

*9<sup>th</sup> ICdA H&S Ctee*

*June 19<sup>th</sup> 2012*

# Statement of Compliance

- ❑ The purpose of the meeting is to address, under the applicable confidentiality rules, issues concerning cadmium and cadmium compounds producers and users and more particularly H&S issues, as reported in the Meeting's objectives .
- ❑ The minutes kept at the meeting will have to reflect all significant matters discussed during the meeting.
- ❑ No discussions will be held, formally or informally, during specified meeting times or otherwise, involving, directly or indirectly, express or implicit agreements or understandings related to: (a) any company's price; (b) any company's terms or conditions of sale; (c) any company's production or sales levels; (d) any company's wages or salaries; (e) the division or allocation of customers or geographic markets; or (f) customer or suppliers boycotts; or (g) any disclosure of information which may affect applicable rules on Competition Law.
- ❑ The International Cadmium Association, as a group will make no recommendations of any kind and will not try to reach any agreements or understandings with respect to an individual company's prices, terms or conditions of sale, production or sales levels, wages, salaries, customers or suppliers.

# Objective of H&S Com meetings

## □ Reminder:

- The H&S Ctee was set up **primarily** 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”

## □ Source of this initiative:

- Cd/CdO risk assessment (RA) shows a conclusion that there is a risk to workers under current management methodologies (2007)
- Under the current “REACH” regulation, the same “risk management precautions” apply, for Workers and for the Environment

# Past (and future) H&S Ctees

- ❑ Launch of the committee, definition of the format and content
  - 1st Ctee, dated Nov 25th, 2008
- ❑ Measuring air quality
  - 2<sup>nd</sup> Ctee, dated March 10th, 2009
- ❑ Medical supervision adapted to cadmium risk
  - 3rd Ctee, dated June 16th 2009
- ❑ Individual and collective hygiene procedures
  - 4th Ctee, dated October 13th, 2010
- ❑ Detailed procedures regarding medical surveillance
  - 5th Ctee, dated June 8<sup>th</sup>: 2010
- ❑ Status a the REACH registration process
  - 6th Ctee, dated October 15<sup>th</sup>, 2010
- ❑ Choosing and maintaining the right PPE
  - 7th Ctee, dated June 7<sup>th</sup>, 2011
- ❑ Implementing a prevention culture in our facilities
  - 8th Ctee, dated October 14<sup>th</sup>, 2011
- ❑ **Communication guides of former H&S meetings**
  - **9th Ctee, dated: June 19<sup>th</sup>, 2012**
- ❑ Waste water treatment ?
  - 10th Ctee, date October, 2012

# Agenda for Today's meeting

- Introduction: - Welcome / Agenda / Competition law compliance
  - Objectives of the meeting: Optimisation of our communication tools: Guidance ICdA, specific flyers, ...
- Approval of the minutes of the 8<sup>th</sup> H&S committee (October 14<sup>th</sup> 2011)
- Revisiting / Re-writing of our communication tools:
  - Guidance ICdA
  - Practical flyers on 'best practices'

*-Lunch-*

- Follow-up of our Cd-conference in Kunming, China – Nov. 2011
- Occupational Cadmium Bio Indicators Observations: short review of OCdBio 1,2 and 3 (data 2008, 2009 and 2010); Arrangements for OCdBio 4 (data 2011)
- Setting of the 10<sup>th</sup> H&S committee and ... longer term planning

# Minutes - 8<sup>th</sup> H&S c<sup>m</sup>tee – 14/10/2011

- ❑ Introduction: Welcome / Agenda / Competition law compliance
- ❑ Approval of the minutes of the 7<sup>th</sup> H&S committee (June 7<sup>th</sup> 2011)
- ❑ Objectives of the meeting: Implementation of a prevention culture in our plants and corresponding 'Risk management measures'
- ❑ Plan for applying a prevention culture at Floridienne Chimie
- ❑ Occupational Cadmium Bio Indicators Observations: Review of OCdBio 3 (data 2010) vs 1 and 2 (data 2008-2009)
- ❑ ICdA conference in China- November 2011
- ❑ Setting of the 10<sup>th</sup> H&S committee and long term planning



# Revisiting our communication tools

# Revision of ICdA guidance (1)

□ Writing strategy proposal: 3 ≠ steps

-Step #1: **Revision** of the existing guidance document with **incorporation** of the **latest developments** but **without specific restrictions on length** of document and/or format

-Step #2: Distil from (1) a **more accessible, user friendly document** for plant manager people. It should be more practical, more accessible for ‘new readers’



# Revision of ICdA guidance (2)

- The aim to keep it simple but enlarge in practical details in recommendation flyers
  - The structure: proposal a document of  $\pm 5$  pages:
    - ✓ General intro
    - ✓ Chapter on plant cleanliness and air quality
    - ✓ Chapter on personal protective equipment (PPE), individual/group hygiene,
    - ✓ Chapter on medical surveillance
- + Annexes: recommendation flyers

# Revision of ICdA guidance (3)

- Step #3: A real **simplified message** aimed for the people at the workplace (workers) in forms of a **ppt, flyers, fact sheet**
- Writing committee:
  - Experts from previous ICdA guidance document: P. De Metz, V. Verougstraete, F. Van Assche, M. De Groof + other volunteers: H. Winbow, ...?
- Tasks, timing: volunteers, experts according to the different chapters

# Drafting of « Best practice » Recommendation flyers (1)

- On the topics discussed in the several H&S coms:
  - 1) measuring air quality
  - 2) medical monitoring/supervision adapted to cadmium risk
  - 3) individual and collective hygiene procedures
  - 4) medical surveillance program:
  - 5) choosing and maintaining the right personal protective equipment (PPE)
  - 6) implementation of a prevention culture in our plants

