

Training - Properties, Formulation, Transfer and Storage of Petroleum Products



PCTS-EN-P



Face-to-face only



8 days

From the properties of the finished products, this training provides a deeper knowledge on petroleum products formulation, storage and transfer between different sites

Level

Skilled

Public

- Operation staff (field operators, panel operators, supervisors...) in reception, blending, storage and shipping facilities in refineries and petrochemical plants
- Anyone involved in petroleum products transfer and storage management

Objectives

Attendees will be able to implement the following skills:

- List key characteristics of crude oils, cuts, bases and finished products
- Apply mixing and manufacturing rules for finished products
- Calculate operating parameters of gravity and pumping transfers
- Recognize equipment from atmospheric storage tanks
- Identify risks for safety, equipment and accounting in storage operations and develop measures appropriate to control such risks

Pedagogical & technical resources

- Usage of many pictures and video for equipment understanding. Field visit if possible to be organized
- Case studies based on industrial situations: products transfers, products formulations

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsible

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

PROPERTIES OF CRUDE OIL & PETROLEUM PRODUCTS

2.75 days

Crude oils: main constituents, properties, initial fractionation in petroleum cuts.

Petroleum products:

- LPG, gasoline, jet fuel, Automotive Diesel Oil, heating oil, heavy fuel oils, bitumen.
- Main specifications, manufacturing constraints, storage and safety specificities.
- Evolution of product specifications.

Bases and alternative fuels: ethanol, ETBE and FAME.

MANUFACTURING OF PETROLEUM PRODUCTS

1.25 days

Bases manufacturing from petroleum cuts: petroleum products manufacturing scheme, simplified process diagrams of refineries and petrochemical units.

Finished products manufacturing:

- Theory and process for blenders: on-line optimization manufacturing, additivation.
- Economic aspects (give-away, added profit).

TRANSFER & TRANSPORT OF PETROLEUM PRODUCTS

1.75 days

Transfer by gravity: characteristics of gravity flow.

Transfer by pumping:

- Performance of centrifugal pumps, simplified technology and adaptation to pumping circuits.
- Operation of centrifugal pumps, start-up, shutdown, installation in series and parallel implementation.
- Operation and simplified technology of volumetric pumps.
- Operation of a transfer installation: practical and economic aspects, risks of vaporization, pressure surges, etc.
- Transfer of crude oil and petroleum products by ship.

Application: study of transfer from one tank to another.

STORAGE OF PETROLEUM PRODUCTS

2.25 days

Storage equipment:

- Pressurized and refrigerated tanks, spheres, cylindrical tanks, cryogenic tanks, cavities; ancillary equipment: safety valves, hydraulic safety valves.
- Fixed roof tanks: different types, vents, justification and limits of vent valves.
- Floating screen tanks: special features, justification.
- Floating roof tanks: different types of roof and seals, supporting legs, rainwater drainage.
- Protection against fire risks.

Tank operation:

- Operational safety: risks of inflammation, static electricity, pyrophoric substances, emulsions, overflow, toxic products.
- Heating. Mixing.
- Measuring the quantities delivered, stored and shipped: manual and remote gauging, measuring the temperature locally and remotely, volumetric and dynamic meters, manual and automatic sampling.
- Usual operation of storage tanks including emptying, degassing and decommissioning.

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.

Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com