



## Product Information

### Trichloroacetic acid Electrophoresis Reagent

Product Number **T 8657**

Storage Temperature 2 – 8 °C

#### Product Description

CAS Number: 76-03-9

Molecular Formula:  $C_2HCl_3O_2$

Molecular Weight: 163.4

Melting Point: 57-58 °C<sup>1</sup>

Boiling Point: 196-197 °C<sup>1</sup>

This product is designated as Electrophoresis grade. It is suitable for fixing solutions for isoelectric focusing (IEF) and for polyacrylamide gel electrophoresis (PAGE).

Trichloroacetic acid (TCA) is a reagent that is used for the precipitation of proteins<sup>2,3</sup> and nucleic acids.<sup>4</sup> TCA is also used as a decalcifier and fixative in microscopy.

Addition of TCA to a final concentration of 10% (w/v) will precipitate most proteins from solution. A final concentration of 20% (w/v) may be required for smaller proteins of molecular weight less than 20 kDa. The excess TCA can be removed from protein pellets by washes with buffer.<sup>2</sup> A procedure for the recovery of protein from dilute solutions has been reported.<sup>3</sup> For the precipitation of nucleic acids, a 5% solution of ice cold TCA has been used.<sup>4</sup>

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

A 100% (w/v) solution of TCA can be made by the addition of 227 ml of water to 500 g of TCA.<sup>5</sup> The resulting clear solution will have a density of approximately 1.45 g/ml.

#### References

1. The Merck Index, 12th ed., Entry # 9756.
2. Protein Purification Methods: A Practical Approach, Harris, E. L. V., and Angal, S., eds., IRL Press (Oxford, UK: 1989), p. 161.
3. Hwang, B. J., and Chu, G., Trichloroacetic Acid Precipitation by Ultracentrifugation to Concentrate Dilute Protein in Viscous Solution. *Biotechniques*, **20(6)**, 982-984 (1996).
4. Molecular Cloning: A Laboratory Manual, 3rd ed., Sambrook, J. F., et al., Cold Spring Harbor Laboratory Press (Cold Spring Harbor, NY: 2001), pp. A8.25-A8.26.
5. Molecular Cloning: A Laboratory Manual, 3rd ed., Sambrook, J. F., et al., Cold Spring Harbor Laboratory Press (Cold Spring Harbor, NY: 2001), p. A1.29.

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