




**WCC Global Safety Team online meeting  
5 October 2021**

**WARM WELCOME**


**WORLD chlorine council®**

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**AGENDA - Global Safety Team (GST) – T. Manders (40min)**

1. Minutes last meeting 08 Sept.2021
2. Sharing Incidents and near misses and Safety updates from Regions
3. How to help Regions to increase incident (learning) sharing
4. Online Safety Seminar 9-10 November 2021
5. New WCC Manufacturing Processes publication
6. Topics for 4th quarter Safety Newsletter

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## Approval of Minutes of Meeting 2020, 8 September 2021

WORLD chlorine council®

WORLD chlorine council®

Any comments?

Or can we approve?

### WCC Global Safety Team (GST) meeting

Tuesday 18 May 2021, 13:00-13:45 (CET) | Teams Meeting

DRAFT RECORD OF THE MEETING

#### Members present

Robyn Brooks	<a href="#">The Chlorine Institute</a>
Michelle Jurgens	<a href="#">The Chlorine Institute</a>
Frank Reiner	<a href="#">The Chlorine Institute</a>
Martim Penna	Clorosur
Airton Andrade	Clorosur
Moriyama, Shigeru	Japan Soda Industry Association
Boris Yagud	RusChlor
Mironov Peter	RusChlor
Devanand Jajoo	AMAI
Manders Ton	CEFIC/Euro Chlor



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## Sharing incidents & near misses



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## How to help Regions to increase incident (learning) sharing

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- Why is it important to share incidents?
- Because safety is our first priority; our licence to operate
- One large accident somewhere in the world will affect us all



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## How to help Regions to increase incident (learning) sharing

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- But why share incidents?
- It helps to improve the safety performance of all members
- Everybody can make mistakes; but it does not make any sense to repeat mistakes
- The number of near misses and smaller incidents give an indication of the safety behaviour



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## How to help Regions to increase incident (learning) sharing

### The role of the World Chlorine Council

#### WCC Vision

“Chlor-alkali chemistry is recognised as making an essential contribution to a sustainable world.”

#### WCC Mission

“Be a global forum to promote health, safety, and environmental best practices in order to provide society with the benefits of the chlor-alkali industry.”



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## How to help Regions to increase incident (learning) sharing

### Goal Area 1 | Safety

Promote the continuous improvement of safety, environment and health performance, progress and practices worldwide in the chlor-alkali production, transportation and use.

#### **Objective:** *Achieve zero incidents in the chlor-alkali industry*

- Organise an annual safety seminar
  - Safety Seminar in Buenos Aires, Argentina | November 2016
  - Safety Seminar in Moscow, Russia | November 2017
  - Safety Seminar in Perth, Australia | July 2018
  - Safety Seminar in Monterrey, Mexico | September 2018
  - Safety Seminar & African Water Forum in Johannesburg, South Africa | July 2019
  - Safety in Transportation of all Chlor Alkali products seminar in Vadodara, India | September 2019
  - Online Safety Seminar | 17 and 18 November 2020
  - Online Safety Seminar | 9 and 10 November 2021



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## How to help Regions to increase incident (learning) sharing

### Goal Area 1 | Safety

Promote the continuous improvement of safety, environment and health performance, progress and practices worldwide in the chlor-alkali production, transportation and use.

#### **Objective:** *Achieve zero incidents in the chlor-alkali industry (cont'd)*

- Exchange and promote safety procedures, and information among regions
  - Quarterly GST teleconferences
  - Spring & October WCC Management Committee Meeting
  - Quarterly safety newsletter
  - **Exchange on incident reports and general best practices guidance**



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## How to help Regions to increase incident (learning) sharing

