

# Milk Plastic

## What You Need

- 360 mL (1 1/2 cups) milk, preferably skim
- 20+ mL (4+ teaspoons) vinegar
- 1 microwavable bowl
- Strainer

## What to Do

1. Pour the milk and vinegar into the bowl. Stir.
2. Make a hypothesis! What do you think will happen when the milk and vinegar are heated up?
3. Microwave the mixture for 1 minute, then remove and stir. Did the mixture separate into a solid part and a liquid part? If the reaction doesn't occur, add a little more vinegar and microwave again.
4. Strain the liquid from the mixture and rinse the solids with water.
5. When cool enough to touch, form the solids into a blob and investigate its properties. What does the product feel like? How is it different from the reactants? Was your hypothesis correct?

## What's Happening

A chemical reaction creates products that are chemically different from the reactants.

In this chemical reaction, the reactants are casein, a protein found in milk, and the acid in the vinegar. The product formed from this reaction is a type of plastic. Plastics are polymers which are made of many small pieces bonded into long chains. There are many varied types of plastics including Styrofoam, chewing gum, and polyester fabrics

