

An Introduction to EPSC



EPSC

THE PROCESS SAFETY NETWORK

Tijs Koerts
Operations Director EPSC

After Bhopal
“Protecting Society
Together”

Legitimate
Network



EPSC

THE PROCESS SAFETY NETWORK

Industrial Best
Practices

Topics

SQRA

Pharma:
Dust &
Statics

CHEF /
RAST

PS
Developments



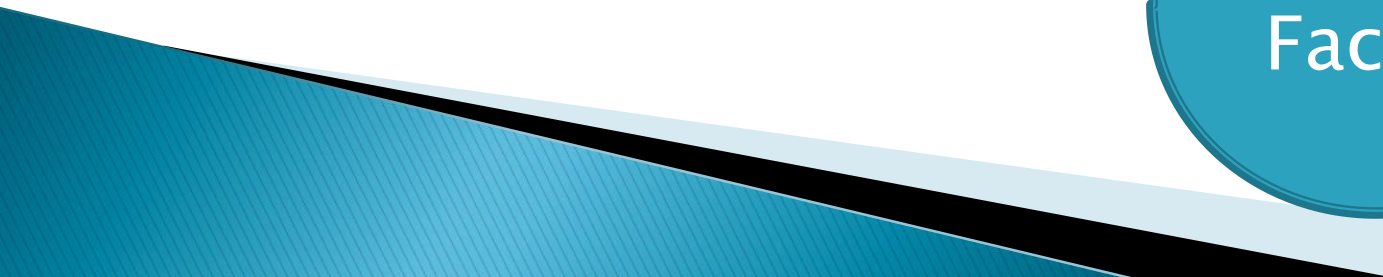
EPSC

Digitalization

Fire Safety
FABIG

Human
Factor

PS
Fundamentals



The Network

- ▶ Two day Technical meeting in spring and autumn
- ▶ Valuable information (documents) with web access
- ▶ Working Groups
- ▶ Training material

Organisation

- ▶ Chosen board: DSM, BASF, Covestro, Total, LyondellBasell, GSK, Evonik
- ▶ Founding members: Dechema & EFCE
- ▶ Operation Manager & Secretary at Dechema
- ▶ Full members
- ▶ Associate members



Conferences

Big Data & Digitalization



2020 EUROPEAN CONFERENCE
ON PROCESS SAFETY & BIG DATA



CPS EPSC
Center for Chemical Process Safety

October 13–14, 2020
DECHEMA House
Frankfurt am Main, Germany



European Conference on Plant & Process Safety

Participation in: Achema, Hazards, EuroCorr, Loss Prevention



EUROPEAN
CONFERENCE
2021
**ON PLANT &
PROCESS
SAFETY**
DECEMBER 7 & 8
ANTWERP
FLANDERS CONVENTION CENTRE



Room with a Zoo
Network Forum

Practical learnings on Processes
with Hazardous Chemicals

Learning Sheets



Imploded Storage Tank

EPSC Learning Sheet, June 2019



What Happened:

After cleaning with steam a tank was quenched with cold water to shorten the cooling time (not normal practice). The tank vent was not calculated for the vacuum resulting from this rapid quenching operation, resulting in a collapsed tank (without liquid release).



A larger vent size was installed after the incident



Aspects:

- Atmospheric storage tanks are not designed to withstand external pressure on the tank wall. A pressure as low as 20 mbar below atmospheric pressure can cause tank damage
- The force on the wall can be high even at low pressure as the tank wall surface area is very large: $\text{Force} = \text{Area} \times \Delta P$
- Consider all scenarios resulting in pressures below atmospheric and make sure vent sizes are adequately designed for these, including abnormal operations
- Make sure vents and safety devices remain operable: fouling bird nests, plastic bags, have all caused tank implosions

Atmospheric tanks are usually not designed for under pressures and can be damaged easily

Membership formats & Fee

- ▶ Full membership, for asset owners: voting rights, participation at the technical meetings. Fee depend on revenue (2000 – 10.000 euro per year)
- ▶ Associate membership for solution providers: Access to website, reports, invited to working groups. Fee 1000.– euro per year

EPSC Members



Nouryon

EASTMAN



Linde



Linde



HUNTSMAN



DU PONT



MERCK



centrica



worldsteel ASSOCIATION



ExxonMobil



Johnson & Johnson



our shared responsibility to protect society

