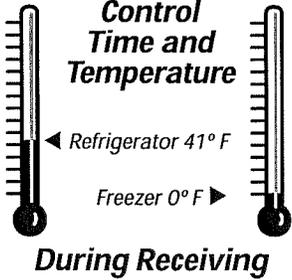
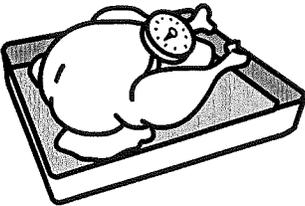
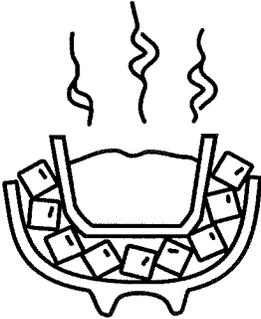


# Food Safety for Food Workers

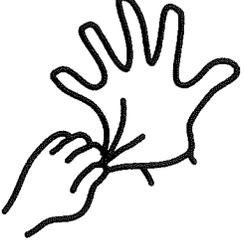
Most foodborne illness can be avoided by handling food properly. Foods from animal sources and cooked beans, rice and pasta are especially risky. These foods are "Potentially Hazardous Foods" (PHFs). Follow these basic food safety principles and practices to keep the food you prepare and serve safe to eat. These recommendations are consistent with the FDA 1999 Food Code.

| <b>STAY HEALTHY</b>   |   |   |
|---|---|---|
| <b>Key Principle</b>  | <b>Hazard</b>                                     | <b>Food Safety Message</b>  |
| <b>Be in Good Health</b>  | <b>Microbiological Contamination</b>              | <ul style="list-style-type: none"> <li>• Don't prepare food when you are ill or have an open cut or sore on your hands or arms.</li> <li>• Report illnesses to the manager.</li> <li>• Avoid coughing and sneezing in food areas.</li> </ul>  |
| <b>Practice Good Personal Hygiene</b><br><br> | <b>Microbiological Contamination</b>              | <b>Always wash your hands after you:</b> <ul style="list-style-type: none"> <li>• use the restroom.</li> <li>• cough, sneeze, or use a handkerchief or tissue.</li> <li>• work with raw foods.</li> <li>• handle dirty equipment or utensils.</li> <li>• take out the garbage.</li> </ul>   |
|   | <b>Cross-contamination</b>                        | <ul style="list-style-type: none"> <li>• Use a designated hand sink.</li> </ul>   |
|   | <b>Physical Contamination</b>                     | <ul style="list-style-type: none"> <li>• Wear clean clothing on the job.</li> </ul>   |
|   | <b>Microbiological and Physical Contamination</b> | <ul style="list-style-type: none"> <li>• Wear effective hair restraint while working in a food preparation area.</li> <li>• Don't eat, drink or smoke while preparing food.</li> <li>• Keep nails trimmed.</li> </ul>   |
| <b>CONTROL TIME AND TEMPERATURE</b>   |   |   |
| <b>Key Principle</b>  | <b>Hazard</b>                                     | <b>Food Safety Message</b>  |
|    | <b>Bacterial Growth, Toxin Production</b>         | <p><b>Keep foods out of the "Danger Zone": 41°F - 140°F</b></p> <ul style="list-style-type: none"> <li>• Use a calibrated food thermometer to check food temperatures.</li> </ul> <p><b>Receive and store food at proper temperatures</b></p> <ul style="list-style-type: none"> <li>• Refrigerated foods at 41°F or below.</li> <li>• Frozen foods at 0°F or below.</li> </ul> |
| <b>During Preparation</b>   | <b>Bacterial Growth, Toxin Production</b>         | <p><b>Thaw frozen foods in:</b></p> <ul style="list-style-type: none"> <li>• Refrigerator.</li> <li>• Potable cold running water below 70°F for 2 hours or less.</li> <li>• Microwave oven followed by cooking or as part of the cooking process.</li> </ul>  |

