

Making Shower Gel

G.A.M.E.S. Chemical Engineering Camp

What's in Shower Gel?

Everything in shower gel was put there by chemists and chemical engineers for a reason.

Let's look at some common ingredients:

- **Guar Gum** – This is a thickener and a conditioner
- **Paraben DU, EDTA (Ethylenediaminetetraacetic acid)** – These are preservatives/stabilizers
- **Glycerin** – Moisturizer
- **Sulfosuccinate, Coco Betaine** – Cleansers
- **PEG-7** – This is an emollient. Emollients draw moisture to your skin to keep it soft.
- **Glycol Stearate** – Makes the shower gel look pearlescent

Some of these ingredients are necessary and others really aren't

To make shower gel you don't need a reaction. You just melt and blend all of the ingredients.

So, if you're ready, get your ingredients!

ALWAYS WEAR GLOVES AND SAFETY GLASSES!

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Pearlescent Shower Gel

Multiply each ingredient amount by 4 to make enough for

Phase A:

Distilled Water	68 mL
Guar Gum	1.78 g
EDTA	0.35 g
Glycerin	3.5 mL

Phase B:

Sulfosuccinate	50 mL
PEG-7	6 mL
Coco Betaine	8.5 mL
Glycol Stearate	7 g

Phase C:

Paraben-DU	2 mL
Fragrance of your choice	½ droppers-full
Food coloring (OPTIONAL)	a few drops

1. Put on a pair of gloves. Make sure everyone's gloves and glasses are on.
2. Get and measure all Phase A ingredients and put into the larger glass beaker and mix well until the guar gum is dissolved.
3. Get and measure all Phase B ingredients into the smaller glass beaker. **Put on a pair of heat safe gloves** and put Phase B on the hotplate. Stir while heating and remove from heat right after the glycol stearate has dissolved.
4. Add phase B to phase A and stir until uniform.
5. Add all phase C ingredients directly to phase A/B and stir again.
6. Pour into shower gel containers and label them with: The name of the shower gel; your name & date

With gloves on - Clean everything – the beakers, stirrers, hotplate, and your benchtop. Take off your gloves and wash your hands twice!

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