

Tips for Pouring and Storing Agar Plates

- Plates can be quickly labeled using colored marking pens. Stack empty petri plates about 10 high. Place one hand on the top of the stack and use the other hand to draw the marking pen down the front of the stack making a vertical line along the outside edge of all the plates at once. You can use different colors to indicate different media, or different dates that the plates were made. Wider marking pens provide lines that are easier to see. Dark colors are better than light. Red fades quickly.
- It is best to pour agar that is about 50° C. If it is much cooler than that it will tend to form bubbles that quickly solidify. For most classroom use thin plates are fine, since they will not be incubated or stored for long periods of time. For thin agar plates, pour the agar until it has just covered the bottom of the petri plate. For longer storage of plates, particularly at room temperature, pour thicker plates - about half the volume of the petri plate.
- If you pour your own agar plates and get lots of bubbles, try gently passing the flame of a Bunsen burner over the surface of the agar in the plate. The heat of the flame will pop the bubbles. You must do this when the agar is still molten. It is best if you use a large Bunsen burner and you must hold it upside down so the flame is near the surface of the agar. Move the flame quickly over the surface of the agar or you will melt the petri dish.
- To prevent condensation of water in plates, let them solidify and dry at room temperature until the lids are free of moisture. Store plates upside down in a refrigerator or cold room. If they are stored in a room, check the plates after a few hours for condensation in the lid. If you have the plates upside down and there is condensation in the lid, there must be some heat source above that is driving water out of the agar and into the lid. Conversely, if you have the plates upright and there is condensation in the lid, there must be some heat source from below that is driving water out of the agar. If you leave the plates in such a position, they will quickly dry out. The solution is simple: whenever you see condensation in the lids, turn the plates over.
- Agar plates that contain nutrients (nutrient agar, starch agar, milk agar, egg yolk agar, L agar, minimal agar with a sugar) can generally be used as long as they are not contaminated or dried out. Examine the plates carefully for tiny microbial colonies that may have grown while the plates were stored. If there is no contamination and the plates are not dried out they can be used. Medium that contains antibiotics should not be used after a few weeks of storage. Ampicillin in particular is good for only about a month if it is stored in the refrigerator; less if it is stored at room temperature.

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