

Instructions for Easygel® Method

Introduction

Please read instructions through completely before beginning! Two simple methods for using Easygel are 1) streak (swabbing) plate and 2) pour plate. Each is detailed below along with some suggested uses. Microorganisms grow on or in Easygel as colonies or dots in the medium. The colonies may be very small or may spread considerably. They may be colorless, whitish, or various other colors. Bacterial colonies are generally small and solid-looking, while fungus colonies are generally larger and fuzzy-looking. **Do not allow students to open the dishes with mold or bacteria in them.** If they do, have them wash their hands. You may tape the dishes shut to prevent that occurrence. Plastic petri dishes are intended for one-time use only.

Please note: **USE ONLY THE PROVIDED PETRI DISHES.** Easygel poured in any petri dishes other than those included will not solidify!! **Caution:** The bottled medium and petri dishes are sterile. Do not contaminate when opening and using the product.

Method 1 - Streak Plate (Swabbing)

- 1) Remove petri dishes from their sleeve and lay them on a level surface with the lid side up.
- 2) Remove the cap of an Easygel bottle. Do not touch the rim or inside of bottle, or petri dish.
- 3) Pour all the liquid Easygel into the dish bottom. Replace the lid. Gently swirl to cover the bottom.
- 4) Wait 45 minutes until the Easygel is solid*. You may now inoculate the dish. Use a wax pencil or magic marker to label the dish.

*Pour dishes a day in advance to save preparation time and give a better quality surface.

Ideas for use:

Clean hands?** Two bottles of Easygel (nutrient or total count), two pretreated petri dishes, and two sterile swabs (Q-tips out of a fresh box are generally sterile) are needed. Remove the cap from one of the Easygel bottles and moisten a Q-tip in the liquid Easygel. Wring out the excess liquid against the inside of the bottle as you remove it. Swab a fingertip (unwashed) of the test subject to remove any microorganisms and then insert the swab into the Easygel and swirl it against the inside of the bottle in the liquid to transfer the microbes from the swab to the Easygel. Remove the swab and pour the Easygel-microbe mix into a pretreated petri dish, swirl to cover the bottom and let stand until solid. Wash or disinfect another finger of the test subject and dry it on a clean paper towel. Then repeat the preceding procedure by swabbing the cleaned finger tip and pouring the second petri dish. Put both dishes in a warm place or in an incubator at 35 C. and check at 24, 48 and 72 hours for growth. Colonies of bacteria or molds will develop as spots in/on the solid medium and each colony represents one original cell or colony forming unit (CFU). Count the colonies in each dish and decide if the washing was an effective means of eliminating microbes.

** The first approach is much more effective in illustrating the effects of hand washing than the following commonly used procedure because pressing a very contaminated fingertip on a nutrient gel will often result in so many bacteria growing that an almost imperceptible film results and interpreters will think that nothing grew, while from the clean finger will result in a number of large colonies that are much more obvious and the inexperienced person will think that more growth was present than on the dirty finger. Divide the Easygel dish into halves by turning the dish over and drawing a line across the bottom with a wax pencil or magic marker. Remove the lid and touch several fingers to the surface on one half. Wash your hands thoroughly with soap and water, dry on a clean paper towel, and touch the same fingers (washed) to the other half. Label and incubate. Check at 24, 48, and 72 hours for growth. Did you get less growth after washing? Why or why not?

Clean door knob or table? Use a sterile swab which has been moistened by dipping in the Easygel** to wipe (rotating the swab so that the entire swab makes contact) a door knob/handle or table/counter top. Remove the lid of a dish and starting on one side of the dish gently wipe the swab against the surface of the gel, rotating the swab, while moving in a zig zag pattern. Wiping too hard will tear the gel. Put the lid back on the dish and incubate. Check at 24, 48 and 72 hours for growth.

Insect Inoculation: Using a solidified dish of Easygel, place a live insect on the gelled medium, and replace the lid. Remove the insect after it has moved around the surface and place the lid back on the dish and incubate for 48 hours.

Other inoculum ideas: Gently touch to a dish a: dirty sock, old toothbrush, dust, pencil, etc. Use imagination.

**If the dishes are poured a day in advance, use the remaining residue in the Easygel bottle to moisten the swab.

Method 2 - Pour Plate

- 1) Remove the cap of an Easygel bottle and add the desired amount of sample. Swirl gently to distribute the sample.
- 2) Lift the lid of a pre-treated petri dish and pour the Easygel/sample mixture into the dish bottom. Replace the lid and gently swirl until the bottom is covered.
- 3) Allow 45 minutes for solidification. Invert and incubate as desired or allow the dishes to remain un-inverted for incubation and eliminate the wait for solidification.

Idea for Use:

Water Testing: Using the above pour plate instructions, use a sterile pipet to add 1 milliliter (or alternatively 0.1 mL-- approx. 3 drops) of water from a puddle, pond, lake, stream, etc. to the liquid Easygel as your sample. Incubate at room temperature for 48 hours. Count the colonies and determine how many there are per mL.

Disposal

Disposal of the used petri dishes may be accomplished through autoclaving or heating in an oven-proof bag for 45 minutes at 300 degrees. Or just add a teaspoon of household bleach to cover the surface of the medium in the dish and allow to stand for 10 minutes which will kill the microbes in the dish, or make a 10% solution of bleach in a bucket and drop the dishes in the disinfectant solution (later pouring off the solution and disposing of the dishes in the garbage). Be sure that fresh bleach is used for each batch of dishes as the chlorine will dissipate when the bleach stands in the open. The bleach should smell of chlorine.

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