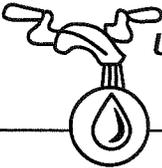
# CONTROL TIME AND TEMPERATURE

| Key Principle   | Hazard  | Food Safety Message  |
|---|---|--|
| <p style="text-align: center;"><b>Control Time &amp; Temperature</b></p> <p style="text-align: center;"><b>During Cooking</b></p>  | <p style="text-align: center;"><b>Bacterial Survival, Toxin Production</b></p>            | <p><b>Cook each food to proper internal temperature:</b></p> <ul style="list-style-type: none"> <li>• <b>165°F for 15 seconds:</b><br/>poultry, stuffed meat, fish, pasta and stuffing containing meat, poultry or fish.</li> <li>• <b>165°F for 15 seconds:</b><br/>ground poultry, turkey.</li> <li>• <b>155°F for 15 seconds or 158°F instantaneously:</b><br/>for ground meats (comminuted and injected meats) and the following comminuted: fish, meat and raw eggs not prepared for immediate consumption.</li> <li>• <b>145°F for 15 seconds:</b><br/>fish, meat, pork and raw shell eggs that are intended for immediate service.</li> <li>• <b>145°F for 3 minutes:</b><br/>whole beef roasts, whole pork roasts and corned beef roasts.</li> <li>• <b>145°F on the top and bottom surface</b><br/>of a beef steak labeled to indicate that it meets the definition of "whole muscle intact beef."</li> <li>• <b>165°F raw animal foods</b><br/>cooked in a microwave.</li> </ul> |
| <p style="text-align: center;"><b>During Holding</b></p>  | <p style="text-align: center;"><b>Bacterial Growth, Toxin Production</b></p>              | <ul style="list-style-type: none"> <li>• Hold hot Potentially Hazardous Foods (PHFs) at 140°F and above.</li> <li>• Hold cold PHFs at 41°F or below.</li> </ul>  |
| <p style="text-align: center;"><b>During Cooling</b></p>   | <p style="text-align: center;"><b>Bacterial Growth, Toxin Production</b></p>              | <p><b>Cool cooked Potentially Hazardous Foods (PHFs):</b></p> <ul style="list-style-type: none"> <li>• 140°F to 70°F in 2 hours or less.</li> <li>• 70°F to 41°F in 4 hours or less.</li> <li>• Cool foods prepared cold to 41°F or less within 4 hours.</li> <li>• Date and mark cold foods prepared on-site and held for more than 24 hours with the date of discard:             <ul style="list-style-type: none"> <li>• at 41°F - 7 days including date of preparation</li> <li>• at 45°F - 4 days including date of preparation</li> </ul> </li> <li>• Cool foods in shallow containers (4 inches or less).</li> </ul>   |
| <p style="text-align: center;"><b>During Reheating</b></p>  | <p style="text-align: center;"><b>Bacterial Survival and Growth, Toxin Production</b></p> | <ul style="list-style-type: none"> <li>• Rapidly reheat PHFs to 165°F (2 hours or less) and hold at 140°F.</li> </ul>  |

# PREVENT CONTAMINATION

| Key Principle  | Hazard   | Food Safety Message   |
|--|--|---|
| <p><b>Protect Food from Contamination</b></p>     | <p><b>Microbiological and Physical Contamination</b></p> | <ul style="list-style-type: none"> <li>• Prevent bare-hand contact with ready-to-eat foods by using utensils like disposable gloves, deli tissue, spatulas, tongs or dispensing utensils.</li> <li>• Minimize bare-hand contact with exposed foods that are not in ready-to-eat form.</li> <li>• Store food in covered containers or original packaging.</li> <li>• Do not store packaged food in absorbent packaging in direct contact with ice or water.</li> <li>• Do not store unpackaged food in direct contact with undrained ice.</li> <li>• Wash fruits and vegetables before cooking or serving.</li> <li>• Store foods in a clean, dry location that is not subject to splash, dust or other contaminants and is 6 inches above the floor.</li> </ul> |
| <p><b>Prevent Cross-contamination</b></p>        | <p><b>Cross-contamination</b></p>                        | <ul style="list-style-type: none"> <li>• Separate raw animal foods from ready-to-eat animal foods and other ready-to-eat foods (sushi, molluscan shellfish, fruits and vegetables) during storage, preparation, holding and serving.</li> </ul>   |
|  | <p><b>Microbiological Contamination</b></p>              | <ul style="list-style-type: none"> <li>• Clean and sanitize food thermometers before and after each temperature check of raw and ready-to-eat foods.</li> </ul>   |
|  | <p><b>Cross-contamination</b></p>                        | <ul style="list-style-type: none"> <li>• Do not mix raw animal foods with cooked food.</li> </ul>   |
| <p><b>Keep Food Contact Surfaces Clean</b></p>  | <p><b>Microbiological Contamination</b></p>              | <p><b>Clean and sanitize food contact equipment and utensils:</b></p> <ul style="list-style-type: none"> <li>• Before you use a different type of raw animal food (beef, fish, lamb, pork and poultry).</li> <li>• When you change from working with raw foods to working with ready-to-eat foods.</li> <li>• Between preparing raw fruits and vegetables and Potentially Hazardous Foods.</li> <li>• At any time during the operation when contamination may have occurred.</li> <li>• Every 4 hours if used with Potentially Hazardous Foods at room temperature greater than 55°F.</li> <li>• Clean and sanitize food thermometers before using and storing.</li> </ul>  |

