SPECIALIZED COURSE
HAZARD ANALYSIS OF REACTORS, CHEMICALS & PROCESSES

02 – 06 September 2024
GHENT | ZEBRASstraAT

PROCESS SAFETY ACADEMY
POWERED BY ESSENSCIA
DEAR MEMBER,

essenscia herewith presents the details of the specialized course on Hazard Analysis of Reactors, Chemicals and Processes, organized by the Process Safety Academy, essenscia and the Laboratory for Chemical Technology (LCT) of Ghent University.

For additional information concerning these topics please contact Mr. Geert Boogaerts (+32 476 906 663 | gboogaerts@essenscia.be). To register, please click here.

This course offers the essentials of hazard analysis based on theoretical insights and practical applications in different types of reactors, chemicals and processes.

Aim

Hazard and operability analysis is the cornerstone of reliable operations, process safety engineering, and process safety management. During the first day of this programme, we focus on an introduction to HAZOP as well as the characterization of the hazardous products and insight in the reactions. Processes and scaling up are part of the subject matter. The second day illustrates the implementation of the HAZOP methodology in process safety management of a major chemical company. Practical insight and exercise on pre-reactor installations are part of the afternoon sessions. The third day commences with the basics of a P&ID (optional for industry members) followed by the illustration of HAZOP on a real-life batch process. In the afternoon, we introduce the theory of LOPA and an illustration of reactor modeling on the recycling of plastics. The fourth day starts where process safety always starts, general engineering practices followed by the application of HAZOP on a continuous reactor. The fifth day is a guided workshop to develop HAZOP skills. Starting with an example, we then dive into a guided exercise on a continuous reactor.

Attendees

This course is designed for safety, design, and process engineers with industry experience who benefit from understanding the intrinsic hazards of molecules and applying the concepts of HAZOP and engineering on chemical installations. Apart from theoretical insights, the course offers practical use-cases and competence building on HAZOP and safety engineering.

Governance board and steering committee

✓ MSc. Ivan Pelgrims, President, essenscia Process Safety Academy, Director, Evonik
✓ MSc. Koen Colpaert, HSE Group Process Safety Manager, Borealis
✓ MSc. Nico Hertoghe, ExxonMobil Research & Engineering
✓ Phd. MSc. Pol Hooorelbeke, Vice President Safety, Total
✓ MSc. Frank Quaeysbaegens, Head of Technical Services, Covestro
✓ MSc. Marnix Mahieu, Managing Director, Kronos
✓ MSc. Jan Weckx, Antwerp Process Safety Lead, Bayer Crop Science, Bayer Agriculture
✓ MSc. Benny Ghoo, Senior Operations Support Manager, JnJ Innovative Medicines
✓ MSc. Geert Vercruyss, Process Safety Expert, BASF, Visiting Professor KU Leuven and Ghent University
✓ MSc. Filip De Proft, EHS Director, Campus Belgium, JnJ Innovative Medicines
✓ Msc. Peter Jacobs, Safety and Health Manager, Ajinomoto Bio Pharma Services

Lecturers

✓ MSc. Geert Boogaerts, Process Safety and Sustainability Director, essenscia
✓ MSc. Bart Van Den Bossche, Process Safety Manager, INEOS Styrolution Belgium NV
✓ PhD. Wim Dermaut, R&D Manager Chemical Process Development, Agfa Labs, Visiting Professor, UAntwerp
✓ Phd. MSc. Oliver De Waele, Process Safety Expert, Eastman, Ghent
✓ Phd. MSc. Paul Van Steenberge, Laboratory for Chemical Technology (LCT), Associate Professor Ghent University, Academic Coordinator
✓ MSc. Geert Vercruysse, Process Safety Expert BASF, Visiting Professor, KU Leuven and Ghent University
✓ Phd. MSc. Eveline Volcke, UGent - Department of Green Chemistry and Technology
✓ Phd. MSc. Maarten Bekker, Process Safety Manager, Borealis
✓ MSc. Nico Hertoghe, ExxonMobil Research & Engineering
✓ Phd. MSc. Thomas Pintelon, Board Member, Polinivo
SPECIALIZED COURSE: HAZARD ANALYSIS OF REACTORS, CHEMICALS & PROCESSES

DAY TO DAY OVERVIEW OF THE PROGRAMME:

08:30 – 17:00

DAY 01

MONDAY 02 SEPTEMBER 2024

Intrinsic hazards of molecules and introduction to HAZOP

The Importance of Process Safety
Marnix Mahieu, Kronos
Welcome speech

Hazard and Operability Study
Geert Boogaerts, essenscia
An introduction

Introduction to Reactive Chemistry
Wim Dermaut, Agfa
Essential insights

Reactive Chemistry and Process Hazard Analysis
Wim Dermaut, Agfa
Design in function of the desired and undesired reaction

DAY 02

TUESDAY 03 SEPTEMBER 2024

HAZOP analysis in PSM and HAZOP for pre-reactor installations

HAZOP and the Practical Implication in our Industry
Olivier Dewaele, Eastman
Integration of HAZOP in the PHA and PSM

HAZOP/ WHAT-IF on the Pre-Reactor Installations
Geert Vercruysse, BASF
Practical explanation and exercise

HOST CITY
Ghent
LOCATION
Zebrastraat
Zebrastraat 32
9000 Gent
FOOD & BEVERAGES
Welcome coffee at 8am
3-course business menu at noon
REGISTRATION FEE
€2700 Member / €3200 Non-member
REGISTRATION LINK
register here
DAY TO DAY OVERVIEW OF THE PROGRAMME:

08:30 – 17:00

DAY 03

WEDNESDAY 04 SEPTEMBER 2024

Batch reactors and Hazop analysis

Piping and Instrumentation Diagrams
Eveline Volcke, UGent
Essential features of the most important tool

HAZOP and Safeguarding on a Batch Reactor
Koen Gerard, Covestro
A practical illustration

From HAZOP to LOPA: the Ultimate Goal
Nico Hertoghe, ExxonMobil
Layer of protection analysis

HAZOP Introduction to a Practical Case based on a Modelled Scenario by Polinivo
Bart Van Den Bossche, Ineos, & PhD. MSc. Thomas Pintelon, Polinivo
Mechanical recycling of polyolefins

DAY 04

THURSDAY 05 SEPTEMBER 2024

HAZOP on continuous reactors

Chemical Hazard Engineering Fundamentals
Maarten Bekaert, Borealis
A real life example

HAZOP and Continuous Reactors
Geert Vercruysse, BASF
An exercise in real time

DAY 05

FRIDAY 06 SEPTEMBER 2024

HAZOP in practice

HAZOP: Guided Workshop and Exercise
Bart van den Bossche, Ineos
Can I execute?

Granting the certificates by Prof. dr. ir. Joris Thibaut