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Bio-natural gas as vehicle fuel

车用生物天然气

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Bio-natural gas as vehicle fuel

1 Scope

This document specifies the technical requirements, test methods and inspections of bio-natural gas as vehicle fuel.

This document applies to bio-natural gas as vehicle fuel whose pressure is not greater than 25 MPa (gauge pressure).

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. For dated references, only the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable to this document.

GB/T 13609, Natural gas sampling guidelines

GB/T 13610, Analysis of natural gas composition - Gas chromatography

GB/T 17258, Steel cylinders for the on-board storage of compressed natural gas as a fuel for automotive vehicles

GB 18047, Compressed natural gas as vehicle fuel

GB/T 27894.3, Natural gas - Determination of composition with defined uncertainty by gas chromatography - Part 3: Determination of hydrogen, helium, oxygen, nitrogen, carbon dioxide and hydrocarbons up to C₈ using two packed columns

GB/T 27894.6, Natural gas - Determination of composition with defined uncertainty by gas chromatography - Part 6: Determination of hydrogen helium oxygen nitrogen carbon dioxide and C₁ to C₈ hydrocarbons using three capillary columns

GB/T 40506, Bio-natural gas - Terminology

TSG 21, Supervision Regulation on Safety Technology for Stationary Pressure Vessel

5.2 The determination of high calorific power, total sulfur, hydrogen sulfide, carbon dioxide mole fraction, oxygen mole fraction, water and water dew point in bio-natural gas as vehicle fuel shall comply with the regulations in GB 18047.

6 Storage and use requirements

6.1 The storage of bio-natural gas as vehicle fuel after pressurization shall comply with the regulations in TSG 21 and GB 18047. Steel cylinders of compressed bio-natural gas as vehicle fuel shall comply with the provisions of GB/T 17258.

6.2 The maximum particle size of solid particles in bio-natural gas as vehicle fuel shall be less than 5 μm .

6.3 The bio-natural gas without odor or with insufficient odor shall be odorized. The minimum amount of odorant shall meet the requirement that when bio-natural gas leaks into the air, it can be detected before it reaches 20% of the lower explosive limit concentration.

7 Inspection

7.1 The sampling of bio-natural gas as vehicle fuel shall comply with the regulations in GB/T 13609.

7.2 During normal production, the methane content in bio-natural gas as vehicle fuel shall be tested every day, to ensure that the parameters comply with the physical and chemical properties in Table 1.

7.3 Under the following circumstances, products of bio-natural gas as vehicle fuel shall be inspected comprehensively in accordance with the technical requirements specified in this document:

- a) When it is first put into production;
- b) In normal production, after regular or cumulative production;
- c) When there is a major change in the process;
- d) When the delivery test result is significantly different from the last comprehensive test.

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