



Designation: E 135 – 03d

Standard Terminology Relating to Analytical Chemistry for Metals, Ores, and Related Materials¹

This standard is issued under the fixed designation E 135; 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 is a compilation of terms commonly used in analytical chemistry for metals, ores, and related materials. Terms that are generally understood or defined adequately in other readily available sources are either not included or their sources are identified.

1.2 A definition is a single sentence with additional information included in a Discussion.

1.3 Definitions identical to those published by another standards organization or ASTM committee are identified with the name of the organization or the identifying document and ASTM committee.

1.4 Definitions specific to a particular field (such as *emission spectrometry*) are identified with an italicized introductory phrase.

2. Referenced Documents

2.1 ASTM Standards:²

E 180 Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial and Specialty Chemicals

E 876 Practice for Use of Statistics in the Evaluation of Spectrometric Data

E 1914 Practice for Use of Terms Relating to the Development and Evaluation of Methods for Chemical Analysis

2.2 ISO Standard:

ISO Guide 30—Terms and Definitions Used in Connection with Reference Materials³

¹ This terminology is under the jurisdiction of ASTM Committee E01 on Analytical Chemistry for Metals, Ores, and Related Materials and is the direct responsibility of Subcommittee E01.23 on Terminology.

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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 Available from American Standards Institute, 25 W. 43rd St., 4th Floor, New York, NY 10036.

3. Significance and Use

3.1 Definitions given in Section 4 are intended for use in all standards on analytical chemistry for metals, ores, and related materials. The definitions should be used uniformly and consistently. The purpose of this terminology is to promote clear understanding and interpretation of the standards in which definitions are used.

4. Terminology Definitions

absorbance, *n*—in *spectrometry*, the logarithm to the base 10 of the reciprocal of the transmittance, *T*.

$$A = \log_{10}(1/T) = -\log_{10} T \quad (1)$$

absorption (of electromagnetic radiation), *n*—a decrease in radiant energy when passing through matter, resulting in a corresponding increase in the energy of the absorbing system.

absorption spectrometry, *n*—the branch of spectroscopy pertaining to the absorption of electromagnetic radiation by atoms, ions, radicals, and molecules.

analytical curve—see **calibration curve**.

analyte, *n*—in *methods of chemical analysis*, the component determined by a method.

analytical gap, *n*—in *atomic emission spectrometry*, the region between two electrodes in which the specimen is excited and from which radiant energy is used for analysis.

analytical line, *n*—the particular wavelength of an element used in determining the presence or concentration of that element.

anneal, *vt*—in *fire assay*, to heat and then gradually cool a metal to remove internal stresses and make the material less brittle.

arc, condensed—see **discharge, triggered capacitor**.

continuous dc, *n*—a self-maintaining dc discharge.

noncapacitive ac, *n*—in *atomic emission spectrometry*, a series of separate electrical discharges, individually self-initiating or initiated separately by another means, in which each current pulse has a polarity that is reversed from the previous one.