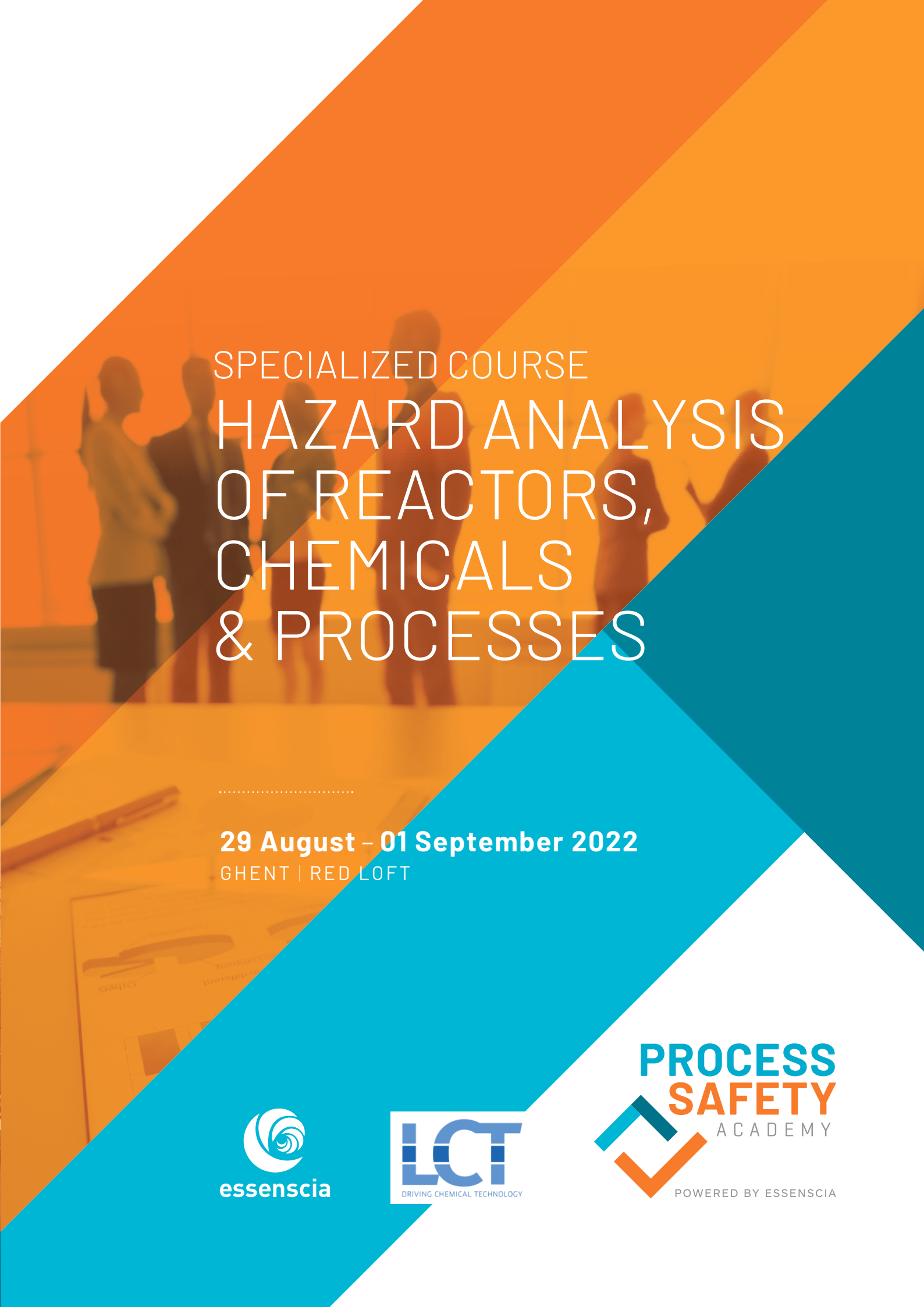

SPECIALIZED COURSE

HAZARD ANALYSIS OF REACTORS, CHEMICALS & PROCESSES

29 August – 01 September 2022

GHENT | RED LOFT

essenscia

LCT
DRIVING CHEMICAL TECHNOLOGY

PROCESS SAFETY ACADEMY
POWERED BY ESSENSCIA

29.08 - 01.09.2022
GHENT | RED LOFT

DEAR MEMBER,

essenscia would like to present the details of the specialized course in hazard analysis of reactors, chemicals and processes, organized by Process Safety Academy, essenscia and the Laboratory for Chemical Technology (LCT) of Ghent University.
For additional information concerning these topics please feel free to contact Mr. Geert Boogaerts (+32 476 906 663 | gboogaerts@essenscia.be).

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

Aims

Hazard and operability analysis is the cornerstone of reliable operations, process safety engineering and process safety management. During the first day we focus on the characterization of the hazardous products and insight in the reactions proceeded by an introduction on HAZOP. Processes and scaling up are part of the subject matter. The second day illustrates the implementation of the HAZOP methodology in the process safety management of a major chemical company. A practical insight and exercise on pre-reactor installations is part of the afternoon sessions. The third day starts with the illustration of HAZOP on a real life batch process followed by the theory of LOPA. This day closes with an exercise on a batch reactor. The fourth day start with an example of a continuous reactor followed by a guided exercise on a continuous reactor.

