UreaKnowHow.com

Where the urea industry meets

5-Day Urea Training Program

23-27 June 2025 in Amsterdam

V17july2023

UreaKnowHow.com
Where the urea industry meets

Testimonials

"Excellent course !"

"One of a kind!"

"Nothing was missing in this course"

"Completely meets our expectations"

"The Best Ever training,

I have ever attent in the industrial field"

"There is not enough support for urea plants training,

and you made the difference !"

"A very comprehensive and specialized training!"

"Thanks a million times!"

"... Expertise to feed the world"

"Almost Perfect"

UreaKnowHow.com
Where the urea industry meets

5-Day Urea Training 24-28 June 2024 in Amsterdam

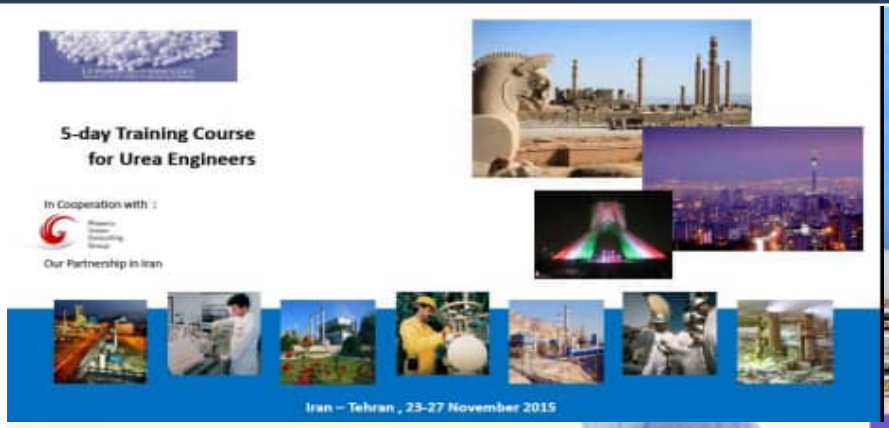
5-Day Urea Training Program Amsterdam, The Netherlands, 24-28 June 2024

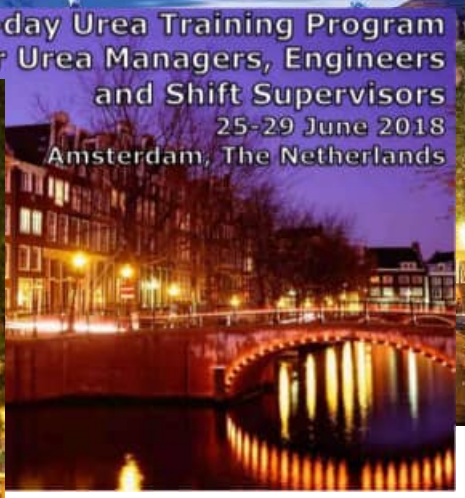
Excellent feedback, also from Operators and Urea Newbies!

"I am relatively new to the urea process and was somewhat nervous about the class: It exceeded all of my expectations and consider it to be extremely valuable" "In depth study on range of UREA issues" "This course is extremely advisable not only for plant operators / managers, but also for engineers who have worked for years on urea process"

UreaKnowHow.com
Where the urea industry meets

References





5-Day Urea Training Program Amsterdam, The Netherlands, 24-28 June 2024

Open Training Programs

References

STAMICARBON

Alleima

Christof Group

SBN

Nutrien

AngloAmerican

skw.
PIESTERITZ
Knowledge grows

Pequiven
Petroquímica de Venezuela, S.A.

KOCH

FertiNitro

PUŁAWY

UreaKnowHow.com

Where the urea industry meets

5-Day Urea Training Program

Designed for Process, Operational, Mechanical, Maintenance, Instrumentation, Process Control and Inspection Managers, Engineers and Shift Supervisors and Operators working in any kind of Urea Plant.

Content updated with latest developments and innovations of all Licensors

For Newbies and Urea Specialists, covers All Topics one needs to know.

Parallel Training Modules for Process/Operational and Mechanical/Maintenance to facilitate detailed discussions.

Detailed discussions of numerous Safety, Troubleshoot, Corrosion and Reliability Cases.

Including UreaKnowHow.com Solution Provider Market Lunch

Including a Certificate of Completion (accounting for 4 CEU's)

Enroll Now! Class Sizes are limited!

