



International Cadmium Association

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## Minutes of the 8<sup>th</sup> ICdA H&S Committee

October 14th, 2011  
**DIAMANT - CONFERENCE & BUSINESS CENTER**  
**Meeting room Galilei**  
**Boulevard A. Reyers 80**  
**B-1030 BRUSSELS**

### **1- Introduction**

Christian Canoo welcomes the participants. Seventeen people representing Enersys UK, First Solar, Floridienne Chimie, Hoppecke GmbH, IZA, James M. Brown, Nyrstar, Portovesme, Saft, Xstrata Zink and ICdA attend the meeting, and introduce themselves (cf. file 1 Attendance list). Each participant signs a statement of compliance.

The provisional agenda proposed by ICdA is adopted (cf. file 2 Agenda).

### **2- Approval of the minutes of the 7th H&S committee (June 7th, 2011)**

The minutes of the seventh H&S committee (June 7<sup>th</sup>, 2011) are approved unanimously.

### **3- Objectives of the meeting: Scope of ICdA program, connection with the REACH process and corresponding “Risk Management measures” (Christian Canoo)**

In his presentation (cf. file 3 ICdA 8<sup>th</sup> H&S Committee) Christian Canoo reminds the objective of the ICdA Health & Safety committee which is to disseminate the ICdA Guidance document to ICdA member companies and their key personnel.

The Cd/CdO risk assessment having initially showed that there were in Europe risks for workers under current management methodologies, the decision was taken, some 3 years ago, to assist ICdA members with the implementation of the ICdA Guidance document “ICdA Guidance on the management of the risk related to chronic occupational exposure to cadmium and its compounds”.

Christian Canoo lists the past H&S committees with mentioning the topic of the current 8<sup>th</sup> H&S committee which is “Implementation of a prevention culture in our plants”.

### **4- Plan for applying a prevention culture at Floridienne Chimie (Simon Vljajic- Managing Director Floridienne Chimie)**



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### Presentation “Implementing a prevention culture in our facilities”

In his presentation (cf. file 3 ICdA 8<sup>th</sup> H&S Committee) Simon Vljacic starts with an overview on the since 1898 Floridienne group, worldwide 2010. Floridienne Chimie, since 1928, located in the Unesco protected city of Ath, employs 150 people and has 4 areas of competence:

1. Cadmium: cadmium salts
2. Plastic additives: PVC stabilisers, Flame retardants
3. Zinc: zinc salts
4. Recycling: batteries, galvanizing baths, solar panels

Simon Vljacic explains on the in 2008 started Floridienne Chimie” Mission” and “Vision” which defined their new culture. It is explained that the 5 new production plants (1. CaZn and organic PVC stabilisers, 2. Plastic additives innovation Center, 3. Safire, 4. High purity metals production facility, 5. High purity metals innovation centre) were more Health and Safety efficient. The new ECO façade was explained and demonstrated with images. The façade consists of wood plastics (PVC with the new stabilisers) walls and green vegetable parts are incorporated.

In 2009 a big biomonitoring program took place initiated by the Authorities. In a defined area in the neighbourhood of Floridienne chimie, people were asked by the Ministry of Health And Safety of Wallonia for their participation in this biomonitoring program. These very promising results, e.g. indicating Cd-U < Cd-U Belgian average; no restriction on eating of vegetables grown around the plant, were presented by scientists to all people of the town and published.

In the second part S. Vljacic elaborates in his talk on Health and Safety in Floridienne Chimie. In 2008/2009 the implementation of a safety method based on behavioural change was started. The so called BAPP® (Behavioural Accident Prevention Process) is a method coming from USA which as used already e.g. in petrochemical industry, NASA. In the frame of this 5 years project data on accident frequency rate evolution and on actual accident seriousness rate were shown with a remarkable amelioration between 2008 and 2009 falling back to a rate of zero. There was an increase again in 2010 which is explainable due to more lack of attention, less strictly following rules. This needs a warning to continue as was strictly done in 2009.

Floridienne Chimie’s H&S prevention Strategy is :

- to cope with REACH’s biological indicators strategy, such as applied by ICdA and mentioned in e-SDS and exposure scenario’s.
- to monitor CdU and CdB of their workers
- none of our workers has been above Biological Indicator limit of Beta-2-microglobuline of 300 µg/g creatinine in the last 5 years
- Internal Policy to take away workers from operating zone (set in place with Securex medical doctor) in line with ICdA recommendations under Exposure Scenario’s
- Use the behavioural safety method to help workers respecting H&S rules

Cd-U biomonitoring data 2008-2009 (H&S prevention Strategy in place) are shown. These 2008 and 2009 data concerns basically the same people.



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Clearly increase was seen in the group  $<2\mu\text{g Cd/gC}$  and decreases in the groups:  $2\mu\text{g Cd/gC}$   $<\text{CdU}<5\mu\text{g Cd/gC}$  and  $\text{CdU}>5\mu\text{g Cd/gC}$

Questions are raised on the dramatic decreases seen over 2 years knowing the CdU reflects a body burden of 20 years.

H. Winbow from James M Brown indicates that their workers are followed up individually and that the individual approach starts from the orange zone.

### Discussion and recommendations synthesis for a “Good practice factsheet”

Several topics regarding hygiene habits are discussed and it is proposed to gather these different information by questionnaires to be developed with the help of La Floridienne Chimie.

Topics:

- BAPP method
- Hygiene habits (air shower, soaps for hand wash, changing/cleaning of clothes, ...)
- Food / smoking policy
- ...

Overall, it is agreed to update the ICdA guidance with appendices (recommendation flyers) to be worked on by different Working groups related to specific topics.

