Thank you for your interest in the Utah Cottage Food program. The Cottage Food Rule allows an individual with a valid Food Handler's Permit, to make and/or package shelf stable foods in their own home kitchen, as long as there are no pets in the home that can access that kitchen.

Cottage Food products can only be sold within the state of Utah, either directly via special order or through retail outlets when properly labeled.

To get started, please fill out the enclosed Application for Cottage Food Establishment with information on your proposed business, including the recipes you wish to make and the labels you plan to use. Foods that will be sold in prepackaged form need to be submitted with a copy of the label that will be on the package, at life size. (A .pdf file works best for electronic submissions.) If your products will only be sold by special order, or will be packaged to the customer’s order at the point of sale, then you can submit complete ingredient lists (formatted the same as they would be on a label) instead of a full label for each product. One or the other must accompany each recipe.

To speed up processing, if you have a large number of products you wish to submit, we ask that you submit no more than ten or twelve products for review with the application; additional products can be submitted using the same process at a later date, after the business itself has been approved and inspected, and incorporating any changes that were needed to the initial submission.

Also included with this letter is information is a general set of guidelines for preparing your home for this type of business, plus labeling guidelines and examples to help you design your labels correctly. If full labeling is not required (see Section 4 of the Application for more information) the instructions and examples will still provide helpful information on preparing correct ingredient lists, as the requirements are identical.

If you have questions about the logistics of starting a new business, our Utah's Own Business Liaison, Laurie Seron, would be happy to assist you. You can reach her by phone at (801) 455-3813.

Please contact me if you have questions on any of the requirements or procedures. For faster service, you can call me after submitting your application for a verbal review of your submissions. I look forward to working with you as you start your new business.

Rebecca J. Nielsen
Cottage Food Program Coordinator/Labeling Specialist
Utah Department of Agriculture and Food
PO Box 146500
350 N Redwood Road
Salt Lake City, UT 84114-6500
(801) 538-7152 Office
(801) 359-0213 FAX
Section 1  Contact Information

OWNER'S NAME: ________________________________

BUSINESS NAME: ________________________________

PHYSICAL ADDRESS OF THE HOME WHERE PRODUCTION WILL OCCUR:

<table>
<thead>
<tr>
<th>Street Address</th>
<th>City</th>
<th>State</th>
<th>ZIP</th>
</tr>
</thead>
</table>

APPLICANT MAILING ADDRESS (if different from above):

<table>
<thead>
<tr>
<th>Street Address or PO Box</th>
<th>City</th>
<th>State</th>
<th>ZIP</th>
</tr>
</thead>
</table>

CONTACT INFORMATION:

<table>
<thead>
<tr>
<th>Primary phone #</th>
<th>Alternate phone #</th>
</tr>
</thead>
</table>

Email Address

Section 2  Additional Requirements

ATTACH THE FOLLOWING TO YOUR APPLICATION:

1. A recipe with ingredients, amounts, and preparation steps for each product that will be produced. (Please submit no more than 10-12 on the initial application, to streamline the process. Additional recipes can be added later, after the initial application has been approved.)

2. A label or complete ingredient list for each product. (See below for the rules on which is required.)

3. A plan for storage for ingredients, equipment, and finished product. (Separate refrigeration is required for any perishable ingredients or for any final products stored cold to extend shelf life.)

4. A list of potential general locations where you plan to sell your products (ex. Farmers markets, retail from home, wholesale to local businesses, etc.)

LABELING

There are two methods of sale you must consider when determining your labeling requirements: pre-packaged and custom/on-demand (also known as “full service”).

Pre-packaged products are made and packaged prior to any customer interaction; the consumer can select and purchase the item they want with no employee assistance required. Pre-packaged products must have full labels, and be adequately packaged to protect them from contamination. Pre-packaged foods can be sold in facilities without hand washing facilities, such as farmer’s market booths and convenience stores.

