



Formulating Perfect Bath Bombs



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No bath product is more trendy right now than bath bombs and it's easy to see why. A great bath bomb is a beautifully-scented ball of fun for your tub. It's the perfect treat for the end of a hard day and has far fewer calories than cake! Making bath bombs can be a little tricky, though. It's important to use the right recipe and right molding technique to get perfect bath bombs. Not to mention, the weather conditions need to be optimal, as well! In this tutorial, we discuss the ingredients for formulating bath bombs that are colorful, luxurious and durable. We hope that you can spend more time relaxing in your bath and less time frustrated making your bath bombs!

The heart of every bath bomb recipe is simple chemical reaction: when sodium bicarbonate baking soda is combined with an acid (usually citric acid) in an aqueous solution (i.e., your tub), carbon dioxide is liberated in a delightfully fizzy show. The most important ingredients in your recipe are baking soda and citric acid. Bath bombs are generally made with an approximately 2:1 ratio of baking soda: citric acid, though I've found that a 2.25:1 ratio is also acceptable and cuts your costs a bit. Baking soda is readily available from the grocery store. Arm and Hammer brand baking soda is consistently the finest and most lump-free baking soda available and is worth seeking out. You can find it most cheaply in bulk bags from Costco or Sam's Club. Our fine-grained [Citric Acid](#) will produce smooth, even bath bombs. Store your baking soda and citric acid tightly covered, away from moisture. Both ingredients are slightly hygroscopic and will become lumpy and annoying to use in humid environments.

The remaining ingredients in bath bomb recipes are to fragrance the bath, emolliate your skin and harden your bombs, to bulk up your recipe, disperse oils or to provide decoration or color.

Bath Bomb Fragrances

It's hard to imagine a bath bomb without some kind of scent. While unscented soap is certainly appealing, there isn't much of a market for unscented bath bombs. You can use either fragrance oils or essential oils in bath bombs (To learn how to blend and use essential oils safely, please [Click Here](#) read our guide. Unlike in cold process soap, your choice of fragrance or essential oil does not affect the process of making bath bombs very much. Some fragrances and essential oils may discolor your mixture slightly, so if stark white bath bombs are something you desire, choose a colorless or minimally colored fragrance oil. I like to use a generous amount (about 3%) of fragrance in a bath bomb because the fragrance is dispersed in an entire tub of water. If you want to use less fragrance in your creation, simply make up the difference with a neutral carrier oil. On occasion, you will find a particular fragrance is a little sticky. To keep your bath bombs looking smooth, wipe the insides of your mold with your gloved fingers between bombs.

Isopropyl (Rubbing) Alcohol

By far, 91% isopropyl alcohol is the most trouble-free way to moisten your bath bomb mix. It wets your mixture while only contributing a minimum of water to set off your reaction. I like to measure out the rubbing alcohol directly into the liquid ingredients of my recipe as opposed to spritzing it from a spray bottle. This eliminates the guesswork of judging how much to use. You may see recipes that call for spritzing witch hazel as a moistener over your dry ingredients. Witch hazel contains ~85% water and introduces an unneeded element of risk in your bath bomb making. If you spray in too much witch hazel, your bath bombs will become warty from the bath bomb reaction being triggered. Additionally, it's difficult for amateurs to judge how much liquid to spray on their mixture. For professionals, it's quicker to weigh out isopropyl alcohol than it is to spritz it and isopropyl alcohol is cheaper than witch hazel. You can find it in most pharmacies. The alcohol will evaporate after 24 hours leaving you with a smooth, hard bath bomb.

A tiny bit of added water can harden your recipe. I like to add this water in the form of liquid colorant or to my liquid ingredients. It's fine to use tap water.

While it is a little harder to find, 99% isopropyl alcohol is also acceptable for moistening your bath bombs. Add additional water to compensate for the reduced water content in the alcohol.

Emollients

Butters and oils serve multiple purposes in your bath bomb recipe. Shea butter, cocoa butter, avocado oil, sunflower oil, etc. are wonderful moisturizers for the skin and will make your bath feel luxurious. Melted butters and liquid oils also help moisten your mixture for molding without setting off your reaction. When the butters cool to room temperature, they also harden your bath bombs. I like to formulate all of my bath bombs with at least one butter and one liquid oil. Cocoa butter will give your bath bombs more hardness than other butters, but mango and shea butters are also luxurious choices. Feel free to combine them in your recipe. If a recipe calls for [Cocoa Butter](#), do not substitute mango or shea butter because it could change the consistency of your product, but [Mango Butter](#) and [Shea Butter](#) can be used interchangeably. If a recipe calls for a liquid oil, you can choose any liquid oil you like. Because bath bombs are a rinse-off product, it's most economical to choose an inexpensive liquid oil like [Sunflower Oil](#). Our [Bath Bomb and Fizzy Base](#) is made with a variety of luxurious liquid oils that also help in molding the bombs.

