



LDPE Process Chemistry & Product Training

Consultant / Trainer:

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The **Petrogenium**. LDPE course is centred around the process chemistry of the high-pressure polymerisation of ethylene to make low density polyethylene and the associated product properties and product applications. The course provides the background to understand the specific polymer structure and how to tailor product properties by adjusting process conditions. The main product applications for LDPE are covered and the required product properties discussed.

Participants

This **Petrogenium**. course can be tailored for awareness/inexperienced staff, for intermediate and for experienced personnel. Furthermore the course can be customized for a specific refinery, plant or unit. The option for post-course consultancy/help-desk support is also available.

Participants may include: plant management, process engineers, laboratory personal and product developers.

Learning Objectives

Process and Polymer Chemistry Basics

- What is PE
- What is LDPE
- Free Radical Polymerisation Reaction

Process Control and Process Chemistry

- Polymerisation Initiators
- Chain Transfer Agents
- Comonomers
- Control of Polymer Properties

LDPE Products

- Structure-Property Relationship
- Product Applications
- Product Quality Parameters
- Product Testing
- Product Additivation
- Scope of Ethylene Copolymer Products

Programme

Day 1

General Introduction LDPE Process

- Polymer Characteristics of PE and specifically LDPE
- Polymerisation Basics
- General Control of Polymerisation Conditions
- Process Chemicals (Initiators, Chemicals, Inhibitors)
- Key Characteristics of Tubular and Autoclave Reactor
 - Impact on Product Properties and related Applications
- Control of Polymer Properties
- Process Disturbances

Day 2

General Introduction LDPE Products

- Key Product Characteristics
- Polymer Structure and Property Relationship
- Polymer Processing and Product Applications
 - Film Application
 - Extrusion Coating
 - Blow Molding
 - Injection Molding
 - Wire & Cable
- Product Quality Testing