Custom-made or "special order" foods (eg. wedding or special event cakes, or other foods prepared after a customer’s order) are typically exempt from individual labeling requirements. Also, if the product is served from a secure display case and the customer must ask an employee for the product, it is exempt from full labeling. A retail location selling products on-demand must have hand washing facilities and the employees must have food handler permits. While full service products need not have full labels, a complete ingredient list -- formatted the same as on a label -- must be made available to the customer upon request.

Please review the sample labels and sample ingredient lists included in the application packet for more information.
Section 3 Production Information

The following food types are typically permitted under the Cottage Food Rule, although there may be exceptions:

- Cakes/Cupcakes
- Cookies
- Breads
- Honey
- Candy/Chocolates
- Popcorn
- Fruit Pies
- Dry Mixes
- Fruit Jams, Jellies, or Preserves

Honey producers also need to contact UDAF’s Plant Industry Division to register their bee hives, in addition to registering as a food producer.

- Refrigerated or frozen products may not be produced under the Utah Cottage Food Rule.
- Meat and poultry products, including jerky products, cannot be made under the Utah Cottage Food Rule.
- Low-acid or acidified canned foods may not be produced under the Utah Cottage Food Rule.
- Some recipes may require lab testing to determine whether they can be produced in a home kitchen.

Section 4 Home Requirements

Cottage food establishments may use the primary kitchen in their residence, as long as residential activities (e.g., meal preparation) are not conducted simultaneously. Other kitchen facilities within the home, if available, may also be used if approved by the Department.

Secondary kitchen facilities within the home may qualify as commercial kitchens with minimal changes. Commercial kitchens are exempt from the special requirements and restrictions of the Cottage Food Rule. Contact our department to schedule a kitchen evaluation if you wish to explore the possibility of having a commercial kitchen certified in your home.

Section 5 Submitting the Application

This application and all requested materials, as listed above, should be submitted to:

rjnielsen@utah.gov or Rebecca Nielsen
Utah Department of Agriculture and Food
PO Box 146500
Salt Lake City, UT 84114-6500

If the application is submitted by email, the labels should be scanned or submitted in a stable file format (.pdf, .jpg, or similar) to preserve the correct fonts and formatting. If the dimensions of the file differ from the final intended print size, please state the intended size with each submission.

Review times may vary depending on the volume of applications received; we recommend submitting your application several weeks prior to the date you wish to start operating. Contacting the Cottage Food Specialist by telephone (801-538-7152) to request a verbal review may help expedite your application.

We may require that one or more of your products be tested for pH and/or water activity prior to the inspection to ensure it is safe for home production. Information on testing will be provided if needed.

Once your application is approved, you will be able to schedule a consultation with your local Compliance Officer. You will need to present a valid Food Handler’s Permit to the Compliance Officer. Following the consultation and the payment of the registration fee, you will be permitted to produce and sell your products.
CHECKLIST FOR HOME FOOD PRODUCTION

☐ Complete the Application for Cottage Food Establishment. Be sure to include all the information required, including recipes (10-12 maximum), labels and/or ingredient lists for each recipe or product, and plans for storage, packaging, transportation and sales.

☐ If you have pets in your home, be prepared to demonstrate to the inspector how they will be permanently prevented from accessing the kitchen area at all times.

☐ Any person who will be handling food needs to get a Food Handler's Permit from their local health department.

☐ Arrange separate storage for all Cottage Food ingredients, including separate refrigeration if needed.

☐ Products with any of the eight major allergens (peanuts, tree nuts, milk, egg, soy, wheat, fish, and shellfish) must be prepared in a way that will not contaminate products which do not contain those allergens. Be prepared to explain how you will accomplish this.

☐ Production of Cottage Food products may not occur at the same time as domestic food preparation in the same kitchen.

☐ When Cottage Food processing is taking place, all unauthorized persons, including family members and visitors, must be excluded from the kitchen area.

☐ All cooking utensils and equipment must be washed, rinsed, and sanitized after use or exposure to contamination. Separate utensils for business use only are recommended. Be prepared to demonstrate your procedures.

