



Standard Test Methods for Analysis of Yellow, Orange, and Green Pigments Containing Lead Chromate and Chromium Oxide Green¹

This standard is issued under the fixed designation D126; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 These test methods cover procedures for the chemical analysis of yellow, orange, and green pigments containing lead chromate and chromium oxide green.

1.2 The analytical procedures appear in the following order:

	Sections
CHROME YELLOW, CHROME ORANGE, AND MOLYBDATE ORANGE	
ORGANIC COLORS AND LAKES	7
MOISTURE AND OTHER VOLATILE MATTER	8
MATTER SOLUBLE IN WATER	9
LEAD CHROMATE	10 AND 11
TOTAL LEAD	12
SULFATE	13 AND 14
CARBON DIOXIDE	15
MOLYBDENUM	16 AND 17
EXTENDERS	18-22
Calculation of Substances Other than Insoluble Lead Compounds	23 and 24
PURE CHROME GREEN AND REDUCED CHROME GREEN	
ORGANIC COLORS AND LAKES	25
MOISTURE AND OTHER VOLATILE MATTER	26
MATTER SOLUBLE IN WATER	27
IRON BLUE	28
LEAD CHROMATE	29 AND 30
BARIIUM SULFATE AND INSOLUBLE SILICEOUS MATERIAL	31
TOTAL LEAD	32
SULFATE	33
CALCIUM OXIDE SOLUBLE IN ACID	34 AND 35
EXTENDERS	36
CALCULATION OF INSOLUBLE LEAD COMPOUNDS	37
CHROMIUM OXIDE GREEN	
ORGANIC COLORS AND LAKES	38
MOISTURE AND OTHER VOLATILE MATTER	39
MATTER SOLUBLE IN WATER	40
TOTAL CHROMIUM AS CHROMIUM OXIDE	41

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

1.4 *This standard does not purport to address all of the safety problems, 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. Specific hazard statements are given in Note 3.

2. Referenced Documents

2.1 ASTM Standards:²

- D280 Test Methods for Hygroscopic Moisture (and Other Matter Volatile Under the Test Conditions) in Pigments
- D521 Test Methods for Chemical Analysis of Zinc Dust (Metallic Zinc Powder)
- D1013 Test Method for Determining Total Nitrogen in Resins and Plastics (Withdrawn 2007)³
- D1193 Specification for Reagent Water
- E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

3. Summary of Test Methods

3.1 Chrome Yellow, Chrome Orange, and Molybdate Orange:

3.1.1 Organic colors and lakes are determined qualitatively by boiling the sample in water, then ethyl alcohol, and finally chloroform.

3.1.2 Moisture and other volatile matter are determined in accordance with Test Method A of Test Methods D280.

3.1.3 Matter soluble in water is determined by boiling in water and filtering.

3.1.4 Lead chromate is determined by dissolving the sample in dilute HCl, filtering and titrating potentiometrically with FeSO₄ solution after addition of HClO₄.

3.1.5 Total lead is determined by precipitation as lead sulfide solution with H₂SO₄ and final precipitation as lead sulfate.

3.1.6 Sulfate is determined by dissolving the sample in acetic acid, neutralizing with sodium carbonate, plus addition

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

Current edition approved June 1, 2012. Published August 2012. Originally approved in 1922. Last previous edition approved in 2006 as D126 – 87 (2006). DOI: 10.1520/D0126-87R12.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.