

Making soap you can use

Science, level: Senior

Materials Required: Commercial caustic soda; get the kids to bring in used oil from home; salt (if required); essential oil or perfume (optional); safety goggles; beaker; glass rod; mould for setting soap

Activity Time: double lesson

Concepts Taught: Chemistry

Those textbook experiments are no good. Using this simple method you can make a real bar of soap. It's quite alkaline at first, so I warn my kids not to wash their face, but after a couple of weeks it becomes less dangerous (and gets harder). Different oils give varying degrees of success, the best so far has been coconut oil. You can use commercial caustic soda; no need to waste your NaOH. Get the kids to bring in used oil from home.

MAKING SOAP FROM OLD COOKING OIL

Introduction

This activity comes from the solution we found to an environmental problem at a school in Spain where I used to work. The kitchens had two big deep fryers, which they emptied once a month to change the oil. They were throwing 30 litres of oil a month into a drain which ran straight out to sea.

So we began soap making, using the recipe you will use today. The soap was used by the kitchen staff and in the science labs for washing hands and dishes, and the cleaners dissolved it in buckets of water to mop the floors. Some was also given to poor people for washing clothes.

WARNING !

The soap is fairly crude, and still contains sodium hydroxide at the end. It could therefore be dangerous if you got it in your eyes. I would recommend it for washing clothes, the house, or your hands at the most,

NOT for your face !!

INGREDIENTS

125 cm³ of vegetable oil

100 cm³ of water

20 g of caustic soda (sodium hydroxide)

salt (if required)

essential oil or perfume (optional)

APPARATUS

safety goggles

beaker

glass rod
mould for setting soap

METHOD

- Weigh out your caustic soda onto a folded piece of paper. DO NOT TOUCH IT.
- Pour the oil and water into a big beaker and stir with a glass rod until you make an emulsion.
- Carefully add the caustic soda, slowly and stirring all the time. DON'T TOUCH IT !
- Keep stirring until a thick paste forms. This could take half an hour.
- If you still don't have a paste after half an hour, stir in 4 spatulas of salt.
- Add essential oil or perfume if you want.
- Pour into mold and leave to set for a few days.

Keep your fingers crossed !

Remember : The Secret is in the Stirring ! Don't Give Up !