



MINUTES
BOARD OF DIRECTORS' MEETING BY CONFERENCE CALL
INTERNATIONAL CADMIUM ASSOCIATION
Tuesday, June 29, 2010 – 1500 Hours (3:00 PM) Brussels Time

1. CALL TO ORDER

The conference call of the Board of Directors of the International Cadmium Association was called to order by the Chairman, Emil Josendal, of Boliden at 3:10 PM (Brussels Time). Those participating in the Board of Directors Conference Call included the following:

DIRECTOR

Colin Thirlaway (Proxy to Laurent Smits)
Laurent Smits
Emil Josendal
Anne Dekker
Mark Booth
Patrick de Metz
Mitsunori Takao (Proxy to Patrick de Metz)
Sylvie Olivard (for Eric Nottez)
Mark Edwards

MEMBER COMPANY

Black & Decker
Floridienne Chemie
Boliden for IZA
Nystar NV for IZA
Rockwood Pigments (UK) Limited
SAFT
Sanyo
SNAM
Teck Resources Ltd. For IZA

STAFF AND GUESTS

Maxime Cossette
Frank Van Assche
Eric Van Genderen
Christian Canoo
Noomi Lombaert
Hugh Morrow

ORGANIZATION

5NPlus
International Zinc Association
International Zinc Association
International Cadmium Association
International Cadmium Association
International Cadmium Association

2. MEETING AGENDA AND STATEMENT OF COMPLIANCE

General Manager Christian Canoo noted that nine of the association's ten Directors were present or represented by Proxy and thus a quorum was established for the transaction of business. The complete presentation of all materials presented during the conference call is attached to these Minutes as Annex I. The agenda for the conference call is shown as Slide 2 in Annex I. Christian Canoo reviewed the planned meeting agenda and asked if there were any additional items any Board Member wished to add to the agenda. No additional items were introduced.

Chairman Emil Josendal then read and reviewed the Statement of Compliance for the conduction of the Association's meetings under Belgian law. This Statement of Compliance is shown on

Slide 3 of Annex I. For the convenience of ICdA Members, a Glossary of Acronyms and Abbreviations contained in these Minutes is also attached as Annex II.

3. APPROVAL OF THE MINUTES OF THE JANUARY 8, 2010 BOARD MEETING

General Manager Christian Canoo reviewed the Minutes of the ICdA Board of Directors' Meeting held on January 8, 2010 by conference call and the main items of business decided by that meeting (see Slide 4 of Annex I). These Minutes were previously issued to the ICdA membership in January 2010. Hugh Morrow noted that no additions or corrections to these Minutes had been received.

Upon motion duly made by Mark Edwards, seconded by Emil Josendal, and unanimously approved by the Board of Directors, the Minutes of the January 8, 2010 Board of Directors meeting were approved as issued.

4. REPORT ON EUROPEAN UNION REGULATORY ISSUES

Dr. Christian Canoo summarized activities in European Union regulatory issues since the January 8, 2010 Board of Directors' Meeting by conference call. The areas included the activities of the Cadmium REACH Consortium, the proposed restriction on the use of cadmium in brazing alloys and the RPA Report supporting that proposal, the SCOEL recommendations for control of occupational exposure to cadmium, and an update of the activities of the Health & Safety Committee. Dr. Canoo's update on European Union regulatory issues are shown in Slides 5 through 18 of Annex I attached.

Cadmium REACH Consortium Update – Christian Canoo reviewed the recent activities of the REACH Consortium that are summarized in Slides 6 through 11 of Annex I. Most of the recent work has involved gathering all the necessary data required by REACH and entering it into the proper IUCLID formats in the required sections. Virtually all of the information has been gathered and entered into the system. The remaining work to be completed by this Fall includes completion of the Chemical Safety Reports (CSR) work on exposure scenarios, generic exposure scenarios and risk characterizations. Dr. Canoo also detailed the organizational measures to prevent or limit releases, dispersion and exposure to cadmium, and the fact that compliance with the inhalable cadmium occupational exposure limit is mandatory. The Cadmium REACH Consortium is still working with some lead registrants to check the technical completeness of the information, but appears to be on schedule to comply with REACH deadlines in the required time. Submission of the final registration files is expected to occur from August 15th until September 15th.

EU Proposed Further Restrictions on Cadmium in Brazing Filler Alloys and Jewelry – Christian Canoo reported on the study prepared last year by RPA Ltd for the European Commission (DG – Enterprise) on assessing the impacts of restrictions on the marketing and use of cadmium in brazing alloys, jewelry and recycled polyvinylchloride (PVC). ICdA objected to some inconsistencies in the PRA methodology and raised questions about the designation of cadmium as a carcinogen without a threshold. This proposal has now moved from a risk assessment phase to a risk reduction strategy proposal and an amendment to Annex XVII of REACH has now been published that stipulates that:

- Cadmium be banned in brazing (joining technique > 450 C) filler alloys above 0.01%
- Cadmium ban in brazing filler alloys would not apply to defense, aerospace or safety-related applications

- Cadmium would be banned in jewelry and related articles above 0.01% by weight.

