



Prevention of industrial accidents – lessons learned

UNECE Seminar Sandoz 25+

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This is Cefic

A Unique Organization:

Cefic is the voice of the European chemical industry in the European Union and the world & represents 29,000 chemical companies.

Highly Skilled Staff:

- More than 170 multicultural staff members
- Over 80 university degrees
- Some 17 languages & 15 different nationalities
- An average professional experience of 15 years within the chemical industry

A Worldwide Network:

- Over 4,000 industry experts from companies & national federations
- Some 28 National federations in the European Union
- Chemical associations in the US, Japan and other major chemical countries through ICCA and many federations and trade unions

CEFIC was founded in 1972

Risk coming from Shipping Improvement of Safety in Inland Waterway Transportation



- Use of European Barge Inspection Scheme (EBIS) as an evaluation tool for barges
- Implementation of the International Safety Guide for Inland Navigation Tank-barges (ISGINNT) to improve safety in the interface ship-shore
- Contribution to the development and update of regulations for the transport of Dangerous Goods by Inland Waterways at UN-ECE
- Involvement in Working Groups e.g.:
 - Means of Evacuation
 - CDNI/G (Convention on Collection, Deposit and Reception of Waste Produced during Navigation on the Rhine and Inland Waterways)
 - MD (The Dangerous Substances Committee) at CCNR (Central Commission for the Navigation of the Rhine) in Straßbourg
 - WG Inland Harbours at the German Federal Ministry of Transport
 - ADN-Questionnaire (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)



Sandoz – ad hoc reaction of the chemical industry along the river Rhine

12/1986 catalogue of measures (excerpts):

- **Verification of the alarm and hazard control plans**
- **Fire protection policy for chemical storage**
- **Cooling water protection plans**
- **Improvement of reporting systems**

Example: Water protection – special forces of the fire brigade



Tasks:

Closing of the sewer inlets.

Retention of product and fire fighting water, eg. by means of collapsible containers with an additional capacity up to 100 m³

Transfer pumping of product-water mixtures and contaminated effluents in case of unusual situations



Example: Retention capacities for fire fighting water





Central retention pond





Example: Water protection - mobile barrier for sewer inlets



Online monitoring station at shoreline



Online measurement
for short response
times

Prevention: Risk assessments of production plants



Risk Assessment

- Cooling water
 - Production waste water
 - Retention of leakage
 - Fire fighting water
- ➡ Identification of relevant production
- Critical process steps
 - Critical chemicals



Waste Water Protection

Process waste water /
Product leakage control



Control measurements

- Process parameters
(pressure, temperature, density,)
- Analytical detection
(pH, DOC, conductivity, GC,)



European Legislation

Seveso II – Directive

Guideline of industrial accident prevention, definition of thresholds of hazardous substances for dedicated requirements, safety report for sites and individual production installations, internal/external emergency response plans
link: <http://ec.europa.eu/environment/seveso/index.htm>

CWW-BREF (under Industrial Emission Directive)

Reference document for definition of Best Available Technique (BAT) for Common Waste Water and Waste Gas Treatment/Management in the Chemical Sector (CWW)
currently under review (draft 2)
link :ftp://ftp.jrc.es/pub/eippcb/doc/CWW_D2_07_2011.pdf



CEPIC

The European Chemical Industry Council



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