



Food Handler Solutions LLC

School Food Handler Study Guide

First Edition - Chapter 3

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Chapter 3

Chemical and Physical Hazards

Common items found in every food service site can represent hazards if improperly or carelessly used. Everything from a cleaner to the can opener can create contamination issues. These types of hazards can come from both chemical and physical sources.

Chemical Hazards

Food service sites have many cleaning and sanitizing chemicals on site and these materials are a big part of what keeps a facility clean and the food served safe. However, these same materials if used improperly can lead to contamination and make customers sick. The following are things that must be considered before and during the use of cleaning materials:

- Chemical contamination can be anything related to cleaning products, pest control and toxic metals.
- Chemical contamination is caused when any of these substances improperly come into contact with food or food contact surfaces.
- Chemicals and poisonous materials must be stored away from foods, utensils, supplies and equipment.
- Chemicals can never be stored above food or food preparation and food contact services.
- Make sure all chemicals are properly labeled and stored in their original containers.
- Chemical containers must have legible and readable labeling.
- All use containers (spray bottles, buckets, etc.) must be properly labeled as well per OSHA standards.
- Follow all manufacturers' directions for proper use.

Pest control is an important component of a complete sanitation program and the following must be adhered to in the use of pesticides:

- Pesticides should be used by licensed pest control operators only.
- All food and equipment should be wrapped or stored properly before pesticides are used.

Chemical hazards can also exist in certain common cooking equipment and utensils if they are misused during the cooking and preparation process. Key issues to consider are as follows:

- Some equipment and utensils such as items constructed of pewter, copper, brass or zinc can contaminate acidic foods and cause toxic-metal poisoning.
- These materials are not food grade and can contaminate foods especially if used for preparing or storing acidic foods.
- Acidic foods (such as tomato sauces) stored or prepared in this type of equipment can break down the metal and cause it to be absorbed into prepared food.

Chemical safety goes beyond proper use in a food service facility it also includes keeping the proper records on hand and ensuring that chemicals are labeled in case of an accident. Items that must be in place are:

- Every chemical item stored within a food service facility must have a current Safety Data Sheet (SDS) on hand and readily accessible to any member of the food service team.
- The SDS contains information about first aid in terms of chemical composition, administration and treatment. Many also contain an emergency contact number.
- The SDS must be updated regularly and kept current.
- Information that should be included in addition to first information is as follows:
 - Chemical product name
 - Manufacturer contact information
 - Listing chemical ingredients deemed hazardous

- Any health information related to the chemical ingredients potential hazards
- Safe handling procedures to be taken in the event of an emergency

Physical Hazards

Physical contamination can come from many sources in a food service site. It happens when foreign and natural objects are left in food.

Examples of natural physical contaminants are:

- Bones (such as fish bones)
- Pits from fruit
- Insects
- Wood Shavings



Other examples of physical contaminants would be:

- Metal shavings (such as from a improperly cleaned can opener)
- Bandages
- Hair
- Jewelry
- Staples from cartons
- Broken glass from a shattered light bulb

