NOTES

A Note on the Density of Glycine.—A search of the literature and various handbooks reveals considerable confusion with reference to the density of glycine.

Landolt–Börnstein–Roth–Scheel give the density as 1.60. In the "International Critical Tables" the density is given as 1.160 at 20°. The value given by the "Handbook of Chemistry and Physics" is 1.161 at 15°. Beilstein gives the density of glycine as 1.161. Curtius[1] determined the density of glycine, obtaining the values of 1.1607.

The density of glycine was desired at 50°. The pycnometer method using xylene as the liquid being displaced was employed. Data were obtained with three different materials.

Eastman practical glycine gave an average value of 1.623 as the density at 50°, Eastman purified 1.5767, and Pfanstiehl purified 1.5740, the mean of the purified materials being 1.5753.

These results indicate a value of 1.5753 as the density, at 50°, of purified glycine. The results also seem to point to a typographical error in the original publication of Curtius, this value apparently being the source of the values given in the various handbooks.

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Differential Fractional Distillation.—Several authors[1] have shown that the original method of plotting potentiometric titration data (the electromotive force, E, against the volume of reagent, V) could be improved upon by plotting the slope of the above curve, $\Delta E/\Delta V$, as a function of V. The point of interest in the first type of curve is the point of inflection, while in the second type the point of interest is a sharp maximum. It seems that the common practice in plotting data from fractional distillation is to plot the volume of the distillate, V, against the temperature, T. In this curve, the boiling point of a component is a point of inflection. By direct analogy to the potentiometric titration, the author wishes to suggest that the fractional distillation data can be more readily interpreted if the slope of that curve, $\Delta V/\Delta T$, is plotted against T. In this derived curve the boiling point of each component would be a sharp maximum,

[1] Curtius, *J. prakt. Chem.*, **26**, 158 (1882).

[1] Hostetter and Roberts, This Journal, **41**, 1341 (1919); Cox, *ibid.*, **47**, 2138 (1925); MacInnes and Jones, *ibid.*, **48**, 2831 (1926); Hall, Jensen and Baeckström, *ibid.*, **50**, 2217 (1928).