



Arabian Institute For Training

---

# Petroleum Products Specifications, Properties, and Market Demand

## INTRODUCTION

- Achieving company success and meeting the challenges imposed by climate change and a post-COVID-19 world, requires an in-depth perception and understanding of how petroleum products are traded, their demand now and in a future world of low carbon emissions, all of which can create opportunities that are imperative towards achieving profitability and sustainability.
- This Petroleum products training course is designed to provide you with a deep knowledge of properties, specifications, markets and demands of petroleum products. The course also provides technical knowledge related to the standard quality control tests performed in refineries and petrochemical plants to ensure that the finished products are in line with commercial specifications.

### This training course will highlight:

- Petroleum Products main characteristics and properties
- Reviews the main specifications and how these specifications evolved over time and for different countries
- Standard quality control tests performed in refineries and petrochemical plants
- Significance and the accuracy of the testing methods used
- Analyse the market trends and forecasts future prospects for production and demand

## OBJECTIVES

### By the end of this training seminar, you will be able to:

- Grasp the main characteristics of petroleum products and their relevance for end-users.
  - List the key properties for automotive fuels (now and in the future).
  - Identify recent changes and future trends for the petroleum products' specifications, markets and demand
  - Identify the main trends of fuel evolution due to new regulations and/or new motor technologies.
  - Understand how the main properties of each petroleum products are measured, checked, and controlled using standard quality control tests.
  - Understand the tests significance and accuracy of the methods.
-

---

## **TRAINING METHODOLOGY**

- This training course will utilise a variety of proven management learning techniques to ensure maximum understanding, comprehension and retention of the business tools, techniques and best practices presented. The training course will be highly interactive and participative. Participants will learn by active participation throughout the course, through the use of programme materials, case study exercises, quizzes, training videos and discussion of business cases issues in their organizations.

## **ORGANISATIONAL IMPACT**

- By sending their employees to this training course, the organization will gain a wider range of skills that participants acquire and henceforth apply in their workspace that will directly benefit their respective companies. They will benefit through their employees' understanding of the petroleum product's specifications Market & Demand and will:
- Have a comprehensive understanding of the impact of Refinery Production of petroleum products specifications today and in the future
- Learn how the main quality standards and specifications of petroleum products will change in a low carbon world
- Understand the standard quality control tests of petroleum products
- Know how to manage planning scheduling and blending errors more effectively and efficiently
- Grasp the differences in specifications of petroleum products by country and how to enhance profitability and sales by exploiting these variations
- Gain an insight of common and new techniques and software as well as key industry success factors

## **PERSONAL IMPACT**

On successful completion of this training course the participants will be able to understand:

- Deep knowledge of petroleum products
  - Analysis of the petroleum product and location
  - Market trends and forecasts
  - Future prospects for production and demand
  - Common and new techniques and software
  - Key industry success factors
-

---

## WHO SHOULD ATTEND?

- This training course is targeted at professionals new to the energy industry, and those in refineries needing to better understand and respond to the rapid changes in the Petroleum products' Properties, Specifications, Market & Demand.

**This course is suitable to a wide range of professionals but will especially benefit:**

- Engineers, Technical Managers and Technicians from laboratories in plant and research centers
- Technicians, Engineers, Managers and Commercial or Technical Staff whose activities are related to the production, storage, purchasing, marketing or use of petroleum products
- Laboratory Technicians, Engineers and Managers in the refining industry interested in improving their knowledge of petroleum products
- Technicians and Engineers from the process and operation units in refining, petrochemical and engineering companies
- Laboratory Technicians and Engineers involved in ensuring the quality of petroleum products
- Technicians and Engineers from all industries concerned by motor fuel evolution: car makers, refining, fuels traders, agro-fuels manufacturers

## Course Outline

### Introduction to the Petroleum Products

- Origin of Hydrocarbons
- Types & Composition of Crude Oils
- Pretreatment of Crude Oils
- Crude Assay & Crude Oils Properties
- Petroleum Products and Refinery Configuration
- Fuel specification, energy consumption and CO<sub>2</sub> emission in oil refineries

### Petroleum Products: Markets, Trading and Demand

- Petroleum Products: markets, trading and demand
  - Current consumptions
  - Overview of how consumption changed by market sector
  - Changes in demand & consumption - Automotive fuels
  - Demand for automotive fuels
  - The automotive vehicle fleet
  - Gasoline v/s Gas Oil
  - Future demand for gasoline and gas oil
  - Consumption of automotive fuels - Income and price
-

---

## Quality Standards & Specifications of Petroleum Products

- Volatility specifications
- Combustion specifications:
- Cold condition behavior and flowing specifications for:
- Pollution and corrosiveness specifications:
- Stability specifications
- Asphalts specifications
- Lube base oil specifications

### Standard Quality Control Tests of Petroleum Products (I)

- Tests Related to Volatility
- Tests Related to Combustion
- Tests Related to Storage & Flowing
- Tests Related to Air Pollution
- Tests Related to Corrosiveness

### Standard Quality Control Tests of Petroleum Products (II)

- Tests Related to Stability of Motor Gasoline, Turbine Fuels & Distillates:
  - Tests Related to Asphalts
  - Tests Significance & The Accuracy of Test Methods
  - ISO17025 overview
  - Specifications of Petroleum Products by Country
-



Arabian Institute For Training