

PROCESS SAFETY FUNDAMENTALS FOR REFINING OPERATIONS

Start Date:	02/11/2026	End Date:	06/11/2026
Categories:	Oil & Gas	Venues:	Amsterdam
Formats:	In Person	Instructors:	

OVERVIEW

This course introduces key process safety principles relevant to refining operations. It covers hazard identification, risk mitigation, safety barriers, and operational control systems to prevent major accidents and support safe plant operations.

OBJECTIVES

By the end of this course, participants will be able to:

- Recognize key process safety hazards in refining environments.
- Apply risk assessment tools like HAZID and bowtie analysis.
- Understand layers of protection and safety barrier management.
- Implement operational controls and safe operating procedures.
- Contribute to a strong process safety culture and incident prevention programs.

COURSE OUTLINE

1. Introduction to Process Safety and Major Accident Hazards
2. Hazard Identification and Risk Assessment Tools
3. Layers of Protection and Safety Instrumented Systems (SIS)
4. Operational Controls, Safe Work Practices, and Procedures
5. Process Safety Culture, Leadership, and Lessons Learned

TARGET AUDIENCE

Operations personnel, process engineers, HSE coordinators, and shift supervisors involved in refinery safety and process hazard management.

METHODOLOGY

Real-life case analysis, risk scenario workshops, safety system walkthroughs, and team simulations.

CONCLUSION

Participants will develop foundational skills in process safety, enabling them to support risk reduction and safe operations in refining facilities.

DAILY AGENDA

Day 1: Overview of Process Safety in Refining

Understanding accident types, regulatory drivers, and the role of process safety.

Day 2: Hazard Identification and Risk Assessment

Applying HAZID, bowtie, and What-If analyses to assess risks.

Day 3: Protection Layers and Safety Systems

Exploring SIS, alarms, relief systems, and physical safety barriers.

Day 4: Operational Discipline and Safe Procedures

Implementing SOPs, permit-to-work, and control of hazardous energy.

Day 5: Building a Process Safety Culture

Driving leadership engagement, incident learning, and safety communication.

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