# KEEP YOUR FOOD SUPPLY HEALTHY

| Key Principle   | Hazard   | Food Safety Message  |
|---|--|--|
| <p><b>Consider the Source and the Condition of the Food</b></p>   | <p><b>Microbiological, Physical and Chemical Contamination</b></p> | <ul style="list-style-type: none"> <li>• Use foods from approved suppliers.</li> <li>• Do not use food prepared in a private home.</li> <li>• Do not use food from bulging or dented cans or from damaged packaging.</li> </ul>  |
|  <p><b>Use Safe Water</b></p>                                  | <p><b>Microbiological and Chemical Contamination</b></p>           | <ul style="list-style-type: none"> <li>• Use only safe, potable water.</li> <li>• Ice for food use must be made from potable water.</li> </ul>   |
| <p><b>Use Safe Transportation/Travel</b></p>  | <p><b>Microbiological and Chemical Contamination</b></p>           | <ul style="list-style-type: none"> <li>• Protect food from contamination during transportation.</li> <li>• Transport in clean vehicles and equipment.</li> <li>• Keep refrigerated foods cold (41°F or below).</li> <li>• Keep hot foods hot (140°F or above).</li> </ul>  |
| <p><b>Use and Store Chemicals and Pesticides Safely</b></p>  | <p><b>Chemical Contamination</b></p>                               | <ul style="list-style-type: none"> <li>• Store and use only chemicals that are absolutely necessary.</li> <li>• Use chemicals in accordance with manufacturers' instructions.</li> <li>• Do not store chemicals where they can contaminate food equipment, utensils, linens and single service/single use articles.</li> <li>• Only licensed individuals should apply pesticides.</li> </ul> |

The Massachusetts Partnership for Food Safety Education is a collaboration established among the University of Massachusetts Extension Nutrition Education Program and state and federal agencies and associations working with consumers, regulators and food workers in food preparation, processing, food service and retail establishments. Its goal is to reduce foodborne illnesses in Massachusetts by:

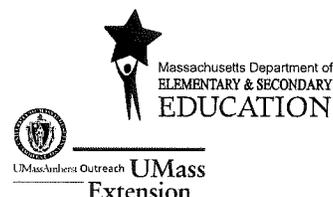
- Improving food safety knowledge and skills among target groups
- Educating target groups in a systematic approach to food safety
- Increasing collaborations and communication among partners

## Participating agencies include:

- MA Department of Education
- MA Department of Food & Agriculture
- MA Department of Public Health
- MA Environmental Health Association
- MA Executive Office of Elder Affairs
- MA Food Association
- Massachusetts Food Banks
- Massachusetts Head Start Programs
- MA Health Officers Association
- MA Milk, Food & Environmental Inspectors Association
- MA Restaurant Association
- MA School Food Service Association
- US Department of Agriculture - Food & Nutrition Service (NERO)
- US Department of Agriculture - Food Safety & Inspection Service
- US Food and Drug Administration



United States Department of Agriculture cooperating. Developed by the UMass Extension Nutrition Education Program with support from the Massachusetts Department of Education in cooperation with the Massachusetts Partnership for Food Safety Education. UMass Extension provides equal opportunity in programs and employment. NU-0139:07/2002.