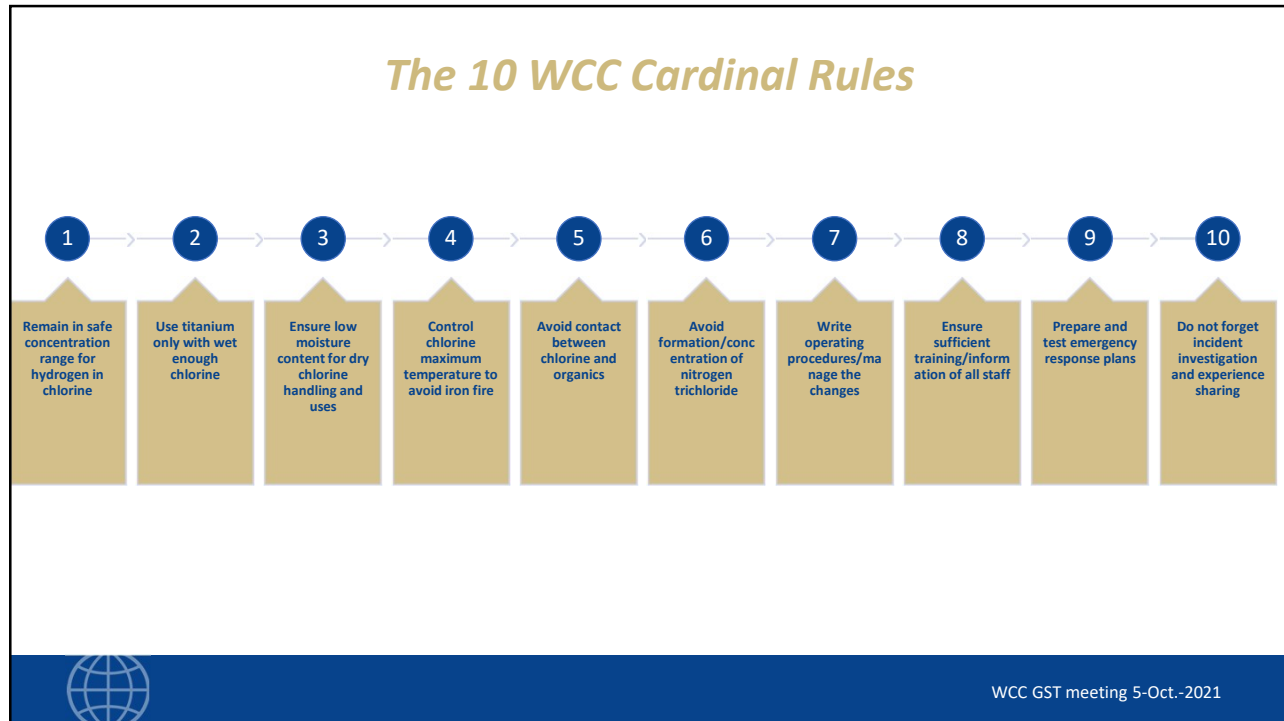
**Basis for the WCC  
Safety Seminars are:**

**The 10 WCC Cardinal Rules**



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## How to help Regions to increase incident (learning) sharing

- Incident Sharing remains a challenge for WCC
- In the past WCC had a database for incidents
  - But data collection stopped in 2011
  - Why???
- Sharing of incidents in WCC GST meetings is very limited
- What can we do to improve???

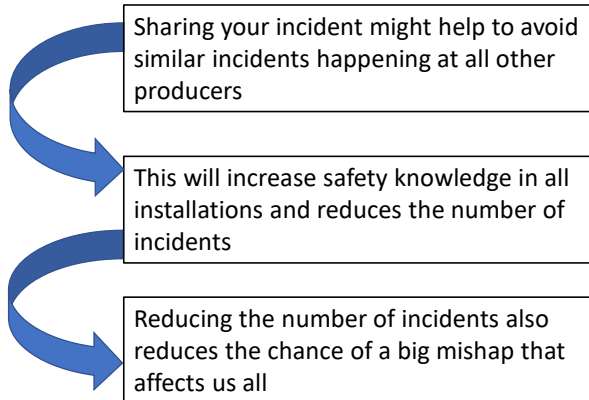


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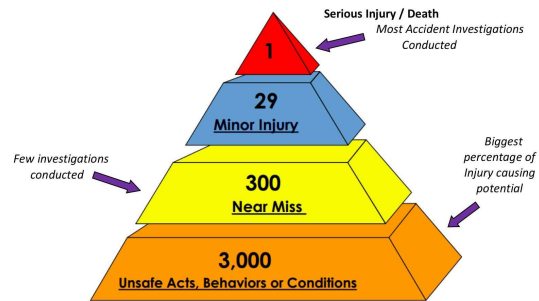
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## How to help Regions to increase incident (learning) sharing

