Chemical Process Safety Manual

# Introduction

This manual covers essential chemical processes and safety procedures for industrial operations. It includes information about various chemical compounds, their properties, and handling procedures.

# Chapter 1: Chemical Compounds

## Ethanolamines

Ethanolamines are important industrial chemicals used in gas processing and chemical synthesis. They include monoethanolamine (MEA), diethanolamine (DEA), and triethanolamine (TEA). These compounds are commonly used for acid gas removal in natural gas processing plants.

## Safety Procedures

When handling ethanolamines, proper personal protective equipment must be worn. Ensure adequate ventilation and follow all safety protocols outlined in the MSDS sheets.

# Chapter 2: Process Operations

## Gas Processing

Gas processing involves several steps including acid gas removal, dehydration, and fractionation. The Merox process is commonly used for sulfur compound removal from hydrocarbon streams.

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| Chemical | Formula | Use |
| Monoethanolamine | C2H7NO | Acid gas removal |
| Diethanolamine | C4H11NO2 | Gas treating |
| Methyldiethanolamine | C5H13NO2 | Selective H2S removal |