Polyvinyl Alcohol

4% aqueous: Add 40 g of polyvinyl alcohol to 1 L of hot tap water. Microwave on high for about 2 minutes; stir, and heat for additional 1–2 minute increments until dissolved. Allow solution to cool before use. (preparation of "slime")

Potato Dextrose Agar

Suspend 39 g of potato dextrose agar in 1 L of DI water. Heat to a boil while stirring constantly. Boil for 1 minute. Sterilize for 15 minutes at 121 °C (15 lbs of pressure) in an autoclave or pressure cooker. Cool to 50–55 °C and pour into sterilized culture dishes. If using for plate counts of yeasts and molds, adjust the pH to 3.5 with sterile 10% tartaric acid. (culture medium for plate counts of yeasts and molds)

ride, and 0.2 g sodium bicarbonate in 1 L of DI water. (mounting fluid and examination of blood cells)

Ringer's Solution for Mammals

Dissolve 0.42 g of potassium chloride, 9.0 g of sodium chloride, 0.24 g calcium chloride, and 0.2 g sodium bicarbonate in 1 L of DI water. (mounting fluid and examination of blood cells)

Rose Bengal

1% aqueous: Dissolve 1 g of rose bengal in 50 mL DI water, then dilute to 100 mL with distilled water. Stir and filter if necessary. (biological stain)

Sabouraud Dextrose Agar

Suspend 65 g of sabouraud dextrose agar in 1 L of DI water. Heat to boiling while stirring. Boil for 1 minute. Sterilize for 15

chlorinity of 19 0/00. Not for aquaria, only for technical purposes.

Seawater

Dissolve 29.42 g of sodium chloride, 0.5 g of potassium chloride, 3.22 g magnesium chloride, 0.56 g sodium bromide, 1.36 g calcium sulfate, 2.4 g magnesium sulfate, 0.11 g calcium carbonate, 0.003 g ferric oxide in 1 L DI water. Not for aquaria, only for technical purposes.

Schiff's Reagent

Dissolve 0.5 g of fuchsin in 500 mL of DI water. Decolorize solution by passing sulfur dioxide gas through the solution, or add 9 g of sodium bisulfite and 20 mL of 2 M hydrochloric acid to the fuchsin solution. (test for aldehydes)

Note: DI water denotes either distilled or deionized water.

RECIPES continued on next page.

Laboratory Solutions for the Science Classroom

The Teacher's Handbook to Solution Preparation

Recipes cover biology (culture media and biological stains), chemistry and physical science solutions used in high schools. If you happen to come across a solution for which a recipe is not included, then the explanation section of the book will guide you through the steps of determining the correct procedure for