Fundamentals of Refinery Alkylation Technology Training Course

Introduction

The success of every company depends of each employee's understanding of the business's key components. Employee training and development will unlock the companies' profitability and reliability. When people, processes, and technology work together as a team developing practical solutions, companies can maximize profitability and assets in a sustainable manner.

It is strategically important that your group understands the fundamentals of project management. This is the difference between being in the best quartile of project management and being in the last quartile. There is vast difference in the ability of companies and most benchmarking studies have confirmed this gap in abilities.

Whether you have a team of new or seasoned employees, an introduction or review of these concepts is greatly beneficial in closing the gap if you are not in the best quartile or maintaining a leadership position. Most studies show that a continuous reinforcement of best practices in project management principles is the most effective way to obtain the desired results. Training and learning should be an ongoing continuous lifelong goal.

Course Objective

This course will guide the participants to develop key concepts and techniques to operate, select and optimize alklylation unit opertions processes. These key concepts can be utilized to make design and operating decisions. Training and development is an investment in future success – give yourself and your employees the keys to success. This course covers a general overview of the Alkylation Processes in a Refinery and how each integrates with the high value products.

Course Duration and Delivery

Typical course duration is 3 to 5 days based on the background of the participates. One of our Senior Technical Professional with over 25 years of experience would lead the class. Instruction can be in house or in an online webinar.

Typical Course Outline

1. Introduction to Processing Industry

    A. Overview of the Chemical Processing Industry
    B. Safety for the Chemical Processing Industry

2. Refinery Overview

    A. Refinery Overview
    B. The role of Alkylation in a modern Refinery

3. Introduction to Alkylation Chemistry

4. Alkylation Process Theory

    Technology Review

        A. Horizontal Contactor
        B. Stirred Contactor

    Alkylation Operations

        A. Refrigeration
        B. Treating Sections

5. Acid Catalyst Options

        A. Sulphric
        B. Hydrofluoric

6. Alkylation Key Design Parameters

        A. Design of Process
        B. Revamp Guidelines

7. Unit Optimization

   A. Distillation Fundamentals
   B. Distillation Fundamentals

8. Unit Economics

   A. Operational Control Parameters
   B. Acid Optimization

9. Commissioning

   A. Safe Start Up
   B. Safe Shut Down
   C. Trouble Shooting

10. Auxiliary Equipment

Who Should Attend

- People who are making day to day decisions regarding operation, design, maintenance, and economics of process industry plants.

    1. 1st Line Operations personnel,
    2. Operation Supervisors,
    3. 1st Line Maintenance personnel,
    4. Maintenance Supervisors,
    5. Senior Plant Supervisors,
    6. Operations Engineers
    7. Process Support Engineers,
    8. Design Engineers,
    9. Cost Engineers

- An engineer or chemist who must troubleshoot and solve catalyst problems in a plant, an engineering office or laboratory.
- Technical Engineers, Operating Engineers, Process Support Personnel, Chemist, and Managers
- Engineering graduates/technologists who will be using catalyst in their daily work.
- Technical Process engineers doing process design and optimization projects and studies that need who need advanced skills for more complex modeling tasks.
- Plant Operation Support Engineers checking plant performance under different operating conditions, and who are involved in design of new facilities or revamps of existing facilities.
- R&D engineers and researchers using catalyst for process synthesis, upgrade or modifications.

- Ideal for veterans and those with only a few years of experience who want to review or broaden their understanding of process safety.
- Other professionals who desire a better understanding of the subject matter.

What You Can Expect To Gain

- Overview of the Alkylation Processes in a Refinery.
- An understanding of Reactor and Catalyst interaction
- The operation, control and trouble shooting of a reactors and associated equipment
- An overview of alkylation, practical solutions as well as theory
- An understanding of essential alkyation concepts
- Valuable practical insights for trouble free design and field proven techniques for commissioning, start up and shutdown of operations
- To tailor your approach to specific design, analysis and trouble shooting problems.