

BLENDER BUTTER

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Materials Needed

- heavy cream
- blender
- sodium chloride, NaCl, table salt
- spatula (a rubber kitchen spatula is preferred)
- bowl
- container to store butter
- ice water
- plastic knife or spreader
- bread, bagels, or crackers for tasting the butter

Safety

Safety glasses or goggles must be worn to protect the eyes from any splashes.

All glassware and apparatus must be clean and free from laboratory chemicals. Use only special glassware and equipment, stored away from all sources of laboratory chemical contamination, and reserved only for food experiments.

If this experiment is performed as a classroom activity, all work surfaces must be cleaned and free from any contamination. After cleaning, it is advised to cover all work areas with aluminum foil or a food-grade paper covering.

If this experiment is performed in a chemistry laboratory, all work surfaces must be cleaned and free from laboratory chemicals. After cleaning work surfaces, it is advised to cover all work areas with aluminum foil or a food-grade paper covering.

There are no safety hazards associated with the materials used in this experiment.

Disposal

Generally, all waste materials in this experiment can be disposed in the trash or poured down the drain with running water. All disposal must conform to local regulations.

Procedure

Important: The cream must be at room temperature, approximately 15.6°C (60°F), for this procedure to work.

Fill the blender container one-third full with heavy cream.

Start the blender on its slowest speed. Once it starts, you can open the lid and watch the process.

If the cream gets too thick and is not in contact with the blender blades, stop the blender, remove the top of the blender jar and use a spatula to push down the whipped cream. Replace the top of the blender jar before restarting the blender.

Continue until all the liquid appears to have solidified. Stop the blender. At this point, you may open the lid of the blender and inspect the contents. Use a small spoon to taste a small amount of the contents. Describe the taste and texture of the contents of the blender.

Replace the lid on the blender jar. Continue to blend the contents until lumps of butter form and the liquid takes on a thin and watery appearance. (Note: The liquid may splash out of the blender at this stage.) This process may take about 5 minutes or more.

Open the blender and carefully pour off the buttermilk. Add fresh, cold water until the blender container is about one-third full. Replace the lid and turn on the blender for two seconds. Pour off the wash water and repeat the washing until the water pours off clean.

Place the lumps of butter in a bowl. Using a spatula, *press* the butter against the side of the bowl to work out any remaining liquid. Note: It is important that the butter be pressed against the side of the bowl and not spread out. Otherwise the butter gets too greasy.

If desired, add salt (sodium chloride) to the butter and mix it in using the spatula.

The butter can be spread on bread or crackers and eaten.

Cover the butter with plastic wrap and store it in a refrigerator.

Activity

Compare the butter with a commercial butter, margarine, and a butter blend such as *I Can't Believe It's Not Butter*[®] (the butter, margarine and blend should be at or near room temperature). Describe the tastes and textures of the different products. Which do you prefer?

References

Hopping, Carol and the staff of the Rodale Food Center, *Stocking Up*, 3rd Ed., Simon & Schuster, 1986.