



Flow Assurance & Production Chemistry



INTERNATIONAL ASSOCIATION FOR
HEALTH AND OCCUPATIONAL
SAFETY AND THE ENVIRONMENT



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Course Introduction:

This course is designed to equip professionals in the oil and gas industry with a comprehensive understanding of flow assurance principles and the chemistry involved in hydrocarbon production. As exploration and production activities become more complex, ensuring the uninterrupted flow of hydrocarbons from the reservoir to the processing facilities is critical. This five-day theoretical course will cover essential topics related to fluid flow behavior, production chemistry, and the challenges encountered in maintaining flow integrity.

Participants will explore various aspects of flow assurance, including hydrate formation, wax deposition, and the chemical treatments used to mitigate these issues. The course will also address the impact of production chemistry on reservoir performance and the effectiveness of extraction techniques. By the end of the course, attendees will be equipped with the knowledge and skills necessary to address flow assurance challenges and optimize production chemistry in their operations.

Course Objectives:

By the end of the program, participants will be able to:

- Understand the fundamental principles of flow assurance and production chemistry.
- Identify and analyze common flow assurance challenges in hydrocarbon production.
- Evaluate the impact of production chemistry on reservoir performance and extraction techniques.
- Apply chemical treatments effectively to mitigate flow assurance issues.
- Stay informed about future trends and innovations in flow assurance and production chemistry.

Who Should Attend?

This course is intended for:-

- Engineers and technicians in the oil and gas industry.
- Production and reservoir engineers.
- Chemical engineers and production chemists.
- Safety and compliance officers in hydrocarbon production.

Course Outline:

Day 1: Introduction to Flow Assurance

- Overview of flow assurance concepts and importance in hydrocarbon production
- Key components of flow assurance: fluids, pipelines, and production systems
- Understanding fluid properties and behavior under varying conditions
- Regulatory frameworks and industry standards related to flow assurance

Day 2: Production Chemistry Fundamentals

- Introduction to production chemistry: definition and significance
- Chemical composition of crude oil and natural gas
- Phase behavior of hydrocarbons: gas, liquid, and solid phases
- Impact of production chemistry on reservoir performance

Day 3: Challenges in Flow Assurance

- Common flow assurance challenges: hydrate formation, wax deposition, and asphaltene precipitation
- Mechanisms of hydrate formation and prevention strategies
- Wax deposition: causes, effects, and mitigation techniques
- Case studies of flow assurance failures and lessons learned

Day 4: Chemical Treatments and Solutions

- Overview of chemical treatments used in flow assurance: inhibitors, surfactants, and dispersants
- Selection criteria for chemical treatments based on specific flow assurance challenges
- Monitoring and evaluation of chemical treatment effectiveness
- Best practices for the application of production chemistry solutions

Day 5: Future Trends in Flow Assurance and Production Chemistry

- Emerging technologies in flow assurance and production chemistry
- The role of digitalization and data analytics in optimizing flow assurance
- Sustainability considerations in hydrocarbon production
- Preparing for future challenges in flow assurance and production chemistry

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work

Course Fees:

To be advice as per course location. This rate includes participant's manual, Hands-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session