



Designation: ~~D4653 – 87 (Reapproved 2009)~~ D4653 – 87 (Reapproved 2015)

Standard Test Method for Total Chlorides in Leather¹

This standard is issued under the fixed designation D4653; 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 This test method is intended for use in determining total chlorides in mineral tanned leather.
- 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
[D2813 Practice for Sampling Leather for Physical and Chemical Tests](#)

3. Significance and Use

- 3.1 This test method is used to determine amount of soluble chlorides in leather.

4. Apparatus

- 4.1 *Volumetric Flask*, 250 mL.

5. Reagents

- 5.1 *Acetic Acid Solutions*—5 or 10 % by volume.
- 5.2 *Methyl Orange*—0.02 % solution in 50 % alcohol.
- 5.3 *Ammonium Hydroxide Solution*, (0.1 N).
- 5.4 *Silver Nitrate, Standard Solution*, (0.1 N).
- 5.5 *Potassium Chromate Solution*, 5 %.

6. Sampling, Test Specimens and Test Units

- 6.1 The test specimen shall consist of 1 g of leather from the composite sample in accordance with Practice [D2813](#).
- 6.2 Two specimens from the composite sample shall be tested.

7. Procedure

7.1 Weigh the specimen to the nearest milligram and record the value as *W*. Transfer the specimen to a 250 mL volumetric flask and add 200 mL of 0.1 N ammonium hydroxide solution. Immerse the flask up to the neck in a bath of boiling water. Thoroughly wet all particles by occasional swirling. After 2 h, cool the flask to room temperature and make the flask up to volume with distilled water, shake and without delay filter through a folded filter paper.

¹ This test method is under the jurisdiction of ASTM Committee [D31](#) on Leather and is the direct responsibility of Subcommittee [D31.06](#) on Chemical Analysis. Current edition approved April 1, 2009; Sept. 1, 2015. Published July 2009; October 2015. Originally approved in 1987. Last previous edition approved in 2003; 2009 as D4653 – 87 (2003); (2009). DOI: [10.1520/D4653-87R09](#); [10.1520/D4653-87R15](#).

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.