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An American National Standard

Standard Specification for Liquefied Petroleum (LP) Gases¹

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1. Scope

1.1 This specification covers those products commonly referred to as liquefied petroleum gases, consisting of propane, propene (propylene), butane, and mixtures of these materials. Four basic types of liquefied petroleum gases are provided to cover the common use applications.

1.2 This specification is applicable to products intended for use as domestic, commercial and industrial heating, and engine fuels.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

- D 1265 Practice for Sampling Liquefied Petroleum (LP) Gases (Manual Method)²
- D 1267 Test Method for Gage Vapor Pressure of Liquefied Petroleum (LP) Gases (LP-Gas Method)²
- D 1657 Test Method for Density or Relative Density of Light Hydrocarbons by Pressure Thermohydrometer²
- D 1837 Test Method for Volatility of Liquefied Petroleum (LP) Gases²
- D 1838 Test Method for Copper Strip Corrosion by Liquefied Petroleum (LP) Gases²
- D 2158 Test Method for Residues in Liquefied Petroleum (LP) Gases²
- D 2163 Test Method for Analysis of Liquefied Petroleum (LP) Gases and Propene Concentrates by Gas Chromatography²
- D 2420 Test Method for Hydrogen Sulfide in Liquefied Petroleum (LP) Gases (Lead Acetate Method)²

D 2598 Practice for Calculation of Certain Physical Properties of Liquefied Petroleum (LP) Gases from Compositional Analysis²

D 2713 Test Method for Dryness of Propane (Valve Freeze Method)²

D 2784 Test Method for Sulfur in Liquefied Petroleum Gases (Oxy-Hydrogen Burner or Lamp)²

D 3700 Practice for Obtaining LPG Samples Using a Floating Piston Cylinder³

2.2 Other Document:

GPA Standard 2140⁴

3. Terminology

3.1 Definitions:

3.1.1 *commercial butane*—a hydrocarbon product for use where low volatility is required.

3.1.2 *commercial PB mixtures*—mixtures of propane and butane for use where intermediate volatility is required.

3.1.3 *commercial propane*—a hydrocarbon product for use where high volatility is required. Commercial propane is suitable for certain low severity internal combustion engine applications.

3.1.4 *special-duty propane*—a high-quality product composed chiefly of propane, which exhibits superior antiknock characteristics when used as an internal combustion engine fuel.

4. Sampling

4.1 Proper sampling of liquefied gases is extremely important if the test results are to be significant. Obtain representative samples in accordance with Practice D 1265 or Practice D 3700.

5. Detailed Requirements

5.1 The four types of liquefied petroleum gases shall conform to the requirements prescribed in Table 1.

6. Keywords

6.1 butane; HD-5 propane; liquefied petroleum (LP) gases specifications; propane

¹ This specification is under the jurisdiction of ASTM Committee D02 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.H0 on Liquefied Petroleum Gas.

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² Annual Book of ASTM Standards, Vol 05.01.

³ Annual Book of ASTM Standards, Vol 05.02.

⁴ Available from Gas Processors Assn., 6526 E. 60th St., Tulsa, OK 74145.
www.gasprocessors.com