Responsible Care® – Initiative of the Global Chemical Industry

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Bernhard Thier, Cefic Responsible Care Manager
Who is Cefic?

European Chemical Industry Council: http://www.cefic.org/

Cefic is the voice of the European chemical industry in the European Union and the world. We represent 27,000 chemical companies in Europe that produce 24% of the world chemical products and employ over 1.2 million employees.

**Staff & network**

150 staff members

4000 industry experts from companies & federations

(150 Sector Groups, Strategy Implementation Groups and Issue Teams)

**Members & Affiliates**

28 national federations in Europe

50 major international companies

Ca. 450 business members
Responsible Care

- Global Initiative for the continuous improvement in the chemical industry (launched 1985 in Canada)
- Involves everybody from top management to plant worker

- Core Principles:
  1. Improve the safety, health and environmental performance
  2. Use resources efficiently and minimise waste
  3. Report openly on achievements and difficulties
  4. Engage in dialogue with stakeholders, in particular with the local communities who live and work around our sites
  5. Cooperate with regulators, set standards that go beyond regulation
  6. Provide help and advice to foster the responsible management of chemicals throughout the value chain
## Major chemical accidents

<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>Seveso (Italy)</td>
<td>Release contaminates area with dioxin</td>
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<tr>
<td>1979</td>
<td>Missisauga (Canada)</td>
<td>Chlorine train derailing, more than 200,000 evacuated</td>
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<tr>
<td>1984</td>
<td>Bhopal (India)</td>
<td>Methyl isocyanate release kills up to 25,000</td>
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<tr>
<td>1986</td>
<td>Schweizerhalle (Switzerland)</td>
<td>Warehouse flare causes mass death of fish in Rhine river</td>
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<tr>
<td>2001</td>
<td>Toulouse (France)</td>
<td>Fertilizer plant explosion kills 31</td>
</tr>
<tr>
<td>2005</td>
<td>Texas City (US)</td>
<td>Petroleum refinery explosion kills 15; Buncefield (UK) oil storage explosion largest in peacetime Europe</td>
</tr>
</tbody>
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**Next?**
Responsible Care value

- **Responsible Care Companies**
  - Save time and money
  - Improve performances and processes
  - Reduce risks and liabilities
  - Enhance reputation and license to operate
  - Improve worker, customer and environmental protection

- **Associations**
  - Increase their leverage in policy debates
  - Enhance their reputation and that of the industry which they represent
  - Create mechanism to derive value for members
RC management system

Leadership commitment & policies

- Management review
- Identify requirements, Set objectives, Define organisation
- Monitor
- Implement & put controls in place

Continuous improvement
Cefic RC priorities 2011

- Support capacity building in SMEs
- Promote process safety performance & metrics
- Advance security as an element of RC
- Promote resource efficiency (energy, water, wastes)
- Strengthen verification processes
- Address sustainability
Cefic RC priorities 2011

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Support capacity building in SMEs

EU project
“Promoting Responsibility in SMEs”

- Stakeholder involvement: trade unions
- Initiate/strengthen RC networking with SMEs
- Training of SMEs in free of charge workshops
- Providing management instruments on RC issues
- Sharing of large company expertise with SMEs
- RC contribution to competitiveness
- Reach out to management and workforce
Responsible Care tools for SMEs

**Issues**
- Integrated EHS
- Health & Safety
- Plant & Process safety
- Security
- Environment
- Energy Efficiency
- Transport & Logistics
- Chemicals Regulation
- Product Stewardship

**Tools**
- Technological guidelines
- Management systems
- Audit & reporting tools
- Process evaluation tools
- Employee training tools
- Best practice examples for SMEs

**Responsible Care Tools for SMEs**
Responsible Care for SMEs

This toolkit is designed to support small and medium-sized enterprises implementing Responsible Care, the voluntary initiative to continuously improve the environmental, health, safety and security performance in the chemical industry. The kit brings together for the first time validated tools on chemicals management, energy/efficiency, occupational health, process safety, transport safety, and other areas, making them freely available for everyone.

Spotlight on
Cefic Responsible Care Self Assessment Guidance & Questionnaire

View Cefic Responsible Care Self Assessment Guidance & Questionnaire

What's new
Chlorinated Solvents Product & Application Toolbox

This toolbox provides users of chlorinated solvents with information about the safe & sustainable use of these products. It is built up as a self-explaining guide based on a simple decision tree of pr...
Tools: EU-OHSA campaign on maintenance

- Target: 25% reduction of accidents rate by 2012
- Maintenance workers at increased risk:
  - 10-15% of all fatal accidents at work and 15-20% of all accidents related to maintenance

- The EU-OHSA campaign messages:
  1. Maintenance = essential to keep the working environment safe & healthy
  2. Maintenance = high-risk activity that has to be performed in a safe way
- Higher exposure of maintenance workers to dangerous substances
- Higher exposure to noise, vibration and radiation
- Maintenance workers often perform physically demanding work
- Indications of higher risk of occupational diseases (e.g. musculoskeletal disorders)
**Maintenance: risks & subcontracting**

**Maintenance-specific risks**

- Working alongside a running process and in close contact with machinery
- Involves disassembly and reassembly of complicated machinery
- Non-routine tasks & exceptional conditions
- Changing tasks and working environments
- Working under time-pressure

