



THE CHEMICAL ENGINEERING MAJOR

Fundamentals of the Base Oil & Gas

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Introduction

Base oil (mineral and synthetic) is approximately 95 percent of the current lubricant market share. The lubricants business is a uniquely high value segment of the downstream.

Almost every lubricant used in plants today started off as just a base oil and used for many other purposes. Lubricating base oils are derived from crude oil through refinery process.

This BTS training course will cover base oil refinery process, safety, health and environment as well as the global market to enhance knowledge of fundamental of the base oil and gas.

This BTS training course will highlight:

- Base oil introduction
- Base oil refining
- Lubricant formulation
- Health, safety and environment
- Base oil markets

Training Objectives

What are the Goals?

The objectives of this BTS training course are to enhance knowledge of Fundamental of the Base Oil and Gas. This BTS training course has five key objectives:

- Explain the base oil classification, quality, stock and properties
- Learning the refining process of the base oils
- Understanding the formulation of base oils
- Applying safety, health and environment in refining
- Understanding the trend of base oils, supply and demand in the market

By the end of this BTS training course, participants will learn to:

- Get an overview of the base oil classification, quality, stock and properties
- Describe the refining process of the base oils

- Explain the formulation of base oils
- Understand and apply the safety, health and environment in refining
- Explain the trend of base oils, supply and demand in the market

Target Audience

Who is this Training Course for?

Fundamental of the Base Oil and Gas training course is suitable to a wide range of professionals but will greatly benefit:

- Managers and team Leaders
- Operation Managers
- Contract Managers
- Financial Managers
- Administration Managers
- Engineers
- Supervisors

Training Methods

How will this Training Course be Presented?

Participants to this BTS training course will receive a thorough training on the subjects covered by the seminar outline with the Tutor utilising a variety of proven adult learning teaching and facilitation techniques. Seminar methodology includes classroom-style with highly interactive, exercise and case studies the training course will be run using PowerPoint slide and video.

Organisational Impact

The organisational impact will be demonstrated by the employees participating in this training course:

- Enhanced understanding of the classification, quality, stock and properties in base oils
- Improved knowledge and skill in the refining process
- Professional development in downstream operations
- Understand the formulation base oils to be in line with quality control
- Enhanced awareness of workplace safety

- Understand the trend of base oils, supply and demand in the market to support strategy and decision making

Personal Impact

- Better understanding of the classification, quality, stock and properties in base oils
- Enhanced knowledge and skills in refining process
- Individual professional development
- Improved knowledge for formulation base oils in line with quality control
- Increased awareness about workplace safety
- Ability to determine economic issues and markets hence supporting strategy and decision making

Daily Agenda

Day One: Base Oils Introduction

- Base oils overview
- Base oils properties
- Base oils stock
- Base oils classification
- Base oils quality

Day Two: Base Oils Refining

- Vacuum distillation
- Solvent deasphalting
- Solvent extraction
- Hydrocracking
- Hydrodewaxing
- Hydrotreating

Day Three: Lubricant Formulation

- Formulation principles
- Testing procedures
- Lubricant additives
- Raw materials' storage and handling
- Blending operations

Day Four: Health, Safety and Environment

- Overview of risks in base oils refining
- Chemical exposure
- Physical hazard
- Hazard controls
- Environmental impact

Day Five: Base Oils Marketing

- Overview in industry economics
- Trends in base oil production
- Advantages and disadvantages
- Supply and demand in the market
- Optimizing with production technologies