# Drafting of Recommendation flyers (2)

- Writing strategy proposal: ≠ steps
  - To start **first** with the **writing exercise of longer, exhaustive versions** of recommendations on the 6 topics. This should include indications on ‘minimal guidance’ and on ‘best practices’.
  - Starting from this exercise to **come down** to a **2 pager**
  - To make besides the 6 specific ones also a kind of **overriding flyer** including the key issues of the several topics with as **aim to show** what should be covered in a **good Cd risk management**

# Drafting of Recommendation flyers (3)

- Topic 6: “implementation of a prevention culture in our plants” and topic 3: “individual and collective hygiene procedures” can be merged into 1 recommendation sheet distinguishing material measures and behavioural measures
- In addition to **5 recommendation flyers/fact sheets** a **6<sup>th</sup>** to be developed **on Environmental aspects**
- **Recommendation flyers** can be added as **appendices in an updated ICdA guidance**

# Drafting of Recommendation flyers (4)

- Writing committee:
  - Experts according the different topics
  - Editorial WG with Lead person:
    - 1) measuring air quality: Phil Rowley
    - 5) personal protective equipment: Rolf Rodermund
  - Other volunteers according to the topics?
- Tasks, timing

# Kunming 2011 - Eighth International Cadmium Conference: Follow-up

# 8th International Cadmium Conference: Follow-up (1)

- Writing of Proceedings: Deadline June 1<sup>st</sup> 2012
  - Reminder will be sent since still a lot of papers missing (Chinese authors!)
  - Publication on ICdA website: member section only? For payment as like ppts?
  - Some authors ask for widely distribution but others not
  - Publish in a booklet format?



# 8th International Cadmium Conference: Follow-up (2)

- Draft & distribution of fact sheet “Cd risk management” for global purposes
  - E.g to approach Chinese plant managers
  - a 5 pager fact sheet showing how to avoid risk at the workplace, showing it can be mastered and ensuring fully protection for the workers could be written for translation into Chinese.

# Occupational Cadmium Bio-Indicators Observatory

## OCdBIO

*Noömi Lombaert*

*ICdA*

# OCdBIO -Occupational Cadmium Bio-monitoring Observatory

- ❑ Since 2008, data on Cd biomonitoring in the Cd industry is collected in order to convince ourselves and authorities on
  - ✓ the efficiency of our risk management program
  - ✓ the compliance of the current exposure levels with the OELs
- ❑ It is interesting for ICdA members to compare their own data with aggregated data from the whole Cd using industry
- ❑ A follow-up is interesting only if there is a long-term involvement of the companies

# Selected biomarkers of exposure

- Cadmium in blood – CdB: indicator of recent exposure
  - Cadmium in blood ( $\mu\text{g/L}$ )
- Cadmium in urine – CdU: biomarker of the amount of Cd stored in the body and in particular in the kidney cortex where the first signs of Cd toxicity develop
  - Cadmium in urine ( $\mu\text{g/g}$  creatinine)

# **Biomonitoring of occupational exposure to cadmium**

**Unit of Toxicology and Applied Pharmacology  
Catholic University of Louvain**

**Brussels, November 4, 2011**

# Distribution of urinary cadmium in EU-sites 2008 - 2009 - 2010

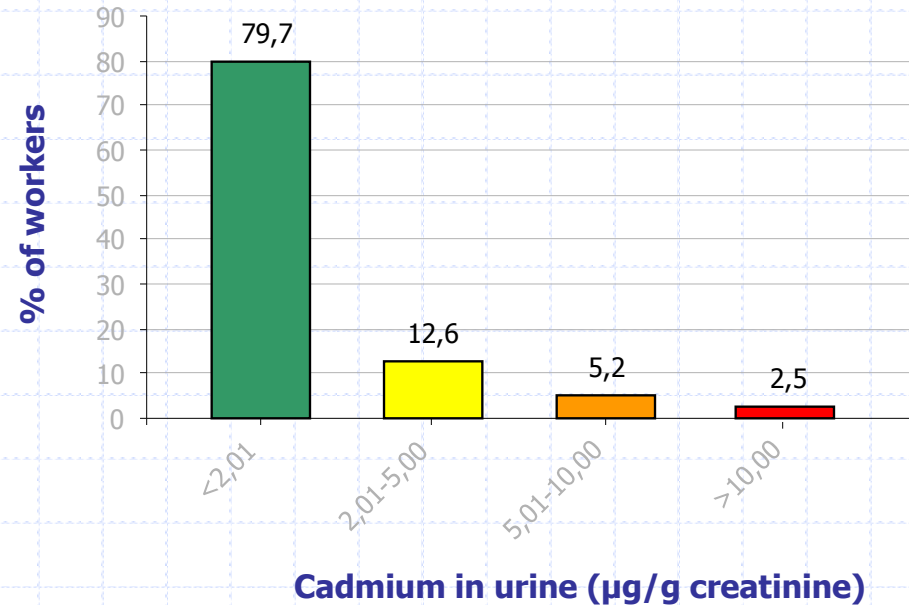
Number of EU-sites included in the Cd biomonitoring:

- 15 EU-sites in 2008
- 16 EU-sites in 2009
- 21 EU-sites in 2010

Cd in urine ( $\mu\text{g/g}$ creatinine)	2008		2009		2010	
	N	%	N	%	N	%
0.00 - 1.00	1204	65.6	1442	67.9	1599	67.5
1.01 - 2.00	258	14.1	300	14.1	337	14.2
2.01 - 3.00	113	6.2	135	6.4	146	6.2
3.01 - 5.00	118	6.4	127	6.0	118	5.0
5.01 - 7.00	56	3.1	50	2.4	59	2,5
7.01 - 10.00	40	2.2	38	1.8	60	2,5
>10	46	2.5	33	1.6	51	2,2
Total	1835	100	2125	100	2 370	100

