



Designation: D 1845 – 86 (Reapproved 1999)

Standard Test Methods for Chemical Analysis of Strontium Chromate Pigment¹

This standard is issued under the fixed designation D 1845; 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 approval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 These test methods cover the chemical analysis of strontium chromate pigment.

1.2 The analytical procedures appear in the following order:

	Sections
Strontium by the Strontium Sulfate Method	7to10
Chromium by the Thiosulfate Method	11to14
Chloride Content	15
Sulfate Content	16
Moisture and Other Volatile Matter	17
Coarse Particles	18
Mass Color and Tinting Strength	19

1.3 *This standard does not purport to address the safety concerns 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. Referenced Documents

2.1 *ASTM Standards:*

D 185 Test Methods for Coarse Particles in Pigments, Pastes, and Paints²

D 280 Test Methods for Hygroscopic Moisture (and Other Matter Volatile Under the Test Conditions) in Pigments²

D 387 Test Method for Color and Strength of Color Pigments with a Mechanical Muller³

D 444 Test Methods for Chemical Analysis of Zinc Yellow Pigment (Zinc Chromate Yellow)²

D 1193 Specification for Reagent Water⁴

3. Significance and Use

3.1 These test methods may be used to confirm the stated strontium oxide and chromium oxide content of strontium chromate.

¹ These test methods are under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings, Materials, and Applications and are under the jurisdiction of Subcommittee D01.31 on Pigment Specifications.

Current edition approved April 25, 1986. Published June 1986. Originally published as D 1845 – 61 T. Last previous edition D 1845– 65 (1979)^{ε2}.

² *Annual Book of ASTM Standards*, Vol 06.03.

³ *Annual Book of ASTM Standards*, Vol 06.01.

⁴ *Annual Book of ASTM Standards*, Vol 11.01.

4. Apparatus

4.1 *Gooch crucible.*

4.2 *Electric Furnace*, capable of 800°C.

5. Purity of Reagents

5.1 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.⁵ 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.

5.2 Unless otherwise indicated, references to water shall be understood to mean Type II of Specification D 1193.

6. Preparation of Sample

6.1 Mix the sample thoroughly. Take a sufficient quantity for chemical analysis and pass it through a No. 325 (4- μ m) sieve.

STRONTIUM BY THE STRONTIUM SULFATE METHOD

7. Reagents

7.1 *Acetic Acid (glacial).*

7.2 *Ammonium Hydroxide (1+3)*—Mix 1 volume of concentrated ammonium hydroxide (NH₄OH, sp gr 0.90) with 3 volumes of water.

7.3 *Ethyl Alcohol*, conforming to Formula No. 2B or No. 30 of the U.S. Bureau of Alcohol, Tobacco, and Firearms.

7.4 *Hydrochloric Acid (1+1)*—Mix equal volumes of concentrated hydrochloric acid (HCl, sp gr 1.19) and water.

7.5 *Sulfuric Acid (1+19)*—Mix 1 volume of concentrated sulfuric acid (H₂SO₄, sp gr 1.84) with 19 volumes of water.

⁵ *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.