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TO: Food Service Directors and Managers

FROM: Elaine VanDyke, Administrator
Bureau of Nutrition Programs and Services

DATE: September 17, 2010

RE: Use of sanitizing agents for food service operations

This memo is intended to clarify any current issues regarding the practice of sanitizing surfaces in the school food service operations.

Please read this document carefully, check your practice and review the resources identified at the bottom of this document. In NH, the Department of Health and Human Service is the responsible party to identify the institutional practices as they relate to sanitizing surfaces. This authority comes from New Hampshire Statue He-P2300. We also consider several other national organizations as the recognized experts in food handling industry standards and practices.

Keeping a clean and sanitary environment is one of the most important defenses against the spread of illness or infection among children. Carefully washing surfaces, materials, and equipment with detergent and water or other cleansers is sufficient for cleaning them and for removing many germs that could present a health risk. However, some surfaces and items must be sanitized with a disinfectant after they are washed or cleaned because they are especially likely to become contaminated and serve as vehicles for transmitting illness. In these cases, only use of a disinfecting agent will ensure that germs are virtually eliminated or reduced to a level where the transmission of illness is unlikely.

Cleaning agents (soap, detergent) are not disinfectants (sanitizers), and disinfectants are not cleaning agents. Disinfectants will not work effectively if the surface has not been cleaned first. Before being sanitized with a disinfectant, an object or surface should be washed with a cleaning agent and rinsed with clean water.

SELECTING AND USING AN APPROPRIATE DISINFECTANT/SANITIZER

The *Centers for Disease Control and Prevention* (CDC) and the *American Academy of Pediatrics* (AAP) recommend using a solution of **household** chlorine bleach and water for all sanitizing purposes. A bleach-and-water solution is inexpensive, easy to mix, nontoxic and safe if handled properly and kills most infectious agents. However, for institutional settings a commercial product called a quaternary may be better suited to your needs.

There are a number of commercial disinfectants that are available in stores. Products that meet the *Environmental Protection Agency's* (EPA's) standards for "hospital grade" germicides (solutions that kill germs) are effective for sanitizing purposes. Whenever operating a dish-machine with chemical sanitizers, the operator must use a test kit that accurately measures the parts per million concentration of the sanitizing agent and the agent shall not exceed that permitted under He-P 2310.03 (a)(2)-(4) unless specified by the manufacturer.

However, many commercial products advertise themselves as "disinfectants," having "germicidal action," or "kills germs." Although they may have some effect on germs, these products are often less effective than bleach. In addition, commercial disinfectants usually contain additives such as perfume or dye and may leave a chemical

residue that could be harmful or cause distress for children with allergies or respiratory difficulties. Before using anything other than a bleach-and-water solution for sanitizing, consult with local health inspectors.

Cautions:

- When using a bleach-and-water solution, make sure the bleach concentration is intended for **household** industrial application. Household bleach is typically sold in one of two concentrations: 5.25% hypochlorite ("regular" strength), or 6.00% hypochlorite ("ultra" strength). Both are suitable for use in child settings.

- Never mix bleach or a bleach-and-water solution with other fluids (particularly ammonia or acidic fluids like vinegar) because this will rapidly create highly toxic fumes.

- Whenever children are present, bleach solution (or any other disinfectant) should be applied by dipping, soaking, or wiping the item or surface with a cloth (but not a sponge, since sponges harbor bacteria and are hard to clean).

Spraying is acceptable only when:

- Children are not present, or

- Dipping/soaking is not feasible and wiping with a cloth is likely to spread the contamination – for example, when sanitizing cutting boards.

- Whenever a disinfectant of any kind is used, there should always be adequate ventilation. This is especially important in confined or enclosed areas such as bathrooms. A child who is asthmatic or sensitive to the disinfectant should be kept away from the immediate area until it can dissipate completely. If this step is not sufficient, the operator or provider should discuss with the child's parent other alternatives for reasonably accommodating the child's sensitivity.

- If using a commercial disinfectant, always read the label carefully and follow the manufacturer's instructions for use.

- Bleach-and-water solutions lose their strength and are weakened by heat and sunlight. For maximum effectiveness, mix a fresh solution every day. Discard any leftover solution at the end of the day.