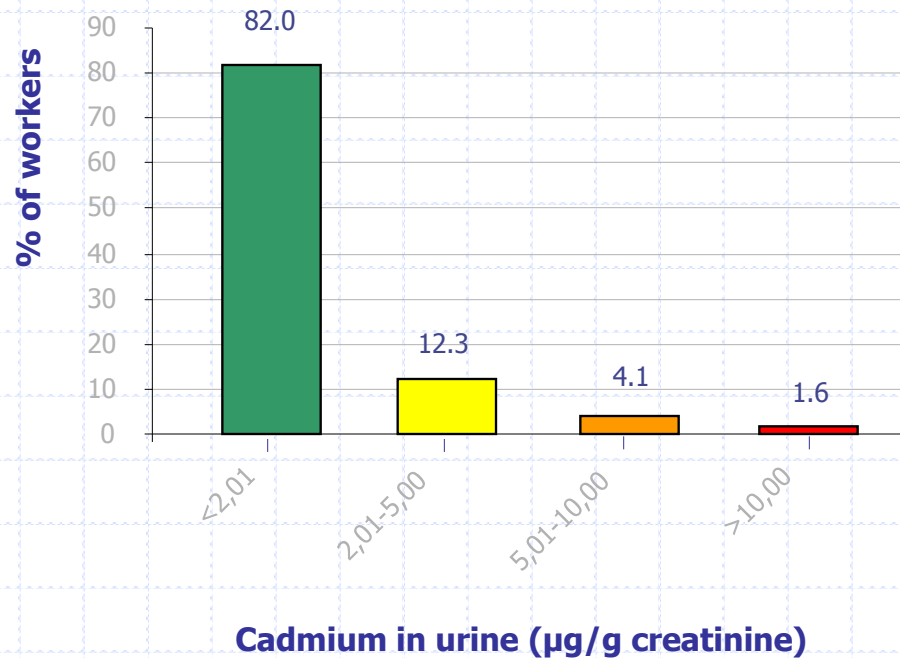
# Distribution of urinary cadmium values in EU-sites 2008

Cd in urine ( $\mu\text{g/g}$ creatinine)	2008	
	N	%
0.00 - 1.00	1204	65.6
1.01 - 2.00	258	14.1
2.01 - 3.00	113	6.2
3.01 - 5.00	118	6.4
5.01 - 7.00	56	3.1
7.01 - 10.00	40	2.2
>10	46	2.5
<b>Total</b>	<b>1835</b>	<b>100</b>



# Distribution of urinary cadmium values in EU-sites 2009

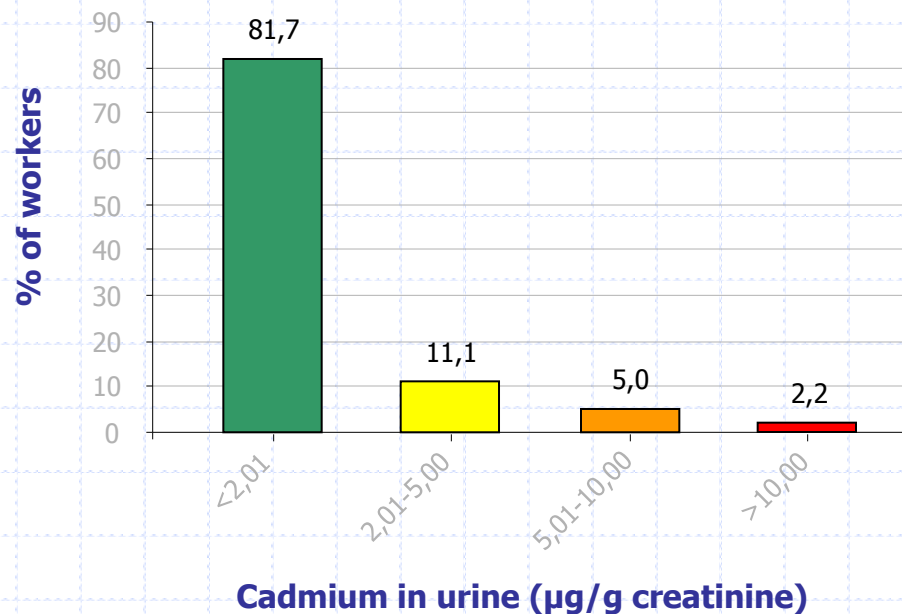
Cd in urine ( $\mu\text{g/g}$ creatinine)	2009	
	N	%
0.00 - 1.00	1442	67.9
1.01 - 2.00	300	14.1
2.01 - 3.00	135	6.4
3.01 - 5.00	127	6.0
5.01 - 7.00	50	2.4
7.01 - 10.00	38	1.8
>10	33	1.6
Total	2125	100





# Distribution of urinary cadmium values in EU-sites 2010

Cd in urine ( $\mu\text{g/g}$ creatinine)	2010	
	N	%
0.00 - 1.00	1599	67.5
1.01 - 2.00	337	14.2
2.01- 3.00	146	6.2
3.01 - 5.00	118	5.0
5.01 - 7.00	59	2,5
7.01 - 10.00	60	2,5
>10	51	2,2
Total	2 370	100



