

CORROSION MANAGEMENT IN AMMONIA AND UREA PLANTS

“Protecting assets and ensuring plant reliability through effective corrosion management”

Schedule

Date	Venue	Fees (Online)
18 - 19 May 2026	Online	USD 700 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Corrosion is a major challenge in ammonia and urea plants due to the aggressive chemical environments and high operational temperatures. Uncontrolled corrosion can lead to equipment failure, operational downtime, safety hazards, and financial losses. Effective corrosion management is therefore crucial to ensure plant reliability and safety.

This 2-day intensive training equips participants with practical knowledge and strategies for corrosion prevention, monitoring, and control in ammonia and urea plants. The course focuses on material selection, corrosion mechanisms, inspection techniques, and mitigation strategies to enhance plant performance and asset longevity.

Objectives

By the end of this course, participants will be able to:

- Understand common corrosion mechanisms in ammonia and urea plants
- Select appropriate materials and protective coatings for different environments
- Implement corrosion monitoring and inspection programs
- Apply preventive and corrective corrosion management strategies
- Reduce operational risks and equipment failures
- Integrate corrosion management into plant reliability programs
- Enhance safety, efficiency, and asset life

Why Attend

- Learn practical techniques to prevent and control corrosion
- Improve plant safety, reliability, and efficiency
- Reduce maintenance costs and unplanned downtime
- Understand material selection and protective measures
- Apply real-world case studies to your plant operations

Target Audience

This program is designed for:

- Materials and corrosion engineers
- Mechanical and process engineers
- Maintenance and reliability professionals
- Plant managers and supervisors
- HSE professionals involved in plant safety
- Asset integrity and inspection personnel

Individual Benefits

Key competencies that will be developed include:

- Understanding corrosion mechanisms and their impact
- Skills to select materials and protective coatings
- Ability to implement inspection and monitoring programs
- Knowledge of preventive and corrective corrosion measures
- Enhanced professional confidence in corrosion management

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced corrosion-related equipment failures
- Improved plant reliability and operational uptime
- Better maintenance planning and cost efficiency
- Stronger safety and asset integrity programs
- Enhanced compliance with operational and safety standards

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Corrosion mechanisms, material selection, and protective strategies
- Case Studies – Corrosion failures and mitigation in ammonia and urea plants
- Workshops – Hands-on exercises for corrosion monitoring and inspection
- Peer Exchange – Group discussions on best practices and lessons learned
- Tools – Corrosion monitoring templates, inspection checklists, and mitigation guides

Course Outline

Detailed 2-Day Course Outline

Training Hours: 9:00 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks included

Day 1: Fundamentals of Corrosion in Ammonia and Urea Plants

Module 1: Introduction to Corrosion (09:00 – 10:30)

- Corrosion types and mechanisms in chemical plants
- Factors affecting corrosion in ammonia and urea environments

Module 2: Material Selection and Protective Measures (10:45 – 12:15)

- Selecting corrosion-resistant materials
- Coatings, linings, and inhibitors

Module 3: Corrosion Monitoring Techniques (01:00 – 02:15)

- Inspection methods and non-destructive testing
- Data collection and analysis

Module 4: Workshop – Corrosion Assessment (02:30 – 03:30)

- Practical exercises in monitoring and identifying corrosion risks

Day 2: Corrosion Management Strategies

Module 1: Preventive and Corrective Measures (09:00 – 10:30)

- Maintenance and mitigation strategies
- Applying inhibitors and protective coatings

Module 2: Case Studies of Plant Failures (10:45 – 12:15)

- Lessons learned from real ammonia and urea plant incidents
- Best practices for corrosion management

Module 3: Integrating Corrosion Management into Reliability Programs (01:00 – 02:15)

- Linking corrosion control with asset integrity and maintenance planning
- Continuous improvement strategies

Module 4: Workshop – Corrosion Management Plan (02:30 – 03:30)

- Developing actionable plans for plant corrosion management
- Group discussion and review

Certification

Participants will receive a Certificate of Completion in Corrosion Management in Ammonia and Urea Plants, validating their knowledge and practical competence in preventing and managing corrosion for improved plant reliability and safety.

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Please contact us:

TEL:

+601116373203

EMAIL:

info@mawaevents.net

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