Previous Participants say: *"Rating is Excellent / Very Good"* **and** *"Nothing was missing in this course"*

UreaKnowHow.com
Where the urea industry meets

Some Impressions

2012 Fertinitro, Venezuela 5-Day Urea Training Program

2014 Yara Brussels 5-Day Mainte

5-Day Urea Training Program
2014 Amsterdam

5-Day UreaKnowHow.com Urea Training Program
CF Industries, Donaldsonville
13-17 January 2020

UreaKnowHow.com

Knowledge Center & Network Platform for the Nitrogen Fertilizer Industry
Mission: Improve Safety & Performance of all Nitrogen Fertilizer plants

Urea in China
nitrogen+syngas
FERTILIZER ACADEMY
AmmoniaKnowHow.com

Partnerships

Round Tables > 2400 discussions

>14.000 Members representing all Nitrogen Fertilizer plants worldwide

UreaKnowHow.com catalyzes Safety & Performance

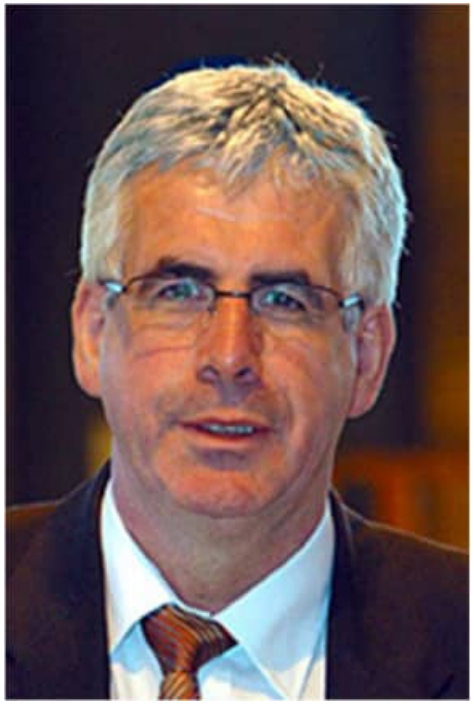
Library & Galleries

Biweekly Newsletter

UKH

Download on the App Store

GET IT ON Google Play



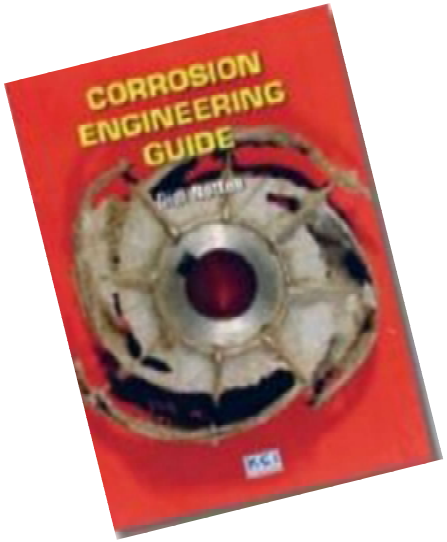
Mr. Jo Eijkenboom

Mechanical Engineer
50 Years Experience

39 Years Stamicarbon
Maintenance, HP equipment,
materials, corrosion, repair, welding.
Retired Vice President Stamicarbon

Co-founder of Safurex®

Since 2013
Jo Eijkenboom Consultancy BV
Director UreaKnowHow.com



Mr. Giel Notten

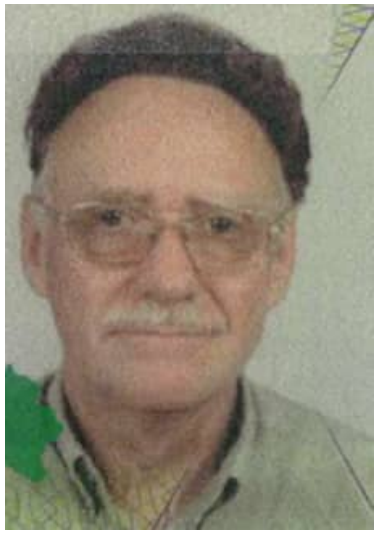
Corrosion / Materials Engineer
55+ Years Experience