# Distribution of blood cadmium in EU-sites 2008 - 2009 - 2010

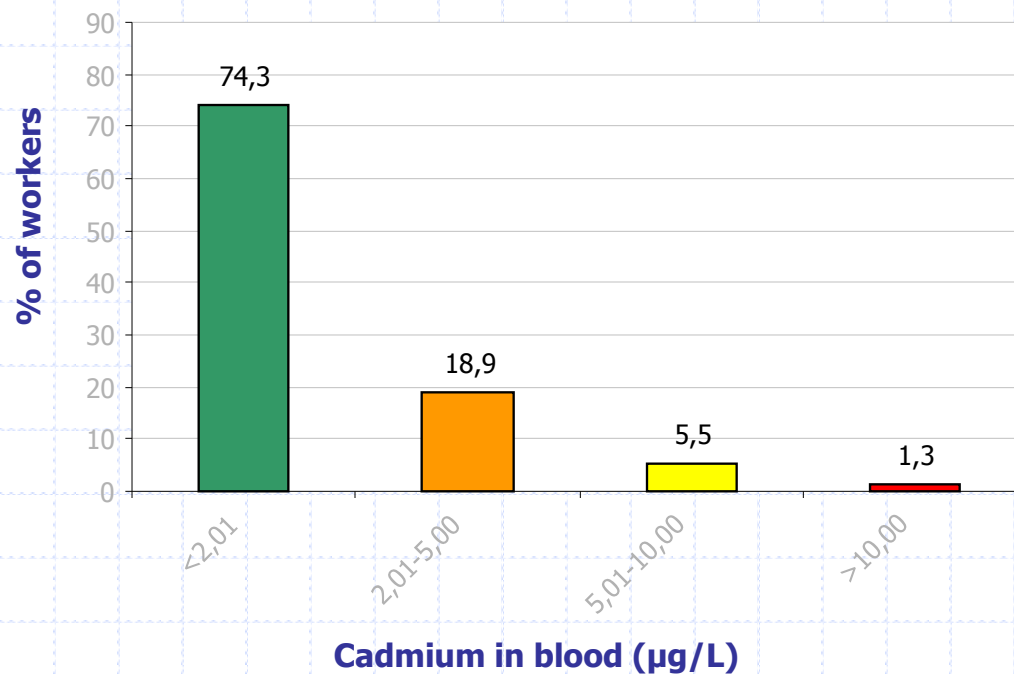
Number of EU-sites included in the Cd biomonitoring:

- 15 EU-sites in 2008
- 16 EU-sites in 2009
- 18 EU-sites in 2010

Cd in blood (µg/L)	2008		2009		2010	
	N	%	N	%	N	%
0.00 - 2.00	1332	74.3	1332	73.0	1511	73.4
2.01 - 3.00	177	9.9	195	10.7	232	11,3
3.01- 5.00	162	9.0	174	9.5	173	8,4
5.01 - 7.00	55	3.1	72	3.9	75	3.6
7.01 - 8.00	25	1.4	14	0.8	19	0,9
8.01 - 10.00	18	1.0	18	1.0	24	1,2
>10.01	24	1.3	20	1.1	25	1,2
Total	1793	100	1883	100	2059	100

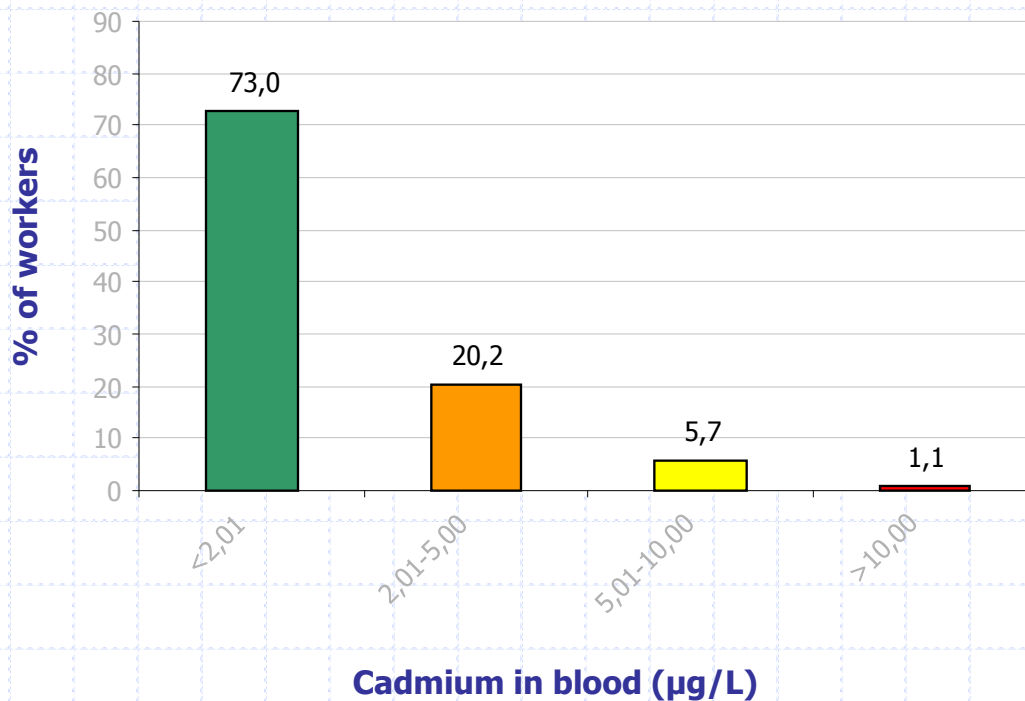
# Distribution of blood cadmium in EU-sites 2008

