Making Milk into Plastic

Statement of the Problem

How can milk can be changed into plastic?

Background Research

Milk contains molecules called casein,when you heat it,and add acid,the casein unfolds and reorganize a long chain

Hypothesis

If i mix vinegar and milk,then,I would make the milk into casein and able to make toys thanks to casein

Variables

Independent
The amount of vinegar or the type of milk

Independent

Dependent
The amount of plastic produced

Dependent

Constant
Also the amount of milk,vinegar or temperature

Constant

Materials

1 cup of milk
White vinegar
cutters
microwave
food coloring
thermo
measuring cup
measuring spoon

Procedures

1.heat the milk but do not boil it and add teaspoons of white vinegar into the mug.
2.steer the mixture until the milk seperate into white crumbs and a liquid
3.strain the curds to place the cotton cloth in a cup of glass using rubber band and pour the mixture in.
4.the liquid will drain through into the clear cup
5.press and knead to transfer the curds to a stack of paper towels firmly to absorb much liquid as possible.
6.mold and shape the plastic with your hands and use food coloring and mold to make shapes.
7.draw the creation and decorate so you can add more details to your toy

Results

Two of the toys were almost broken by the cutters but we were able to do 4 toys and colored them in total

Discussion

We started the experiment and as a result,at first,the milk was spiling because it was full and wasnt hot but we fix it,Then,we add vinegar and mix it and we left it for 2-3 days,after 2 days,some pieces were broken but we made toys with cutters and we paint 4 toys in total we made.

Conclusion

Did you know how long do plastic takes to decompose?Plastic is derived from petroleum and its carbon bonds diff from those in nature,making it harder and more energy intesive to break down.For example,plastic bags take up to 20 years,straws,200 years and making in pain sea animals

Sources

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