



## Designation: D2218 – 67 (Reapproved 2019)

# Standard Specification for Molybdate Orange Pigments<sup>1</sup>

This standard is issued under the fixed designation D2218; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This specification covers the pigment known as molybdate orange.

1.2 The values stated in SI units are to be regarded as standard. The values given in parentheses are for information only.

1.3 The following hazard caveat applies to the test method portion of this specification only. *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

## 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

[D126 Test Methods for Analysis of Yellow, Orange, and Green Pigments Containing Lead Chromate and Chromium Oxide Green](#)

[D185 Test Methods for Coarse Particles in Pigments](#)

[D235 Specification for Mineral Spirits \(Petroleum Spirits\) \(Hydrocarbon Dry Cleaning Solvent\)](#)

[D387 Test Method for Color and Strength of Chromatic Pigments with a Mechanical Muller](#)

[D523 Test Method for Specular Gloss](#)

[D600 Specification for Liquid Paint Driers](#)

[D822 Practice for Filtered Open-Flame Carbon-Arc Expo-](#)

[sures of Paint and Related Coatings](#)

[D1210 Test Method for Fineness of Dispersion of Pigment-Vehicle Systems by Hegman-Type Gage](#)

[E97 Method of Test for Directional Reflectance Factor, 45-Deg 0-Deg, of Opaque Specimens by Broad-Band Filter Reflectometry \(Withdrawn 1991\)](#)<sup>3</sup>

2.2 *Federal Specification:*

[TT-R-266 Resin, Alkyd; Solutions](#)<sup>4</sup>

## 3. Composition and Properties

3.1 *Dry Pigment*—The pigment shall be a product made by the chemical coprecipitation of lead chromate and lead molybdate, with or without admixtures of other insoluble compounds of lead or other materials used in manufacture to control certain properties. The pigment shall conform to the requirements for chemical composition as prescribed in [Table 1](#).

3.2 The mass color and character of the tint formed by a mixture with a white pigment shall be the same as, and the strength shall be within mutually agreed upon limits of a standard acceptable to both the purchaser and the seller.

3.3 When mutually agreed upon between the purchaser and the seller as being essential to the end use of the pigment, resistance to loss of gloss, chalking, and color change shall be tested as specified in [5.1.6](#). The exposed panel shall show no chalking, a loss of not more than 10 % of the original gloss, and a color change difference of not more than three units.

## 4. Sampling

4.1 Two samples shall be taken at random from different packages from each lot, batch, day's pack, or other unit of production in a shipment. When no markings distinguishing between units of production appear, samples shall be taken from different packages in the ratio of two samples for each 4540 kg (10 000 lb), except that for shipments of less than 10 000 lb two samples shall be taken. At the option of the purchaser, the samples may be tested separately, or samples

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.31 on Pigment Specifications.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).

<sup>4</sup> Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, <http://www.dodssp.daps.mil>.