☐ Sanitizer test strips must be available for testing of bleach or other sanitizer solution strength; these strips can be obtained at restaurant supply stores.
Multi-use equipment and utensils (such as cutting boards, counter tops, knives, spoons, and tongs) shall be constructed of safe materials, corrosion resistant and non-absorbent, and shall be smooth, easily cleanable and durable under conditions of normal use.

The use of wood is restricted to non-absorbent, hardwood surfaces such as cutting boards.

Wiping cloths shall be stored in a sanitizing solution, such as diluted bleach or other approved sanitizer, if they are going to be reused for an hour or more.

All food, equipment and single service articles shall be stored indoors at least six inches above the floor.

Ingredients, finished products, and single service articles shall be stored separately from domestic foods and supplies, and shall only be used for the Cottage Food production.

Food, equipment, utensils, or single service articles shall not be stored or prepared in bedrooms, toilet rooms or their vestibules, or in garage areas. Food may be stored in an enclosed garage only in a self-contained refrigerator or freezer, and only if the garage door is kept closed when not in use.

Garbage and refuse shall be held in durable, easily cleanable insect resistant and rodent resistant containers that do not leak and do not absorb liquids. Garbage containers shall be of a sufficient number to hold all the garbage and refuse that accumulates.

Clean linens including articles such as wiping cloths shall be stored in a clean place and protected from contamination until used.

We recommend that you check with your insurance company to determine impacts of a home-based business on homeowner's liability.
BASIC LABELING GUIDELINES FOR HOME PRODUCED FOODS

The State of Utah through the Utah Code Annotated (UCA) has adopted the regulations promulgated under the Federal Fair Packaging and Labeling Act as set forth in the Code of Federal Regulations (CFR).

The following information is required by law to be on a food label for a home produced food before the product is offered for sale. The minimum print height for any of this required information is 1/16 inch (based on the lower case letter “o” unless only upper case letters are used).

- Statement of Identity (Common or usual name of product). (21 CFR 101.3)
- The net quantity statement. (21 CFR 101.105)
- The words "Home Produced" in bold and conspicuous 12 point type on the principal display panel.
  (R70-560-6)
- An ingredient statement (unless it is a single ingredient product). (21 CFR 101.4)
- The name, street address, city, state, zip code, and telephone number of the cottage food production operation.
  (21 CFR 101.5 and R70-560-6)
- Nutrition Statement: Most products must also have a Nutrition Facts statement following the FDA approved format. (21 CFR 101.9)

1. The product name must appear on the principal display panel (PDP = the portion of the label expected to be displayed when the product is offered for sale.) It must be prominent and in bold type and be an appropriate descriptive name that is not misleading. It should be printed generally parallel to the base of the package and at least 1/2 the size of the largest print on the label.

2. The net quantity statement must be appropriate for the type of product. Generally, products that are solid, semi-solid, viscous, or a mixture of liquid and solid, are labeled by net weight (unless trade custom allows them to be labeled by count.) Liquids are generally labeled in fluid volume. Some products are required to be labeled by dry volume, length, area, etc. Any net content statement that does not permit price and quantity comparison is forbidden.

The net quantity is to be stated as a definite amount - do not use qualifying statements such as: when packed, approximately, minimum, or words of similar import. Nor shall any unit of weight or measure be qualified with terms that tend to exaggerate the amount of the commodity, such as: jumbo, giant, full, etc. On the average the quantity of the commodity in the package must at least equal or exceed the labeled quantity with no unreasonable shortages in any package even when overages in other packages compensate for such shortage.

