



Designation: D4150 – 23a

Standard Terminology Relating to Gaseous Fuels¹

This standard is issued under the fixed designation D4150; 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 terminology standard covers the compilation of terminology developed by Committee D03 on Gaseous Fuels. It does not include terms, definitions, abbreviations, acronyms, and symbols specific to only a single D03 standard in which they appear. These terms, definitions, abbreviations, acronyms, and symbols are used in:

1.1.1 The sampling of gaseous fuels,

1.1.2 The analysis of gaseous fuels for composition and various other physical properties, and

1.1.3 Other practices related to the processing, transmission, and distribution of gaseous fuels.

1.2 *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

D1142 Test Method for Water Vapor Content of Gaseous Fuels by Measurement of Dew-Point Temperature

D1835 Specification for Liquefied Petroleum (LP) Gases

D3588 Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels

D4175 Terminology Relating to Petroleum Products, Liquid Fuels, and Lubricants

2.2 *ISO Standards:*³

ISO 7504 Gas Analysis—Vocabulary

ISO 14687 Hydrogen Fuel Quality—Product Specification

¹ This terminology is under the jurisdiction of ASTM Committee D03 on Gaseous Fuels and is the direct responsibility of Subcommittee D03.92 on Terminology Classification and Specifications.

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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 International Organization for Standardization (ISO), ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, <http://www.iso.org>.

2.3 *SAE Standard:*⁴

SAE J2719 Hydrogen Fuel Quality for Fuel Cell Vehicles

2.4 *GPA Standards:*⁵

GPA 2145 Table of Physical Properties for Hydrocarbons and Other Compounds of Interest to the Natural Gas and Natural Gas Liquids Industries

GPA Midstream 2140 Liquefied Petroleum Gas Specifications and Test Methods

3. Terminology

3.1 *Definitions:*

absolute pressure, *n*—the pressure relative to an ideal vacuum.

DISCUSSION—The absolute pressure can be expressed in kPa, mm Hg, bar, psia, etc., as defined by the application.

DISCUSSION—An ideal vacuum is the best vacuum available using the application.

acid gas, *n*—natural gas containing high concentrations of hydrogen sulfide or carbon dioxide, or both, which is acidic when in contact with water or water vapor.

associated gas, *n*—natural gas, also known as gas-cap gas or dome gas, that overlies and is in immediate contact, but not in solution, with crude oil in a reservoir.

at-line instrument, *n*—instrument requiring operator interaction to sample gas directly from the pipeline.

automotive LPG (special duty propane, HD-5 propane), *n*—a product composed chiefly of propane specifically developed for use as fuel in spark-ignition internal combustion engines.

DISCUSSION—Products such as special duty propane from Specification D1835 or HD-5 propane from specification GPA Midstream 2140 were designed for automotive applications.

base conditions, *n*—temperature and pressure conditions at which natural gas volumes are determined for purposes of custody transfer.

DISCUSSION—In natural gas measurements, the properties of interest are temperature, pressure, and composition. Assuming ideal gas

⁴ Available from SAE International (SAE), 400 Commonwealth Dr., Warrendale, PA 15096, <http://www.sae.org>.

⁵ Available from Gas Processors Association (GPA), 66 American Plaza, Suite 700, Tulsa, OK 74135, <http://www.gpaglobal.org>.

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