38 Years DSM Corrosion and Materials Department

Since 2005 NTT Consultancy

Co-founder of Safurex®

Author of the Corrosion Engineering Guide



Mr. Roland Monstrey
50+ Years Experience

Flagrant

Background in Yara urea fluid bed granulation technology

Innovator in urea fluid bed granulation with amongst others the Cold Recycle Fluid-Bed Urea Granulation Technology

Mr. Mark Brouwer

Process Engineer
30+ Years Experience

University of Technology Eindhoven, The Netherlands

7 years ethylene plant DSM (revamp projects)

14 years Stamicarbon (revamp projects, services, hardware supply)

Founder of UreaKnowHow.com (March 2009)

UreaKnowHow.com
Where the urea industry meets

Training Topics

- ✓ Introduction Urea Process Technologies
- ✓ Corrosion theory & Overview of various corrosion phenomena
- ✓ Fluid Bed Granulation
- ✓ Thermodynamics and Phase diagrams
- ✓ Operational aspects and Troubleshooting techniques
- ✓ Safety, Health & Environmental aspects
- ✓ Atmospheric corrosion; Corrosion Under Insulation (CUI)
- ✓ Corrosion in steam and cooling water systems
- ✓ Historical Overview of Materials of Construction in urea plants
- ✓ High Pressure Synthesis equipment
- ✓ High Pressure Piping & Valves
- ✓ Corrosion Inspection Techniques and Inspection Program
- ✓ CO_2 Compressors design and operational issues
- ✓ Revamp and debottlenecking technologies
- ✓ Discussion of numerous Troubleshoot, Corrosion/Reliability Cases
- ✓ Latest Innovations

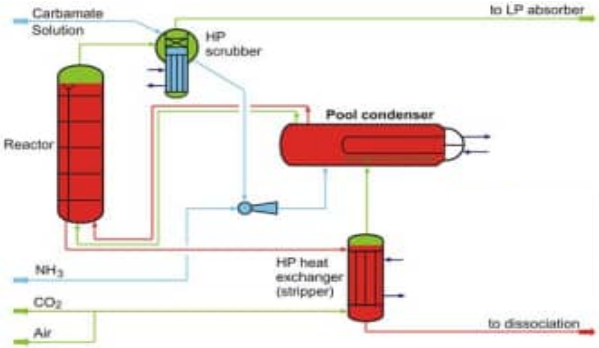
Including the Latest Developments

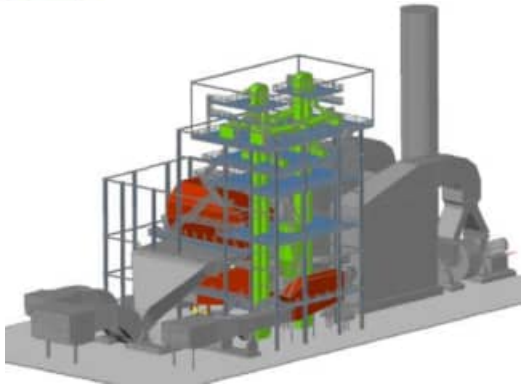
- ✓ Stamicarbon Ultra Low Energy Process Technology
- ✓ Stamicarbon Medium Pressure Flash Technology
- ✓ Saipem Super Cup High Efficiency Trays
- ✓ Saipem CCS Technology
- ✓ TEC ACES21 Low Pressure Process Technology
- ✓ The various new Safurex® grades
- ✓ New small scale nitrogen fertilizer process technologies
- ✓ Ballestra Bi-Fluid Drum Granulation Technology
- ✓ SDS Separation Scrubber Technology
- ✓ BHDT BestLoc Flange Connections
- ✓ KREBER Pilot Prilling Tower
- ✓ NOBELCLAD explosion welding applications
- ✓ LESER Support Loading System for synthesis section
- ✓ Latest Incidents
- ✓ Latest Troubleshoot cases

Day 1

Module 1: Urea Process Technologies

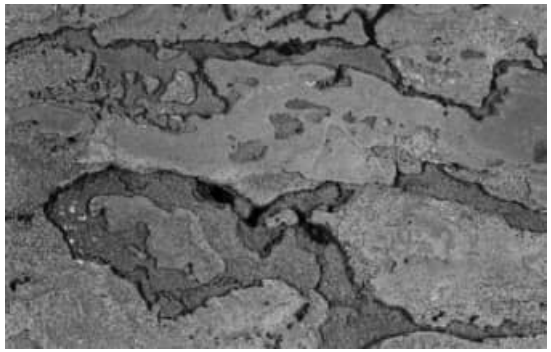
- Urea product
- Urea market trends and drivers
- History of process technologies
- Various process technologies currently in operation (Conventional, STAMICARBON, SAIPEM, TEC, CASALE)
- Challenges in urea plants (thermodynamics, corrosion, emissions, urea specialties)





