

How to Formulate Your 3-in-1 Bubble Bath Base

Perfectly formulated so makers can easily personalize their bubble bath, hand soap, or body wash with their own unique touch, Stephenson 3-in-1 Bubble Bath Base is 97%–99.5% complete. There's plenty of room to enhance this base with your favorite, best-selling fragrance, thicken it, or even add some extra hydration.

All additives can change the performance of the base. Adding oil increases moisturization while reducing lather. Adding too much glycerine can cause the base to become tacky. We recommend beginning your testing at 0.5% of an additive and increasing a little at a time.

Contact support@candlescience.com with additional questions.

We recommend pairing your Stephenson 3-in-1 Bubble Bath Base with CandleScience CleanScents fragrances. However, always check your fragrance oil's IFRA certificate to make sure it is approved for your required application.

How to Add Fragrance

Fragrance Usage: 0.5%–1% total fragrance (we suggest starting with **0.5%**). Be sure to check your IFRA certificate.

WARNING: We do not recommend using more than 1% fragrance oil or essential oil. Again, be sure to check your IFRA certificate.

Example Batch:

1. **Calculate:** For 500 g of base, use 2.5 g of fragrance ($500\text{ g} \times 0.5\% = 2.5\text{ g}$).
2. **Measure:** Weigh 500 g of base into a mixing container.
3. **Add:** Weigh 2.5 g of fragrance and add it to the base.
 - a. If you are using other oil based additives (like jojoba oil), add them at this time.
4. **Mix:** Stir thoroughly until fully incorporated.

Pro-Tips for Increasing Clarity or Solubility: If your base turns cloudy or if you're struggling to combine additives, you have several options. Please keep in mind that cloudiness is only an aesthetic problem.

Option 1: Beginning with a fresh batch, measure out the desired amount of base and heat 113°F (45°C). Add your oil additives (fragrance and oils) and stir thoroughly while maintaining the temperature.

Option 2: Mix **Polysorbate 20** (a solubilizer) with your fragrance at a **4:1 ratio** (4 parts Polysorbate 20 to 1 part fragrance) before adding it to the base. This method *can* reduce cloudiness, but *doesn't always* eliminate it.

Pro-Tip for Constinency: Fragrance oils may reduce the base's viscosity. To restore or increase thickness, use our step-by-step salt solution guide below.

How to Thicken Liquid Soap Base

Adding fragrance or other additives can sometimes thin the base. If you prefer a thicker product, follow our salt solution instructions below to easily increase viscosity.

Liquid soap thickens in a curve. If you add too much salt solution past its peak thickening point, the soap will suddenly thin out again or turn cloudy.

Step 1: Make Your 20% Salt Solution

A **20% w/w (weight-for-weight) salt solution** means **20% pure salt (not iodized)** and **80% water** by weight. We recommend using kosher salt or sea salt.

1. Place a bowl or beaker on a digital scale.
2. Mix **20 grams of table salt** with **80 grams of warm water** (total weight = 100 grams).
3. Stir until the salt is completely dissolved.

Step 2: Calculate Your 0.2% Increment

An **increment of 0.2%** is based on the **total weight of your soap base**.

- For **500 grams** of 3-in-1 Bubble Bath Base:
- Increment = $500 \text{ g} \times 0.002 = 1 \text{ grams}$
- Each "increment" means adding **1 gram of your prepared salt solution**.

Step 3: Add and Test Step-by-Step

1. **Add the first batch:** Pour **1 gram** of the salt solution into your 500 grams of soap base.
2. **Mix thoroughly:** Stir slowly so you don't create excess bubbles or foam.
3. **Observe:** Check the thickness.
4. **Repeat:** If it's still too thin, add another **1 gram**, stir, and check again.

Key Things to Keep in Mind

- **Go Slowly:** Liquid soap thickens in a curve. If you add too much salt solution past its peak thickening point, the soap will suddenly thin out again or turn cloudy.

- **Adjust for Batch Size:**
 - For **500 g** of soap base: Add **1 g** of salt solution per step.
 - For **1,000 g** of soap base: Add **2 g** of salt solution per step.

How to Enhance Moisturizing Properties

Many of our makers report that the 3-in-1 Bubble Bath Base has a nice skin feel and provides excellent moisturization. However, if your particular formulation does not give the results you are looking for, here's some tips.

All additives change the performance of a base. Adding oil increases moisturization while reducing lather. Adding too much glycerine can cause the base to become tacky. We recommend beginning your testing at 0.5%.

Similar to adding fragrance and other additives, begin with a very small amount of your chosen additive, ensuring the total combined additives (fragrance, essential oils, colorants, and oils) do not exceed 3% of your base.

Boost the moisturizing properties of your base by adding **glycerin (or an oil of your choice)** at a **0.5%** usage rate. Remember to add fragrance and oil at the same time.

Example Batch (500 g Base):

- **Calculate:** $500\text{ g} \times 0.5\% = 2.5\text{ g}$ glycerin

Steps:

1. **Measure Base:** Weigh 500 g of base into a mixing container.
2. **Measure Glycerin:** Weigh 2.5 g of glycerin.
3. **Add:** Combine additives with base (glycerine, fragrance oil, etc.)
 - a. If you are using other oil based additives (like jojoba oil), add them at this time.
4. **Mix:** Stir thoroughly until completely blended.

Pro-Tips for Increasing Clarity or Solubility: If your base turns cloudy or if you're struggling to combine additives, you have several options. Please keep in mind that cloudiness is only an aesthetic problem.

Option 1: Beginning with a fresh batch, measure out the desired amount of base and heat 113°F (45°C). Add your oil additives (fragrance and oils) and stir thoroughly while maintaining the temperature.

Option 2: Mix **Polysorbate 20** (a solubilizer) with your fragrance at a **4:1 ratio** (4 parts Polysorbate 20 to 1 part fragrance) before adding it to the base. This method *can* reduce cloudiness, but *doesn't always* eliminate it.

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Suggested additives to test for moisturization:

- Glycerin
- Argan oil
- Jojoba oil
- Sunflower oil
- Sweet almond oil

Do not use oils or butters that are solid at room temperature. It will be difficult to incorporate and may be prone to separating.

Adding Color

You can use either liquid or powdered colorants to customize your base. Just make sure they are approved for use in soap.

- **Liquid Colors:** Mix in a few drops at a time until you reach your desired shade. ***Do not use food coloring.***
- **Powdered Dyes:** If the powder isn't dissolving easily, dissolve it in a tiny amount of water *before* mixing it into the soap base. *(Note: Adding water may slightly change the viscosity/thickness of your soap). Too much water will impact the preservative. Use it sparingly.*

Stability Testing Guidance

Our soap base passed standard stability tests during development. However, adding your own additives changes the formula. We strongly recommend testing your finished product to make sure it performs as desired and remains shelf-stable.

How to test at home:

1. Put sample bottles of your finished product in the freezer, in a warm spot, and at room temperature.
2. Leave them there for a few weeks.
3. Check the samples to see if the color, smell, thickness, or texture changed.

Pro Tip: Freezing is usually the hardest test for a product to pass. If your product still looks and feels right after thawing, it's a good sign!

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