

Welcome at the EPSC Session

Industry learning
together on
Process Safety

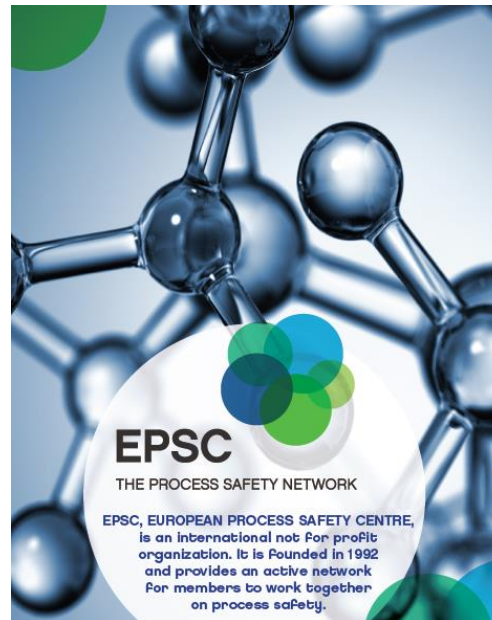


EPSC

THE PROCESS SAFETY NETWORK

EPSC what we do

- Industry learning together – technical meetings
- Work groups developing best practices
 - Semi Quantitative Risk Analysis
 - Pharma
 - Human Performance in process safety
 - Loading / Unloading
 - RAST
 - Digitization benefits
- Conferences
- Learning sheets



EPSC

THE PROCESS SAFETY NETWORK

www.EPSC.be

Board & Members

Piet Knijff - DSM

Hans Schwarz - BASF

Gus Carroll - Centrica

Pol Hoorelbeke - Total

Joern Buhn – Bayer

Martin de Zeeuw - LyondellBasell

Willi Meier - Dechema

Tijs Koerts - EPSC



EPSC

THE PROCESS SAFETY NETWORK



Speed Dating Session

- Network!
- Meet new people
- Interact with the EPSC Board members
- Process
 - 4 times 4 minutes
 - Untill the bell – then change partner
 - Mention your name and affiliation
 - Exchange cards – if you have
 - Two sentences about your background
 - Mention your interest in Process Safety
- Close-out



EPSC

THE PROCESS SAFETY NETWORK

Achema Program for the EPSC sessions

Time	Title	Speaker
EPSC Session Monday June 11, 15:00-17:30 Session Lead Hans Schwarz		
15:00	Explosion and Fire Hazards – An experimental Presentation	Helmut Lawinger (BASF)
15:30	-- to be continued --	
16:00	Semi Quantitative Risk Analysis of EPSC members	Dr. Ulrich Hörcher (BASF)
16:30	EPSC Learning sheet	Tijs Koerts (EPSC) & Ditmar Nachtigal (BASF)
17:00	Process Safety Benchmarking results	Piet Knijff (DSM) & Tijs Koerts (EPSC)
EPSC Session Tuesday June 12, 10.30- 13.00 - Session Host Piet Knijff		
10:30	Process Safety in the 4th Industrial Revolution	Dr. Pol Hoorelbeke (Total)
11:00	EPSC Award presentation and lecture by Award winner	EPSC Award winner
11:30	Detonation study resulting in explosion proof design	
12:00	EPSC connection with speed dating to extend your network	EPSC Board Members
12:30	New tool for computer aided Risk Analysis	Theo Reindorp (EPSC)

Leaking Flange

EPSC Learning Sheet
June 2017

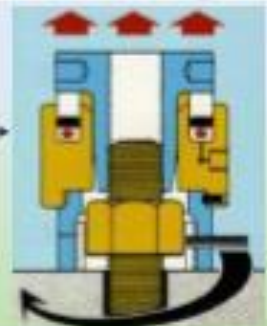


What Happened: In a refinery desulfurization unit a flange leaked hot hydrogen, that took fire. The flames impinged on a reactor that got leak and a large fire started.



Aspects:

- Hydrogen flames are difficult to see in day time
- Bolt tension can change overtime especially at equipment with temperature cycles
- Document the Packing and ideal Bolt Tension for critical flanges
- Use a Torque Wrench, attention for friction!
- Rotabolts™ can measure and adjust bolt tension during use
- Also available Pre-Clamping Cylinders to assure bolt tension on large flanges
- Consider to not insulate critical hot flanges, so leakages can be detected
- Consider a PM or monitor plan



Take Care of Critical Flanges

EPSC Learning Sheets

Condensate Explosion

EPSC Learning Sheet , September 2017



What Happened:

On the roof of a water / natural gas condensate tank at a gas production site, welding work was done. A handle of a valve was moved out of the way, that opened it. LPG flowed through the valve to the hot spot and exploded. Two workers died.



Aspects:

- “Condensate” is not water: in Oil & Gas exploration it refers to LPG that can ignite and explode when mixed with air. The contractors doing the work were unaware of this
- The hot work was not well isolated from the gases in the tank (e.g. by LOTO or a spade): a valve could be opened that allowed LPG from the tank to flow to the hot pipe and ignite
- The welding was added later to an existing permit to work, that was not recognized as high risk work afterwards
- No good discussion took place on the work hazards between permit issuer and contractor
- The tank was not made free from the hazardous LPG
- The workers felt safe as safety was important on the site

Hot work in zoned areas is dangerous

3rd European Conference on **Process Safety** and **Big Data** November 14 & 15 2018 in Frankfurt, Germany

Call for Abstracts is Open



Conference info: [AICHE](#) & [EPSC](#) webpages

Organised by



Hosted at