Cd in blood (µg/L)	2008	
	N	%
0.00 - 2.00	1332	74.3
2.01 - 3.00	177	9.9
3.01 - 5.00	162	9.0
5.01 - 7.00	55	3.1
7.01 - 8.00	25	1.4
8.01 - 10.00	18	1.0
>10.01	24	1.3
Total	1793	100



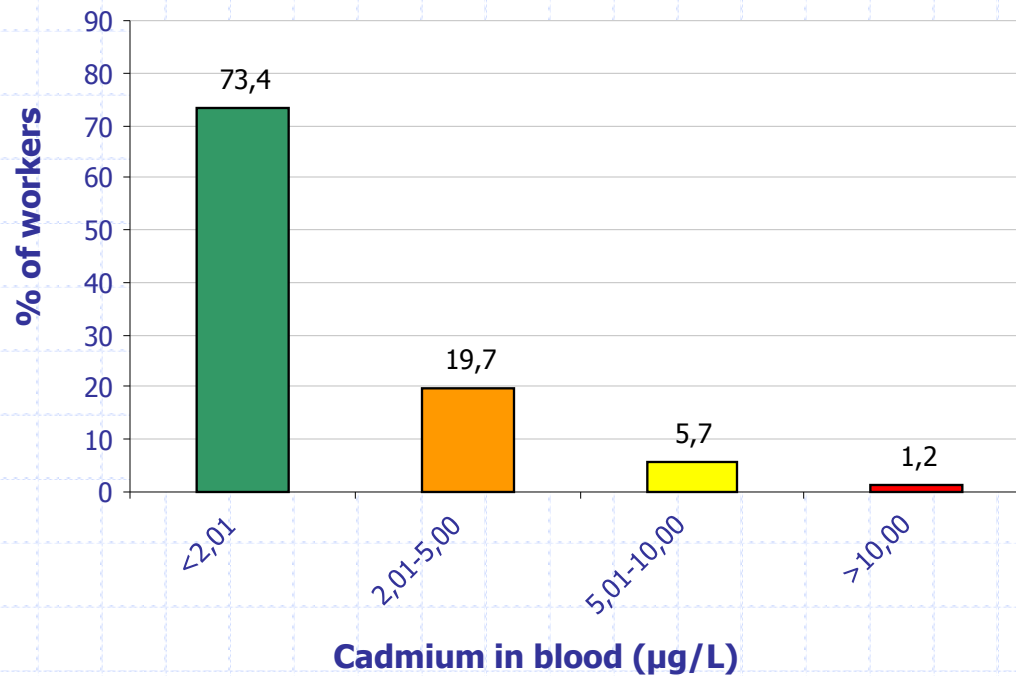
# Distribution of blood cadmium in EU-sites 2009

Cd in blood (µg/L)	2009	
	N	%
0.00 - 2.00	1332	73.0
2.01 - 3.00	195	10.7
3.01 - 5.00	174	9.5
5.01 - 7.00	72	3.9
7.01 - 8.00	14	0.8
8.01 - 10.00	18	1.0
>10.01	20	1.1
Total	1883	100



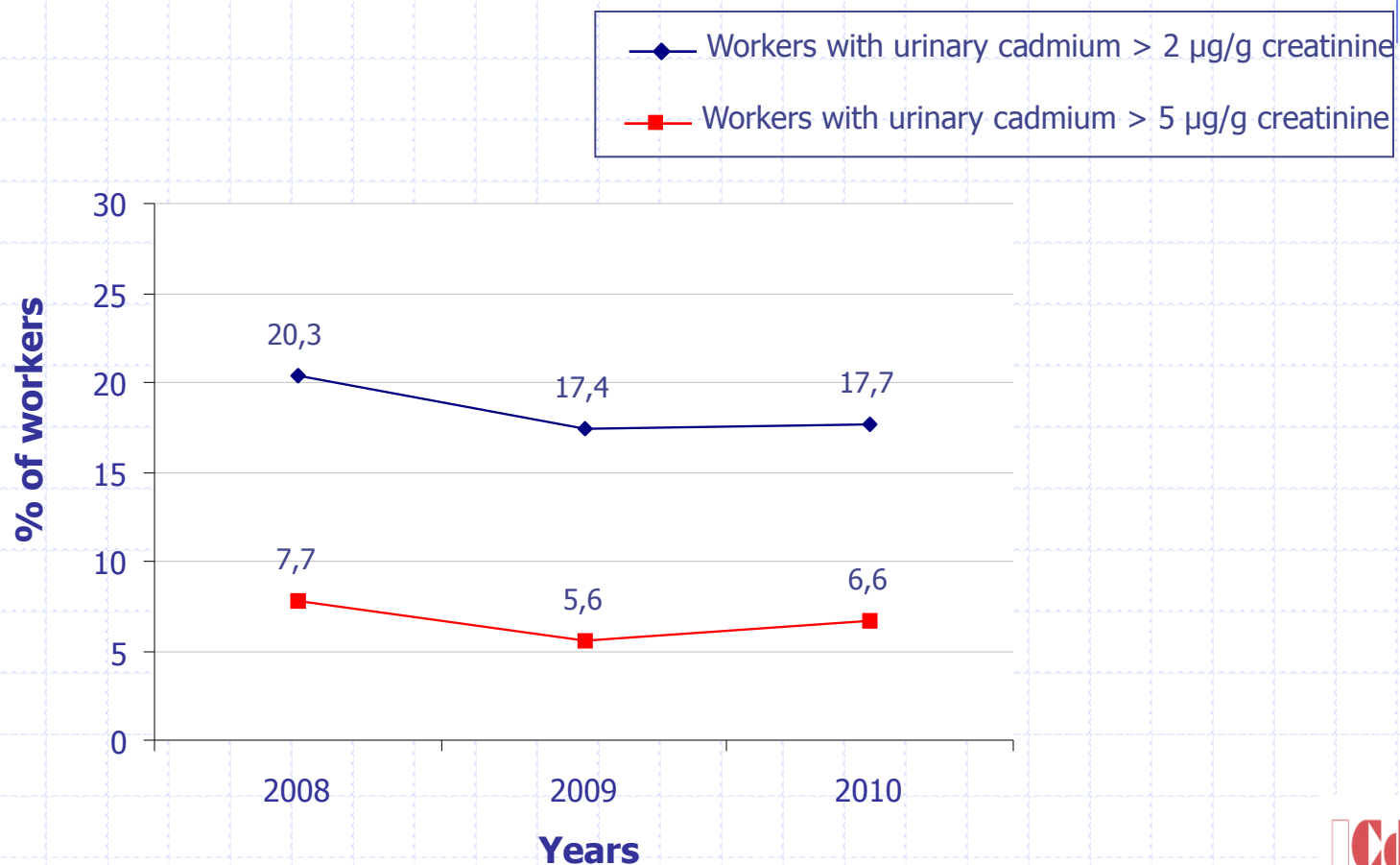
# Distribution of blood cadmium in EU-sites 2010

