

CLEANING, SANITIZING, AND DISINFECTION

This section provides general information about cleaning, sanitizing, and disinfecting; guidelines for specific items commonly used in the childcare and school setting; and a checklist for choosing a disinfectant other than bleach.

Definitions

- Cleaning** Mechanical process (scrubbing) using soap or detergent and water to remove dirt, debris, and many germs. It also removes invisible debris that interferes with disinfection.
- Sanitizing** Chemical process of reducing the number of disease-causing germs on cleaned surfaces to a safe level. This term is usually used in reference to food contact surfaces or mouthed toys or objects.
- Disinfecting** Chemical process that uses specific products to destroy harmful germs (except bacterial spores) on environmental surfaces.

General information

- Lessen the harmful effects of germs (bacteria and viruses) by keeping their numbers low.
- Control germs effectively by frequent, thorough handwashing; cleaning and disinfecting surfaces and objects that come into contact with children; and proper handling and disposal of contaminated items.
- Follow proper cleaning and disinfecting practices whether dirt is seen or not. Germs can live on wet and dry surfaces and on those items that do not look soiled or dirty.
- Increase the frequency of cleaning and disinfecting to control certain communicable diseases.
- Treat all body fluids as infectious because disease-causing germs can be present even in the absence of illness.
- Know that children who do not show symptoms of illness may be as infectious as those children who do have symptoms.

Glove use

- Wear disposable gloves (consider using non-latex gloves as a first choice) when:
 - Handling blood (e.g., nosebleeds, cuts) or items, surfaces, or clothing soiled by blood or body fluids.
 - Covering open cuts, sores, or cracked skin.
 - Cleaning bathrooms, diapering areas, or any areas contaminated with stool, vomit, or urine.
- Remove gloves properly and discard after each use.
- **ALWAYS WASH HANDS IMMEDIATELY** when gloves are removed. Also wash hands when there has been contact with any body fluids. Follow handwashing and gloving procedures.

When using cleaning, sanitizing, or disinfecting products ALWAYS:

- Consider the safety of children.
- Choose a product appropriate for the task.
- Follow the label instructions for mixing, using, and storing solutions.
- Read the warning labels.
- Store these products safely out of reach of children.
- Clean soiled surfaces and items before using sanitizers or disinfectants.

Cleaning

- Use warm/hot water with any household soap or detergent.
- Scrub vigorously to remove dirt and soil. Use a brush if item is not smooth or has hard to reach corners, such as toys and bottles.
- Change water when it looks or feels dirty, after cleaning bathrooms and diaper changing area, and after cleaning the kitchen.
- Always clean the least dirty items and surfaces first (for example, countertops before floors, sinks before toilets).
- Always clean high surfaces first, then low surfaces.
- Disposable towels are preferred for cleaning. If using reusable cloths/rags, launder between cleaning uses. DO NOT use sponges since they are hard to clean.
- Clean completely on a regular schedule and spot clean as needed.

Sanitizing or Disinfecting Products (See pg 38 for guidelines for specific items.)

- **Bleach (Sodium hypochlorite)**

Bleach solutions of differing concentrations can be used for sanitizing and disinfecting. You can prepare your own bleach solutions by mixing specified amounts of household bleach and water (see pg 37 for how to mix different solutions and for information on handling, storage, and safety concerns), or you can purchase commercially prepared bleach-containing products. Make sure the bleach solution is appropriate for the type of item to be sanitized or disinfected.

Bleach is safe when used as directed, is effective against germs when used at the proper concentration, is inexpensive if you make your own solutions, and is readily available. However, bleach is corrosive to metals and can strip floor wax, is ineffective in the presence of body fluids and soil (you must always clean first), is unstable when mixed with water (needs to be made fresh daily), and can be dangerous if mixed with other products.

- ***Bleach solution 1 - disinfectant*** (See pg 37.)

This solution contains approximately 800 parts per million (ppm) of sodium hypochlorite. Use to disinfect **surfaces** that will **not** have contact with food or the mouth (e.g., changing tables, potty chairs, activity tables, floors).

This solution is recommended by the Centers for Disease Control and Prevention, American Academy of Pediatrics, and American Public Health Association for use in childcares and schools where there is a high potential for fecal contamination. Your local environmental health professionals or licensing agency may have different recommendations.

- ***Bleach solution 2 - sanitizer*** (See pg 37.)

This solution contains approximately 200 parts per million (ppm) of sodium hypochlorite. Use to disinfect mouthed toys and other objects, eating utensils, and food-contact surfaces.

The Minnesota Food Code states that the range of the sanitizing solution must be from 50-200 ppm. It must not exceed 200 ppm. Chlorine test kits are available for purchase to check the concentration of your solution. Commercially licensed facilities are required to use a test kit to measure the strength of the sanitizing solution.

- **Quaternary ammonia products (quats)**

There are many types of quaternary ammonia products, and they are not all the same. However, a common chemical name of the active ingredient is *dimethyl benzyl ammonium chloride*. It is important to read the label and to follow the instructions carefully to make sure you are using a product that is appropriate for the type of item to be sanitized or disinfected.

Use the checklist on pg 39 to determine if the product meets the criteria for both a sanitizer and/or disinfectant. For example, if using for disinfection after a blood spill or splatter, it must meet OSHA requirements for the bloodborne pathogen exposure plan, that is, be EPA-registered as tuberculocidal, or list that HIV and hepatitis B viruses are killed by the product.