Module 2: Corrosion in carbamate solutions

- Theory of corrosion in ammonium carbamate solutions
- Parameters influencing corrosion in carbamate solutions
- Overview of various corrosion phenomena in urea plants



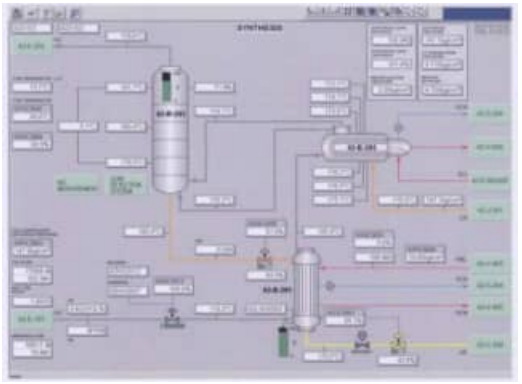
Module 3: Corrosion aspects utilities

- Corrosion control in boiler (feed-) water and steam systems
- Root cause of typical failure modes and preventive measures
- Corrosion in cooling water systems

Day 2

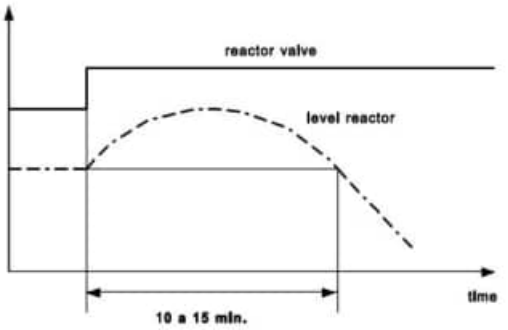
Module 4: Materials of Construction

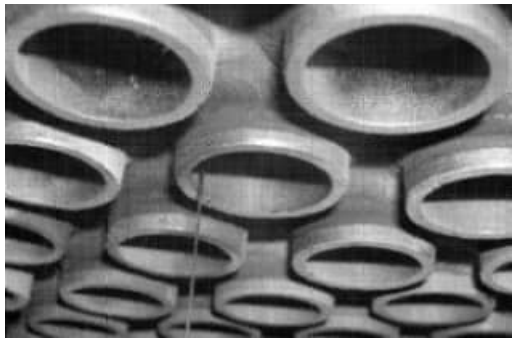
- Historical developments
- Austenitic stainless steels, duplex
- Super duplex Safurex, Uremium29, DP28W,
- Titanium, Zirconium, Tantalum
- Bimetallic, OmegaBond
- Future trends and developments



Module 5: Operational aspects

- Control philosophy
- Key performance indicators
- Main process calculations
- Key analysis for process control
- Key analysis for corrosion control
- What to do when …