Lecturers

- **MSc. Geert Boogaerts**, Process Safety expert essenscia
- **PhD. Wim Dermaut**, R&D manager Chemical Process Development at Agfa Materials, Visiting Professor U Antwerp
- **Phd. MSc. Oliver De Waele**, Process safety expert Eastman, Ghent
- **PhD. MSc. Peter Heffer**, Hazard analysis expert, Consultant
- **PhD. MSc. Joris Thybaut**, Professor Catalytic Reaction Engineering, Full Professor Ghent University
- **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 Bekaert**, Process safety manager, Borealis
- **MSc. Nico Hertoghe**, ExxonMobil Research & Engineering

Attendees

Professional engineers with industry experience for whom understanding and applying process safety thinking is an integral part of their jobs and who would benefit from an design engineering view on process safety for deepening the expertise in their roles and for their career development (e.g. operations, engineering, maintenance, R&D, safety professionals, etc.).

Governance board and steering committee

- **MSc. Ivan Pelgrims**, President essenscia Process Safety Academy, General Manager Evonik, Board Member of essenscia
- **MSc. Koen Colpaert**, Group Process Safety Manager, Borealis
- **MSc. Nico Hertoghe**, ExxonMobil Research & Engineering
- **Phd. MSc. Pol Hoorelbeke**, Vice president Safety, Total
- **MSc. Frank Quaeyhaegens**, 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 Ghoos**, Senior Operations Support Manager, Johnson & Johnson
- **MSc. Geert Vercruysse**, Process Safety expert, BASF
- **MSc. Filip De Proft**, Environmental, Health and Safety Director Janssen Pharmaceutica

DAY TO DAY OVERVIEW OF THE PROGRAMME :

08:30 – 17:00

DAY 01

1

MONDAY 29 AUGUST 2022

Intrinsic hazards of molecules and introduction to HAZOP

Welcome speeches
MSc. Geert Boogaerts
Why to start with hazard analysis?

Introduction to HAZOP
MSc. Geert Boogaerts
Essential features of the most important technique

Introduction to reactive chemistry
PhD. Wim Dermaut
Essential insights

Reactive chemistry and process hazard analysis
PhD. Wim Dermaut
Design in function of the desired and undesired reaction

DAY 02

2

TUESDAY 30 AUGUST 2022

HAZOP analysis in PSM and HAZOP for pre-reactor installations

HAZOP and the practical implication in our industry
MSc. Olivier De Waele
Integration of HAZOP in the PHA and PSM

HAZOP/ WHAT-IF on the pre-reactor installations
MSc. Geert Vercruysse
Practical explanation

HOST CITY
Ghent

LOCATION
RED LOFT
Hugo van der Goesstraat 17A
9000 Gent

LUNCH
Business menu 3-course diner

TOTAL REGISTRATION FEE
€2200

29.08 – 01.09.2022
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DAY TO DAY OVERVIEW OF THE PROGRAMME :
08:30 – 17:00

DAY 03

3

WEDNESDAY 31 AUGUST 2022

Batch reactors and Hazop analysis

Piping and instrumentation diagrams
Prof. Eveline Volcke
Essential features of the most important tool

HAZOP and Safeguarding on a Batch Reactor
MSc. Koen Gerard
A practical illustration

From HAZOP to LOPA: the ultimate goal
MSc. Nico Hertoghe
Layer of protection analysis

HAZOP and batch reactors
PhD. MSc. Peter Heffer
Principles and exercise

DAY 04

4

THURSDAY 01 SEPTEMBER 2022

HAZOP on continuous reactors

HAZOP and continuous reactors
MSc. Maarten Bekaert
A real life example

HAZOP and continuous reactors
PhD. MSc. Peter Heffer
An exercise in real time

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

www.essenscia.be/process-safety-academy

The Module is limited to 30 participants
because a high level of interaction is foreseen.

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SPECIALIZED COURSE: HAZARD ANALYSIS
OF REACTORS, CHEMICALS & PROCESSES

SUBSCRIPTION FILE

The essenscia Process Safety Academy and the essenscia Chair Safety Engineering organize a 4-day Advanced Course on Process Safety

PARTICIPANT

FIRST NAME

LAST NAME

EMAIL

COMPANY

FUNCTION

THE INVOICE OF €2200 (TOTAL REGISTRATION FEE, EXCL. VAT) CAN BE SENT TO

COMPANY

STREET AND NUMBER

POSTAL CODE AND CITY

V.A.T.

PURCHASE ORDER

SIGNATURE OF THE PARTICIPANT

To be sent by mail
to **Ms. Michèle Celis** (mcelis@essenscia.be)
For additional information please feel free to contact
Mr. Geert Boogaerts (+32 476 906 663 | gboogaerts@essenscia.be) or
Ms. Michèle Celis (mcelis@essenscia.be).

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