

# Gramopak<sup>®</sup> Mixing Instructions

100 mL of solution with distilled water only



## Materials

Gramopak with safety instructions

Distilled or deionized water (at room temperature)

100-mL volumetric flask with cap

Small funnel  
(optional)

Medicine dropper

Chemical splash goggles

Chemical-resistant gloves

Chemical-resistant apron

Magnetic stirrer with magnetic stir bar and retriever

Washing bottle newly filled with distilled or  
deionized water (optional)

## Procedure

1. Read all safety information provided with the Gramopak including the label. Prior to use, all equipment should be thoroughly washed, rinsed with distilled water, and allowed to air dry. This will ensure an accurate, pure solution.
2. Put on all safety gear (i.e., goggles, gloves, and apron), and work in an efficient fume hood. If a fume hood isn't available, work in a well-ventilated area at the very least.
3. Place the funnel stem in the volumetric flask. (To make the solution correctly, a 100-mL volumetric flask must be used.)
4. Open the Gramopak and pour the contents into the volumetric flask.
5. If any solid remains in the Gramopak container, put a small amount of distilled water into it and carefully swirl it around and pour the solution through the funnel into the volumetric flask. Repeat this step until all of the solid has been transferred to the volumetric flask.
6. It is important to rinse down any solid left in the funnel. This can be done by pouring small amounts of distilled water through the funnel into the volumetric flask. (A washing bottle newly filled with distilled water works extremely well for this.) Repeat this step until the funnel is free of any solid.
7. Add more distilled water to the volumetric flask until it is about half full.
8. Cap the flask and invert several times to dissolve the solid. If a magnetic stirrer is available, carefully place a magnetic stir bar into the flask,\* and place the flask on the magnetic stirrer. Let stir on a medium speed until all solid is dissolved. Remove the magnetic stir bar using a clean retriever. Rinse the magnetic stir bar and retriever with distilled water before removing them completely from the flask.
9. After all solid is dissolved, add more distilled water to the flask until the solution level is just below the 100-mL mark.
10. To get the solution to the 100-mL mark, use a medicine dropper filled with distilled water. Add the distilled water drop by drop until the bottom of the meniscus is on the 100-mL line. The meniscus is the curvature the solution level will have (due to the surface tension between the solution and the glass). When looking at the meniscus, you should be at eye level with it. This will give you an accurate volume reading.
11. After the meniscus is on the 100-mL mark, cap the flask and again invert it several times to mix. Now your accurately-made solution is ready to be used.

\*Tilt the flask on an angle and let the magnetic bar slide into the flask.