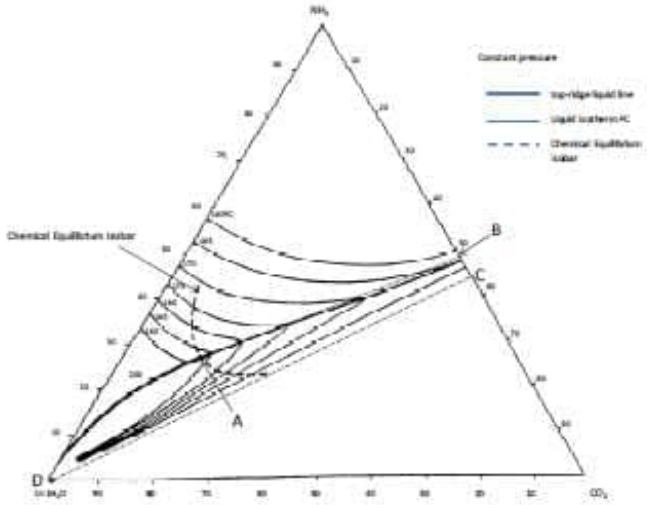




Session A: Process & Operational

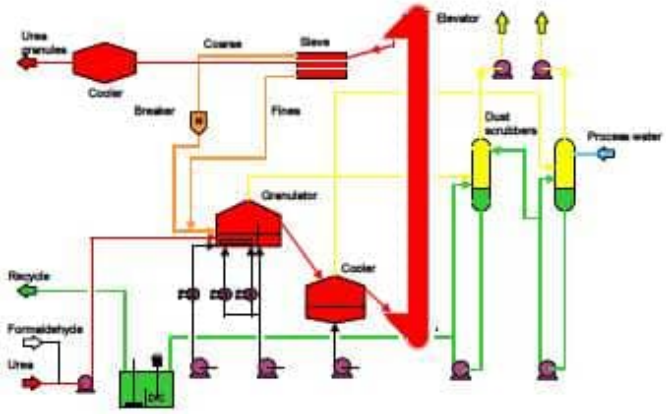
Module 6a: Thermodynamics and Phase diagrams

- Thermodynamics
- Phase diagrams
- Parameters (CO_2 conversion, alfa, N/C, H/C, H/U)
- System pressure, inert pressure
- Liquid isotherms
- Top ridge line
- Fraction approach to equilibrium

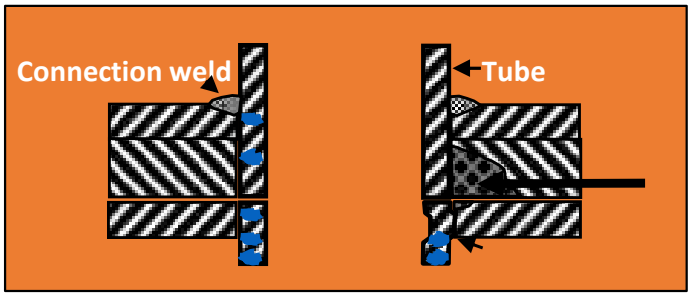


Module 7a: Fluid Bed Granulation

- Principles of granulation
- Critical operating parameters and its control
- Operational problems
- Troubleshooting
- Urea Product quality issues



Session B: Mechanical & Maintenance

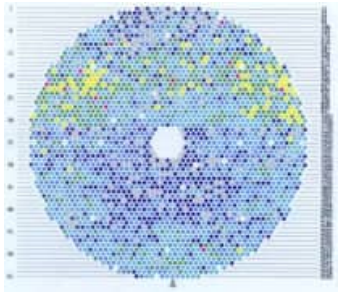


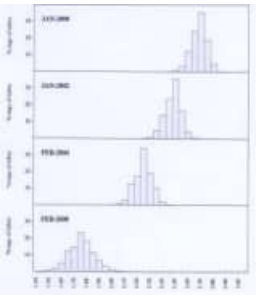
Module 6b: Corrosion Inspection Techniques

- High Pressure Equipment
- High Pressure Piping
- Inspection techniques
- Risk Based Inspection
- Life-Time studies
- Setting up Inspection Programs

Module 7b: Doing repairs

- Finding a leak
- Basic philosophies (Best Repair is No Repair … and when to do Repair ?
- Repair procedures of various materials of construction
- Plugging heat exchanger tubes
- Relining projects

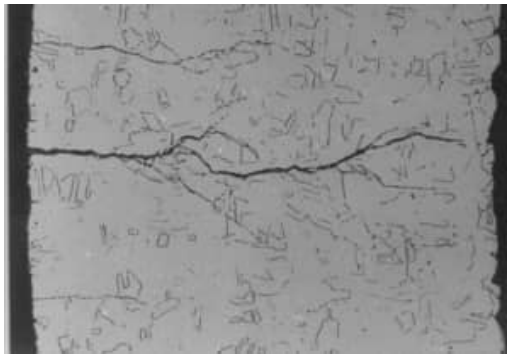




Day 4

Module 8: High Pressure Synthesis equipment

- Process aspects (liquid divider, fouling)
- Mechanical aspects (liners, overlay welding, chlorides, nitrates, sulphur)
- Leak detection systems for loose liners and tube failures
- Corrosion cases caused by failing leak detection systems
- How to assure a high reliability of critical equipment



Module 9: Safety, Health & Environmental aspects

- Reliability aspects
- Safety and Health concerns
- Emission sources (continuous and discontinuous)
- Flare systems, containment systems
- Explosion diagrams

Module 10: Atmospheric Corrosion (CUI)

