Technical Data Sheet

Sym - Collidine Buffer

#11500

$(CH_3)_3$ (C_5H_2N) 2,4,6 Trimethylpryidine

Biological Buffer - Stable For Use With Osmium Tetroxide

Introduced by Bennett & Luft (1959), Sym-Collidine is used in combination with osmium tetroxide to provide excellent fixation and stable buffering. The pH can be adjusted by varying the amount of hydrochloric acid (HCl), in a range of 7.3 to 7.7.

Since the pH does not change when distilled water or osmium tetroxide solution is added, isotonic or hypertonic solutions can be made without recoursing the other solutes.

Tissues treated with Sym-Collidine have an excellent, uniform consistency. Uranyl acetate stains very well and lead stain is not too intense.

The ultrastructural appearance is very good, mitochondria have smooth profiles and dense matrices, glycogen dispersed, cytoplasmatic matrix light and nuclear-pores are prominent: Luft & Wood (1965).

To prepare a stock solution of Sym-Collidine buffer, pour the ampoule of pure Sym-Collidine (5.34ml) into 100ml distilled water. Add the correct amount of 2.0N Hydrochloric acid (HCl) for the desired pH, then dilute to 200mls with distilled Water.

The pH of the buffer solution can be adjusted by varying the amounts of 2.0N HCl added to the pure Sym-Collidine as follows:

For final pH	Add 2.0N HCl
7.75	5.0mls
7.60	7.0mls
7.40	9.0mls

STORE THE BUFFER SOLUTION AT ROOM TEMPERATURE

Reference

Bennett H.S., & Luft J.H., J. Biophys. & Biochem. Cytol 6, 113 - 1959 Wood R.L., & Luft J.H., J. Ultrastruct. Res. 12.22 1965.