

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
 - 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:



- Go to <http://iaspub.epa.gov/apex/pesticides/f?p=PPLS:1>. Enter this number into the box titled “EPA Registration Number” and click the Search button:

EPA United States Environmental Protection Agency

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Product Labeling

Pesticide Product Label System (PPLS)

The Pesticide Product Label System (PPLS) provides a collection of pesticide product labels (Adobe PDF format) that have been approved by EPA under Section 3 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). New labels were added to PPLS on December 03, 2012. [\[+\] More](#)

PPLS has many New Features!

Find a Pesticide Product Label

Below are three options to help you locate labels.

Product Name:

Enter the name of the product. As you type, options will be presented to you. Keep in mind that product names may vary, so if you don't find the product you are looking for, try the [EPA Registration Number Search below](#).

Company Name:

Enter the name of the company. Some companies may have several divisions that manufacture and market pesticides products. You can select among these divisions using the drop-down list or choose the root of the company name (e.g., "Bayer" or "3M") to see products associated with all of the divisions.

EPA Registration Number:

The EPA Registration Number (EPA Reg. No.) appears on all registered pesticides sold in the United States. It is usually found on the back panel of the label along with the detailed instructions for use. Enter the company number (the first set of digits before the dash) to see all products marketed by that company or the entire number (including the dash) to view the label for a particular product. [More...](#)

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- 3. You should see the details about the product, and beneath that, a portable document file (PDF) bearing the date 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., THE
Division Name: C/O PS&RC
P.O. Box: 493
City, State Zip: PLEASANTON, CA 945660803
Current Status (Date): Active (JANUARY 12, 2011)
Alternate Name(s): CLOROX DISINFECTING BLEACH1:CLOROX GERMICIDAL BLEACH2:CLOROX MULTI-PURPOSE BLEACH1:CLOROX REGULAR-BLEACH1:CONCENTRATED CLOROX DISINFECTING BLEACH1:CONCENTRATED CLOROX GERMICIDAL BLEACH1:CONCENTRATED CLOROX MULTI-PURPOSE BLEACH1:CONCENTRATED CLOROX REGULAR-BLEACH

[Labels and Amendments](#)

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EPA Reg. No.	Product Name	Approved Date
5813-100	PUMA	February 13, 2012 (PDF)
5813-100	PUMA	December 22, 2011 (PDF)
5813-100	PUMA	September 21, 2011 (PDF)
5813-100	PUMA	April 27, 2011 (PDF)
5813-100	PUMA	January 12, 2011 (PDF)

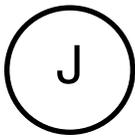
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readers available and most are free.

- 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.

For Sanitizing -or- To Sanitize			
Work Surfaces	2 tsp [1/3 oz]	1 Gallon	Wash, rinse, wipe surface area with bleach solution for [at least] 2 minutes, let air dry. -or- To sanitize work surfaces, wash, rinse and wipe surface area with a solution of 2 teaspoons of bleach per 1 gallon of water for [at least] 2 minutes. Let air dry.
Dishes, Glassware, Utensils	2 tsp [1/3 oz]	1 Gallon	Wash and rinse. [After washing,] soak for [at least] 2 minutes in bleach solution. [drain] and [let] air dry. -or- To sanitize dishes, glassware, and utensils, wash and rinse. [After washing,] soak for [at least] 2 minutes in a solution of 2 teaspoons of bleach per 1 gallon of water. [drain] and air dry.
Refrigerators, Freezers	2 tsp [1/3 oz]	1 Gallon	Remove food [from refrigerator -and/or- freezer]. Wash, rinse, wipe surface area with bleach solution for [at least] 2 minutes. Let air dry.
Plastic Cutting Boards	2 tsp [1/3 oz]	1 Gallon	Wash and rinse. [After washing,] soak for [at least] 2 minutes in bleach solution. let air dry.
Wooden Cutting Boards	2 Tbsp [1 oz]	1 Gallon	Wash, wipe, or rinse with detergent and water, then apply sanitizing -or- bleach solution. Let stand 2 minutes. Rinse with a solution of 2 teaspoons of this product per gallon of water. Do not rinse or soak equipment overnight.
Baby Bottles	2 tsp [1/3 oz]	1 Gallon	Wash and rinse. [After washing,] soak for [at least] 2 minutes in bleach solution. let air dry.
Garbage Cans	1/2 cup [4 oz]	1 Gallon	After washing and rinsing, brush inside with bleach solution. Let stand for 5 minutes before rinsing.
Pet [Food -and/or- Water] Bowls	2 tsp [1/3 oz]	1 Gallon	Wash and rinse. [After washing,] soak for [at least] 2 minutes in bleach solution. let air dry.
[Kitchen] [Dish]cloths & Rags	1/2 cup [4 oz]	1 Gallon	[Pre-]wash items, then soak in solution for [at least] 5 minutes. Rinse and air dry.

