



Designation: ~~D3643~~—~~10~~ D3643 – 15

Standard Test Method for Acid Number of Certain Alkali-Soluble Resins¹

This standard is issued under the fixed designation D3643; 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 measurement of the free acidity present in certain alkali-soluble resins.
- 1.2 This test method is not suitable for styrene-maleic anhydride resins.
- 1.3 The resin manufacturer should specify whether or not this test method may be used for his product(s).
- 1.4 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.
- 1.5 *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

[D362 Specification for Industrial Grade Toluene](#) (Withdrawn 1989)³

[D1152 Specification for Methanol \(Methyl Alcohol\)](#)

[D1193 Specification for Reagent Water](#)

[D3644 Test Method for Acid Number of Styrene-Maleic Anhydride Resins](#)

3. Terminology

3.1 *Definitions:*

3.1.1 *acid number*—the number of milligrams of potassium hydroxide (KOH) required to neutralize the alkali-reactive groups in 1 g of material under the conditions of test.

¹ This test method is under the jurisdiction of ASTM Committee D21 on Polishes and is the direct responsibility of Subcommittee D21.02 on Raw Materials. Current edition approved May 1, 2010/Nov. 1, 2015. Published June 2010/November 2015. Originally approved in 1978. Last previous edition approved in 2004/2010 as ~~D3643—98~~D3643 – 10, (2004). DOI: ~~10.1520/D3643-10~~10.1520/D3643-15.

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.

³ The last approved version of this historical standard is referenced on www.astm.org.

~~3.1.1.1 Discussion—~~

~~If carboxylic anhydrides are present, only one half of these groups will be titrated and indicated by this test method.~~

4. Significance and Use

4.1 This test method is not appropriate for alkali-soluble resins whose acid functionality is due to incorporated anhydrides. Variations in manufacture, storage, and possible contamination of anhydride functional resins may cause partial hydrolysis, or esterification, which will invalidate data from this test method. Anhydride functional resins should be characterized by Test Method [D3644](#).

4.2 This test method is used to ~~determine the~~measure a property of ~~maleic anhydride resins functionality. Maleic acid anhydride resins functionality—acid functionalized resins. Acid number determines the utility of resin~~resins as well as being a significant quality control ~~test.~~measure.

5. Reagents and Materials

5.1 *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