

SANITIZING SAFELY AND EFFECTIVELY

The California Community Care Licensing regulations state that child care teachers must be trained in housekeeping and sanitation, and that classrooms must be kept clean and sanitary. In addition, the national quality standards for health and safety in child care, *Caring For Our Children*, recommend that certain surfaces be sanitized or disinfected on a regular basis. This helps children and staff in child care centers stay healthy by reducing their exposure to the germs that cause disease, which are common in child care. Young children readily spread germs because they:

- ▶ sneeze, cough and drool.
- ▶ use diapers.
- ▶ are just learning to use the toilet.
- ▶ touch everything.
- ▶ put things in their mouths.

Infants, toddlers and preschoolers also:

- ▶ have immature immune systems.
- ▶ experience more illnesses than older children, especially when they spend time in child care.

What is the difference between cleaning, sanitizing and disinfecting?

Sometimes these terms are used interchangeably, but they are not the same. They have different outcomes and the United States Environmental Protection Agency (EPA) defines them this way:

- ▶ **To clean means to physically remove dirt, germs and debris from the surface by scrubbing, washing and rinsing. It is done using soap or detergent and water.**
- ▶ **To sanitize means to apply a product that kills 99.9% of germs identified on its label. Different disinfectant products kill different germs. You have to read the label to find out if the product kills all the germs that you want to kill.**
- ▶ **To disinfect means to apply a product that kills nearly 100% of germs identified on its label.**

What do you use to sanitize and disinfect?

Sanitizing and disinfecting are usually done using products, called antimicrobials, that kill bacteria, viruses, fungi and mold on hard surfaces. Because antimicrobials are intended to kill germs, they are pesticides. All products used to sanitize or disinfect must be registered by the EPA. Bleach is the most commonly used product for sanitizing and disinfecting in ECE.

Some non-chemical practices such as steaming can also be used to sanitize surfaces in certain situations. New methods, such as devices that convert tap water into ionized water, or high-quality microfiber cloths and mops used with soap and water can reduce germ counts like antimicrobials. More studies need to be done to be sure these alternative methods work as well as chemicals to sanitize in ECE environments.

How do you know which product to use to sanitize or disinfect?

The EPA tests each disinfection product to make sure that it kills germs and doesn't pose unreasonable immediate health hazards to those who are using it. If the product passes these tests, the EPA registers the product as a disinfectant. Only products with EPA registration numbers on the label can claim they kill germs. If a product is not registered with the EPA as a disinfectant, it should not be used to sanitize or disinfect. Proper cleaning (washing and rinsing with a soap or detergent) must be done before sanitizing. This step is needed since dirt can prevent disinfectants from working. In child care settings, sanitizing surfaces will kill enough germs to reduce the risk of becoming ill from touching those surfaces. Disinfecting (the higher level of germ killing) is recommended for blood spills to decrease the risk of spreading blood-borne illnesses such as HIV and Hepatitis B.

Why do so many child care programs use bleach to sanitize?

If used correctly, bleach reliably sanitizes and disinfects hard, non-porous surfaces of most common and harmful bacteria and viruses. Bleach has a short killing time and it does not need to be rinsed since it breaks down quickly. A low concentration is required and it is inexpensive.

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What are the problems with using bleach?

There are increasing concerns about the health effects of bleach, particularly for children with asthma. When bleach is applied to surfaces, it also gets into the air and can irritate the lungs and mucous membranes (the tissues that line and protect the inside of your body like the inside of your nose). For staff who mix bleach solutions, contact with full strength bleach can be harmful. It can damage skin, eyes and clothing.

Reduce the risk of harm from bleach by following these steps when preparing and using bleach:

TO SAFELY PREPARE BLEACH SOLUTION

- ▶ Dilute bleach with cool water and do not use more than the recommended amount of bleach.
- ▶ Make a fresh bleach solution 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 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 solution after cleaning the surface with soap or detergent and rinsing with water.
- ▶ Allow for a two-minute contact time (use a timer) or air dry.
- ▶ Sanitize when children are not present.
- ▶ Ventilate the room and allow surfaces to completely dry before allowing children back.

- ▶ Store all chemicals in a secure area, out of reach of children.

RECOMMENDED BLEACH SOLUTIONS

- ▶ For food contact surface sanitizing (refrigerators, plastic cutting boards, dishes, glassware, counter tops, pots and pans, stainless utensils, toys that have been mouthed, high chair trays): **1 Tablespoon of bleach to a gallon of water. Let stand for 2 minutes or air dry.**
- ▶ For nonporous surface sanitizing and disinfecting (bathroom surfaces and fixtures, sinks, tile, glass, stainless steel, enamel, hard plastic, porcelain, doorknobs): **1/4 cup of bleach to one gallon of water or 1 tablespoon per quart. Let stand for 2 minutes or air dry.**

Are there alternatives to bleach?

The only program that currently certifies disinfectants that are safer for people and the environment is the EPA's Design for the Environment (DfE) Antimicrobial Pesticide Pilot Project (see Resources). Products with hydrogen peroxide as the active ingredient are being used by some child care programs as an alternative to bleach. Hydrogen peroxide breaks down to water and oxygen and does not leave harmful residues. New products containing stabilized hydrogen peroxide offer an alternative to more toxic cleaners, because they do not put irritating fumes into the air. Stabilized hydrogen peroxide is one of the active ingredients that have been approved by DfE's Antimicrobial Pesticide Pilot Project. Always check the product label for EPA registration and look for the DfE logo as well. Always follow the directions for sanitizing.

Do products such as baking soda, vinegar or borax sanitize?

While these products can be used to clean dirt from surfaces, they do not kill germs well enough to be sanitizers.

RESOURCES

Design for the Environment Antimicrobial Pesticide Pilot Project, www.epa.gov/pesticides/regulating/labels/design-dfe-pilot.html

EPA (2008) *What are antimicrobial pesticides?* http://www.epa.gov/oppad001/ad_info.htm

California Community Care Licensing Regulations, www.dss.cahwnet.gov/ord/PG587.htm

American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care (2005) *Caring for Our Children*, second edition, AAP at: <http://nrckids.org/CFOC/index.html>

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