- How to convince members to share?
- Make them aware of the importance



Incident Ratio Model –  
Heinrich's Triangle

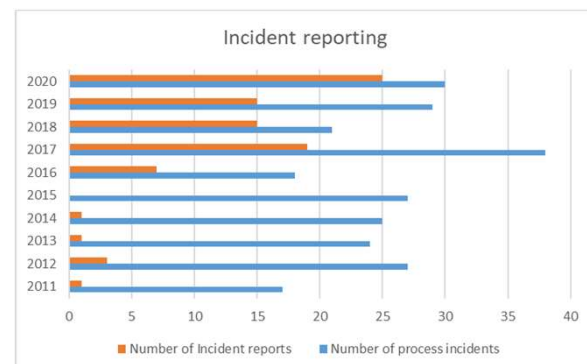


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## How to help Regions to increase incident (learning) sharing

- But it is relentlessly hard work
- At Euro Chlor in 2011 -2015, we still had data on the number of incidents, but incident reports dwindled to nothing
- After that we started to improve on getting incident reports
- How did we try to improve?



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## How to help Regions to increase incident (learning) sharing

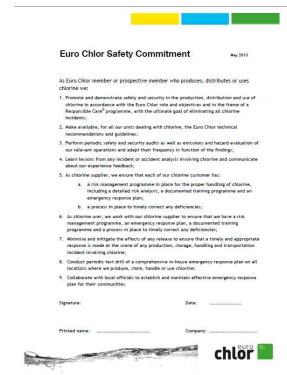
- Actions we took to improve
- Telling the story that it is important to learn and improve



- Have incident sharing on the agenda in each meeting



- Creating commitment

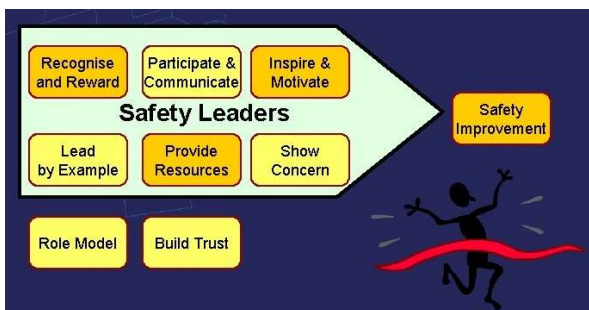


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## How to help Regions to increase incident (learning) sharing

- Actions we took to improve
- Leading by example
- Organised workshop: learning from incidents



Dear member,

At the General Assembly in 2014, Euro Chlor embarked on a 'safety Initiative' which was launched with the strong support of our Management Committee. The main driver for this initiative was to improve our safety performance.

Until now several initiatives have been started in this direction. Sharing of incidents and lessons learned is increasing inside Euro Chlor but still there is room for improvement. For this reason, a workshop titled 'Incidents reporting and experience sharing - Safety improvement opportunities for companies and the whole C-A industry' will be organized in Brussels on 12 & 13 June 2018.

Based on several typical examples, opportunities of incident sharing will be discussed between the participants from the member companies. Therefore it would be ideal if the workshop would not only be attended by technical experts with knowledge about typical causes of incidents in their companies, but also by the responsible SHE people who are responsible for the information sharing related to these incidents. A draft program of the workshop is available in Annex to this message.

Could you please inform us before December 15<sup>th</sup>, 2017 if your company is interested to join the workshop and who would participate? The participants will receive in due course more detailed information.