- Forms of atmospheric corrosion
- Preventive measures
- Casuistry in urea plants

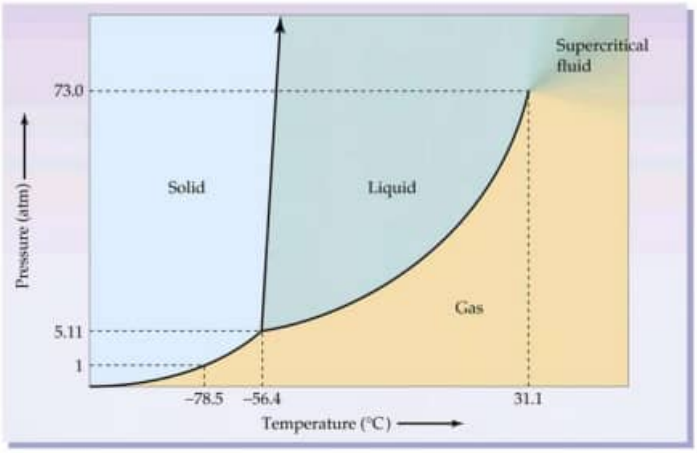
Evening: Social Event - Boat Tour Amsterdam

Module 11: HP Piping & Valves

- Base materials
- Features HP Control and Manual Valves
- Maintenance practices
- Troubleshooting cases
- Typical failure modes HP Piping
- Safety Incidents

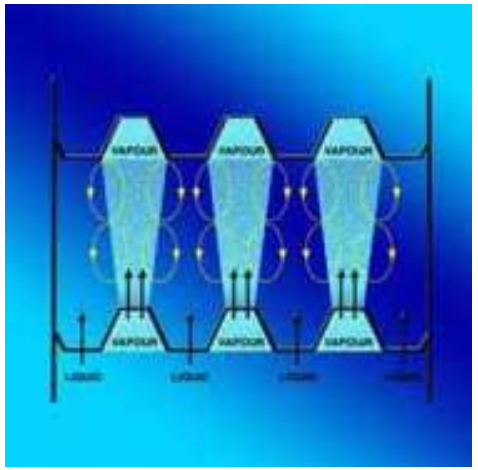
Module 12: CO_2 Compressors

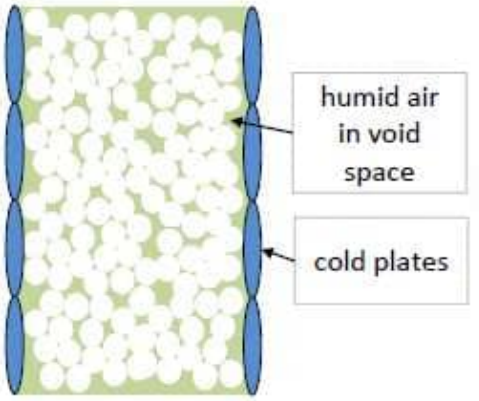
- Phase and Mollier Diagram CO_2
- Different Type of CO_2 compressors
- Revamping CO_2 Compressors
- Operating problems in CO_2 Compressor
- Troubleshooting Compressor problems
- Discussions

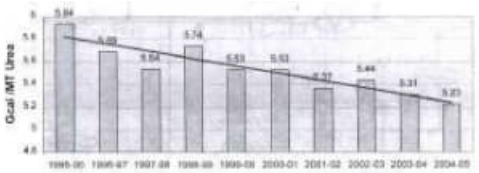


Module 13: Revamp technologies

- Capacity increase
- Energy conservation
- Emission reduction
- New developments
- Solid heat exchanger revamp opportunities
- Energy reduction management
- References
- Examples







Module 14: Additional Modules

(selection depends on available time)

a) Catastrophic failures due to malfunctioning of Leak Detection Systems
b) Workshop Risk Assessment Leak Detection Systems
c) AMMO LASER Leak Detection System
d) HP centrifugal pumps
e) How to find a leak?
f) HP safety valves
g) Fabrication of a urea reactor
h) Fabrication of a PoolCondenser
i) HP Piping and Bolting
j) Low stripper efficiency
k) High biuret content
l) Hydrogen explosion risks
m) Best practices of HP Valves
n) How to handle leaks in a urea plant
o) What to do in case of a blocked leak detection system
p) How to prevent detrimental corrosion Case Weld-o-let

