



## INSTRUCTIONS

### Before You Begin:

- The packet contains ½ teaspoon of freeze-dried buttermilk starter. Reserve the second 1/4 teaspoon until you are certain your first batch of buttermilk has set properly. Keep this extra portion of the culture in the refrigerator to be used as a back-up in case your original culture needs to be replaced or if you wish to take an extended break from buttermilk making.
- **If you wish to use raw milk to make buttermilk, please take a moment to read the special raw milk instructions (page 2) before activating the buttermilk culture.**
- Following activation of the buttermilk culture, you can begin making larger batches of buttermilk (up to a half gallon per container).
- Whenever possible, we recommend using wooden utensils and glass jars (such as canning jars) when working with cultures. Do not store buttermilk in metal containers.
- We do not recommend using Ultra-Pasteurized (aka UHT, Ultra-High-Temperature) milk when making buttermilk as it may yield inconsistent results.
- If you are culturing multiple products (e.g. Yogurt, Kefir, Kombucha, etc.) be sure to keep a distance of at least several feet between cultures so they don't cross-contaminate each other. Over time, cross-contamination will weaken the cultures. Cultures covered with tight lids and stored in the refrigerator do not require space between them.
- Do not consume any buttermilk which smells, looks or tastes unpleasant.

**For more information on making Buttermilk and other cultured foods including How-to Videos, Recipes, Ideas and more, please visit our website: [www.culturesforhealth.com](http://www.culturesforhealth.com).**

### Activating the Buttermilk Starter Culture:

1. Stir 1/4 teaspoon of the dehydrated buttermilk starter into 1 cup of pasteurized milk. Be sure to mix well (stir or shake) so the dehydrated starter is fully incorporated into the milk.
2. Cover the jar with a towel or coffee filter and secure the cover with a rubber band. Do not put a tight lid on the jar.
3. Let the mixture culture undisturbed at 70-77F degrees for **12-24 hours**. Check the culture every 6 hours or so. It is important to pick a location that is naturally warm (e.g. the kitchen) and out of drafts. Ideally, it should be the **warmest location in your home** (up to 78F). If your home tends to be cooler than 70F degrees at night, consider setting the culture on top of a warm piece of electronic equipment (such as a television or cable box) or on a high shelf can also work well. Remember that drafts can affect the culturing process and cause the buttermilk not to culture properly. Verify that the chosen culturing location is maintaining the proper temperature; temperatures which are too low or too high can damage the culture.
4. Once the buttermilk is set (when the jar is tipped, the buttermilk shouldn't run up the side of the jar and should move away from the side of the jar as a single mass), cover the jar with a lid and place the buttermilk in the refrigerator for 6 hours to halt the culturing process.

### Making Buttermilk with Pasteurized Milk:

1. Stir 1 tablespoon of buttermilk from your initial activation batch into 1 cup of milk. You can make larger batches of buttermilk by adhering to the same ratio of 1 tablespoon of buttermilk to 1 cup of milk (e.g. adding 4 tablespoons of buttermilk to 4 cups of milk will make approximately 1 quart of buttermilk) making up to one half gallon per container.
2. Cover the jar with a towel or coffee filter and secure the cover with a rubber band. Do not put a lid on the jar as the starter needs to breathe to culture properly.
3. Let the mixture culture undisturbed at 70-77F degrees for **12-18 hours**. It is important to pick a location that is naturally warm (e.g. the kitchen) and out of drafts (see above for ideas for keeping the buttermilk in the proper temperature range).
4. Once the buttermilk is set (when the jar is tipped, the buttermilk shouldn't run up the side of the jar and should move away from the side of the jar as a single mass), cover the jar with a lid and place the buttermilk in the refrigerator for 6 hours to halt the culturing process.
5. When it's time to make a new batch, place 1 tablespoon of buttermilk from the previous batch in 1 cup of new milk and start again. Larger batches can be made (up to a half gallon per container) by maintaining the same buttermilk-to-milk ratio. Buttermilk from each batch can be used to make the next batch. Buttermilk from batch A is used to make batch B, buttermilk from batch B is used to make batch C and so on. To perpetuate the culture, be sure to make a new batch of buttermilk **at least once every seven days**. Waiting longer than one week between culturing can weaken and eventually kill the culture.

## Making Buttermilk with Raw Milk:

### **Step One: Activate the Starter to Make a Pure Mother Culture**

Making raw buttermilk requires a few extra steps to ensure that a pure mother culture is maintained. If you do not maintain a pure mother culture, the bacteria in the raw milk will slowly kill the buttermilk culture and the starter will not perpetuate long term.

