



## ASTM D2163 Hydrocarbons In LPG By GC

The distribution of hydrocarbon components in liquefied petroleum gases and propene mixtures is commonly needed for their sale and end-use applications. Precise compositional data is essential for ensuring consistent quality, particularly for uses such as chemical feedstocks or fuel. Even trace levels of certain hydrocarbon impurities can negatively impact their functionality and processing.

### IES-2163 Gas Chromatograph

#### Overview

The IES-2163 Gas Chromatograph is specifically designed for quality control in liquefied petroleum gas (LPG) production, as well as for import and export commodity inspections. The analysis results comply with ASTM D2163 and GB10410.3-89 standards. It facilitates the examination of gaseous hydrocarbons below C5, excluding alkyne components.

This GC enables the quantitative determination of individual hydrocarbons in LPG and propane-propene mixtures (excluding high-purity propane) within the C1 to C5 range. Component concentrations can be measured from 0.01 to 100 volume percent.

However, this GC does not provide a complete determination of hydrocarbons heavier than C5 or non-hydrocarbon materials. Additional testing may be required for a comprehensive characterization of an LPG sample.

#### Product details

The GC is designed for the analysis of gaseous hydrocarbons below C5, excluding alkyne components. It can analyze compounds such as air, methane (CH<sub>4</sub>), ethane (C<sub>2</sub>H<sub>6</sub>), ethene (C<sub>2</sub>H<sub>4</sub>), propane (C<sub>3</sub>H<sub>8</sub>), propylene (C<sub>3</sub>H<sub>6</sub>), iso-butane (iC<sub>4</sub>H<sub>10</sub>), n-butane (nC<sub>4</sub>H<sub>10</sub>), n-butene (1-C<sub>4</sub>H<sub>8</sub>), isobutene (iC<sub>4</sub>H<sub>8</sub>), cis-butene (cC<sub>4</sub>H<sub>8</sub>), trans-butene (tC<sub>4</sub>H<sub>8</sub>), 1,3-butadiene, n-pentane (C<sub>5</sub>H<sub>12</sub>), and iso-pentane (C<sub>5</sub>H<sub>12</sub>), with a concentration range of 100 ppm to 50%.

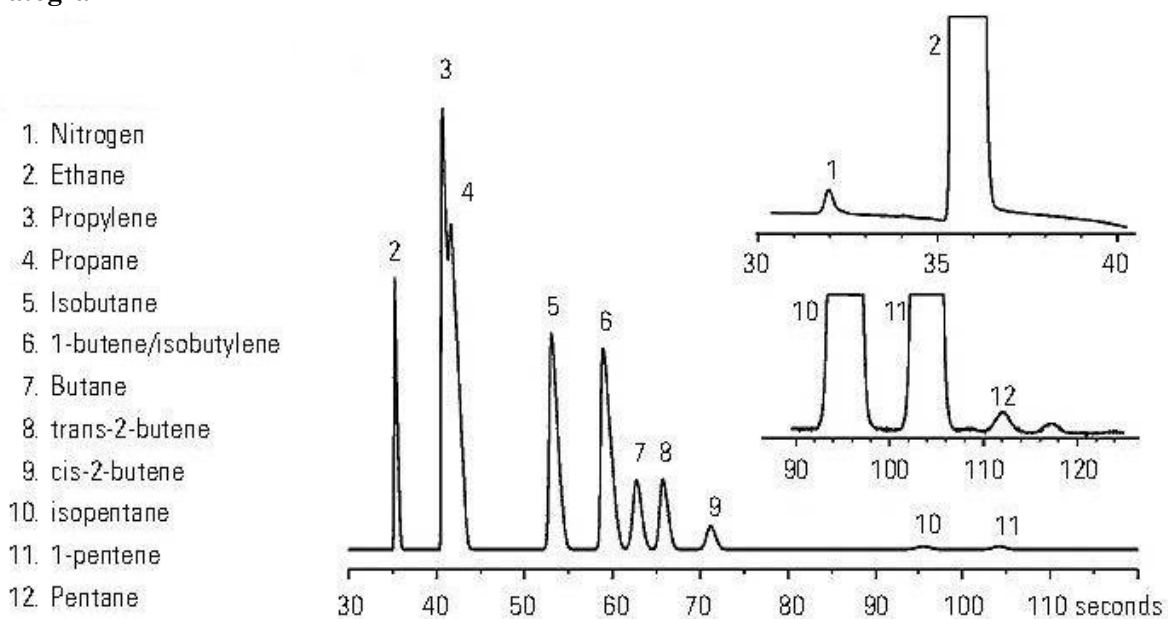
It is also suitable for GAS analysis, including nitrogen, ethane, propylene, propane, iso-butane, isobutene, butane, trans-butene, 2-butene, iso-pentane, pentene, and pentane.

#### Features

1. Features dual detectors: FID (Flame Ionization Detector) and TCD (Thermal Conductivity Detector).
2. The FID is utilized for analyzing components such as ethane, propylene, propane, iso-butane, isobutene, butane, trans-butene, 2-butene, iso-pentane, pentene, and pentane.
3. The TCD is designated for nitrogen analysis.

4. The GC is equipped with a multi-step temperature programming feature, ensuring optimal chromatographic separation, reducing analysis time, and enhancing overall efficiency.
5. Includes a six-way gas valve and dual chromatographic columns, enabling comprehensive analysis of all listed components from a single sample. Its dual six-way valve system allows simultaneous, non-interfering sample injection.
6. Comes with 4-liter aluminum bottles containing a special standard mixture, making quantitative analysis highly convenient.
7. Features a dual-channel chromatography workstation compatible with the XP operating system. It supports chromatographic spectrogram storage, data processing, and customized report printing. The equipment includes a one-year warranty (excluding human-induced damage or loss) and lifetime maintenance service.

### Chromatogram



### C<sub>4</sub> isomers including butadiene at low levels.