### 5- Occupational Cadmium Bio Indicators Observations (Prof. A Bernard)

*Review of OCdBio 3 (data 2010) vs 1 and 2 (data 2008-2009)*

Prof Bernard starts his presentation by commenting a tentative scale to evaluate risks of Cd-induced renal dysfunction according to urinary Cd in occupationally exposed subjects based on his publication Bernard (1996) establishing 4 zones, the red one ( $>10\mu\text{g Cd/g cr}$ ) being the zone we should avoid, considering that above this value there is a linear increase of the risk.

The distribution of Cd-U in EU-sites has been established using the data of 15 EU sites (2008), 15 EU sites (2009) and 21 EU sites (2010).

2008 data representing a population of 2009 people:

80.6% of the people, under  $2\mu\text{g Cd/g cr}$ , have in theory no risk

2.3%, above  $10\mu\text{g Cd/g cr}$ , are probably people under risk

2009 data representing a population of 2626 people:

84.5% of the people, under  $2\mu\text{g Cd/g cr}$ , have in theory no risk

1.3%, above  $10\mu\text{g Cd/g cr}$ , are probably people under risk

2010 data representing a population of 2097 people:

79.2% of the people, under  $2\mu\text{g Cd/g cr}$ , have in theory no risk

2.4%, above  $10\mu\text{g Cd/g cr}$ , are probably people under risk



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We may guess that most of these people above 10 µg Cd/g cr , have nowadays been removed from exposed areas

The distribution of Cd-B in EU-sites has been established using the data of 14 EU sites (2008), 16 EU sites (2009) and 19 EU sites (2010).

2008 data representing a population of 1692 people:

72.9% of the people are in the green area (<2 µg/L Cd in blood) and 1.4% in the red area (>10 µg/L Cd in blood)

2009 data representing a population of 1883 people:

73.1% of the people are in the green area (<2 µg/L Cd in blood), and 1.1% in the red area (>10 µg/L Cd in blood)

2010 data representing a population of 2395 people:

75.5% of the people are in the green area (<2 µg/L Cd in blood), and 1.0% in the red area (>10 µg/L Cd in blood)

The OCdBio data 2008, 2009, 2010 has no indications on ages and smoking.

#### *Summary of the discussion (Trends analysis, comments and suggestions)*

The Cd-U results show no real changes over those 3 years which is normal since reflects the body burden. Differences in number of people is important since in lower percentage ranges it influences seriously the percentage.

Regarding Cd-B it was discussed if we should probably not already expect after 1 year more changes since the half life of Cd is 6 months. Maybe the trend is hidden by new participants, namely 3 sites more in 2010.

In the several years of data collection, there were some problems mentioned like underreporting, in some plants only Cd-B data was available.

In summary it was discussed and agreed on to present the data in several ways:

- 1) Comparing all the available data as shown in the graph presented
- 2) If data is missing (eg Cd-U data) to use the last recent data in order to be able to analyse a trend

In this discussion Pr. Bernard put again emphasis on the renal effects of low environmental exposure to cadmium. In his recent submitted paper in which several groups of children, adolescents and adults with low environmental exposure to Cd are examined for CdU, retinol-binding protein (RBP) and albumin, Bernard et al showed that the most logical explanation for the findings of renal effects after low environmental exposure to cadmium is a reverse causality due to the coexcretion of metallothionein (main Cd binding protein) with other low molecular proteins. Bernard suggests that at low environmental exposures, Cd-U would be more a reflection of the tubular reabsorption capacity of LMW proteins than of the past or current exposure to Cd. Cd-U in children does not reflect the body burden but is the result of immature kidney function.



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**7- ICdA conference in China- November 2011** (Noömi Lombaert / Christian Canoo) (cf. file 3 ICdA 8<sup>th</sup> H&S Committee)

Noömi Lombaert reminds in follow up of the previous announcement in the 7th H&S committee the upcoming ICdA conference in China (Kunming) November 11<sup>th</sup>-13<sup>th</sup> this year. The theme of the conference is 'Risk Management and Control of Cadmium' which needs surely more attention and training in China, hence the location decision. This conference will be the 8<sup>th</sup> ICdA conference after a break in a row of previous well attended ICdA conferences that were held each 2-3 year from 1977 up to 1992. N. Lombaert presents the topics of the conference program being:

- Key note overview Papers – Market and Applications, Health Effects, Environmental Effects, Regulations
  - Controlling Cadmium Exposure in the Workplace
  - Controlling Cadmium in the Environment
  - Controlling Cadmium in the General Population: Recycling of Cadmium, Cadmium in Consumer Products, Cadmium from Non-Product Sources
- and emphasizes that the scientific program includes the world's top experts in those different fields related to cadmium.

It is explained that all information regarding program, sponsoring, registration and hotel accommodation can be found on the website <http://events.smm.cn/2011cd/en>, which is maintained by the contractor 'Shanghai Metals Markets' (SMM). Given the very approaching conference date, registration needs to be done as soon as possible for being able to get the VISA in time.

Finally N. Lombaert concludes with some convincing reasons why to attend this conference and warmly welcomes together with C. Canoo and F. Van Assche, all of the Organisational Committee, to participate to this very interesting conference.

**8-Settings for the 9th H&S committee and long term planning**

The date for the 9<sup>th</sup> H&S committee with as theme to be determined later was proposed for May-June 2012.

It is again agreed that the key activities of the H&S Committee will remain:

- To generate a revision of the ICdA Guidance (adding in appendices fact sheets e.g on personal protective equipment, implementation of prevention culture) which in first instance will be worked out by means of Working groups.
- To keep updated the OCdBio Observatory

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