**Subcontracting** *(maintenance is very often subcontracted)*

- Aggravating factor in terms of safety and health
- Maintenance operations are often carried out on customer sites which are unfamiliar to the workers
- Workers carry out operations very independently, making decisions by themselves
- Working alone, working during the nights
- Many subcontracting companies to operate simultaneously on sites
Main goals:

- Assess all specific hazards
- Document necessary measures before the work can start → reduce risks to a minimum
- Specify necessary measures to be taken during the work → protect workers from residual risks

NO maintenance job without a written permission!
- Production always gives permission to start a job

Different permits for different types of work
- Suggesting specific hazards and measures
  - Normal work and line breaking
  - Hot work
  - Work in confined spaces
  - Excavation work
  - ...
Tools: energy efficiency in SMEs

- To save resources & costs
- To reduce CO₂ emissions

- Self Audit Guide
  - Step 1: scope calculation
  - Step 2: information gathering
  - Step 3: analysis & evaluation
  - Step 3: report of audit results

- Best Practice Brochure
- Workbook for assessments of energy performance

- www.cefic.org/careplus
Support capacity building in SMEs

Promote process safety performance & metrics

Advance security as an element of RC

Promote resource efficiency (energy, water, wastes)

Strengthen verification processes

Address sustainability
Process Safety
Incidents with huge impact

2005 Texas, USA: 15 killed, 170 injured

2005 Buncefield, UK: Biggest explosion in peacetime
Keep the hazard potentials contained! Handle inevitable hazard potentials professionally that the likelihood of their activation and adverse effects to environment, people and assets is as low as practicable
Indicators & categorization

- Loss of Primary Containment
- Containment functional
Lagging indicator definition

- Lagging
- Near Miss
- Leading

Loss of Primary Containment

Severness

Quantity
Reportable Process Safety incident

Unintended release of substance or energy (= Loss of Primary Containment, LoPC) in production, distribution, storage, utilities or pilot plants and laboratories with

a) Employee / contractor lost time injury (≥1d) and/or fatality or hospital admission and/or fatality of a third party or

b) Fires or explosions resulting ≥ € 20,000 of direct cost or

c) Substance release ≥ defined release threshold quantities from primary containment (i.e., vessel or pipe)
Cefic RC priorities 2011

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Security: risks from criminal & terror acts
European RC code on security

- Describes fundamental management practices of protection against any kind of criminal, malicious and cyber acts
- Affects production, storage, distribution and transportation of products as well as liaison with suppliers and customers
- Designed to help companies to identify, assess and address vulnerabilities, prevent or mitigate incidents, enhance training and response capabilities
- Shared responsibility requiring actions also by other parties such as customers, suppliers, service providers and governmental security agencies
Security vulnerability assessment tool

- Security vulnerability assessment in 6 steps (incl. worked example)
- Guidelines for an operator security plan including a template
- Blank worksheets to fill in results during assessment
- Overview of security legislation and best industry practices
Measuring progress: LTIR Europe

Lost Time Injury frequency Rate: 21 countries

- 2003: 7.94
- 2004: 7.53
- 2005: 6.94
- 2006: 6.96
- 2007: 6.94
- 2008: 6.60
Measuring progress: emissions to air Europe

SO₂, NOx & NMVOCs 21/22 countries, % change base = 2003
Measuring progress: emissions to water Europe

Nitrogen, phosphorus, COD, % change base = 2003
International Council of Chemical Associations

- Established 1989
- Represents 70% of chemicals production
United Nations on Sustainable Development

Earth Summit in Rio 1992
Agenda 21 (chapter 19 on chemicals)

WSSD Johannesburg 2002
2020 Goal: “Chemicals will be used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment.”

ICCM-1 Dubai 2006
Strategic Approach to Chemicals Management (SAICM)
ICCA cooperates with UNEP on the Strategic Approach to International Chemicals Management (SAICM).

2010 ICCA-UNEP cooperation agreement, focus on industry capacity building in emerging regions
Global Charter Key Elements

- Commit to advancing Sustainable Development
- Continuously improve and report performance
- Enhance the safe management of chemicals worldwide
- Facilitate the extension of RC along the value chain
- Actively support national and global RC governance processes
- Provide appropriate resources to effectively implement RC

✓ 55 associations worldwide
✓ 90% of largest chemical companies
Ukraine joining RCLG in 2011
Russia started in 2007
Interest in Egypt
China starting in 2011
6 Golf countries joined RCLG in 2010
Reinforcing India
Responsible Care worldwide
Responsible Care at the Gulf

- Gulf Petrochemical & Chemical Association
  (Saudi Arabia, Kuwait, UAE, Qatar, Bahrain, Oman)
- Supported by Cefic & American Chemistry Council
- 54th RCLG member association (approved in 2010)
Responsible Care in the Ukraine

- Ukraine Chemists Union (UCU)
- MoU with Cefic since 2010
- 2010 workshops in Kiev, Yuzhne, Cherkassy, Severodonetsk
- 55th ICCA RCLG member association (approved in 2011)
Start of Responsible Care in Egypt

- Egyptian Chamber of Chemical Industries
- MoU signed with Cefic in 4/2011
- Egyptian RC Board established 8/2011
“In the end it's not just about the facts, but how those facts feel.”
Many Thanks for Your Attention!
Questions?

(contact: bth@cefic.be)