- Keep all containers and bottles of diluted and undiluted sanitizer out of the reach of children. Label containers in which sanitizers have been diluted for direct application with the name of the solution (such as "Bleach Sanitizer") and the dilution of the mixture.

How strong a disinfectant solution should be and how long it should remain in contact with a particular surface will depend on how the solution is applied and on how contaminated the surface might be. A stronger concentration is required when a cloth or objects are dipped into the solution because each dipping releases some germs into the solution, potentially contaminating the solution. In general, it is best not to rinse off the solution or wipe the object dry right away. A disinfectant must be in contact with germs long enough to kill them.

Because chlorine evaporates into the air leaving no residue, surfaces sanitized with bleach-and-water may be left to air dry. Many industrial sanitizers require rinsing with fresh water before the object can be used again.

The disinfectant/sanitizer strengths for institutional food contact surfaces are found at NH He-P 2310.03 Sanitization Rinse.

The following two bleach-and-water solution strengths are recommended by the CDC:

Strong Bleach Solution

• **Recipe:** ¼ cup of bleach to 1 gallon of cool water OR 1 tablespoon of bleach to 1 quart of cool water (add the bleach to the water in either case).
• **Minimum contact time:** 2 minutes

Weak Bleach Solution

• **Recipe:** 1 tablespoon bleach + 1 gallon of cool water
• **Minimum contact time:** 1 minute

Cleaning and Disinfecting:

Food Preparation and Service Area (including Tables and Chairs used for Meals or Snacks):

• After each use, wipe off, clean with soap, and sanitize with **Strong Bleach Solution** all surfaces and equipment used for food preparation and service. Let air dry.

Helpful Hints:

More is **NOT** better. Sanitizing solutions must be correctly prepared to be effective. Follow the manufacturer's instructions when preparing sanitizing solutions, and check the concentration of the sanitizer using a test kit. Using too high a concentration can result in off-flavors or odors in foods, can corrode equipment, waste money, and violate local health department rules.

- Don't cross contaminate with cleaning cloths. Use separate cloths for cleaning and sanitizing. Store cloths in sanitizing solution between uses. Prepare fresh sanitizing solution regularly.
- Closely follow the temperature recommendations for sanitizing agents. Very hot water, above 120°F, may prevent chlorine bleach from sanitizing.
- When detergents, used for cleaning dishes, mixes with chlorine bleach in the sanitizing rinse, it disables the chlorine part of the bleach and renders it ineffective as a sanitizer.
- If soapsuds disappear in the wash water or appear in the rinse water, the water temperature cools, or the water becomes dirty or cloudy, drain and refill with clean water.
- Containers should be labeled to identify contents and directions for use.
- Air-dry all items on a drain board. Wiping or drying the equipment with towels can re-contaminate equipment and can remove the sanitizing solution from the surfaces before it has finished working. Cloth towels are notorious at harboring germs and transferring them from one surface to another.
- Not all bleaches are the same. Bleaches registered with the EPA will have the EPA symbol on the bottle label. The bleach must contain 5.25% or 6% sodium hypochlorite in order to be an effective sanitizer. **Do Not** use scented bleach.
- Quaternaries are also active sanitizers against a wide variety of microorganisms. Unlike bleach, quaternaries are odorless and colorless. And, also unlike bleach, they are non-corrosive, so they will be safer to use over time with metal equipment and surfaces. Their antimicrobial action is varied and selective, but they are generally as effective as bleach/chlorine solutions.
- The most common quaternary is benzalkonium chloride. It is commonly used in water dilution to create a highly effective sanitizing solution. The standard for quaternary mixing is 200 PPM. Each quaternary needs testing to be sure that appropriate concentration has been achieved.

Helpful Websites for further resource and information and available trainings:

http://www.dhhs,nh,gov/dhhs/foodsanitation/laws-rules-policies/default

http://www.fightbac.org

http://www.cdc.gov/foodsafety

http://www.cdc.gov/niosh/docs/2004-101/chklists/n35foo~1.htm

http://www.nfsmi.org

http://www.nhlra.com

http://extension.unh.edu/FoodNutr/FoodNutr.htm

http://www.education.nh.gov/nutrition