The net quantity statement must appear in the bottom 1/3 of the PDP label in the largest whole units of both the US System of Measures and the metric equivalent. This means the net weight will show the total number of ounces if product net weight is less than one pound, or show both ounces and pounds if the net weight is one pound or more. Either US or metric quantity may be printed first, the equivalent quantity following in parenthesis. Do not use periods behind abbreviations or “s” to indicate plurals. Metric abbreviations must be printed in lower case letters, except you may use either “l” or “L” to indicate liter and “ml” or “mL” for milliliter. (Use 1 oz = 28.3495 g to calculate net weight conversions or 1 fluid ounce = 29.5735 mL, then round appropriately.)

The print size required for the net quantity statement is based on the area of the principal display panel (print size is based on the height of the lower case letter “o” unless only upper case letters are used.) The statement must be prominent, conspicuous and easy to read. An area equal to the height of the required lettering above and below the quantity statement must be left free of other print.

<table>
<thead>
<tr>
<th>Area of Principal Display Panel</th>
<th>Type Size Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 square inches or less</td>
<td>Not less than 1/16 inch</td>
</tr>
<tr>
<td>More than 5, but not more than 25 sq. in.</td>
<td>Not less than 1/8 inch</td>
</tr>
<tr>
<td>More than 25, but not more than 100 sq. in.</td>
<td>Not less than 3/16 inch</td>
</tr>
<tr>
<td>More than 100, but not more than 400 sq. in.</td>
<td>Not less than 1/4 inch</td>
</tr>
<tr>
<td>Over 400 square inches</td>
<td>Not less than 1/2 inch</td>
</tr>
</tbody>
</table>

3. The words “Home Produced” must appear in bold, 12 point type on the principal display panel.
The next three items may be on the PDP or on the information panel (IP = usually the portion of the package immediately to the right of the PDP). Nonessential, intervening print and/or art work are not permitted between the required labeling items (e.g., the UPC bar code is not required labeling).

4. **Ingredient statements must begin with the word “Ingredients:” followed by a colon.** All ingredients must be listed by common or usual name in descending order of predominance by weight (from heaviest to lightest). Any ingredient which itself contains two or more ingredients:
   a) shall declare the common or usual name of the ingredient followed by a parenthetical listing of all ingredients contained therein in descending order of predominance;
   b) or by incorporating into the statement of ingredients in descending order of predominance in the finished food, the common or usual name of every component of the ingredient without listing the ingredient itself. (This can only be done if the weights of ALL components of all ingredients used are known.)

   For any product containing an ingredient which is, or is derived from, one of the eight major food allergens (milk, egg, wheat, soy, fish, shellfish, tree nuts, or peanuts), the presence of the allergen must be indicated in the ingredients. If the common or usual name of the ingredient contains the name of the allergen (i.e., soybean oil or milk), then no further notation is required. If the name does not clearly indicate the allergen (i.e., caseln, whey protein, butter, or cream) then the allergen must be stated either in parentheses following the ingredient or in a "Contains" statement immediately below or next to the ingredients, in a type size no less than that used for the ingredients. If the "Contains" statement is used, it must list all of the allergens present in the product, whether listed by name in the ingredients or not.

5. The name, street address, city, state, zip code, and phone number of the cottage food production operation.

6. Nutrition Statement: FDA requires a Nutrition Statement on almost all food offered for sale. One exception is if the company qualifies for the small business exemption. Small businesses must still provide a Nutrition Statement if the label contains qualified health claims.

   The statement must follow the approved FDA format. Some foods categories are exempt from the nutrition statement: foods produced by small (as defined by FDA) businesses; foods served in restaurants and/or sold ready for immediate consumption; certain foods sold directly to consumers from the location where they are prepared (delis and bakeries); foods that provide no significant nutrition (plain, unsweetened coffee; most single ingredient spices, etc.) Any health or nutrition claim or nutrition information on product labeling or advertisements void these exemptions.

**SELF-SERVE BULK FOOD DISPENSERS**

The requirements for food products sold from bulk, self-serve containers differ only slightly from those for packaged foods. The product name; name and address of the cottage food production operation; price per unit (per pound or per each); nutrition facts; and ingredient list in descending order of predominance must be on all dispensing units. **Ingredients must be printed in letters measuring at least 1/8" in height** (again based on lower case letter “o”, unless only upper case letters are used).