1. To make a pure mother culture, heat 1 cup of milk to a least 160 degrees and then allow it to cool to room temperature (alternatively you could use a 1 cup of pasteurized milk).
2. Add 1/4 teaspoon of the dehydrated buttermilk starter to the 1 cup of milk, stir or shake to fully incorporate the powder.
3. Cover with a towel or coffee filter and allow to culture at 70-77F degrees for **12-24 hours**. It is important to pick a location that is naturally warm (e.g. the kitchen) and out of drafts. Ideally, it should be the **warmest location in your home**. If your home tends to be cooler than 70 degrees at night, consider setting the culture on top of a warm piece of electronic equipment (such as a television or cable box) or on a high shelf can also work well. Remember that drafts can affect the culturing process and cause the buttermilk not to culture properly. Verify that the chosen culturing location is maintaining the proper temperature; temperatures which are too low or too high can damage the culture.
4. When the buttermilk is set (when the jar is tipped, the buttermilk shouldn't run up the side of the jar and should move away from the side of the jar as a single mass), place a lid on the jar and set the buttermilk in the refrigerator for 6 hours to finish culturing. This is your pure mother culture. Be sure to retain at least a tablespoon of the pure mother culture to make your next batch of pure mother culture (see step five).
5. Make a new pure mother culture at least once every seven days by heating milk as directed in step one, mixing in 1 tablespoon of the current pure mother culture for each 1 cup of milk and following steps 3-4 to allow the mixture to culture, refrigerate, etc.

### **Step Two: Make Raw Milk Buttermilk**

1. To make a batch of raw milk buttermilk, add 1 tablespoon of the pure mother culture for each 1 cup of raw milk. You can make larger batches of buttermilk by adhering to the same ratio of tablespoon buttermilk to 1 cup of milk making up to one half gallon per container. Cover the jar with a towel or coffee filter and secure the cover with a rubber band. Do not put a lid on the jar as the starter needs to breathe to culture properly.
2. Let the mixture culture undisturbed at 70-77F degrees for **12-18 hours**. See above for ideas for finding a location to keep the buttermilk in the proper temperature range.
3. Once the buttermilk is set (when the jar is tipped, the buttermilk shouldn't run up the side of the jar and should move away from the side of the jar as a single mass), cover the jar with a lid and place the buttermilk in the refrigerator for 6 hours to halt the culturing process.
4. Each batch of raw milk buttermilk must use the pure mother culture as the starter culture. Do not try to culture a new batch of buttermilk using a previous batch of raw milk buttermilk. This will result in a compromised culture and over time your buttermilk will no longer culture properly.

## TROUBLESHOOTING

- For extensive troubleshooting information, please visit our website: <http://www.culturesforhealth.com/troubleshooting>
- Whole milk or cream makes the thickest buttermilk. Buttermilk made with low fat milk is likely to be thin.
- Temperature is very important to successful buttermilk making. Drafts from windows, air conditioners, etc. can affect the temperature where the culture is sitting. Warm parts of the house are generally best (e.g. the kitchen). If your house tends to be cooler than 70 degree (consider if the temperature drops at night) then choose a spot that stays warmer. Warm spots often include: On top of the refrigerator, on top of a piece of electronic equipment (i.e. television, cable box, etc.), next to a computer, on a high shelf, inside a cube-shaped dehydrator (such as an Excalibur or Sausage Maker brand) set on a very low setting (under 78 degrees). Verify that the chosen culturing location is maintaining the proper temperature; temperatures which are too low or too high can damage the culture.
- In cooler environments, the buttermilk will likely take the entire time period (18/48 hours) to culture. Occasionally it will take bit longer. It's okay to leave the buttermilk to culture a little longer when necessary. Simply keep an eye on it and transfer it to the refrigerator as soon as it's set.
- Be cautious of overly warm temperatures. Temperatures above 78 degrees may cause the buttermilk culture to die. If the buttermilk mixture separates into curds (solid mass on top) and whey (clear liquid underneath), this may be a sign that the culture was too warm.

## RECIPES

### **Crème Fraiche**

Mix 1-2 tablespoons of buttermilk into a pint of heavy whipping cream. Cover the container with a towel, paper coffee filter or loose lid. Allow the mixture to culture for 12-18 hours at 70-77F degrees followed by 6 hours in the refrigerator to halt the culturing process. Crème Fraiche makes a delicious condiment for meat, pasta, soups and vegetables.

### **Buttermilk Biscuits**

- 2 cups Flour
- ¼ tsp. Baking Soda
- 1 Tbsp. Baking Powder
- 1 tsp. Salt
- 6 Tbs. Butter (very cold)
- ¾ cup Buttermilk

12-24 hours prior to making biscuits, mix the flour and buttermilk together. Cover and allow the flour to soak (if using sprouted flour, the soaking process can be skipped). Preheat the oven to 450 degrees. Cut the butter into chunks then work it into the flour/buttermilk mixture along with the baking soda, baking powder and salt. Do not over mix. If the mixture is too dry, add a bit more buttermilk. Turn the dough onto a lightly floured board. Gently pat the dough to ½ inch thick (this will yield lighter biscuits than using a rolling pin). Use a round cutter to cut out the biscuits. Place biscuits on a cookie sheet. If you want biscuits with soft edges (and a higher rise), place the rounds touching each other. If you want biscuits with crusty sides, place the rounds about 1 inch apart. Bake for 10-12 minutes until golden brown. Makes 10 biscuits.