TEACHING  
TIPS

# HOW TO SANITIZE

*by Hand with Chemical Sanitizers*



## Learner/worker Objectives:

- To understand how cross-contamination occurs.
- To learn how to properly sanitize.

## Introduction

Germs are everywhere.



*Review from "Wash Hands"*

Germs can live:

- In food - from animals or vegetables
- In the environment - in water and soil
- In and on people

## The Food Connection

Germs can spread from one food to another.



*Ask how germs can get from one food to another.*

**1**

**Germs can spread to foods when you:**

- use the same cutting board or utensils for different foods
- do not clean and sanitize food contact surfaces between use
- allow juices to drip from raw Potentially Hazardous Foods onto other foods

This is called cross-contamination.

**2**

**It's important to prevent cross-contamination.** When you keep equipment and utensils clean and sanitized, you can keep germs from spreading to food and other food contact surfaces.

## Keep Food Safe

Clean and sanitize food contact surfaces.

**1**

**All equipment you use to prepare, carry/transport and serve food must be clean.**

Cleaning gets rid of everyday "soil" like spills, dried gravy, egg or ketchup.

All equipment is washed with a detergent:

- after each use
- between tasks

**2**

**Food contact surfaces must be clean and sanitized.**

When you sanitize food contact surfaces it will help reduce the number of germs to levels where they are no longer harmful.

- Surfaces must be clean so the sanitizer will work.
- Thoroughly wash and rinse cutting boards, dishes, kitchen utensils and counter tops.

**3**

**There are two ways to clean and sanitize.**

- By hand
- Or
- By machine

**4**

**There are two ways to sanitize.**

- Hot water (at least 171° F)
- Or
- Chemicals

*continued on page 2*



## TEACHING TIPS FOR SANITIZE BY HAND

continued from page 1

### How to Sanitize by Hand with Chemical Sanitizers



*Distribute and Review "How to Sanitize by Hand with Chemical Sanitizers"*

**1**

There are three common types of chemical sanitizers that have been approved by FDA and EPA for use with food contact surfaces.

- Chlorine
- Quaternary ammonium compounds
- Iodine



*Show and name the sanitizer you use.*

#### IF YOU USE

- **Chlorine** - Explain that regulations require "Institutional Bleach" which:
  - Is approved for use with food equipment and utensils
  - Has a label with instructions for use to include water temperature, concentration and contact time.

Some food establishments may use household bleach. Household bleach:

- does not have instructions for use with food equipment and utensils
- may contain other ingredients or fragrances that are not permitted (only sodium hypochlorite is permitted)

The sanitizing solution must be tested to ensure that the concentration is between 50 and 200 ppm.

- **Quaternary Ammonium Compounds (Quats)**
  - Read the label and follow your product's directions for water temperature, concentration and contact time

#### • Other Chemicals

Explain that these must have been EPA approved and listed for use with food equipment and utensils in 40 CFR 180.940

- Read the label and follow this product's directions for water temperature, concentration and contact time

**2**

When you follow these four steps, the number of germs on food contact surfaces will be reduced to a level so they are safe to use.

#### FIRST

##### Make the sanitizing solution:

- Read the label
- Follow the directions for concentration, water temperature and contact time
- Mix the chemical with the water according to the directions



*Show container, label, and indicators for chemical and water levels or measures*

#### SECOND

##### Use a test strip to check the strength of the sanitizing solution

- If it is too weak, the solution will not kill the germs
- If the solution is too strong it will leave a chemical residue that can contaminate the food and you



*Show how to use the test strip and how to compare the colors on the strip and the container*

## TEACHING TIPS FOR SANITIZE BY HAND

continued from page 2

### THIRD

For pots, pans, dishes, cutting boards and other kitchen utensils, use a 3-bay sink and follow these 4 steps:

1. Wash in hot soapy water.
2. Rinse in clean water.
3. Dip in sanitizing solution at the recommended concentration, temperature and contact time
4. Allow the items to air dry.

