

SPECIALIZED COURSE
HAZARD
ANALYSIS OF
REACTORS,
CHEMICALS
& PROCESSES

31 August – 4 September 2026

GHENT | ZEBRASTRAAT



essenscia
PROCESS
ACADEMY



In collaboration with

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](#)**.

Program

Hazard and operability analysis is the cornerstone of reliable operations, process safety engineering, and process safety management.

During the first day of this program, we focus on an introduction to HAZOP as well as the characterization of the hazardous products and insight in reactive chemistry.

The second day illustrates the practical implementation of the HAZOP methodology in process safety management of a major chemical company. Practical insight and an 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 the link with functional safety.

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 leading to risk reduction. Starting with an example, we then dive into a guided exercise out of the process industry.

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 Process Hazard Analysis and engineering on chemical installations. Apart from theoretical insights, the course offers practical use-cases and competence building on HAZOP and safety engineering.

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



DAY TO DAY OVERVIEW OF THE PROGRAM:

08:30 – 17:00

DAY 01



MONDAY 31 August 2026

Introduction to hazard analysis and basic engineering concepts



The Importance of Process Safety

Anne-Sophie Segers, Kronos

Welcome speech



Process Hazard Analysis

Geert Boogaerts, essenscia

An introduction



Hazardous pump scenarios

Erik Dom, Nero

Towards a general concept



Reactive Chemistry and Process Hazard Analysis

Wim Deraut, Agfa

Design in function of the desired and undesired reaction

DAY 02



TUESDAY 01 September 2026

Hazard analysis in PSM and for pre- reactor installations



PHA 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

Kathleen Vanhaelst, BASF

Practical explanation and exercise

HOST CITY

Ghent

LOCATION

Zebrstraat

Zebrstraat 32

9000 Gent

FOOD & BEVERAGES

Welcome coffee at 8am

2-course business menu at noon

REGISTRATION FEE

€2700 Member / €3200 Non-member

REGISTRATION LINK

[register here](#)



DAY TO DAY OVERVIEW OF THE PROGRAM:

08:30 – 17:00

DAY 03



WEDNESDAY 02 September 2026

Batch reactors and hazard analysis



Piping and Instrumentation Diagrams

Eveline Volcke, UGent

Essential features of the most important tool

**attendance not obligatory for industry participants*



HAZOP and Safeguarding on a Batch Reactor

Koen Gerard, Covestro

A practical illustration



From HAZOP to LOPA

Nico Hertoghe, ExxonMobil

A layered viewpoint



Functional safety in the process industry

Jan Luyts, BASF

A reliable barrier: Functional safety

DAY 04



THURSDAY 03 September 2026

HAZOP on continuous reactors



Chemical Hazard Engineering Fundamentals

Maarten Bekaert, Borealis

A real life example



HAZOP and Continuous Reactors

Kathleen Vanhaelst, BASF

An exercise in real time

DAY 05



FRIDAY 04 September 2026

HAZOP and risk reduction



A Guided Workshop and Exercise

Bart Van Den Bossche, Ineos

Erik Dom, Nero

Jan Luyts, BASF

Can I execute?