Use test kit daily to monitor the correct concentration of the product used in the food areas (200-400 ppm). A separate test kit is needed to measure the concentration of the quat solution. Obtain test kits from your chemical supplier.

Use separate bottles and label each clearly with its intended use with the name of product, date mixed, food/mouthed contact use, or general disinfection. Always **STORE OUT OF CHILDREN'S REACH** – undiluted quats can be fatal if ingested.

REMEMBER when using QUATS:

Read the label and follow the manufacturer's directions exactly for:

- how to mix product.
- how to apply the solution.
- how long to leave on the surface.
- whether to rinse after exposure time.
- safety concerns when used around children.

The solution for use on food contact surfaces may differ from that used for general disinfection. **Read the label and follow the directions exactly.** For more information about a specific product call the distributor or the company.

- **Other sanitizing or disinfecting products**

Use the checklist on pg 39 to determine if the product can be used in your facility. Always read the label and follow the directions carefully.

Disinfecting Procedures

- **Surfaces or objects that will NOT have contact with the mouth or food** (immediately after each soiling)
 1. Clean first with soap or detergent and water.
 2. Rinse.
 3. Spray the area thoroughly with **bleach solution 1 or another appropriate disinfecting product.**
 4. Wipe the area to distribute the disinfectant evenly using single-service, disposable paper towels.
 5. Discard paper towels in a plastic-lined container.
 6. Allow surface to air dry.
 7. Wash your hands.

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- **Water play tables**¹ (before and after each use)
 1. Wipe table with **bleach solution 1 or another appropriate disinfecting product**.
 2. Let dry before filling with water.
 3. Soak all water table toys in **bleach solution 2 or another appropriate sanitizing product** for two minutes prior to use.
 4. Ensure that all children and staff wash hands before and after play.
 5. Exclude any child with open sores or wounds from play.
 6. Watch carefully so children do not drink the water.
 7. Drain the water after play is over and between groups of children.
 8. Clean with soap or detergent and water.

¹ *ABC's of Safe and Healthy Child Care*, Centers for Disease Control and Prevention, 1996.

- **Blood and body fluid spills or soiling**
 1. Wear a disposable medical glove for any blood and body fluid cleanup. (See pg 55.)
 2. Use disposable towels to **ALWAYS clean objects and surfaces contaminated with blood and body fluids (stool, urine, vomit)** and discard in a plastic-lined, covered waste container.
 3. Scrub the area with soap or detergent and water to remove blood or body fluids and discard paper towels. Rinse the area with clean water.
 4. **Disinfect immediately** using **bleach solution 1 or another appropriate disinfecting product** on any items and surfaces contaminated with blood and body fluids (stool, urine, vomit).
 5. Allow surface to air dry.
 6. Discard disposable gloves. If using utility gloves, follow cleaning/disinfecting procedure.
 7. Wash hands immediately.
- **Washable items like linens, towels, bedding**
 1. Use hot water in a **washing machine**. This is acceptable for soaking, cleaning, sanitizing, and disinfecting washable articles.
 2. Read the label on the laundry detergent.
 3. **Read the label and follow directions exactly if using bleach.**
 4. Dry items in a dryer on high heat.

Sanitizing Procedures

- **Surfaces that come in contact with food or are mouthed**
 1. Clean first with soap or detergent and water.
 2. Rinse.
 3. Spray the area thoroughly with **bleach solution 2 or another appropriate sanitizing product**.
 4. Wipe the area to evenly distribute the sanitizer using single-service, disposable paper towels.
 5. Discard paper towels in a plastic-lined container.
 6. Allow to air dry.

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- Items in contact with food or are mouthed (toys, eating utensils, dishes, formula bottles)
 - Three separate sinks (or basins) method
 1. Sink/Basin #1: wash items in hot water using detergent (bottle brushes as needed).
 2. Sink/Basin #2: rinse in clear water.
 3. Sink/Basin #3: soak items in **bleach solution 2** for at least two minutes.
 4. Remove items, DO NOT rinse, and place on rack to air dry.
 - Dishwashers
To be acceptable a dual process for cleaning with the detergent and agitation and sanitizing with heat or chemicals must be provided.

Two types are available, commercial and household:

- ◆ National Sanitation Foundation (NSF) approved commercial dishwashers are required in commercial childcare or school food service. The NSF standards require that the water temperature reach 180° F, or that there is 50 ppm chlorine in the final rinse of the dishwasher.
- ◆ Household dishwashers must have a heat sanitizing setting. If at the end of the cycle when the machine is opened the dishes are too hot to touch, then the items are sanitized. It is strongly recommend that household dishwashers carry the NSF mark of approval.

Green Cleaning Products

There has been an increased interest in using “green” cleaning products in childcare settings, schools, and homes. This interest is twofold: first is due to reports about increased allergies, sensitivities, and illness in children associated with chemical toxins in the environment and second, these products tend to cause less damage to the environment.

Children are more vulnerable to chemical toxins because of their immature immune systems, rapidly developing bodies, and their natural behaviors. They play on the floor, are very tactile having much body contact with the tables, desks, or play equipment, and have oral behaviors of mouthing toys and surfaces and putting their hands in their mouths.

Green cleaning products can be used in childcare and school settings. Green sanitizers or disinfectants must meet the criteria on pg 39 and be approved by your local environmental health agency or your childcare consultant.

For more information, call Hennepin County HSPHD-Epidemiology at (612) 543-5230 or call your local health department.