



Designation: E3237 – 19

Standard Specification for Undenatured Ethanol from Biomass for Use in Industrial Applications¹

This standard is issued under the fixed designation E3237; 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 specification covers biomass derived, undenatured ethanol intended for use in industrial applications such as adhesives, detergents, inks, chemicals, plastics, paints, thinners, etc.

1.2 Nothing in this specification shall preclude observance of federal, state, or local regulations.

1.3 Undenatured ethanol has many regulatory limitations that cover the production, trading, transporting, distributing, wholesale and retail sale, and use of undenatured ethanol; this specification does not purport to address the regulatory compliance aspects of these activities.

1.4 *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.*

1.5 *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

[D1209 Test Method for Color of Clear Liquids \(Platinum-Cobalt Scale\)](#)

[D1296 Test Method for Odor of Volatile Solvents and Diluents](#)

[D1353 Test Method for Nonvolatile Matter in Volatile Solvents for Use in Paint, Varnish, Lacquer, and Related Products](#)

¹ This specification is under the jurisdiction of ASTM Committee E48 on Bioenergy and Industrial Chemicals from Biomass and is the direct responsibility of Subcommittee E48.05 on Biomass Conversion.

Current edition approved Dec. 1, 2019. Published December 2019. DOI: 10.1520/E3237-19.

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.

[D4052 Test Method for Density, Relative Density, and API Gravity of Liquids by Digital Density Meter](#)

[D4057 Practice for Manual Sampling of Petroleum and Petroleum Products](#)

[D4177 Practice for Automatic Sampling of Petroleum and Petroleum Products](#)

[D4306 Practice for Aviation Fuel Sample Containers for Tests Affected by Trace Contamination](#)

[D5501 Test Method for Determination of Ethanol and Methanol Content in Fuels Containing Greater than 20% Ethanol by Gas Chromatography](#)

[D5854 Practice for Mixing and Handling of Liquid Samples of Petroleum and Petroleum Products](#)

[D7795 Test Method for Acidity in Ethanol and Ethanol Blends by Titration](#)

[D7923 Test Method for Water in Ethanol and Hydrocarbon Blends by Karl Fischer Titration](#)

[E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications](#)

[E300 Practice for Sampling Industrial Chemicals](#)

[E1064 Test Method for Water in Organic Liquids by Coulometric Karl Fischer Titration](#)

[E1705 Terminology Relating to Biotechnology](#)

3. Terminology

3.1 For general terminology, refer to Terminology [E1705](#).

NOTE 1—The user is advised that the definitions used by various industries, marketers, and regulatory bodies can differ from those specific to this specification. It is the responsibility of the user to ensure that the terms used in a particular context are clearly understood.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *biomass, n*—any material, excluding fossil fuels, which is or was a living organism that can be used as a fuel directly or after a conversion process.

3.2.1.1 *Discussion*—Peat is not a biomass.

3.2.2 *ethanol (ethyl alcohol, grain alcohol), n*— $\text{CH}_3\text{CH}_2\text{OH}$; can be produced chemically from ethylene or biologically from the fermentation of various sugars from the carbohydrates found in agricultural crops and cellulosic residues from crops or wood.