

Casein plastic is a type of plastic that is used to make small things, such as, knickknacks and Christmas ornaments. I tested my hypothesis and I noticed that using more vinegar, the more curds would be produced.

Casein plastic dates back to the 1800's. In fact, in 1897 two people whose names were Adolph Spitteler and associate W. Krische of Germany who used milk and Formaldehyde to make a sheet of 2.5 centimeter thick Casein plastic, however, this process was slow and it took over a year to produce. Back

in 1897, they used hot stampings to make molds like buttons, umbrella handles, and necklaces. By the 1930s, an Italian chemist, Antonio Ferretti created a new process that made Casein plastic into fibers.

While learning about the process of making Casein plastic using whole milk and vinegar, I learned that the more vinegar you add, the more curds are produced. I used the Casein plastic I made to make bracelets, Christmas ornaments, and other items. I was blown away by what I was able to make with two simple ingredients.

My hypothesis stated that I will be able to turn the milk into curds, and then to plastic, I was correct! God has given us so many ways to use natural resources to make new products. I learned that allowing your creativity to flow, you can create new ideas, the possibilities are endless!

Conclusion: I noticed that using more vinegar, the more curds that would form. I found that using 4 teaspoons of vinegar and 1 cup of whole milk was a great ratio.

My hypothesis stated that I will be able to turn the milk into curds, and then to plastic, was correct!

Materials Needed:

About 4 paper towels

1 cup of whole milk

4 teaspoons of vinegar

1 pot to heat up the milk

1 fine strainer

1 bowl to catch the remaining liquid

3-4 small cookie cutters/fruit molds

Paint and glitter (optional)

My hypothesis: Casein is a protein that is found in whole milk and I believe that I can use whole milk and vinegar to create Casein plastic.

Instructions:

You will need 1 cup of whole milk and 4 teaspoons of vinegar then heat the milk in a pot on the stove top, stir constantly. After the milk is steaming remove from the heat and add the vinegar and stir until the mixture produces curds. Using a fine strainer over a bowl, strain the curds from the liquid. Then, place the curds on the four paper towels and pat dry. After most of the moisture is out, then, using your hands smash

and roll it into a ball then flatten on a smooth surface and use your small cookie cutters or fruit molds to cut out different shapes. Let the Casein plastic sit for two days. You can also paint these items and use glitter!

Results: I decided that 1 cup of whole milk and 4 teaspoons of vinegar created a great amount of casein plastic to work with.

MILK, STRONGER THAN YOU THINK

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Results: I decided that 1 cup of whole milk and 4 teaspoons of vinegar created a great amount of Casein plastic to work with.

Conclusion: I noticed that using more vinegar, the more curds that would form. Also, 1 cup of whole milk with 4 teaspoons of vinegar also, my hypothesis stated that I will be able to turn the milk into curds, and then to plastic, and correct.