Cd in blood (µg/L)	2010	
	N	%
0.00 - 2.00	1511	73.4
2.01 - 3.00	232	11,3
3.01- 5.00	173	8,4
5.01 - 7.00	75	3.6
7.01 - 8.00	19	0,9
8.01 - 10.00	24	1,2
>10.01	25	1,2
Total	2059	100



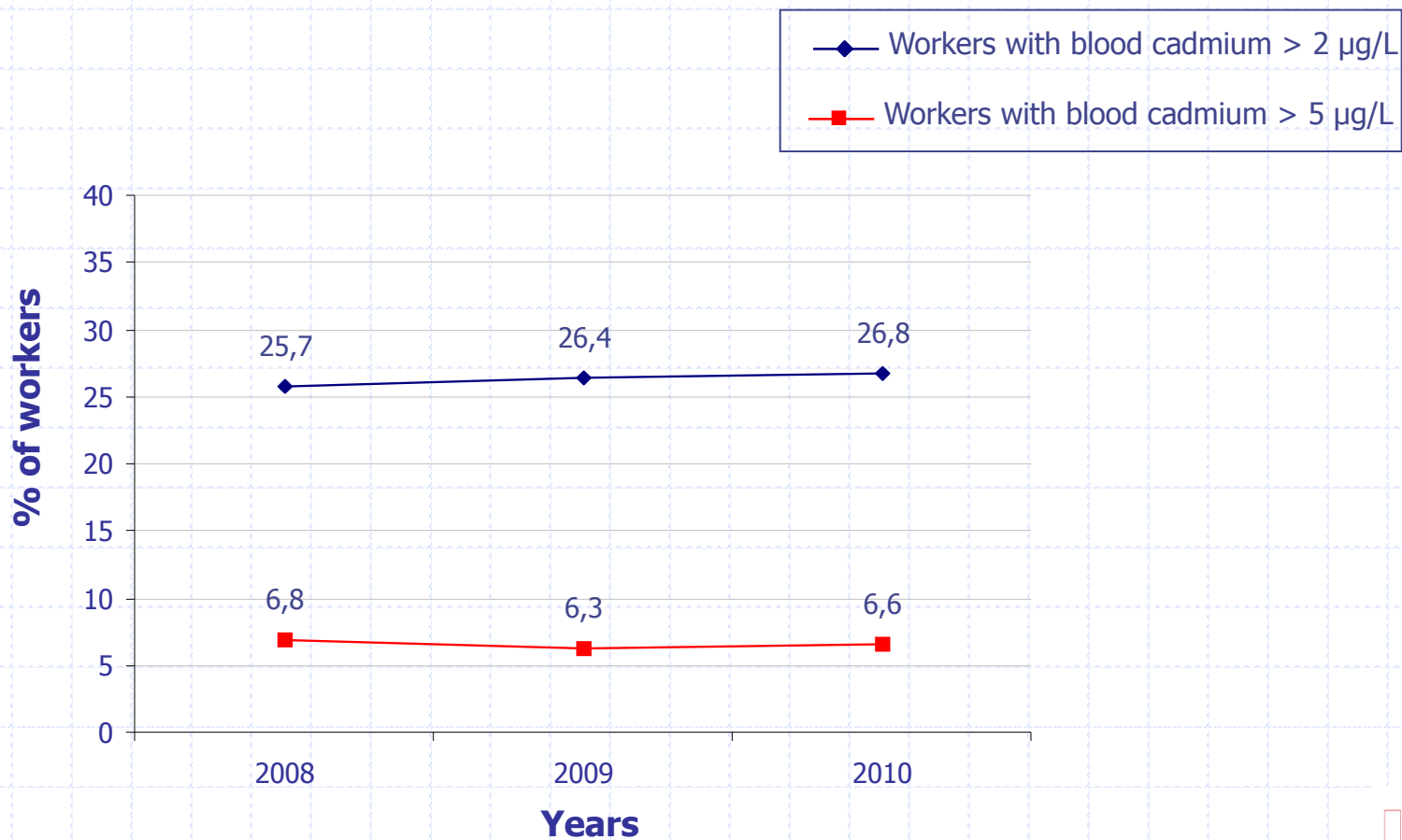
# Percentage of workers exceeding an urinary cadmium levels of 2 or 5 $\mu\text{g/g}$ creatinine