**FULL-SERVICE FOOD (CUSTOM/ON-DEMAND)**

Food items which are accessible to customers only through employee-assistance, such as cakes made to order and delivered personally, or items to be served in coffee shops or restaurants, need not be labeled with all of the above information. However, complete and correct ingredient information for all products offered for sale shall be readily available to all store personnel in case of consumer questions. This information must be accurate and kept current for the benefit of any customer who may need it. Any nutrition or health information or claims about any such product also mandates the availability of Nutrition Facts for that product.
Home Produced Chocolate Chip Walnut Cookie

INGREDIENTS: SEMI-SWEET CHOCOLATE (UNSWEETENED CHOCOLATE, SUGAR, COCOA BUTTER, MILK FAT, SOY LECITHIN, VANILLA), FLOUR (WHEAT FLOUR, Malted BARLEY FLOUR, THAMINE MONONITRATE, FOLIC ACID, RIBOFLAVIN, REDUCED IRON), BUTTER (CREAM, SALT), BROWN SUGAR (SUGAR, INVERT SUGAR, MOLASSES), SUGAR, EGGS, WALNUTS, SALT, BAKING SODA, NATURAL FLAVORING

CONTAINS WHEAT, EGG, MILK, SOY, AND WALNUTS

SAMPLE COOKIE COMPANY 350 N REDWOOD RD, SALT LAKE CITY, UT 84117
(801) 538-7152

NET WT 2 OZ (56 g)

---

Home Produced Chocolate Chip Walnut Cookie

ONE DOZEN
NET WT 24 OZ (1.5 LB) 680 g

---

Home Produced Chocolate Chip Walnut Cookie

INGREDIENTS: SEMI-SWEET CHOCOLATE (UNSWEETENED CHOCOLATE, SUGAR, COCOA BUTTER, MILK FAT, SOY LECITHIN, VANILLA), FLOUR (WHEAT FLOUR, Malted BARLEY FLOUR, THAMINE MONONITRATE, FOLIC ACID, RIBOFLAVIN, REDUCED IRON), BUTTER (CREAM, SALT), BROWN SUGAR (SUGAR, INVERT SUGAR, MOLASSES), SUGAR, EGGS, WALNUTS, SALT, BAKING SODA, NATURAL FLAVORING

CONTAINS WHEAT, EGG, MILK, SOY, AND WALNUTS

SAMPLE COOKIE COMPANY 350 N REDWOOD RD, SALT LAKE CITY, UT 84117
(801) 538-7152

NET WT 5 LB (2.27 kg)
Sample Labels

The top two labels are examples of smaller package label options, where the front or top surface of the package (known as the Principal Display Panel, or PDP) is between 5 and 25 square inches in area. Packages of this size require the net weight statement to be at least 1/8 inch in height, based on the smallest letter. The middle row shows examples of labels for packages where the PDP is between 25 and 100 square inches in area, and the bottom row is for packages between 100 and 400 square inches. (There are rules for areas both above and below these examples, but very few food packages ever require them.)

The top two labels also show the correct net weight formatting for weights under 1 pound, showing only ounces and grams. The middle two labels show the correct formatting for packages that are 1 pound or more, but less than 4 pounds, showing the total weight in ounces, then the weight in pounds in parentheses, and finally the metric weight (in grams or, if over 1000 grams, in kilograms) last. Fractions of pounds can be reported either in ounces or in decimal fractions of a pound. The bottom labels show the format appropriate to packages weighing 4 pounds or more, which only requires the weight in pounds, followed by the equivalent in kilograms.

The labels on the left hand side of the page show examples of how to use a single label on the PDP to show all of the required information. Those on the right hand side show an alternative method, where the product name, “Home Produced” statement, and net weight statement remain on the PDP, as required, while the ingredient list, address, and telephone number go on a separate label located on the right hand panel, the back of the package, or the bottom of the package.

