

# Chemistry in Action: Bath Bombs

## Materials

Bath Bomb Mold

### Dry Ingredients

Baking Soda (Sodium Bicarbonate,  $\text{NaHCO}_3$ ),  $\frac{1}{2}$  cup

Citric Acid ( $\text{C}_6\text{H}_8\text{O}_7$ ),  $\frac{1}{4}$  cup

Epsom salt,  $\frac{1}{4}$  cup

Corn starch,  $\frac{1}{4}$  cup

### Liquid Ingredients

Coconut oil, 4 teaspoons

Essential oil, 3-5 drops

Soap dye

Water, 1 tablespoon

## Procedure

1. Combine the dry ingredients in the mixing bowl. Mix well.
2. Combine the liquid ingredients in a small cup. Mix well.
3. *Slowly* add the combined liquids to the dry ingredients.
4. Mix well using gloved hands until a thick and even consistency is attained.
5. Pack the mixture tightly into both sides of the bath bomb mold.
6. Press the two sides together.
7. Let the bath bomb dry overnight, and then remove it from the mold.

## Observations

Record any observations while making your bath bomb.

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## Conclusion

Mixing the baking soda ( $\text{NaHCO}_3$ ) and citric acid ( $\text{C}_6\text{H}_8\text{O}_7$ ) together in the presence of water ( $\text{H}_2\text{O}$ ) in an endothermic reaction producing sodium citrate ( $\text{Na}_3\text{C}_6\text{H}_5\text{O}_7$ ) and carbon dioxide ( $\text{CO}_2$ ). The bubbles that you observed are carbon dioxide, and the mixture felt cold because of the endothermic reaction.

