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## TECHNICAL INFORMATION

Catalog Number: 800802, 800803, 800804

### Liqui-Gel

**Description:** A 40% (w/v) solution of Ultra Pure Acrylamide and bis-Acrylamide in specially deionized water.

**Polyacrylamide Gel Electrophoresis:** Polyacrylamide gel electrophoresis is a versatile method of separation, characterization, and analysis of nucleic acids, proteins and other charged materials. The gels are formed by the polymerization of the acrylamide monomer with a co-monomer, often N,N'-Methylene-bis-acrylamide, which acts as a cross-linking agent, in the presence of free radical or a photochemical initiator.

- Chrambach, A. and Rodbard, D., "Polyacrylamide Gel Electrophoresis," **Science**, v. **172**, 440-451 (1971).
- Strickland, R., "Electrophoresis," *Anal. Chem.*, v. **48 (5)**, 3QR (1976).
- Davis, B.J., "Disc Electrophoresis II: Method and Application to Serum Human Proteins," *Ann. N.Y. Acad. Sci.*, v. **121**, 404-427 (1964).
- Gordon, A.H., "Electrophoresis of Proteins in Polyacrylamide and Starch Gels," IN: *Laboratory Techniques in Biochemistry and Molecular Biology*, v. **1**, part 1, Work and Work, Editors, North-Holland Publishing Co., Amsterdam-London (1975).
- Maurer, H.R., *Disc Electrophoresis and Related Techniques of Polyacrylamide Gel Electrophoresis*, **2nd Edition**, Walter de Gruyter, Berlin-New York (1971).

**The Polymerization Reaction:** Polymerization of the acrylamide monomers only occurs in the presence of free radicals. These are produced either chemically, in the presence of persulfate ions, or photochemically by the decomposition of riboflavin. N,N,N',N'-tetramethylethylenediamine is added as a catalyst to promote free radical formation. Ammonium persulfate is probably the initiator of choice by virtue of its speed and reproducibility of polymerization. However, riboflavin is a widely used alternative to ammonium persulfate. It is often used in production of large pore gels and polymerization is initiated by U.V. light.

- Davis, B.T., *Ann. N.Y. Acad. Sci.*, v. **121**, 404 (1965).
- Chrambach, A., *Anal. Biochem.*, v. **40**, 95 (1971).
- Grant, D.H., Miller, N.N. and Burns, O.T., *J. Chromatog.*, v. **79**, 267 (1973).
- Chrambach, A., and Rodbard, D., *Separ. Sci.*, v. **7663** (1972).
- Hansen, J.N., *Anal. Biochem.*, v. **116**, 146 (1981).
- Rodola, B.J., *Electrophoresis*, v. **1**, 43 (1980).
- Gorovsky, M.A., Carlson, K., and Rosenbaum, J.L., *Anal. Biochem.*, v. **35**, 359 (1970).
- Loening, U.E., Bishop, D.H.L., Claybrook, J.R., and Spiegelman, S., *J. Mol. Biol.*, v. **26**, 373 (1967).

### How to Use:

$$\text{mL of Liqui-Gel to Use} = \frac{\left( \begin{array}{c} \text{Final Desired} \\ \text{Gel Concentration} \end{array} \right) \left( \begin{array}{c} \text{Final mL of Gel} \\ \text{to be Prepared} \end{array} \right)}{(40\%)}$$

### Availability:

Catalog Number	Description	Size
800802	Liqui-Gel™ 19:1, A 40% (w/v) solution of Ultra Pure Acrylamide (38%) and bis-Acrylamide (2%) in specially deionized water. Final ratio is 19:1	500 ml
800803	Liqui-Gel™ 29:1, A 40% (w/v) solution of Ultra Pure Acrylamide (38.67%) and bis-Acrylamide (1.33%) in specially prepared deionized water. Final ratio is 29:1	500 ml
800804	Liqui-Gel™ 37.5:1, A 40% (w/v) solution of Ultra Pure Acrylamide (38.96%) and bis-Acrylamide (1.04%) in specially prepared deionized water. Final ratio is 37.5:1.	500 ml