Looking forward to your answer, we send you our very best regards,

Marleen Pauwels  
Science and Regulatory Affairs Director  
Tel. +32 2 676 7247  
[mpa@cefic.be](mailto:mpa@cefic.be)

Ton Manders  
Technical and Safety Director  
Tel. +32 2 676 7336  
[tma@cefic.be](mailto:tma@cefic.be)



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## How to help Regions to increase incident (learning) sharing

- Actions we took to improve
- A practical example; Several incidents happened with PP/FRP as construction material for caustic soda



Main lessons learned: PP/FRP is a good construction material; but limited lifetime; difficult to inspect and predict remaining lifetime; temperature fluctuations and areas with bends, connections makes the material more vulnerable and use in these conditions is not recommended;

Euro chlor recommendation is changed accordingly



## How to help Regions to increase incident (learning) sharing

- Actions we took to improve
- Organised online safety trainings
- Developing a training game for operators/engineers

**SAVE THE DATE**

**SAFETY TRAINING PROGRAMME**

**FIRST EURO CHLOR MEMBERS SAFETY TRAINING PROGRAMME for engineers and production managers**

Euro Chlor as a Safety leader is one of our New Mill-Century Strategy's key priority elements, which builds on all the established health and safety work Euro Chlor has been carrying out over the last 80 years. To enhance and improve industry-wide safety performance along the entire value chain, we are launching a new safety training package aimed at the two mainstays of engineers and production managers starting their jobs in Euro Chlor member companies. Of course, experienced people are also welcome.

The online free-of-charge training programme, designed to enhance knowledge of necessary safety principles, will be run in five rounds of 90-minute sessions between Wednesday and Monday 09:00 each level from 10:00 to 11:30 AM CET. The two rounds cover more flexibility for the participants to fit with their own agendas. Each round features 7 lessons covering the following topics:

1. General introduction
2. The main physical properties and hazards of chlorine and HCl(g)
3. Steel as construction material in chlorine
4. Construction material in gas chlorine and related risks in chlorine cooling
5. Materials of Construction in chlorine
6. The risks of hydrogen in chlorine
7. Nitrogen Trichloride & organics
8. Personal safety
9. Chlorine safety equipment
10. Chlorine emission monitoring
11. Safety around electricity and electromagnetic Fields (EMF)

We invite you to take a look at the more detailed programme with dates confirmed that you do not miss the unique opportunity to better understand, analyse and discuss the above safety principles given by best knowledgeable and experienced members of the Euro Chlor team. Ten Members Technical Safety Director and Safety Manager, Science Manager

**REGISTER**

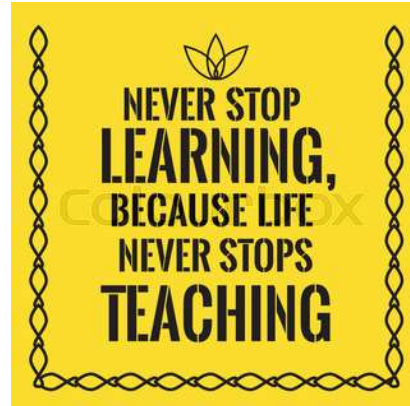
Please contact Tom Manders at [tom@eurochlor.com](mailto:tom@eurochlor.com) and/or Charital Heesters at [charital@eurochlor.com](mailto:charital@eurochlor.com) for enrolment on one of these two courses and please indicate which of both rounds (see overhead) fits in your agenda.

**BY 10/12/2020**



## How to help Regions to increase incident (learning) sharing

- We see results
- But the work will never stop



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## How to help Regions to increase incident (learning) sharing

- So it all starts with convincing the members that incident sharing is important
- If you need help; do not hesitate to ask the WCC GST team members

### *Safety Begins With You!*

#### **REMEMBER!**

- Always think before doing.
- Plan ahead.
- Help each other.
- Practice what you learn.
- Avoid injuries - they can last a lifetime.
- **BE SAFE!**
- **WE NEED YOU HERE!!**



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## Online Safety Seminar 9 & 10 November 2021

- Programme is almost finalised, see next slide
- BUT so far only three participants have registered
- This should increase, otherwise the event makes no sense...
  - What is the minimum number of participants?
- How can we do more promotion?
- What do we expect as a minimum participation?

