



Designation: E1705 – 23

# Standard Terminology Relating to Bioenergy and Industrial Chemicals from Biomass<sup>1</sup>

This standard is issued under the fixed designation E1705; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope\*

1.1 This document is composed of terms, definitions of terms, descriptions of terms, and acronyms used in ASTM documents related to the field of bioenergy and industrial chemicals from biomass. Terms that are adequately defined in a general dictionary are not defined in this terminology standard.

1.2 This standard includes terminology used in areas related to bioenergy and industrial chemicals from biomass, such as, but not limited to: characterization and identification of biomass, aseptic sampling, preservation of biological samples, sustainability, denatured fuel ethanol, cooking fuels and biomass conversion.

1.2.1 The bylaws for Committee E48 allow the definitions approved in current E48 standards to be added to this terminology standard editorially. The definitions will have an attribution to indicate the standard(s) containing the definition. Subcommittee E48.91 can also develop definitions for the terminology standard. Those definitions will be attributed to the subcommittee.

1.3 *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.*

<sup>1</sup> This terminology is under the jurisdiction of ASTM Committee E48 on Bioenergy and Industrial Chemicals from Biomass and is the direct responsibility of Subcommittee E48.91 on Terminology.

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## 2. Referenced Documents

2.1 *ASTM Standards*:<sup>2</sup>  
[E870 Test Methods for Analysis of Wood Fuels](#)

## 3. Terminology

3.1 *Definitions*:

**biomass, n**—substance wholly comprised of living or recently living (non-fossil) material.

**DISCUSSION**—Sometimes referred to as renewable organic material, examples of biomass include whole, or parts of, plants, trees, aquatic organisms, animals, algae, and microorganisms.

**DISCUSSION**—When considered as an energy source, biomass may be further subdivided into: (1) primary biomass—rapidly growing plant material that may be used directly or after a conversion process for the production of energy, and (2) secondary biomass—biomass residues remaining after the production of fibre, food, or other products of agriculture, or biomass by-products from animal husbandry or food preparation that are modified physically rather than chemically. Examples include waste materials from agriculture, forestry industries, and some municipal operations (manure, saw dust, sewage, etc.) from which energy may be produced

**proximate analysis**—an assay of the moisture, ash, volatile matter, and fixed carbon as determined by prescribed test methods. Other constituents such as sulfur and phosphorus are not included. **E870**

**ultimate analysis**—the determination of carbon and hydrogen in the material, as found in the gaseous products of its complete combustion, the determination of sulfur, nitrogen, and ash in the material as a whole, and the calculation of oxygen by difference. **E870**

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

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