Bath Bomb Recipe Hardeners

Many recipes use either a starch, a clay, or cream of tartar to harden the final product. Our Bath Bomb and Fizzy Base contains cornstarch as a hardener. Some recipes use tapioca starch. I like to use a combination of [Kaolin Clay](#) and cream of tartar. In addition to hardening your bombs, cream of tartar (tartaric acid) will react with the citric acid in your recipe for added fizz. You can find cream of tartar most inexpensively in the bulk spices section of your grocery store.

Bath Bomb Colorants

When I think about relaxation, I think of beautiful colors, sweet and delicious fragrances and warm water. You know what I don't want to think about? Having to scrub my bath tub when I'm done taking my relaxing bath. To eliminate the ring around the tub, choose water soluble colors like our [Liquid Colorants](#) are made from federally-certified dyes and do not stain your tub. [Lake Dyes](#) are another option. They are oil soluble, but as long as your recipe contains sufficient oil that is well-dispersed with [Polysorbate 80](#) and/or [Sodium Lauryl Sulfoacetate \(SLSA\)](#) (see below), they work well, though you may observe some staining in your tub that needs to be scrubbed away. Many people choose to color their bath bombs with micas. Micas are not water soluble and can leave a ring around your tub. Using polysorbate 80 in your recipe will help mitigate this effect, but not eliminate it.

Some colors that are safe to use in soaps are not considered safe by the FDA for use in a product that will have contact with mucous membranes. Do not use any micas or colorants that contain ultramarines or chromiums, including almost all blue or green micas. Our neon pigments are also best avoided in bath bombs.

If you use federally certified powdered dyes in your bath bombs, bloom them first in a very tiny amount (less than 1 tsp.) of hot water. Keep these and all colored bath bombs out of direct sunlight or the colors will fade. Sun-faded bath bombs will color the water identically to unfaded bath bombs, however.

Other Ingredients in Bath Bomb Recipes

Many recipes will include either sea salt (or table salt) or Epsom salts to add bulk. I like to use Epsom salts because these salts warm the bath as they dissolve and make the water feel nice. Others prefer sea salt because Epsom salt is somewhat hygroscopic and can be troublesome in a humid climate, though I have not found that switching to sea salts improves my product during the humid summer months. Be aware that fine sea salt is denser than Epsom salts and your recipe may make fewer bath bombs if you make that substitution.

I like to include polysorbate 80 in my recipe. Polysorbate 80 is a solubilizer that disperses essential oils, carrier oils and melted butters in your bath water. It prevents an oily slick from pooling on top of the water and minimizes the ring left on your tub by micas and oils. If you like to use minty fragrance oils or essential oils you must disperse them throughout your bathwater, otherwise they will be locally concentrated on top of the water and be a nasty surprise for your more sensitive parts!

You can use additional ingredients in small quantities to give your bath bombs extra skin-nourishing properties. You can add up to 1 oz. of colloidal oatmeal or dried milk (cow's, goat's or coconut) per 3 lbs. of your recipe to give the bath water a decadent touch. Honey can be added in very small amounts - about 1 tsp. to the same amount of base (mix it with your isopropyl alcohol, water and colorants first). You don't want to add more of any of these ingredients than recommended because they are hygroscopic and will draw water to your bath bombs.

I frequently add sodium lauryl sulfoacetate (SLSA) powder to my bath bombs to make them foam. I add 0.5 oz. per approximately 3 lbs of base. You can also add powdered sodium cocoyl isethionate (SCI) to make them foam. Because SLSA and SCI are surfactants, they also will help disperse the oils and butters in your bath water.

What not to add to bath bombs

You want to keep your bath bombs as dry as possible. Therefore, you should avoid adding humectants like glycerin and sodium lactate to your recipe because they will attract water to your product. Excessive amounts of honey, sugar, maple syrup, or milk powders should be avoided for the same reason.

Do not use plastic-based glitters in your bath bomb because they are harmful to septic systems, bad for municipal water treatment plants and a source of microplastic pollution in our oceans and waterways.

We hope that you have enjoyed this discussion of ingredients in bath bombs. Stay tuned for part two where we will be presenting a sample bath bomb recipe and demonstrate how to mold bath bombs using different molds.