



Designation: ~~D3316–06 (Reapproved 2011)~~ **D3316 – 06 (Reapproved 2016)**

Standard Test Method for Stability of Perchloroethylene with Copper¹

This standard is issued under the fixed designation D3316; 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 evaluation of the corrosiveness to copper metal by perchloroethylene.
- 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. Referenced Documents

2.1 *ASTM Standards:*²

[E200 Practice for Preparation, Standardization, and Storage of Standard and Reagent Solutions for Chemical Analysis](#)

3. Summary of Test Method

3.1 Clean copper strips are subjected to the action of liquid and vapor phases of boiling perchloroethylene for 72 h in the presence of light. Weight loss of copper strips and acid formation are determined at the end of the test period.

4. Significance and Use

4.1 This test method is to be used as a guide in selecting or eliminating certain grades of perchloroethylene used for drycleaning fabrics or degreasing metal parts.

5. Apparatus

- 5.1 *Flask*, ~~300 mL~~, 300 mL, 24/40 standard-taper joint.
- 5.2 *Soxhlet Extractor*, 30-mm inside diameter, 24/40 standard-taper bottom joint, 34/45 standard-taper upper joint.
- 5.3 *Allihn Condenser*, bulb type, 34/45 standard-taper bottom joint. [-4729-a75d-d6050990ebc1/astm-d3316-062016](#)
- 5.4 *Bottle*, wide-mouth, 8 oz.
- 5.5 *Funnel*, 8-mm outside diameter stem, 35-mm diameter opening.
- 5.6 *Heater*, variable control.
- 5.7 *Light Bulb*, 100 W.
- 5.8 *Beaker*, 400 mL.
- 5.9 *Analytical Balance*.

6. Reagents and Materials

6.1 *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

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 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.