

# Formation - Light Cuts Processing



REFI-EN-P



Présentiel



5 jours

This course provides a thorough knowledge of operation and refining processes involved in gasoline and diesel production

## Niveau

Fondamentaux

## Public

Engineers and supervisors involved in light and middle distillates processing units

## Objectifs

Attendees will be able to implement the following skills:

- Link processing units operation to various constraints set by product specifications
- Analyze operating parameters and their impacts
- Acquire the basics for operating processing units
- Know about the latest developments in these processes

## Pédagogie & ressources techniques

Numerous exercises and case studies based on real industrial situations

## Évaluation des acquis

- 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

## Prérequis

No prerequisites are necessary to follow this course

## Responsable

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

## Programme

### PETROLEUM PRODUCTS

0.25 day

Origin and characteristics of naphtha cuts.  
Octane properties and hydrocarbon (HC) families. Quality requirements.  
Gasoil and Diesel oil: cetane, cold flow and other properties.

### CATALYTIC REFORMING

1.25 days

Refinery octane pool: processes for octane improvement-gasoline sources.  
Process basics: thermodynamics and kinetics of chemical reactions. Hydrogen production.  
Role and types of catalysts - Activation, ageing, poisoning.

Industrial units: process flow scheme of SR and CCR, operating conditions, performances.  
Operating variables (WABT, WHSV, H<sub>2</sub>/HC ratio, recycle gas composition, pressure).  
Management of hydrogen production, impact of feed properties and operating conditions.  
Shutdown, regeneration and startup.  
Catalyst regeneration steps and control.

## **ISOMERIZATION OF LIGHT GASOLINES**

**0.5 day**

Integration in the gasoline production scheme. Isomerization reaction characteristics.  
Different types of catalysts: properties, activation, poisons, operating conditions.  
Industrial process: principle and specific constraints.  
Downstream separation main types and impact of recycling.

## **HYDROREFINING PROCESSES**

**2 days**

Removal of impurities, hydrogenation of unsaturated compounds: chemical reactions characteristics.  
Role and types of catalysts in relation with feeds, hydrogen consumption and required results.  
Operating conditions and main variables (temperature, WHSV, H<sub>2</sub>/HC ratio, PPH<sub>2</sub>, etc.).  
Catalyst loading map; cycle length optimization.  
Main refining applications and specific operating features, example of gasolines and middle distillates desulfurization.

## **SWEETENING OF LIGHT CUTS**

**0.25 day**

Role of sweetening process, basic chemical reactions, nature and efficiency of the catalyst.  
Main applications for LPG's, naphtha's and kerosene cuts.  
Operating conditions: temperature, caustic concentration, mixing efficiency, air injection, etc.

## **SULFUR RECOVERY**

**0.75 day**

Refinery sulfur balance. Importance of sulfur recovery chain processes.  
Amine scrubbing chemical reactions and operating parameters.  
Industrial process and operating parameters as air/H<sub>2</sub>S ratio, steam production.  
Claus chemical reactions.  
Process control and impact on environment: causes for sulfur emission increase.  
Tail gas treatments: process principles, operating conditions.

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Pour vérifier l'accessibilité de cette formation à une personne en situation de handicap, contactez notre référent à l'adresse suivante :  
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