For information on the correct format and requirements for the ingredient list on the label, please see the document entitled “Ingredient List Instructions”.
INGREDIENT LIST INSTRUCTIONS

Products sold packaged need full labels, which must include a complete ingredient list. Products sold by special order only need to have complete ingredient lists, in the same format as would be on a label, available for review by the consumer.

How To Create Ingredient Lists

All ingredients must be listed in descending order of predominance by weight. Any ingredients that themselves contain more than one ingredient must include those component ingredients verbatim in parentheses after the name.

NOTE: The red weights in the recipe below are for demonstration purposes, as information used in calculating the order of the ingredient lists. Inclusion of such information in your own recipes is optional. I used two web sites -- http://www.kingarthurflour.com/learn/ingredient-weight-chart.html and http://www.aquacalc.com/calculate/food-volume-to-weight -- to estimate the weights below.

CHOCOLATE CHIP COOKIES

2 1/4 cups all-purpose flour 270g
1 teaspoon baking soda 4.6g
1 teaspoon salt 6g
1 cup (2 sticks) butter 227g
3/4 cup granulated sugar 149g
3/4 cup packed brown sugar 160g
1 teaspoon vanilla extract 4.3g
2 large eggs 100g
2 cups (12-oz. pkg.) semi-sweet chocolate chips 340g
1 cup chopped walnuts (optional) 113g

[Note that with the 'optional' walnuts, this is actually two products: one cookie with walnuts and one without. This requires two separate product identities and two ingredient lists.]

Examples:

Chocolate Chip Cookies

Ingredients: Semi-sweet chocolate (unsweetened chocolate, sugar, cocoa butter, milk fat, soy lecithin, vanilla), flour (wheat flour, malted barley flour, thiamine mononitrate, folic acid, riboflavin, reduced iron), butter (cream, salt), brown sugar (sugar, invert sugar, molasses), sugar, eggs, salt, baking soda, natural flavor

Contains wheat, egg, milk, and soy If the product contains any of the eight major allergens (peanuts, tree nuts, wheat, milk, egg, soy, fish, or crustacean shellfish) they must be listed by the name of the source food.

Chocolate Chip Walnut Cookies

Ingredients: Semi-sweet chocolate (unsweetened chocolate, sugar, cocoa butter, milk fat, soy lecithin, vanilla), flour (wheat flour, malted barley flour, thiamine mononitrate, folic acid, riboflavin, reduced iron), butter (cream, salt), brown sugar (sugar, invert sugar, molasses), sugar, walnuts, eggs, salt, baking soda, natural flavor

Contains wheat, egg, milk, soy, and walnuts Allergens in the tree nut, fish, and crustacean shellfish categories must be specific to species or type.
# INGREDIENT LIST INSTRUCTIONS

## Weights Of Common Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Purpose Flour</td>
<td>120 g per cup</td>
</tr>
<tr>
<td>Sugar</td>
<td>198 g per cup</td>
</tr>
<tr>
<td>Brown Sugar</td>
<td>213 g per cup</td>
</tr>
<tr>
<td>Powdered Sugar</td>
<td>113 g per cup</td>
</tr>
<tr>
<td>Honey</td>
<td>340 g per cup</td>
</tr>
<tr>
<td>Corn Syrup</td>
<td>312 g per cup</td>
</tr>
<tr>
<td>Water</td>
<td>237 g per cup</td>
</tr>
<tr>
<td>Milk</td>
<td>245 g per cup</td>
</tr>
<tr>
<td>Cream</td>
<td>240 g per cup</td>
</tr>
<tr>
<td>Soybean Oil</td>
<td>198 g per cup</td>
</tr>
<tr>
<td>Shortening</td>
<td>184 g per cup</td>
</tr>
<tr>
<td>Butter</td>
<td>227 g per cup (2 sticks)</td>
</tr>
<tr>
<td>Egg*</td>
<td>50 g for 1 large egg</td>
</tr>
<tr>
<td>Cocoa Powder</td>
<td>80 g per cup</td>
</tr>
<tr>
<td>Salt</td>
<td>6 g per teaspoon</td>
</tr>
<tr>
<td>Baking Soda</td>
<td>4.6 g per teaspoon</td>
</tr>
<tr>
<td>Baking Powder</td>
<td>4.6 g per teaspoon</td>
</tr>
<tr>
<td>Vanilla Extract</td>
<td>4.33 g per teaspoon</td>
</tr>
</tbody>
</table>