15 EU-sites included in the Cd biomonitoring



# Percentage of workers exceeding a blood cadmium levels of 2 or 5 $\mu\text{g/L}$

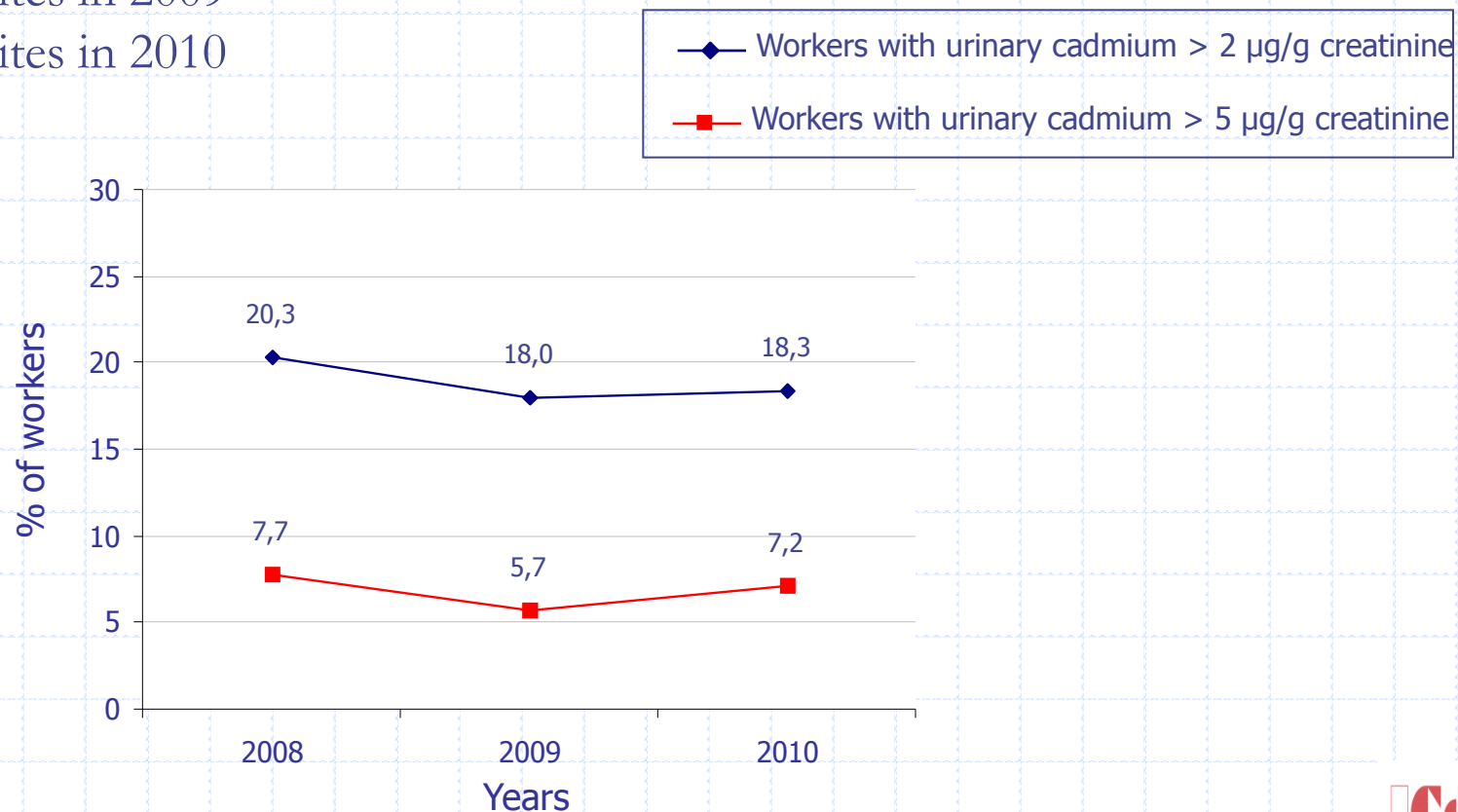
15 EU-sites included in the Cd biomonitoring