For Disinfecting -or- To Disinfect			
Floors, Walls, Vinyl, Glazed Tiles -and/or- (Insert relevant use site(s) from List B)	1/2 cup [4 oz]	1 Gallon	[Pre-]wash surface, [mop or] wipe with bleach solution. Allow solution to contact surface for [at least] 5 minutes. Rinse well and air dry. -or- To disinfect floors, walls, vinyl, and glazed tiles, pre-wash surface, then mop or wipe with a solution of 1/2 cup of bleach per 1 gallon of water. Allow solution to contact surface for [at least] 5 minutes. Rinse well and air dry. [For <i>Pseudomonas aeruginosa</i> , Canine parvovirus and Feline panleukopenia virus, let stand for -or- contact time is 10 minutes.]
Bathtubs, Showers (& Kitchen) Sinks	1/2 cup [4 oz]	1 Gallon	[Pre-]wash surface [and] wipe with bleach solution. Allow solution to contact surface for [at least] 5 minutes. Rinse well and air dry.
Nonporous Baby Toys (& Furniture)	1/2 cup [4 oz]	1 Gallon	[Pre-]wash surface, soak or wipe with bleach solution. Allow solution to contact surface for [at least] 5 minutes. Rinse well and air dry.
Nonporous pet toys -and/or- accessories -or- pet areas	1/2 cup [4 oz]	1 Gallon	[Pre-]wash surface, soak or wipe with bleach solution. Allow solution to contact surface for [at least] 5 minutes. Rinse well and air dry.
Toilet Bowl	3/4 cup	1 Gallon	Flush toilet. Pour this product into bowl. Brush bowl, making sure to



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:

1. California Childcare Health Program. 2009. Sanitize safely and effectively: Bleach and alternatives in child care programs. *Health and Safety Notes* (July). http://www.ucsfchildcarehealth.org/pdfs/healthandsafety/SanitizeSafely_En0709.pdf.
2. U.S. Environmental Protection Agency. 2012. Pesticide Product Label System Website. <http://iaspub.epa.gov/apex/pesticides/f?p=PPLS:1>.
3. U.S. Environmental Protection Agency. 2012. What are antimicrobial pesticides? Pesticides Website. http://www.epa.gov/oppad001/ad_info.htm.
4. U.S. Environmental Protection Agency. 2012. Selected EPA-registered disinfectants. Pesticides Website. www.epa.gov/oppad001/chemregindex.htm.
5. Grenier, D., D. Leduc, eds. 2008. *Well beings: A guide to health in child care*. 3rd ed. Ottawa: Canadian Paediatric Society.
6. Rutala, W. A., D. J. Weber, the Healthcare Infection Control Practices Advisory Committee (HICPAC). 2008. *Guideline for disinfection and sterilization in healthcare facilities, 2008*. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Preparedness, Detection, and Control of Infectious Diseases, Division of Healthcare Quality Promotion. http://www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf.
7. U.S. Department of Health and Human Services, Public Health Service, Food and Drug Administration. 2009. *Food code*. College Park, MD: Food and Drug Administration. <http://www.fda.gov/Food/FoodSafety/RetailFoodProtection/FoodCode/FoodCode2009/default.htm>