



Designation: D1208 – 96 (Reapproved 2019)

Standard Test Methods for Common Properties of Certain Pigments¹

This standard is issued under the fixed designation D1208; 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 U.S. Department of Defense.

1. Scope

1.1 These test methods cover procedures for determining certain properties of pigments. The procedures appear in the following order:

Dry Pigments	Sections
Loss on Ignition and Ash	4
Matter Soluble in Water	5
Hydrogen Ion Concentration (pH Value)	6
Alkalinity or Acidity by Titration	7 and 8
Water Content (Distillation Method)	9 and 10

Pigment Pastes in Oil	Sections
Water Content (Distillation Method)	9 and 10
Pigment Content of Paste in Oil	11
Total Volatile Matter in Paste in Oil	12

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, 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:²

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, 2019. Published June 2019. Originally approved in 1952. Last previous edition approved in 2012 as D1208 – 96 (2012). DOI: 10.1520/D1208-96R19.

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.

D95 Test Method for Water in Petroleum Products and Bituminous Materials by Distillation

D280 Test Methods for Hygroscopic Moisture (and Other Matter Volatile Under the Test Conditions) in Pigments

D1135 Test Methods for Chemical Analysis of Blue Pigments

E70 Test Method for pH of Aqueous Solutions With the Glass Electrode

3. Significance and Use

3.1 This collection of test methods is used by pigment producers and paint manufacturers for process control, for product acceptance, and for research and development.

LOSS ON IGNITION AND ASH

4. Procedure

4.1 Dry about 5 g of the sample at $105 \pm 2^\circ\text{C}$ for 2 h. Transfer about 1 g of the dried pigment, weighed to 0.1 mg, to a previously ignited, weighed porcelain crucible, and ignite at 900 to 1000°C for 20 min. Cool in a desiccator and weigh. Heat again for 10 min at 900 to 1000°C to check the loss in weight.

4.2 *Calculation*—Calculate the percent of loss on ignition, L , and of ash, A , as follows:

$$L = \frac{L_w}{S_1} \times 100 \quad (1)$$

$$\left(A = \frac{W_a}{S_1} \times 100 \right)$$

where:

L_w = loss in weight on ignition, g,

A = ash, %,

W_a = weight of ash, g, and

S_1 = specimen weight, g.

MATTER SOLUBLE IN WATER

5. Procedure (Note 1)

5.1 Weigh about 10 g of the sample to 1 mg, and place in a 400-mL beaker. Add 100 mL of water (Note 2), boil for 5 min cool, and transfer quantitatively to a 250-mL volumetric flask. Dilute with water to 250 mL, mix, and allow to settle. Filter the