



Designation: D 849 – 02

Standard Test Method for Copper Strip Corrosion by Industrial Aromatic Hydrocarbons¹

This standard is issued under the fixed designation D 849; 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 This test method determines the corrosiveness of industrial aromatic hydrocarbons to a copper strip.

NOTE 1—For a similar copper strip test applicable to other petroleum products, see Method D 130 and Test Method D 1838.

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

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.* For specific hazard statements, see Section 8.

2. Referenced Documents

2.1 ASTM Standards:

B 152/B 152M Specification for Copper Sheet, Strip, Plate, and Rolled Bar²

D 130 Test Method for Detection of Copper Corrosion from Petroleum Products by the Copper Strip Tarnish Test³

D 1838 Test Method for Copper Strip Corrosion by Liquefied Petroleum (LP) Gases³

D 4790 Terminology of Aromatic Hydrocarbons and Related Chemicals⁴

2.2 Other Documents:

OSHA Regulations, 29 CFR, paragraphs 1910.1000 and 1910.1200⁵

2.3 ASTM Adjuncts:

ASTM Copper Strip Corrosion Standards (13 photolithed

aluminum strips; includes Method D 130)⁶

3. Terminology

3.1 See Terminology D 4790 for definition of terms used in this test method.

4. Summary of Test Method

4.1 A polished copper strip is immersed in 200 mL of specimen in a flask with a condenser and placed in boiling water for 30 min. At the end of this period, the copper strip is removed and compared with the ASTM Copper Strip Corrosion Standards.

5. Significance and Use

5.1 This test method is suitable for setting specifications, for use as an internal quality control tool, and for use in development or research work on industrial aromatic hydrocarbons and related materials. It also gives an indication of the presence of certain corrosive substances which may corrode equipment, such as acidic compounds or sulfur compounds.

6. Apparatus

6.1 *Flask*, of sufficient size to allow for refluxing 200 mL specimen, of chemically resistant glass with flat bottom and vial mouth.

6.2 *Glass Condenser*, length may vary, with the inside diameter of the condenser tube not less than 10 mm. A cork is used to connect the flask with the condenser. A condenser and flask with ground-glass joints may also be used.

6.3 *Strip Polishing Vise*, (*optional*), to hold the copper strip firmly without marring the edges. For convenient vises see Method D 130.

6.4 *Water Bath*, of convenient design, able to maintain boiling water such that the contents of the flask are submerged during the test.

7. Reagents and Materials

7.1 *Wash Solvent*—Any volatile, sulfur-free hydrocarbon

¹ This test method is under the jurisdiction of ASTM Committee D16 on Aromatic Hydrocarbons and Related Chemicals and is the direct responsibility of Subcommittee D16.01 on Benzene, Toluene, Xylenes, Cyclohexane, and Their Derivatives.

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² *Annual Book of ASTM Standards*, Vol 02.01.

³ *Annual Book of ASTM Standards*, Vol 05.01.

⁴ *Annual Book of ASTM Standards*, Vol 06.04.

⁵ Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401.

⁶ Available from ASTM International Headquarters. Request PCN 12-401300-00. Names of suppliers in the United Kingdom can be obtained from the Institute of Petroleum. Two master standards are held by the IP for reference.

*A Summary of Changes section appears at the end of this standard.