For countertops, tables or stationary equipment, use the same 4 steps:

1. Wash in hot soapy water.
2. Rinse with clean water.
3. Wipe or spray with sanitizing solution
4. Allow the item to air dry.

For countertops, tables or stationary equipment, use the same 4 steps:

5. Wash in hot soapy water.
6. Rinse with clean water.
7. Wipe or spray with sanitizing solution
8. Allow the item to air dry.



*Demonstrate your equipment and procedures. Allow staff to practice proper cleaning and sanitizing.*

### If you use moist wiping cloths

Store the cloths in clean sanitizing solution between uses.

### FOURTH

#### Monitor the concentration of the sanitizer.

The strength of sanitizing solutions will change over time. The more you use the same solution to sanitize equipment the less effective it becomes. It's important to check the sanitizing solution frequently to make sure it stays clean and tests at the proper strength. Use the test strip. Replace sanitizing solution as needed.

### Resources and Fact Sheets

Use the following resources and fact sheets for more information:

- **1999 FDA Food Code**  
4-302.14; 4-501.111; 4-501.114; 4-702.11; 4-703.11
- **Food & Drug** 21 CFR 178.1010
- **Environmental Protection Agency** 40 CFR 180.940  
Pesticide Product Labeling System,  
<http://oaspub.epa.gov/pestlabl/ppls.home>  
which can be used if you have the establishment or product number of any sanitizer or disinfectant.
- **Massachusetts Department of Public Health**  
website [www.state.ma.us/dph/fpp/retail](http://www.state.ma.us/dph/fpp/retail)
- **Food Safety Word List and other food safety information** available at UMass Extension Nutrition Education Program  
[www.umass.edu/umext/nutrition/programs/food\\_safety](http://www.umass.edu/umext/nutrition/programs/food_safety)
- **Massachusetts Partnership for Food Safety Education** [www.mafoodsafetyeducation.info](http://www.mafoodsafetyeducation.info)

SANITIZER 3/08

## CLEANING AND SANITIZING IN A THREE COMPARTMENT SINK

### Chlorine Sanitizer

#### 1. WASH

Clean equipment and utensils in a hot detergent solution.

Use detergent at concentration indicated on manufacturer's label.

Keep detergent solution clean.

Minimum Water Temp.  
110°F

#### 2. RINSE

Rinse equipment and utensils free of detergent and abrasives.

Keep rinse water clean.

#### 3. SANITIZE

Immerse equipment and utensils in chlorine solution for at least 30 seconds.

Ensure that concentration of chlorine is at least 50 ppm  
(Maximum: 200 ppm)

Keep chlorine solution clean and at least 75 degrees Fahrenheit  
(Maximum: 120°F)

#### 4. AIR DRY

Do not rinse chlorine solution off equipment and utensils.

Do not dry equipment and utensils with towels.

NOTE: A test kit or other device that measures the parts per million concentration of the solution shall be provided and used at least daily and each time the sanitizing solution is changed. RECORDS OF THIS TESTING SHALL BE KEPT ON FILE FOR 30 DAYS.

**NEEDHAM BOARD OF HEALTH**  
**A REGULATION TO RESTRICT FOODS CONTAINING**  
**ARTIFICIAL TRANS FAT IN THE TOWN OF NEEDHAM**  
**Article 17**

**WHEREAS**, heart disease is a leading cause of death in the United States;

**WHEREAS**, research concludes that there is no safe level of artificial trans fat consumption and there is a clear association between an increase in the intake of trans fat and the risk of heart disease;

**WHEREAS**, the major source of artificial trans fat is found in partially hydrogenated vegetable oil, which is used for frying and baking and is present in many processed foods;

**WHEREAS**, there are food service establishments and other food vendors in the Town of Needham that prepare and serve food containing artificial trans fat for consumption by Needham residents, visitors and students;

**NOW THEREFORE**, the Needham Board of Health enacts the following regulation in furtherance of its mission to protect, promote and preserve the health and well-being of the citizens of Needham.

**Section 1.00 Definitions**

“artificial trans fat” - food or beverage that is manufactured through a chemical process. It is found in partially hydrogenated vegetable oil. Foods that contain artificial fat include margarines, shortenings, and fry oils, as well as many baked goods, mixes and prepackaged foods.

