact times;
• Prepare and use the solutions safely;
• Use products that are safe for oral contact when used on food contact surfaces or on items that may mouthed by children.

How to Find EPA Registration Information

The following information is intended to serve as a visual guide to locating EPA registration numbers and product label information. Any products featured in the examples below are used for illustrative purpose only, and do not represent an endorsement by the National Resource Center for Health and Safety in Child Care and Early Education (NRC). The NRC does not endorse specific products.

1. Locate the EPA Registration number on the product label:
2. Go to http://jaspub.epa.gov/apex/pesticides/?p=PPLS:1. Enter this number into the box titled "EPA Registration Number" and click the Search button:
3. You should see the details about the product, and beneath that, a portable document file (PDF) bearing the data that this product was registered by the EPA (if there is a list, the PDF at the top of the list should show the most recent approval). Click on that most recently-approved PDF. You will need a PDF file reader to access this file. There are a variety of

You will need Adobe Reader to view some of the files on this page. See EPA's PDF page to learn more.

Provided below is the information for the product you selected. To view the label, click on the date in the Approved Date Field. The latest label is at the top of the list.

(Search Again)

Details for PUMA

EPA Registration Number: 5813-100
Company Name: CLOROX CO., THL
Division Name: C/O PSARC
P.O. Box: 493
City, State Zip: PLEASANTON, CA 945660401
Current Status: Active (January 12, 2013)

Alternate Name(s): CLOROX DISINFECTING BLEACH; CLOROX Germicidal BLEACH; CLOROX MULTI-PURPOSE BLEACH; CLOROX Regular BLEACH; CONCENTRATED CLOROX DISSINFECTING BLEACH; CONCENTRATED CLOROX Germicidal BLEACH; CONCENTRATED CLOROX Multi-PURPOSE BLEACH; CONCENTRATED CLOROX Germicidal BLEACH

Labels and Amendments

<table>
<thead>
<tr>
<th>EPA Reg. No.</th>
<th>Product Name</th>
<th>Approved Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>5813-100</td>
<td>PUMA</td>
<td>February 12, 2012 (PDF)</td>
</tr>
<tr>
<td>5813-100</td>
<td>PUMA</td>
<td>December 21, 2011 (PDF)</td>
</tr>
<tr>
<td>5813-100</td>
<td>PUMA</td>
<td>September 21, 2011 (PDF)</td>
</tr>
<tr>
<td>5813-100</td>
<td>PUMA</td>
<td>April 27, 2011 (PDF)</td>
</tr>
<tr>
<td>5813-100</td>
<td>PUMA</td>
<td>January 12, 2011 (PDF)</td>
</tr>
</tbody>
</table>

Appendix J
4. The PDF should come up on your screen. Scroll down to the section that shows the directions for using the product as a sanitizer or disinfectant. Follow the directions listed for your intended use.

<table>
<thead>
<tr>
<th>Surface Type</th>
<th>Quantity</th>
<th>Dilution</th>
<th>Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>For Sanitizing (or To Sanitize)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Wooden Cutting Boards</strong></td>
<td>1 tsp</td>
<td>1 gal</td>
<td>Wash, rinse, air-dry. Use with bleach solution for at least 2 minutes, let air dry. <strong>CAUTION:</strong> Do not mix cutting boards and other surfaces used with a solution of 2 tablespoons of bleach per 1 gallon of water for [at least] 2 minutes, let air dry.</td>
</tr>
<tr>
<td><strong>Plastic Cutting Boards</strong></td>
<td>1 tsp</td>
<td>1 gal</td>
<td>Wash and rinse. After washing, soak for [at least] 2 minutes in bleach solution. Let air dry. <strong>CAUTION:</strong> Do not mix cutting boards and other surfaces used with a solution of 2 tablespoons of bleach per 1 gallon of water for [at least] 2 minutes, let air dry.</td>
</tr>
<tr>
<td><strong>Refrigerators, Freezers</strong></td>
<td>1 tsp</td>
<td>1 gal</td>
<td>Wash and rinse. After washing, soak for [at least] 2 minutes in bleach solution. Let air dry. <strong>CAUTION:</strong> Do not mix cutting boards and other surfaces used with a solution of 2 tablespoons of bleach per 1 gallon of water for [at least] 2 minutes, let air dry.</td>
</tr>
</tbody>
</table>

**For Disinfecting (or To Disinfect)**

<table>
<thead>
<tr>
<th>Surface Type</th>
<th>Quantity</th>
<th>Dilution</th>
<th>Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wooden Cutting Boards</strong></td>
<td>1 tsp</td>
<td>1 gal</td>
<td>Wash, rinse, air-dry. Use with bleach solution for at least 2 minutes, let air dry. <strong>CAUTION:</strong> Do not mix cutting boards and other surfaces used with a solution of 2 tablespoons of bleach per 1 gallon of water for [at least] 2 minutes, let air dry.</td>
</tr>
<tr>
<td><strong>Plastic Cutting Boards</strong></td>
<td>1 tsp</td>
<td>1 gal</td>
<td>Wash and rinse. After washing, soak for [at least] 2 minutes in bleach solution. Let air dry. <strong>CAUTION:</strong> Do not mix cutting boards and other surfaces used with a solution of 2 tablespoons of bleach per 1 gallon of water for [at least] 2 minutes, let air dry.</td>
</tr>
<tr>
<td><strong>Refrigerators, Freezers</strong></td>
<td>1 tsp</td>
<td>1 gal</td>
<td>Wash and rinse. After washing, soak for [at least] 2 minutes in bleach solution. Let air dry. <strong>CAUTION:</strong> Do not mix cutting boards and other surfaces used with a solution of 2 tablespoons of bleach per 1 gallon of water for [at least] 2 minutes, let air dry.</td>
</tr>
<tr>
<td><strong>Kitchen (Dishes, Knives &amp; Eggs)</strong></td>
<td>1/2 cup</td>
<td>1/2 gal</td>
<td>Wash, rinse, air-dry. Use with bleach solution for [at least] 5 minutes. Rinse and air dry. <strong>CAUTION:</strong> Do not mix cutting boards and other surfaces used with a solution of 2 tablespoons of bleach per 1 gallon of water for [at least] 2 minutes, let air dry.</td>
</tr>
</tbody>
</table>
A Final Note

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

References:


