Caramel Corn

Ingredients

1 cup butter (2 sticks)
2 cups packed brown sugar
1 teaspoon salt
1/2 cup light corn syrup
1 teaspoon baking soda
1 teaspoon cream of tartar
1 teaspoon vanilla
1 ¼ cups popping corn (Store unused popcorn in a sealed plastic bag or a jar to prevent loss of moisture content.)

Equipment Needed

Saucepan, 3 quart
Wood spoon, high temperature plastic spoon or spatula
Large roasting pan
Large brown paper bag, from grocery store

Safety

Safety glasses or goggles must be worn in the laboratory at all times.

This experiment is best performed at home or in a home economics laboratory. 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.

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 is recommended.

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

The materials prepared in this experiment will be hot. Wear a hot mitt or use pot holders when handling hot pots or any of the mixtures prepared.

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.

Directions

Preheat oven to 250 degrees F.

Pop the popcorn and place it in the large roasting pan. (Note: You can pop the popcorn in a microwave oven. See directions at the end of this experiment.)

In the saucepan, combine the combine butter, brown sugar, corn syrup, and salt. Heat over medium heat and bring to a boil.

Boil for 5 to 6 minutes, without stirring. If the mixture foams up toward the top of the saucepan, stir to reduce the foam.

While heating, measure the baking soda and cream of tartar into a small dish.

Remove from heat; stir in the vanilla. Stir well.

Add the baking soda and cream of tartar. Hold the saucepan over the roasting pan of popcorn. Stir well. The mixture will foam and can overflow the saucepan.

Pour the mixture over the approximately 8 quarts of popped corn. Stir to coat well.

Place the large roaster pan in the oven for 1 hour, stirring every 15 minutes.

After 1 hour, remove the roasting pan and caramel corn from the oven. Stir to break up any large clumps. Pour the caramel corn in large paper shopping bag to dry. Shake occasionally to keep from sticking.

Reference

Gehring, Abigail R., *Classic Candy*, Skyhourse Publishing, New York, NY, 2013.

Make Your Own Microwave Popcorn

Materials Needed

popping corn (Store unused popcorn in a sealed plastic bag or a jar to prevent loss of moisture content.)
paper bag, such as the brown paper lunch bags available in most supermarkets.
Stapler
Measuring cup (1/3 cup)

If you are just making plain popcorn, not caramel corn, you may want the following ingredients:

Salt (popcorn salt preferred)

Butter, margarine, or butter flavoring (One possible product is I Can't Believe Its Not Butter spray.)
Finely grated cheese or other flavorings

Safety

Safety glasses or goggles must be worn in the laboratory at all times.

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.

All 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 is recommended.

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. All disposal must conform to local regulations.

Procedure

Obtain a paper lunch bag.

Place 1/3 cup popcorn into the bag.

Fold the top over twice, about ½ inch (1 cm) folds and staple closed with two staples placed about 2 cm from either side of the fold.

Place the bag in the microwave and cook on high power for 2 to 4 minutes until the popping sounds are about 2 to 3 seconds apart.

Holding the bag by the folded part, remove from the microwave oven. Open the bag carefully to avoid the trapped steam escaping from the bag, and pour into a bowl.

If you are adding butter or other flavoring: Melt butter in a paper cup. Drizzle it over the popcorn. Add salt, and other desired flavorings, to taste. Toss to mix. Enjoy!

Want a lower calorie butter popcorn? In place of butter, use a products such as I Can't Believe It's Not Butter spray. Spray the fresh popcorn and then add salt and other flavorings.

Explanation

The most important factor that make popcorn pops is a moisture content of 11 to 14%. Also, if you ever examined a bag of commercial microwave popcorn, you should understand the components of that product. So, why did you get results without a special bag or all the stuff you found in the bag of microwave popcorn from the store?

The microwaves cause the water molecules in the popcorn to boil and vaporize causing the popcorn to pop. All the “goop” in commercial microwave popcorn are flavorings and material that makes the flavoring stick to the popcorn. For the homemade popcorn, the staples are too small for the microwaves to “see”, so they don’t produce any sparks.