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## Online Safety Seminar 9 & 10 November 2021



Online Safety Seminar 9 and 10 November 2021

12H:00 - 14H:00 (CET)

**DRAFT**

**AGENDA 9 November**

Time	Item	Presenter
12:00 (CET)	Welcome and Opening Remarks WCC Antitrust Guidelines	Ton Manders, Euro Chlor
12:05 (CET)	Goals and Vision of the WCC	Ton Manders, Euro Chlor
12:10 (CET)	WCC Cardinal Rules on Process Safety Management	Ton Manders, Euro Chlor
12:35 (CET)	The Safety on Hydrogen	Monica Hernandez, Formosa Plastics
13:00 (CET)	Disaster preparation	Robyn Brooks, Chlorine Institute
13:25 (CET)	Safety Around Nitrogen Trichloride	Ton Manders, Euro Chlor
13:50 (CET)	Questions and discussion	Ton Manders, Euro Chlor
14:00 (CET)	Closure of first day	Ton Manders, Euro Chlor



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## Online Safety Seminar 9 & 10 November 2021



Online Safety Seminar 9 and 10 November 2021

12H:00 - 14H:00 (CET)

**DRAFT**

**AGENDA 10 November**

Time	Item	Presenter
12:00 (CET)	Welcome and Opening Remarks WCC Antitrust Guidelines	Ton Manders, Euro Chlor
12:05 (CET)	How to ensure safety around ton containers	Mr. Vijay Kastival, Senior Safety Expert at DCM Shriram Ltd.
12:35 (CET)	Small In-situ chlorine production	Martim Penna, Clorosur
13:05 (CET)	Lessons learned from a large chlorine emission	CI looking for presenter
13:35 (CET)	Questions and discussion	Ton Manders, Euro Chlor
13:45 (CET)	Closure of second day	Ton Manders, Euro Chlor



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## AGENDA - Global Safety Team (GST) – T. Manders (40min)

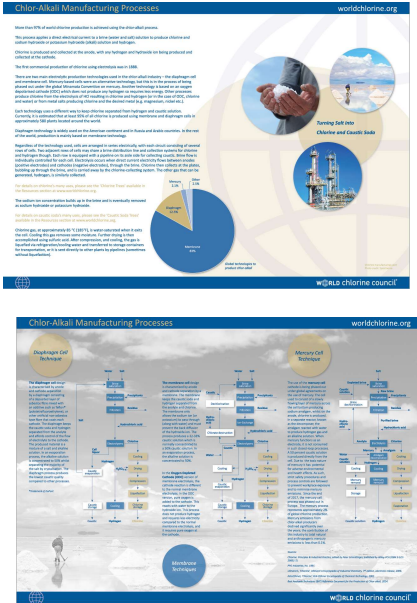
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## New WCC Manufacturing process publication

- The publication on manufacturing processes was updated
- We kept the mercury process in
- We added the oxygen depleted cathode process to the membrane process
  - This process uses less electricity but requires pure oxygen and doesn't produce Hydrogen
- Brochure is published on [SharePoint](#) and on [news](#) and [resources](#) sections of WCC website



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## Topics 3<sup>rd</sup> quarter safety newsletter

- Euro Chlor will have 1 or two incident reports to share
- Input from the other regions....
- Other topics?
- Please provide your article before 10 December so that we can issue the newsletter before 20 December



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A word cloud featuring the phrase "thank you" in numerous languages and scripts, including English, Spanish, French, German, Italian, Japanese, Korean, and many others. The words are arranged in a circular pattern, with "thank you" being the most prominent in the center. The background of the word cloud is white, and it is set against a blue gradient background that transitions into a dark blue footer.

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5 October 2021

MS Teams

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