

Name:..... Date:.....

Hair

Making shampoo

Make your own shampoo including a herb extract and an essential oil as natural ingredients. Use the information sheet to find out which oils and herb best suits your hair type.

What you need

for 100 cm³ shampoo - Formulation from Neal's Yard Remedies:

- 30 cm³ ammonium lauryl sulfate (**Irritant**)
- 10 cm³ lauryl betaine (**Irritant**)
- 5 cm³ herb extract (**Minimal hazard**)
- 2 cm³ polysorbate-20 (**Irritant**)
- 0.5 cm³ essential oil (**Minimal hazard**)
- 52.5 cm³ water
- Bunsen burner
- Heatproof mat
- Glass rod
- 250 cm³ beaker
- 10 cm³, 50 cm³ and 100 cm³ measuring cylinders, or pipettes appropriate for the volumes
- Eye protection.

Shampoo testing equipment:

- Universal Indicator solution (**Check supplier sheets for safety information**)
- Distilled water
- Test-tube
- Test-tube rack
- Dropping pipette
- Petri dish
- About 30 cm³ cooking oil (**Minimal hazard**)
- Ruler
- Square of dark coloured paper about 10 cm x 10 cm
- Eye protection
- Access to **Cosmetic ingredients database**
- Copy of **Results table for shampoo tests**.

What you do

1. Prepare the herb extract - to do this heat a handful of fresh or dried herb in 150 cm³ water. Boil gently for 20 minutes, then strain into a clean container.
2. Add the herb extract to the ammonium lauryl sulfate and stir.
3. Add the lauryl betaine and stir.
4. Add the polysorbate and stir.
5. Add the essential oil and stir.

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Hair

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Testing the shampoo

Test the shampoo as described in **Wash in style**.

Questions

1. What makes this shampoo different from most others?

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2. Find out which of the ingredients is the surfactant, the emulsifier, the perfume and the foam-maker.

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3. Now imagine you need to make 200 litres (200 000 cm³) of the shampoo. What problems would you need to solve?

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Making shampoo: herb ingredients

Hair type	Essential oils	Herbs
normal	cedarwood, lavender, orange, rosemary	rose, rosemary, thyme
greasy	bergamot, cedarwood, cypress, grapefruit, juniper, lemon	bay, lemon balm, mint, rosemary, sage
dry	dry chamomile frankincense, geranium, rose, patchouli	calendula, seaweed, chamomile
damaged	frankincense, lavender	calendula, seaweed, comfrey
dull	melissa, rosemary	ginseng, nettle, rosemary, sage
fine	geranium	calendula, seaweed
dark	rosemary, thyme	nettle, rosemary, thyme
fair	roman chamomile	chamomile
grey	sage	rosemary, sage
frequent wash	geranium, lavender, rosemary	elderflower, seaweed
dandruff	cedarwood, patchouli, rosemary, sage, tea tree, thyme	lavender, nettle, peppermint, rosemary, sage, thyme

Based on Natural Health and Body Care by Neal's Yard Remedies p 137