* USDA graded Large eggs are selected to weigh 24 oz per dozen, which averages 2 oz (57 g) per whole egg in shell. The shell weighs about 7 g, leaving the contents to weigh about 50 g.

Medium eggs (without shells) weigh about 44 g, extra-large eggs weigh about 50 g.
Sanitizing With Bleach - Testing

The best way to use bleach as a routine sanitizer is to really understand what is needed in terms of strength. This is why using our AQA 1627 chlorine test kit is the key to really doing it the right way.

Using the test kit is simple:

- Remove the foil covering the paper roll in the plastic roll holder
- Place the roll back in the dispenser so that you can tear off strips of the paper for testing
- Use the bleach mixing guidelines below to mix your bleach solution
- TEST to make sure that the solution is strong enough to sanitize
- Make sure that your bleach solutions is between 100 and 200 PPM using the color reference chart.
- If the solution is is below 100, add more bleach
- If the solution is obviously above 200 add less bleach

Why Use Test Strips?

The answer is simple: you don't always get bleach solutions of the right strength, even if you follow mixing instructions. What causes this? Sometimes water used for bleach preparation contains natural chemicals that work to weaken the bleach and sometimes the bleach itself has lost strength. If you use bleach that is too weak, you are not killing bacteria!

Health inspectors look for chlorine solutions to have a minimum of 50 PPM concentration of chlorine. Best practice requires 100PPM. Either level can be confirmed by test strips.

Chlorine solutions are generally corrosive with long term usage on equipment, and may damage plastic and rubber parts with continued usage. Using proper concentrations minimizes these effects.

How to Mix and Use Bleach Solutions

Normally, one tablespoon (= 15 milliliters = 0.5 liquid ounce) of concentrated bleach per gallon of water at normal room temperature is considered to be the equivalent of 200 PPM. This is the standard for cleaning food preparation surfaces. Cleaning equipment requires a higher concentration than utensil rinse or treatment of food preparation equipment
As you can see in these simplified instructions, there are some constant procedures.

- First, the temperature has to be right (hotter temperatures decrease the effectiveness of bleach solutions).
- Second, the time of exposure has to be at least one minute for a bacterial kill.
- Third, and perhaps most important, the concentration of chlorine MUST BE ADEQUATE.

Here is a guideline for mixing bleach solutions:

<table>
<thead>
<tr>
<th>Sanitizing Activity</th>
<th>Ratio</th>
<th>Should Test to Minimum PPM</th>
<th>If Low / If High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pots, Pans, Dishes and Utensils</td>
<td>2 ounces/ 5 gallons (~0.3%)</td>
<td>50-100 PPM</td>
<td>Add Bleach/Add Water</td>
</tr>
<tr>
<td>Food Contact Surfaces</td>
<td>1.5 ounces/ 3 gallons (~0.4%)</td>
<td>100 PPM</td>
<td>Add Bleach/Add Water</td>
</tr>
<tr>
<td>Food Processing Equipment</td>
<td>3.5 ounces/ 3 gallons (~1%)</td>
<td>200 PPM</td>
<td>Add Bleach/Add Water</td>
</tr>
</tbody>
</table>

Clearly, it is difficult for any food preparation operation to "get it right" without some simple bleach strength testing procedure.
Quaternary Ammonium

The best way to use quaternary ammonium as a routine sanitizer is to really understand what is needed in terms of strength. This is why using our **Quats Test Strips** is the key to really doing it the right way.

