What to Learn

- **Evaluate & Optimize your Process Safety Management System**
- **Apply Best practices for all essential PSM elements**
- **Recognize Process Hazards and reduce the Risk to acceptable levels with techniques like HAZOP & LOPA**
- **Understand the Legislation on Hazardous Chemicals and assure Compliance**
- **Create the desired Safety Culture in your organization.**



Master Class Process Safety Competence

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From Course Participants

- "This Course gives an outstanding overview of all relevant aspects of Process Safety; it is a 'must' for all engineers and managers in industries that work with hazardous chemicals" – sr. Process Engineer Shell
- "The many practical examples and discussions make this course very lively. It is always made clear how to apply Best Practices in my organization" – sr. Safety Technician DOW
- "This course helps with the implementation of all legislation on hazardous chemicals and how to create a compliant business" – EHS manager BP

Day 1

Process Safety Management (PSM) System

- **Historic perspective: the incidents that shaped process safety and their learnings**
- **The Essential elements of the Process Safety Management system**
- **Organization aspects with roles & responsibilities**
- **Workshop "Anatomy of a disaster"**
- **Measure process safety with the API-754 & ICCA standards**
- **'Leading & Lagging' indicators, defining useful performance indicators**

Dag 2

Legislation, Compliance

- **Seveso directive**
- **Safety Report, Scenario's & QRA**
- **ATEX Explosion Safety: practical implementation**
- **Pressure Equipment Directive (PED) for pressure vessels**
- **BEVB: underground pipelines**
- **Chemical storage in tanks (PGS 29) and Packed Chemicals (PGS-15)**
- **Industrial Hygiene: exposure validation. REACH, MSDS**
- **New Hazards of the energy transition (H2, NH3, CO2, batteries, recycling)**

Course Facilitator



Tijs Koerts studied chemistry and obtained a PhD. At DuPont, GE Plastics en Lyondell-Basell he obtained process safety competence in many roles and hazardous chemical sites. Since 2011 he is an independent process safety consultant. Since 2016 he is operations director for the European Process Safety Centre (EPSC).

Tijs, is an appreciated speaker on conferences, webinars and process safety courses.

Course Date & Location:

Leonardo Hotel
Burg. Keijzerweg 100
Papendrecht

Course Days: 19,20,27,28,29 October 2026

Course Price:

2400.- Euro + VAT

Contact / Registration:

email: Tijs@koertsconsultancy.nl
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Day 3

Process Hazard Analysis

- Process Hazards: from run-away reactions to BLEVE
- Risk definition, Useful Risk Matrix, acceptation criteria, ALARP
- Barrier thinking & 'Swiss cheese' model; Quality of barriers
- Process Hazard Analysis techniques: HAZOP competence
- Layers of Protection Analysis: LOPA
- Instrumental systems and Safety Integrity Level (SIL)
- HAZOP Execution & Leadership including a hands-on workshop

Day 4

Mechanical Integrity

- Hazards of common unit operations like Distillation, Reactors, Heat Exchangers, Flares, Compressors
- Inherently Safer Design principles
- Management of Change: MOC & PSSR applied with Best Practices
- Reliability Centred Maintenance for Mechanical Integrity
- Risk Based inspection for pressure vessel inspection frequencies
- Corrosion Mechanisms
- Pressure vessel systems: Pressure Safety Valves, Thermal Reliefs, Breather valves, Breaker plates – key aspects

Day 5

Emergency, Incident & Culture

- Inherently Safer Design Principle
- Facility Siting: safety of people in buildings
- Learning from Incidents: Root Cause Investigation techniques
- Electrostatic hazards
- Process Safety Culture & Leadership
- Process Safety Fundamentals: operational principles
- AI in process safety and AI Augmented HAZOPs

Who should attend

Engineers, Technicians, HSE Managers, Operational Leaders and Inspectors

Accreditation: Hobeon **SKO accreditation**

Certification: Certificate to be provided