“food service establishment” - any entity that stores, prepares, packages, serves, sells or otherwise provides food or beverage for consumption in the Town of Needham. Food service establishment includes, but shall not be limited to, restaurants, supermarkets, grocery stores, delis, sandwich shops, bakeries, convenience stores, ice cream shops, coffee shops, cafeterias in schools and businesses, caterers, senior-center meal programs, nursing homes, children’s institutions, school kitchens, school stores, soup kitchens and permanent or temporary concession stands. Food service establishment shall not include a fraternal, charitable, social, service club or similar organization that prepares, displays and sells home-made baked goods for a “bake sale” so called.

“entity” - any single individual, group of individuals, corporation, partnership, hospital, academic institution, society, association, firm, sole proprietorship or any other legal entity whether public or private.

“vending machine” - any machine or device designated for or used for the vending of food products or beverages upon the insertion of coins, currency, swipe cards, or any other form of payment.

“mobile food vendor” - any person or operation that sells food or beverage from a mobile food unit. A mobile food vendor shall include, but not be limited to, sidewalk vendors, canteen trucks, and food trailers.

“serving”- based on the amount of a product normally eaten in one sitting or reference amounts, determined from nationwide food consumption surveys.

### **Section 2.00 Restriction on Artificial Trans Fat**

No food service establishment, vending machine, or mobile food vendor shall store, prepare, distribute, hold for service or serve any food or beverage containing artificial trans fat in the Town of Needham.

Food or beverage whose nutrition fact label or other suitable documentation lists the trans fat content of the food as less than 0.5 grams per serving shall not be deemed to contain artificial trans fat.

These prohibitions shall not include the sale of any food or beverage containing artificial trans fat that is in a manufacturer’s original sealed package and is required by federal and or state law to have nutrition labeling.

### **Section 3.00 Labels Required**

All food service establishments, mobile food vendors and operators of vending machines shall maintain on-site original labels or other suitable documentation listing the ingredient and nutrient content of all food products such that the Needham Health Department or its designees can determine whether they are in compliance with this regulation.

### **Section 4.00 Guidelines**

The Needham Health Department shall issue guidelines for the implementation of this regulation, including but not limited to, definitions of terms as used in these regulations and in the guidelines. In the event of a conflict between these regulations and the guidelines, as either may be amended, the regulation shall control.

### **Section 5.00 Violations**

1. A violator of these regulations and guidelines referred to in Section 4.00 shall be subject to a penalty for each offense:

- a. In the case of a first violation a fine of one hundred dollars (\$100.00);
  - b. In the case of a second violation within 24 months of the first violation a fine of five hundred dollars (\$500.00); and,
  - c. In the case of a third or more violations within 24 months of the second or current violation, a fine of one thousand dollars (\$1000.00) for each violation.
2. No provision, clause or sentence of this section of this regulation shall be interpreted as prohibiting the Needham Board of Health from suspending, or revoking any license or permit issued by it, for repeated violations of this regulation.

#### **Section 6.00 Enforcement**

1. Authority to enforce this regulation shall be held by the Needham Board of Health.
2. Any violation of these regulations may be enforced in the manner provided in M.G.L. c.111 §187, by the Needham Board of Health, or its designees.

#### **Section 7.00 Non-retaliation**

No person or employer shall discharge, refuse to hire, refuse to serve or in any manner retaliate or take any adverse personnel action against any employee, applicant, customer or person because such employee, applicant, customer or person takes any action in furtherance of the enforcement of these regulations or exercises any rights conferred by these regulations.

#### **Section 8.00 Severability**

If any provision, clause, sentence, paragraph or word of this regulation or the application thereof to any person, entity or circumstances shall be held invalid, such invalidity shall not affect the other provisions of this article which can be given effect without the invalid provisions or application and to this end the provisions of this regulation are declared severable.

#### **Section 9.00 Effective Date**

This regulation shall take effect within 180 days from the date of acceptance by the Needham Board of Health with respect to cooking oils, shortening, and margarines containing artificial trans fat and within 360 days with respect to baked goods and all other foods containing artificial trans fat.