Monsanto Chemical Company

Anniston Method No. 14-44-48

SUBJECT: Color of "Water White" Aroclors

METHOD: Comparison against A.P.H.A. Scale

Scope

The method is applicable to Aroclors 1254, 1260, or others having color less than N.P.A. #1 ("Water White").

A.P.H.A. Standards

These color standards are acid solutions of potassium chloroplatinate and cobaltous chloride. The unit of color is that produced by 1 mg. of platinum per liter. The ratio of cobalt to platinum may be varied if necessary to match the hue. Because the hue of Aroclor 1254 and 1260 seems best matched without cobalt, this has been omitted in the preparation described.

Dissolve 1.245 g. of potassium chloroplatinate (K_2PtCl_6) containing 0.5 g. of platinum in water with 100 ml. of concentrated hydrochloric acid, and dilute to 1 liter with distilled water. This solution has a color of 500.

Prepare standards from 10 to 100 in steps of 10 by diluting 1, 2, 3 ml. etc. of the above solution with distilled water to 50 ml. in standard high form Nessler tubes. Protect the tubes from evaporation.

Refer to page 13 of "Standard Methods for the Examination of Water and Sewage" eighth edition (1936) for details of standards containing cobalt. Published by American Public Health Association, 1790 Broadway, New York.

Procedure

Fill a matching Nessler tube with Aroclor to a height equal to that in the standard tubes. Compare with standards by looking vertically downward through the tubes upon a white or mirrored surface placed at such an angle that light is reflected upward through the column of liquid. A color tube support (Fisher #7-065, 50 ml.) is convenient.

Inasmuch as the proportions of the standard color solution in the comparison tubes are such as to represent an aliquot part of a liter, the readings are direct as parts per million. Colors up to 100 are recorded to the nearest 5. Direct comparisons are satisfactory up to 100. Above this the sample should be diluted with Carbon tetrachloride (maximum A.P.H.A. color, 5), and the color obtained to nearest 10 by multiplying by the dilution ratio.

FAB:cm
1-30-45

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