"Quats" are active against a wide variety of microorganisms. Unlike bleach, "quats" 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 "quat" is benzalkonium chloride. It is commonly used in water dilution to create a highly effective sanitizing solution. The standard for "quat" mixing is 200 PPM. There are over 40 suppliers that provide "quat" sanitizing concentrates. Each one needs testing to be sure that appropriate concentration has been achieved.

Using the test kit is simple:

- Remove the foil covering the paper roll in the plastic roll holder
- Place the roll back in the dispenser so that you can tear off strips of the paper for testing
- Use the quat mixing guidelines below to mix your Concentrate solution
- TEST to make sure that the solution is strong enough to sanitize
- Make sure that your quat solution is at 200 PPM (or other appropriate concentration) using the color reference chart.
- If the solution is is below 200, add more quat concentrate
- If the solution is obviously above 200, you must dilute down to 200

Why Use Test Strips?

The answer is simple: you don't always get "quat" solutions of the right strength, even if you follow mixing instructions. What causes this? Sometimes water used for "quat" preparation contains natural chemicals that work to weaken the solution and sometimes the "quat" concentrate itself has lost strength.

**Health inspectors look for "quat" solutions to have at least 200PPM concentration of quaternary ammonium. Best practice requires 200PPM and not above (health inspectors cite too much "quat" concentration much more that not enough). Appropriate levels can only be confirmed by test strips.**

If you have known hard water conditions, then it is necessary to increase the quats concentration for equal effectiveness. Over twice the concentration may be required. Contact your local health inspector for information that is related to the local water supply.
How to Mix and Use Quat Solutions

There are many different types of "quat" concentrates, so there are no general guidelines for mixing. Most commercial containers will describe in detail how to mix the compound to a certain concentration, but it is always best to mix, then test.

"Quats" must not be used directly with soaps or detergents. An intermediary hot rinse step is necessary if quats are used for immersion sanitation of utensils.

"Quats" can be sprayed or wiped directly on certain non-food-contact surfaces and then allowed to dry.

"Quats" at normal concentration is the only sanitizer proven effective as a "hand dip" for hand wash procedures.

A standard for time of exposure is 1 minute for most sanitizers, including "quats". A minimum exposure time standard would be 30 seconds. Generally, food touching surfaces should be post-rinsed, unless processing equipment is being treated (see chart below).

Here is a guideline for mixing and using "quat" solutions:

<table>
<thead>
<tr>
<th>Sanitizing Activity</th>
<th>Ratio</th>
<th>Should Test to Minimum PPM</th>
<th>If Low / If High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pots, Pans, Dishes and Utensils</td>
<td>Mix according to manufacturer's instructions</td>
<td>200 PPM</td>
<td>Test and adjust</td>
</tr>
<tr>
<td>Food Contact Surfaces</td>
<td>Mix according to manufacturer's instructions</td>
<td>200 PPM</td>
<td>Test and adjust</td>
</tr>
<tr>
<td>Hand Dip</td>
<td>Mix according to manufacturer's instructions</td>
<td>200 PPM</td>
<td>Test and adjust</td>
</tr>
<tr>
<td>Food Processing Equipment</td>
<td>Mix according to manufacturer's instructions</td>
<td>200 - 400 PPM (or use higher concentrations to treat, then rinse, then final wipe or spray with lower concentration)</td>
<td>Test and adjust</td>
</tr>
<tr>
<td>Non Food Contact Surfaces (walls and floors)</td>
<td>Increase concentration</td>
<td>above 400 PPM</td>
<td>Test and adjust</td>
</tr>
<tr>
<td>Cleaning Tools, Boots</td>
<td>Increase concentration</td>
<td>800 to 1000 PPM</td>
<td>Test and adjust</td>
</tr>
</tbody>
</table>

Clearly, it is difficult for any food preparation operation to "get it right" without some simple strength-testing procedure.