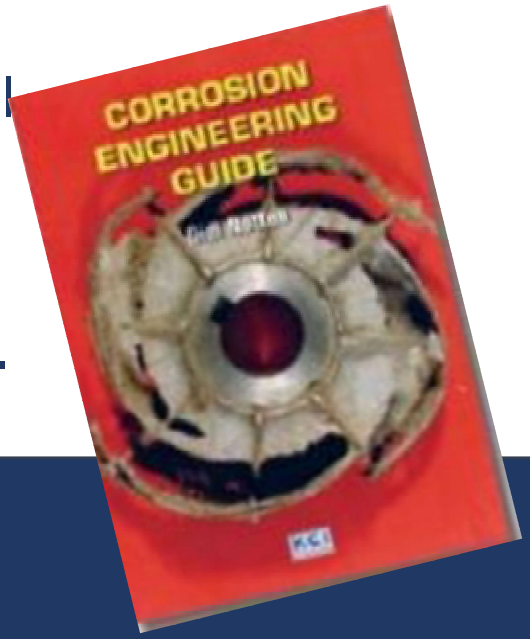
Deliverables

Examination and Certificate

Evaluation

Hand out and reference documents

- All presentations will be distributed as hand outs in digital form (acrobat format).
- Several topics will be elaborated by means of technical papers, which will also be distributed in digital form (acrobat format).
- Corrosion Engineering Guide (digital version), written by Mr. Giel Notten.



UreaKnowHow.com
Where the urea industry meets

Registration form

Please register me for the 5-Day Urea Training Program 23-27 June 2025 in Amsterdam

First Name : .....

Last Name : .....

Job Title : .....

Company : .....

Telephone : .....

E-mail : .....

For more information, contact Mark Brouwer, M: +31 6 295 76 845

or e-mail: mark.brouwer@ureaknowhow.com

Registration fee: EUR 4.450,-- excl.VAT (if applicable, normally only for Dutch companies)

Participation is confirmed only after received Registration fee

Fee is including lunches/refreshments/social evening and excluding travel/housing costs

DISCOUNTS AVAILABLE

Enroll Now, Class Sizes are Limited !

UreaKnowHow.com bank account information:

RABOBANK Maastricht e.o.
P.O. Box 200
6200 AE Maastricht, The Netherlands

BIC: RABONL2U
Account number: 1402.09.840
IBAN: NL07 RABO 0140 2098 40

Discounts

Early Bird Discount

Register before December 1, 2024 and receive 20% Discount

Register Now

Group Discounts

5% Group Discount for 2 participants

10% Group Discount for 3 participants

15% Group Discount for 4 participants

20% Group Discount for 4+ participants

Invite your colleagues

UreaKnowHow.com
Where the urea industry meets

FAQ

Q: If I enroll and pay for the Training but am unable to attend, will I receive a refund?

A: The Training Fee will be refunded for cancellations made no less than four months before the commencement of the program. If cancellation occurs less than four months prior, 80 percent of the paid fee will be returned, and 20 percent, will be retained to cover administrative costs.

Q: I am unable to attend the upcoming training program. Can I still receive a copy of the presentations, papers and reference material?

A: Unfortunately, presentations and reference materials are only available to participants who attend a training program.

Q: Does UreaKnowHow.com assist with visa applications?

A: Yes. When a visa is required to attend the Training, UreaKnowHow.com sends a letter of support to the concerned consulate and requests the issuance of a visa.

Q: Would it be possible for UreaKnowHow.com to provide an invitation letter upon registration but before paying the Training Fee?

A: No. An invitation letter is only provided to participants upon receipt of his/her Training Fee.

Q: Does UreaKnowHow.com arrange ground transportation for airport transfers?

A: UreaKnowHow.com is not responsible for any transportation outside of the training program dates/hours. This includes airport transfers, sightseeing, shopping, dinner, etc.

Q: Does UreaKnowHow.com offer free-time activities for program participants?

A: UreaKnowHow.com does provide information about local attractions and events that may be of interest to participants. However, all costs of such activities are borne by participants, except for the social evening event

Q: Does UreaKnowHow.com provide follow-up support to participants with questions after the Training Program?

A: Yes. UreaKnowHow.com encourages participants to maintain a relationship and is pleased to provide advice or answer post-program questions.