

Activity Sheet 10: Instructions for making plastic from potato starch

You will need:

- Potato starch
- White vinegar
- Glycerine
- Water
- Plastic or glass beaker (see safety notes)
- Stirring rod or spoon
- Petri dish or saucer

1. Weigh out **3g of potato starch**.
2. Measure **30ml of water, 2ml of glycerine and 2ml of white vinegar**.
3. Mix all of the ingredients together in a beaker. Using the stirring rod or spoon stir the mixture so that all of the ingredients are combined and there are no lumps.
4. With adult help, transfer the mixture into a glass beaker if a magnetic hot plate is to be used or saucepan. Watch the liquid being heated and stirred all the time, looking for bubbles and the change from an **opaque** to a **translucent** liquid. It should also become much more **viscous** (thick, rather than runny).
5. Watch as the adult carefully pours the mixture into a petri dish or saucer and spreads it out using the spoon or stirrer.
6. Leave the plastic in a warm place to harden.

SAFETY GUIDANCE

Adults will need to take responsibility for all the stages from heating to pouring and spreading the mixture. The liquid will remain hot for some time after removing it from the heat source and could burn if it came into contact with skin.

Activity Sheet 11: Stages of making bio-plastic from potato peel

○ Pour the liquid carefully from the container so that it now contains just the wet starch.

○ Weigh out 3g of potato starch. Add 30ml of water, 2ml of glycerine and 2ml of white vinegar. Stir the mixture.

○ Blend the potato peel with plenty of water.

○ Heat the liquid, stirring all of the time until it bubbles and changes from opaque to translucent. It will become much more viscous (thick).

○ Pour the liquidised potato into the foot of a pop-sock. Then squeeze as much liquid from it as possible. Leave the liquid to settle for about 15 minutes. This is called sedimentation.

○ Leave the wet potato starch in a warm place to let the water evaporate from it. You will then be left with a dry white powder.

○ Tip the hot liquid plastic carefully into a dish and smooth it out.

Activity Sheet 8 Vocabulary

solid

liquid

evaporate

sediment

mixture

mix

irreversible

reversible

opaque



clear

heat

measure

viscous

filter

extract