

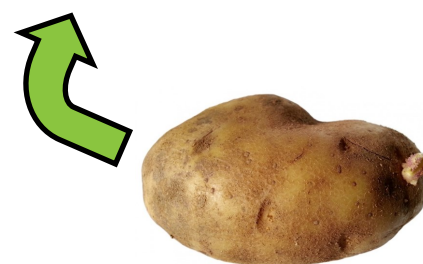
Make your own bio-based product

POTATO PLASTIC

Using starch from waste potatoes or their peel, it is easy to make plastic!

What you will need:

- ◆ Leftover raw potatoes or potato peel
- ◆ Glycerine
- ◆ White vinegar
- ◆ Water
- ◆ Natural dye (optional)
- ◆ Mortar and pestle
- ◆ Teaspoon
- ◆ Saucer or small plate
- ◆ Tights
- ◆ Hot plate
- ◆ Stirrer bar
- ◆ Scales
- ◆ Measuring jug
- ◆ Grater
- ◆ Large beaker (500ml)
- ◆ Cling film



Step 1: Collecting the Starch

- 1) Grate about 100g of potato – take care with your fingers near the end!
- 2) Measure out 100ml tap water. Put some of your potato into the mortar with half the water and grind carefully.
- 3) Pour the liquid off through the tights into the 500ml beaker, leaving the potato behind in the mortar. Grind the potato with the remaining water and pour off liquid into the beaker.
- 4) Repeat steps 2&3 then squeeze the remaining water from the potato into the beaker.
- 5) Leave the mixture to settle in the beaker for 5 minutes.
- 6) Decant the water from the beaker, leaving behind the white starch which should have settled in the bottom. Add about 100ml tap water to the starch and stir gently. Leave to settle again and then decant the water, leaving the starch behind.

Step 2: Creating the Plastic

- 1) Put 25ml tap water into a beaker and add 3g of the potato starch made in Step 1. Add 1 tsp of white vinegar and 1/2 tsp glycerine.
- 2) Add stirrer bar to the beaker and cover with the film and pierce to let out evaporating water. Heat on hotplate for around 10 mins – watch as it turns to a gel!
- 3) When yours is ready, get an adult to remove your beaker from the hot plate and leave it to cool.
- 4) Add natural dye (to colour the plastic if desired) and stir, then pour into a mould (a saucer or a small plate would do) and cool (it may take 24-48 hours for your plastic to harden).