PetroSkills

Hydrocarbon Components and Physical Properties

MODULE

About the Skill Module

This skill module describes the basic terminology and hydrocarbon nomenclature commonly used in the oil and gas industry. This skill module also explains methods used to determine hydrocarbon fluid composition and approaches to and implications of the characterization of heavy hydrocarbons (C6+) in mixtures. This module also demonstrates how to estimate hydrocarbon physical properties (density and viscosity) for both liquids and vapors, including their purpose and use as applied in facilities engineering calculations.

See demo online learning module

Target Audience

Production and processing personnel involved with natural gas and associated liquids, to acquaint or reacquaint themselves with gas conditioning and processing unit operations. This course is for facilities engineers, process engineers, senior operations personnel, field supervisors, and engineers who select, design, install, evaluate, or operate gas processing plants and related facilities. A broad approach is taken with the topics.

You Will Learn

Participants will learn how to:

- Describe the concept of atomic mass, molecular mass, and the mol
- Identify the four main hydrocarbon groups
- Practice the concept of relative density
- Discuss how a gas chromatograph works, the limitations of various analysis methods, and the difference between an extended analysis and a standard gas chromatographic analysis
- Recognize the uncertainties involved with characterizing the C6+ components in a natural gas, condensate or crude oil stream, and describe the relationship of these factors with hydrocarbon liquid composition
- Describe an Equation of State, its purpose and uses
- Define standard (normal) conditions for SI and FPS units, and calculate the molar volume at these conditions
- Describe the gas compressibility factor and use it to calculate gas density
- Define the property “viscosity”, list applications where it is used, and describe correlations that can be used to predict its value

- Estimate the density of a hydrocarbon liquid at a specified temperature and pressure

Product Details

Categories: Midstream

Disciplines: Gas Processing Process Facilities

Levels: Basic

Product Type: Individual Skill Module

Format: On-Demand

Duration: 2.5 hours (approx.)

$250.00