



FINAL RULE

NIST
United States
Department of
Commerce
Technology
Administration
National
Institute of
Standards and
Technology

UNIFORM LAWS AND REGULATIONS

in the area of legal
metrology and engine
fuel quality

enacted by
the 106th
Congress
Division of
Weights and
Measurements



NIST Handbook **130**
2003

2.16.2. Net Contents. -- The net contents shall be expressed in terms of cubic meters or cubic feet, kilograms, or pounds and ounces. See § 2.21. Liquefied Petroleum Gas for permitted expressions of net contents for liquefied petroleum gas. A standard cubic foot of gas is defined as a cubic foot at a temperature of 21 EC (70 EF) and a pressure of 101.35 kilopascals (14.696 psia) except for liquefied petroleum gas as stated in § 2.21.

2.16.3. Cylinder Labeling. -- Whenever cylinders are used for the sale of compressed or liquefied gases by weight, or are filled by weight and converted to volume, the following shall apply:

2.16.3.1. Tare weights

(a) Stamped or stenciled tare weight. -- For safety purposes, the tare weight shall be legibly and permanently stamped or stenciled on the cylinder. All tare weight values shall be preceded by the letters "TW" or the words "tare weight." The tare weight shall include the weight of the cylinder (including paint), valve, and other permanent attachments. The weight of a protective cap shall not be included in tare or gross weights. The Code of Federal Regulations Title 49, § 178.50-22 requires the maker of cylinders to retain test reports verifying the cylinder tare weight accuracy to a tolerance of 1 percent.

(b) Tare weight for purposes of determining the net contents. -- The tare weight used in the determination of the final net contents may be either:

(1) the stamped or stenciled tare weight or

(2) the actual tare determined at the time of filling the cylinder. If the actual tare is determined at the time of filling the cylinder, it must be legibly marked on the cylinder or on a tag attached to the cylinder at the time of filling.

(c) Allowable difference. -- If the stamped or stenciled tare is used to determine the net contents of the cylinder, the allowable difference between the actual tare weight and the stamped (or stenciled) tare weight, or the tare weight on a tag attached to the cylinder for a new or used cylinder, shall be:

(1) 1/2 percent for tare weights of 9 kg (20 lb) or less or

(2) 1/4 percent for tare weights of more than 9 kg (20 lb).

(d) Average Requirement. -- When used to determine the net contents of cylinders, the stamped or stenciled tare weights of cylinders at a single place of business found to be in error predominantly in a direction favorable to the seller and near the allowable difference limit shall be considered to be not in conformance with these requirements.

(e) Liquefied Petroleum Gas in Refillable Cylinders. When sold by weight, Liquefied Petroleum Gas (LPG) must be weighed on an appropriate, sealed commercial scale. A sales invoice shall be provided and shall contain at least the following information:

- a. Weight of the cylinder before filling.
- b. Weight of the cylinder after filling.
- c. The net weight of the LPG delivered.
- d. The unit price
- e. The total computed price

2.16.3.2. Acetylene gas cylinder tare weights. -- Acetone in the cylinder shall be included as part of the tare weight.

2.16.3.3. Acetylene gas cylinder volumes. -- The volumes of acetylene shall be determined from the product weight using approved tables such as those published in NIST Handbook 133 or those developed using 70 EF (21 EC) and 14.7 cubic feet (101.35 kPa) per pound at 1 atmosphere as conversion factors.

3.10. Liquefied Petroleum (LP) Gas

3.10.1. How LPG is to be Identified. -- Liquefied petroleum gases shall be identified by grades Propane, Commercial Butane, Commercial PB Mixtures or Special-Duty Propane (HD5).

3.10.2. Retail Dispenser Labeling. -- Each retail dispenser of liquefied petroleum gases shall be labeled as

3.10.3. "Propane," "Commercial Butane," "Commercial PB Mixtures," or "Special-Duty Propane (HD5)."

3.10.3. Additional Labeling Requirements. -- Liquefied petroleum gas shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.

3.10.4. NFPA Labeling Requirements also apply. (Refer to the most recent edition of NFPA 58.)

3.11. Compressed Natural Gas

3.11.1. How Compressed Natural Gas is to be Identified. -- For the purposes of this regulation, compressed natural gas shall be identified by the term "Compressed Natural Gas" or "CNG."

3.11.2. Retail Sales of Compressed Natural Gas Sold as a Vehicle Fuel

3.11.2.1. Method of Retail Sale. -- All compressed natural gas kept, offered, or exposed for sale or sold at retail as a vehicle fuel shall be in terms of the gasoline liter equivalent (GLE) or gasoline gallon equivalent (GGE).

3.11.2.2. Retail Dispenser Labeling

3.11.2.2.1. Identification of Product. -- Each retail dispenser of compressed natural gas shall be labeled as "Compressed Natural Gas."

3.11.2.2.2. Conversion Factor. -- All retail compressed natural gas dispensers shall be labeled with the conversion factor in terms of kilograms or pounds. The label shall be permanently and conspicuously displayed on the face of the dispenser and shall have either the statement "1 Gasoline Liter Equivalent (GLE) is equal to 0.678 kg of Natural Gas" or "1 Gasoline Gallon Equivalent (GGE) is equal to 5.660 lb of Natural Gas" consistent with the method of sale used.

3.11.2.2.3. Pressure. -- CNG is dispensed into vehicle fuel containers with working pressures of 16 574 kPa, 20 684 kPa, or 24 821 kPa. The dispenser shall be labeled 16 574 kPa, 20 684 kPa, or 24 821 kPa corresponding to the pressure of the CNG dispensed by each fueling hose.

3.11.2.2.4. NFPA Labeling. -- NFPA Labeling requirements also apply. (Refer to NFPA 52.)

3.11.3. Nozzle Requirements for CNG. -- CNG fueling nozzles shall comply with ANSI/AGA/CGA NGV 1.

3.12. Liquefied Natural Gas

3.12.1. How Liquefied Natural Gas is to be Identified. -- For the purposes of this regulation, liquefied natural gas shall be identified by the term "Liquefied Natural Gas" or "LNG."

3.12.2. Labeling of Retail Dispensers of Liquefied Natural Gas Sold as a Vehicle Fuel

3.12.2.1. Identification of Product. -- Each retail dispenser of liquefied natural gas shall be labeled as "Liquefied Natural Gas."