A SOLUBILIZABLE ACRYLAMIDE GEL FOR ELECTROPHORESIS

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N,N'-Diallyl-tartardiamide (DATD) if used mole for mole in place of methylene-bis acrylamide in the preparation of acrylamide gels [1] results in a product which dissolves in 2% periodic acid in 20–30 min at room temperature or in ca. 10 min at 37°. The properties of the DATD gels are very similar to ordinary gels; they are not tacky, are readily sliced and stain in the usual fashion. The gels take somewhat longer to set, 1 hr being required for the frequently used 7% gel; they do not suffer if kept at room temperature overnight. In order to insure good solution of alkaline gels it is necessary to neutralize these with acetic acid before immersion in the periodic acid. Proteins are generally not attacked by periodic acid and can be recovered by appropriate procedures after dissolution of the gels. Periodic acid does not quench the scintillators used for counting over the degree of quenching expected for the amount of water present.

N,N'-Diallyl-tartardiamide is prepared as follows: one mole of diethyltartrate is dissolved in about 10 volumes of ordinary ether, 2.5 moles of allylamine are added and the mixture refluxed overnight. The crystals present in the reaction mixture are filtered with suction and washed with ether containing 10 percent alcohol until the washings become clear and colorless. After dyring *in vacuo*, the product has a m.p. of 184 and may be used without further purification. The yield is ca. 60–70 percent.

References

[1] L.Ornstein, Ann. N.Y. Acad. Sci. 121 (1964) 321. B.J.Davis, ibid. p. 404.