

■ **Course title:**

# Introduction to Urea Process Technologies

■ **Introduction:**

This training course will discuss the various types of urea process technologies both for the urea melt plant as well as for the various finishing process technologies. Further, it will elaborate on the history, and current processes, including trends and challenges like Green and Blue ammonia and Carbon Farming.

## Lesson 1:

1. Introduction
2. Various Urea Process Licensors and its developments
3. Urea Melt Process Technologies
4. High Efficiency Reactor Trays
5. Carbamate Condensers
6. CO<sub>2</sub> and NH<sub>3</sub> Strippers
7. Hydrolysers

## Lesson 2:

1. Finishing Process Technologies
2. Various Fluid Bed Granulation Technologies
3. Drum Granulation
4. Prilling Towers
5. Rotoformer Granulations
6. Latest Development and Innovations
7. Summary

■ **Learning Outcomes:**

By the end of this course, you will understand:

- The various types of urea products.
- The urea process licensors and its market share.
- The various urea melt and finishing process technologies

Author / Trainer:

**Mark Brouwer**



Process & Safety Engineer,  
Urea Expert

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Mark has over 25 years of licensing, revamping, engineering and consultancy experience in urea projects. He has been visiting more than 100 urea plants located in almost all continents.

Mark has experience in all project phases starting from Concept and Front End Engineering Design (FEED) through Commissioning and Operation. He is a Master of Chemical Engineering, Post Bachelor in Safety for Engineers, Marketing and Business Strategy Courses at the Rotterdam School of Management and a Member of American Institute of Chemical Engineers (AIChE).

Mark has extensive experience in revamp studies, engineering and process safety consultancy services to EPCM companies and urea plants including the preparation of Revamp and Plant Assessment and Safety Reports, hazard identification and analysis, troubleshooting, risk registers, corrosion inspections, procurement services, training services, etc.

Mark's expertise are Process technology, Corrosion, Licensing, Engineering, Revamping, Marketing, Sales, Contract negotiations, Troubleshooting, Project Management, International business, Safety, high pressure urea valves, high pressure urea equipment.

Mark has provided extensive training programs to more than 1000 urea engineers, managers, (shift)supervisors and operators from all over world.

Mark has published numerous technical papers in reputable industry magazines and presented at numerous CRU Nitrogen & Syngas and AIChE Ammonia Safety Conferences.

- The trends and challenges in urea process technologies

■ **Who will benefit:**

Anyone who is involved in the design, engineering, operation and maintenance of any urea plant, including marketing, sales, business development of urea products or urea production technologies or production equipment, including:

- Engineers and Managers
- Operations
- Maintenance
- Marketing and Business Development Managers
- Safety, Health and Environmental Managers

■ **Course materials:**

- Hand Out Presentations in pdf format
- Technical Paper: Urea, its history and applications in pdf format
- Technical Paper: Comparison Stamicarbon Saipem Part 1 – Process Technologies in pdf format

■ **Price:**

**€ 350**

■ **Discounts:**

- 2 places – 10% discount
- 3 places – 15% discount
- 4 or more places – 20% discount.

■ **In-company training:**

This course is also available as an in-company course (face-to-face or online) where content can be customised to meet your organisation's specific needs and delivered on a date/location that suits your requirements.

[Contact us](#) for more information.

■ **Training code:** UREA02