Because most bath bombs contain multiple colors, you need to use a color measurement system to ensure that the colors match and remain vibrant. Image Source: Pixabay user StockSnap

A bright fuschia bath bomb hits the water and immediately starts to froth. Long streams of pink, purple, and red leak into the water, coating the top of the bathtub in a thick layer of colorful bubbles. But as the bath bomb dissolves and shrinks, unexpected colors begin to appear, from deep blues to rich emerald greens. This surprise pop of color is what draws thousands of customers to bath bombs every year.

Unlike traditional bath salts and soaps, which are usually just one color, bath bombs can contain as many as a dozen different layers of color in a single package. For cosmetics manufacturers, this poses a challenge: how do you ensure that these colors will look appealing to customers, both before and after they hit the water? To solve this issue, you need an accurate color measurement system for your bath bombs and multi-colored soaks.

You'll Need to Measure Color Twice

When you're working with large batches of any commercial product, you need to ensure that your colors are consistent batch-to-batch. But a color measurement system for bath bombs has to measure more than just consistency of each ingredient; it also needs to measure how the colors interact with water and with the other colors in the mix. For instance, if you add too many similar-looking colorants into a bath soak, you will likely end up with a product that looks muddy rather than multi-colored. Similarly, even if your bath bomb looks perfect when it's dry, its colors might not mix well together in the water or could be duller in appearance than you expected.

Without testing how your colors mix together in water, you might accidentally release a product that looks brown in tone after customers put it in the water. This is a common problem when making bath bombs because companies often like to mix a primary color with its complementary color, causing the mix to turn brown.[1] However, you can counteract this if you use colorants that can't

interact with one another in water or if you carefully measure the colors you use to ensure that their final blend is an appealing new color. By measuring your colors twice (once during the dry, powdered stage, and again as a dissolved liquid sample), you guarantee that your bath bombs will look equally beautiful on the shelf as they do in the tub.

Some natural bath bombs and soaks contain solid materials or colorants that are less saturated than standard dyes. Image Source: Pixabay user Tomasz_Mikolajczyk

Natural Soaks Can Be Challenging

Natural bath bombs are gaining in popularity, becoming a hot ticket item for cosmetics companies specializing in bath products.[2] Customers enjoy these natural soaks because they often contain fewer skin irritants than soaks that use traditional dyes or perfumes, and in turn, cosmetics companies find these products easy to make, with low overhead costs. The main ingredients in most natural soaks include corn starch, mineral salt, baking soda, vegetable oil, essential oils, food coloring dyes and citric acid. To make their bath bombs stand out, some manufacturers even add flower petals, seeds or skin-soothing ingredients like aloe vera to their mixes. As the baking soda and citric acid mixes with water, the product starts to fizz, releasing all of the solid ingredients and dyes into the bathtub.[3].

Although these natural bath bombs are easy to produce, finding the right ingredient combinations for these products can be a challenge. Many bath bombs appear more vibrantly pigmented in solid form than they do once dissolved, leading to disappointed customers. The nature of the natural ingredients themselves contribute to this problem, as they tend to be less saturated than their synthetic alternatives. Because color saturation will have the greatest impact on your final product, it essential to identify the most saturated natural ingredients possible to facilitate the production of

intense hues in both dry and dissolved forms. The more saturated your ingredients are, the bolder your bath bombs will appear on the shelf and in the water.

Bath bombs need to be especially bright in color in order to see the dye clearly in water. Image Source: Pixabay user writerelh

The Best Color Measurement System for Bath Bombs

Spectrophotometers will offer the most versatile color measurement system for bath bombs and other multi-colored bath soaks. Your ideal tools should measure both solid and liquid samples since you'll need to measure your bath bombs in their powdered form as well as their dissolved state. The instruments you choose should be capable of measuring any sample, from solids to opaque and translucent liquids. Some dark-colored, significantly saturated bath bombs will result in deeply pigmented bathwater, whereas other, lighter-colored bath bombs might transfer only a tiny amount of color into the water, leaving it nearly transparent. Your ideal spectrophotometer will measure both types of liquids.

To use a spectrophotometeric color measurement system, you should start by measuring the dyes and oils that will go into your final product to ensure that they are high quality and correctly pigmented. Next, mix your ingredients together as usual, then measure the dry powder color for

consistency and saturation. Look for flaws like patchiness or uneven coloring between batches. Finally, dissolve a small sample of your product into a liquid form and measure the color again to determine how it will appear in use.

From here, you can also test whether your color clings to the side of the substrate or sample container. If you see too much residue on the substrate, this could be a sign that your product is too saturated, and it might stain your customers' bathtubs or their skin. By testing for stains in advance, you can tweak your formula until you achieve perfect color saturation that your customers can use without fear.

HunterLab Quality

HunterLab has been a leader in color measurement for over 60 years. Today, we offer a comprehensive range of versatile spectrophotometers designed for the diverse needs of our customers. Our instruments are capable of accurately analyzing the color of all types of materials, from powders to solids to opaque and translucent liquids, giving you the ability to obtain the data you need at every stage of your production process and helping you perfect your bath products. Contact us for more information about our renowned spectrophotometers, customizable software packages, and world-class customer service and let us help you select the right tools for your needs.

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3. "How to Create a Bath Bomb", January 31, 2017, https://www.shopify.com/retail/how-to-create-a-bath-bomb-retail-business