

Combined Methods Liquefied Petroleum (LP) Gases and Propene Concentrates

ASTM D2163

Dual train configuration of an Agilent Technologies 7890A Series Gas Chromatograph with a flame ionization detector (FID) for the LPG and propene concentrates.

Two methods will be developed. These methods can not be run simultaneously.

Method One

Components analyzed on each FID include: the C1 through C5 paraffins and olefins.

Identified Components

	Min. Conc. (ppm)		
• 1,3-Butadiene	100 ppm	• Isobutylene	100 ppm
• 1-Butene	100 ppm	• Isopentane	100 ppm
• 2-Methyl-1-butene	100 ppm	• Methane	100 ppm
• 3-Methyl-1-butene	100 ppm	• Methyl acetylene	100 ppm
• Acetylene	100 ppm	• n-Butane	100 ppm
• c-2-Butene	100 ppm	• Neopentane	100 ppm
• c-2-Pentene	100 ppm	• n-Pentane	100 ppm
• C6+ backflush	200 ppm	• Propadiene	100 ppm
• Ethane	100 ppm	• Propane	100 ppm
• Ethylene	100 ppm	• Propylene	100 ppm
• Isobutane	100 ppm	• t-2-Butene	100 ppm
		• t-2-Pentene	100 ppm

An initial backflush method is not recommended for samples containing C6+ hydrocarbon concentrations exceeding 25%.

An analysis time of less than 15 minutes is expected. The FID analysis will be developed to be compliant with ASTM D2163.

Liquefied Petroleum (LP) Gases and Propene Concentrates continued

Method Two

Components analyzed on each FID include: the C1 through C7 paraffins and olefins.

Identified Components

	Min. Conc. (ppm)		
• 1,3-Butadiene	100 ppm	• Isopentane	100 ppm
• Acetylene	100 ppm	• Methane	100 ppm
• Benzene	100 ppm	• Methyl acetylene	100 ppm
• Butene	100 ppm	• n-Butane	100 ppm
• c-2-Butene	100 ppm	• Neohexane	100 ppm
• C8+ backflush	200 ppm	• Neopentane	100 ppm
• Ethane	100 ppm	• n-Hexane	100 ppm
• Ethylene	100 ppm	• n-Pentane	100 ppm
• Heptane	100 ppm	• Propadiene	100 ppm
• Isobutane	100 ppm	• Propane	100 ppm
• Isobutylene	100 ppm	• Propylene	100 ppm
		• t-2-Butene	100 ppm

An initial backflush method is not recommended for samples containing C8+ hydrocarbon concentrations exceeding 25%.