

residue consists mainly of l-cysteine hydrochloride, which can be separated readily from very small amounts of foreign matter by recrystallization.

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Chlor Phenol Red.—During the past summer this Laboratory had occasion to examine colorimetrically several commercial samples of this indicator from various sources. The wide variation in the color produced by the indicator in buffer solutions led to a careful examination of the samples.

Anal. Calcd. for dichlorophenolsulfonephthalein, $C_{19}H_{12}O_6SCl_2$: S, 7.58; Cl, 16.76. Found: Sample A, S, 6.76; Cl, 13.5; Sample B, S, 6.54; Cl, 16.00; Sample C, S, 7.14; Cl, 12.10; Sample D, S, 6.48; Cl, 8.46.

This indicator was first prepared by Cohen¹ by condensing *o*-chlorophenol with the crystalline anhydride of *o*-sulfobenzoic acid and subsequently crystallizing the crude product from glacial acetic acid.

The experience of this Laboratory has been that repeated crystallization from acetic acid will not give a pure product. By repeatedly dissolving the crude dye in hot water, acidifying with hydrochloric acid and concentrating on the water-bath to the point of crystallization, a product was obtained that gave the analysis: S, 7.60; Cl, 16.66.

This sample consisted of small, fine, greenish-brown crystals and gave an entirely different color in buffer solutions than samples heretofore examined. The alkaline color, besides being much more intense, contained more blue and less red than the commercial samples.

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¹ *U. S. Public Health Reports*, 41, No. 53 (1926).