# Percentage of workers exceeding an urinary cadmium levels of 2 or 5 $\mu\text{g/g}$ creatinine

Various numbers of EU-sites included in the Cd biomonitoring

- 15 EU-sites in 2008
- 16 EU-sites in 2009
- 21 EU-sites in 2010

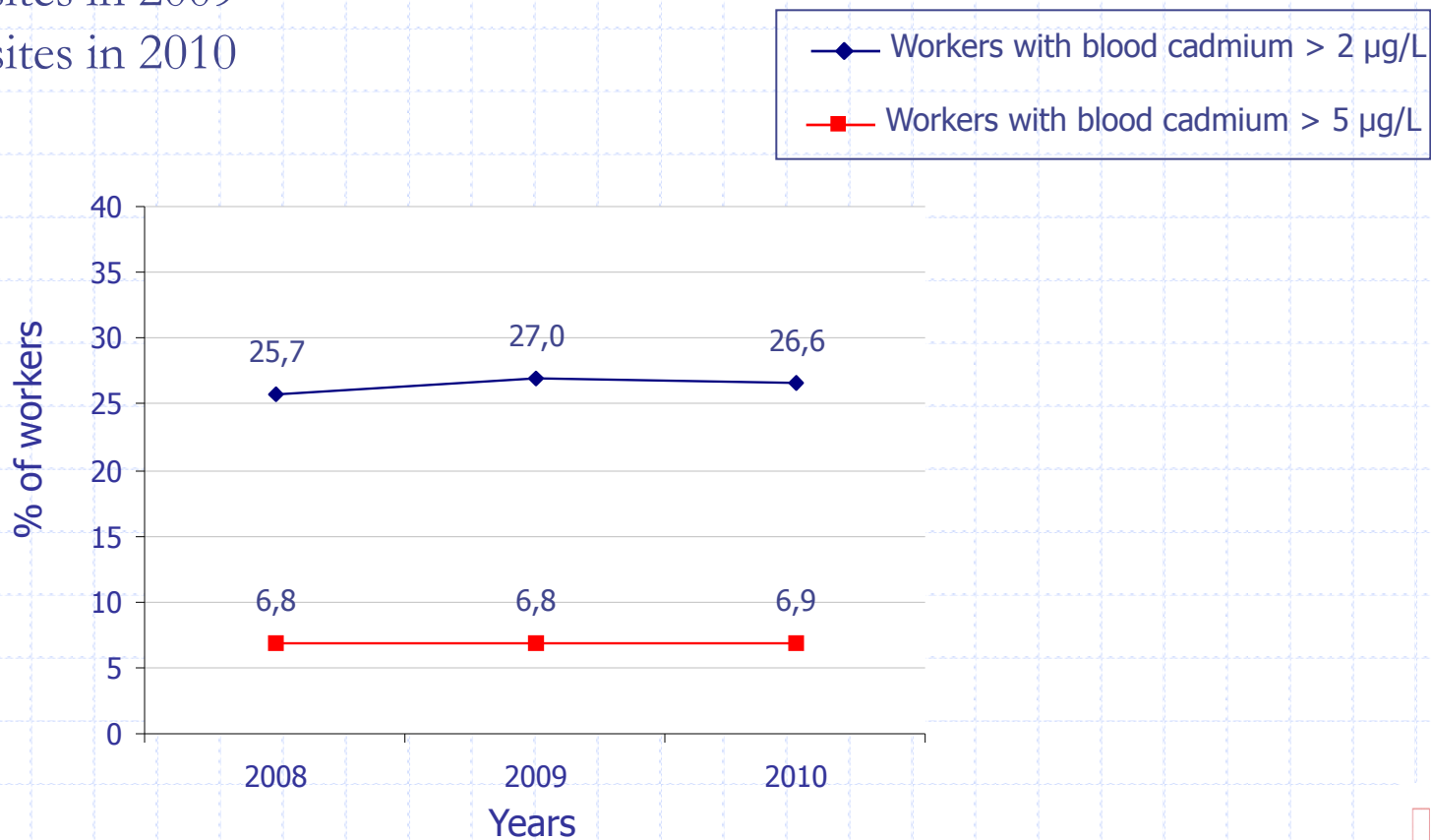




# Percentage of workers exceeding a blood cadmium levels of 2 or 5 µg/L

Various numbers of EU-sites included in the Cd biomonitoring:

- 15 EU-sites in 2008
- 16 EU-sites in 2009
- 18 EU-sites in 2010



# OCdBio-4 Data of 2011

## □ Reminder:

- Anonymous data sent to ICdA as trustee,
- Data aggregated across all respondents and shared with Pr Bernard,
- Pr Bernard to conduct a review and present us with results in the next H&S Ctee with an assessment.

## □ Practical:

- Encourage again, all companies and plant directions to participate voluntarily (*questionnaire to be filled in **before early August***)
- Technical recommendation: to adopt all the same reported units for the data:
  - ✓ µg Cd/g creatinine for Cd<sub>Urine</sub> (the correction of creatinine concentration is essential for valid interpretation)
  - and
  - ✓ µg Cd/L for Cd<sub>Blood</sub>

## Recommendations

1. All workers having been controlled for Cd in 2010 are included in the study,
2. For those plants where Cd-U is not taken every year, please include 2010 (if Cd-U taken every other year) or 2010 and 2009 (if Cd-U taken every third year),
3. Indicate clearly below whether the urine-data for which creatinine is outside the 0.3 g/L to 3.0 g/L range are excluded (outside of this range, creatinine correction is incorrect)
4. In case of several measurements, report the latest one,
5. Indicate on top of this sheet the name of the laboratory performing the analysis.

Cd in Blood µg/L whole blood	Number of workers
<b>0.00-2.00</b>	
<b>2.01-3.00</b>	
<b>3.01-5.00</b>	
<b>5.01-7.00</b>	
<b>7.01-8.00</b>	
<b>8.01-10.00</b>	
<b>&gt;10.00</b>	
<b>Total workers</b>	

Cd in Urine µg/g creatinine	Number of workers
<b>0.00-1.00</b>	
<b>1.01-2.00</b>	
<b>2.01-3.00</b>	
<b>3.01-5.00</b>	
<b>5.01-7.00</b>	
<b>7.01-10.00</b>	
<b>&gt;10.00</b>	
<b>Total workers</b>	

With regard to the urinary cadmium which should be standardized relative to creatinine concentration in order to correct for possible dilution, please confirm that you have used a screening test on the urinary creatinine value: **YES / NO**

If your answer to the above question is positive, please indicate if this screening test is (please circle the right answer):

1. the screening suggested on p 22 of the ICdA Guidance, which is: [urinary creatinine] > 0.5 g/L?
2. the screening proposed by Pr Bernard, which is: [urinary creatinine] > 0.3 g/L **AND** [urinary creatinine] <3 g/L
3. another screening test, please describe:

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Please send the completed questionnaire, as soon as possible, and before **August 3<sup>rd</sup>**

# AoB

# Next meetings

- Proposed next date: Tue 23 October 2012 (tbc)
  - ✓ Theme: ... Environmental issues: waste water treatment
- Long term planning: 1<sup>st</sup> 2013- Meeting