

# Giant Soap Bubbles

## Introduction

Glycerin soap bubble solution is far superior to those commonly found in most toy departments. You can make giant bubbles! Here's how to do it!

## Concept

- Surface tension

## Materials

Dawn® or Joy® dishwashing liquid, 100 mL

Glycerin, 50 mL

Distilled or deionized water, 850 mL

Beaker, 250-mL

Beaker or graduated cylinder, to measure volume amounts

Large container, 1-L or 2-L

Stirring rod or large spoon

## Safety Precautions

*The bubbles break with a fair amount of force; keep away from your face. The solution will be slippery; be careful to avoid falling if some solution drips on the floor. Glycerin may irritate skin and eyes, and is an allergen to some people. Contact with strong oxidants (chromium trioxide, potassium chlorate, potassium permanganate) may cause an explosion. LD<sub>50</sub> 12600 mg/kg. Wear chemical splash goggles, a chemical-resistant apron, and chemical-resistant gloves. Please review current Material Safety Data Sheets for additional safety, handling, and disposal information.*

## Procedure

1. To make 1 L of soap bubble solution, mix approximately 100 mL of Dawn® or Joy® dishwashing liquid with approximately 50 mL of glycerin in a 250-mL beaker.
2. Fill a large container with 850 mL of distilled or deionized water.
3. Add the dishwashing liquid/glycerin solution to the water in the large container.
4. Stir the mixture with a stirring rod or large spoon. Avoid shaking the mixture to prevent the production of excessive amounts of suds.

## Disposal

Please consult your current *Flinn Scientific Catalog/Reference Manual* for general guidelines and specific procedures governing the disposal of laboratory waste. Flush the bubble solution down the drain according to Flinn Suggested Disposal Method #26b.

## Tips

- It is important to use distilled or deionized water in order to prevent interference from dissolved metal ions. If the solution does not seem to work well, let it sit for a few days to a week. Aging seems to improve the characteristics of soap solutions.
- Giant bubbles can be made by pouring the bubble solution into a large, flat pan. A loop, such as a giant coat hanger loop, can be dipped into the solution. Run or use a fan to create the giant bubble.
- It is best to make these giant bubbles out-of-doors.
- To produce even larger, long-lasting soap bubbles, increase the concentration of the detergent to 200 mL and the glycerin to 100 mL. Add this mixture to only 700 mL of distilled or deionized water. Again, stir the solution. You may have to experiment with your soap mixture to get very large bubbles.

- Try other interesting bubble products such as the Bubble Thing, the Giant Bubble Wand Kit, or Professor Bubbles' Official Bubble Handbook sold by Flinn Scientific.

## Connecting to the National Standards

This laboratory activity relates to the following National Science Education Standards (1996):

***Unifying Concepts and Processes: Grades K–12***

Evidence, models, and explanation

***Content Standards: Grades 5–8***

Content Standard B: Physical Science, properties and changes of properties in matter

***Content Standards: Grades 9–12***

Content Standard B: Physical Science, structure and properties of matter

## Acknowledgment

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**Materials for making your own soap bubble solution as well as other bubble products are available from Flinn Scientific, Inc.**

Catalog No.	Description
G0007	Glycerin, 500 mL
G0008	Glycerin, 4 L
C0241	Cleaner, Dishwashing
AP1963	Bubble Thing
AP2258	Professor Bubbles' Official Bubble Handbook
AP9304	Giant Bubble Wand Kit

Consult the [Flinn Scientific website](#) for current prices.