Designation: ~~D2108 – 10~~ D2108 – 10 (Reapproved 2015)

Standard Test Method for Color of Halogenated Organic Solvents and Their Admixtures (Platinum-Cobalt Scale)[1]

This standard is issued under the fixed designation D2108; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This test method covers the visual measurement of the color of halogenated organic solvents and their admixtures. It is valid for values of 50 platinum-cobalt (Pt-Co) units or less.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Significance and Use

2.1 Color may be indicative of the quality of the solvent because any color present is due to the presence of contaminants.

3. Apparatus

3.1 *Color Comparison Tubes*—Matched 50 or 100-mL, tall-form Nessler tubes, provided with ground-on, optically clear, glass caps.

3.2 *Color Comparator*—A color comparator constructed to permit visual comparison of light transmitted through tall-form, Nessler tubes in the direction of their longitudinal axes. The comparator should be constructed so that white light is passed through or reflected off a white glass plate and directed with equal intensity through the tubes and should be shielded so that no light enters the tubes from the side.

3.3 *Digital Color Instrument*—Digital color instruments are available that measure color digitally and convert the result to a numerical value using the Platinum-Cobalt scale. Many manufacturers market instruments of this type.

NOTE 1—There are numerous colorimeters and comparators commercially available that measure the color of liquids and take some of the subjectivity out of the measurement. These instruments may be calibrated with the platinum-cobalt color standards listed in Table 1 at 455 mm or with optically standardized color filter disks such as those available for the Hellige Aqua Tester. Many of these instruments take the measurement across a relatively narrow range of wave lengths, and their readings may be in error if the color of the sample is significantly different from the amber color of the color standards.

4. Reagents

4.1 *Purity of Reagents*—Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available.[2] Other grades may be used, provided it is first ascertained that the reagent is of sufficiently high purity to permit its use without lessening the accuracy of the determination.

4.2 *Purity of Water*—Unless otherwise indicated, references to water shall be understood to mean distilled water or water of equal purity.

4.3 *Cobaltous Chloride*—($CoCl_2 \cdot 6H_2O$).

[1] This test method is under the jurisdiction of ASTM Committee D26 on Halogenated Organic Solvents and Fire Extinguishing Agents and is the direct responsibility of Subcommittee D26.04 on Test Methods.

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[2] *Reagent Chemicals, American Chemical Society Specifications*, American Chemical Society, Washington, DC. For suggestions on the testing of reagents not listed by the American Chemical Society, see *Analar Standards for Laboratory Chemicals*, BDH Ltd., Poole, Dorset, U.K., and the *United States Pharmacopeia and National Formulary*, U.S. Pharmacopeial Convention, Inc. (USPC), Rockville, MD.