

Sour Gas Treatment



INTRODUCTION

This course is designed to discuss in detail the principle technology for the natural gas treatment. The course is designed primarily for engineers and technologists involved in the design, operation, and optimization of the natural gas processing projects. A complete set of course materials is included.

COURSE OUTLINE

1. INTRODUCTION

- Contaminants
- Specifications
- Toxicity and Environmental Issues
- Gas Treating Options

2. BASIC PRINCIPLES

- Vapor-Liquid Equilibrium
- Solubility of Gases in Liquids
- Absorption and Regeneration
- Gas Conditioning and Treating Terminology

3. AMINE PROCESSES

- Alkanolamines
- Process Flowsheets and Key Parameters
- Amine Chemistry
- Selective Absorption
- Specialty Mixed and Formulated Solvents
- Operating Considerations

4. OTHER GAS CONDITIONING PROCESSES

- Potassium Carbonate
- Physical Solvents
- Scavenger and Solid Bed Treating Processes

5. AMINE PROCESS DESIGN AND ANALYSIS

- Workshop – Amine Process Case Studies

6. SUMMARY



INSTRUCTOR

Dr. Tomcej is President of Tomcej Engineering Inc., a small research and consulting firm that specializes in computer model development for gas conditioning technologies and fluid phase behavior. His research interests include rate-based modeling of chemical absorption processes, vapor-liquid equilibrium of acid gases in complex amine solutions, and industrial applications of equation-of-state models. His 25 years of experience in the gas treating industry began at DB Robinson & Associates Ltd. where he spent several years as Group Manager, Engineering & Software. At DBR he worked on diverse modeling projects such as multiphase fluid phase behavior, miscible gas displacement, sulphur solubility in super sour gases and cryogenic distillation. He was the principle architect responsible for the development of AMSIM, an amine treating simulation package found in current commercial process simulators. He formed Tomcej Engineering Inc. in 1990 and has been active in consulting and software development. He has published several technical papers relating to rate-based modeling of amine treating processes. He holds BSc and PhD degrees in chemical engineering from the University of Alberta, and is a member of CSE and AIChE.