Subcommittee on Occupational Exposure Level (SCOEL) Cadmium Proposal – Christian Canoo reviewed the status of the SCOEL recommendation for occupational exposure to cadmium. ICdA had met with the SCOEL Secretariat in November 2009 and voiced general acceptance of their proposed inhalable occupational exposure limit (i-OEL) of 4 µg/m³ for the respirable fraction, but expressed concern over the applicability of this standard to very insoluble compounds (eg, sulfide and telluride). ICdA also proposed a delay until June 2010 in the final decision to allow inclusion of Professor Bernard's published results before establishing their biological limit values (BLV) at the proposed level of <2 µg Cd per gram Creatinine. The cadmium dossier was debated at the March 2010 SCOEL meeting before Bernard's results were published in *Occupational Environmental Medicine*, and thus it is believed that the BLV will remain at <2 µg Cd per gram Creatinine. The wording with regard to the case of very insoluble compounds is not yet known.

Update on Activities of the Health & Safety Committee – Patrick de Metz and Christian Canoo reviewed the activities of the Committee. The H&S Committee met in June 2010 and is scheduled to meet again in October 2010 and June 2011. The June 2010 meeting reviewed practical implementation of medical surveillance programs for cadmium exposure. Additional monitoring data efforts have now been launched and these data will be compiled by Professor Bernard for comments and recommendations. The October 15, 2010 meeting in Brussels will focus on personal protection equipment, while the June 14, 2011 meeting will center on prevention of cadmium exposure in plants. The issue of whether cadmium should be considered a threshold or non-threshold carcinogen was also discussed. For the purposes of REACH, ICdA has assumed a threshold argument and that the critical or target organ is the kidney. If the worker is protected against kidney dysfunction, then he is protected against cancer. However, some have argued that cadmium is a non-threshold carcinogen with the potential to induce some cancer virtually to a zero concentration. Suggestions included a review of current epidemiological evidence by Tom Sorahan of the University of Birmingham and/or, after the completion of REACH registration, discussion within the association on how to proceed on this issue.

5. NORTH AMERICAN AND INTERNATIONAL CADMIUM ISSUES

Hugh Morrow updated regulatory affairs issues in North America and the international arena since the ICdA Board of Directors Meeting by conference call on January 8, 2010. His presentation is shown in Slides 19 through 33 of Annex I attached.

North American Cadmium Issues (Slides 20 through 25) – Hugh Morrow noted that the pace of proposed legislation, both on the State and Federal level, has picked up markedly in the past few months. The issues which will most affect cadmium and cadmium products are Reform of the Toxic Substances Control Act (TSCA), regulations and legislation on cadmium in consumer products, considerable adverse publicity and proposed regulation or legislation on cadmium in children's products, an opportunity to contribute to revision of EPA's Integrated Risk Information System (IRIS) file on cadmium, and the necessity to organize a North American Health & Safety Committee and interact more with other organizations to promote the sound risk management of cadmium and cadmium products during production, use and disposal and to disseminate high quality data and information to regulators and legislators dealing with cadmium and cadmium products. He proposed that ICdA become a Member of the North American Metals Council (NAMC) at a cost of \$3,000 per year. Several Board Members were familiar with the work of NAMC and supported this proposal. The Board of Directors tentatively supported Mr. Morrow's proposal, but noted that it would have to be approved by the General Assembly of Members at their meeting on October 14th in London.

UNECE Convention on Long Range Transboundary Air Pollution Heavy Metals Protocol – Hugh Morrow reported (Slides 27 through 29) that Noomi Lombaert and he attended the meeting of the UNECE Task Force on Heavy Metals which met in Stockholm on June 1-2 to consider the EU proposal to add mercury products to the restrictions of the Heavy Metals Protocol. No cadmium products are currently prohibited but several nations would like to add them to the bans in the future. Morrow also noted that the UNECE Working Group on Strategies and Review (WGSR) met in Geneva in April 2010 to discuss a Swiss proposal to revise the Heavy Metals Protocol. The only proposals affecting the cadmium industry would be to adjust the BATs and ELVs per the recent Sufficiency and Effectiveness Review. Cadmium Emission Limit Values (ELVs) for most point sources would be placed at 0.05 mg/m³.

UNEP Heavy Metals Programs (Slides 30 and 31) – Hugh Morrow reported on the status of the UNEP programs on cadmium. On the UNEP DTIE Report on Trade in Cadmium Products in Africa, ICdA has received no response to its extensive comments of May 2009 and our comments were not posted on the UNEP DTIE website regarding this report. Canada has indicated support for our comments and thought that the report would have to be rewritten. ICdA has now written twice to UNEP DTIE protesting that industry's comments have been ignored. The danger is that this report will be tabled at the Governing Council Meeting in Nairobi in February 2011 in support of international prohibitions on cadmium-containing products.

Hugh Morrow also noted that UNEP DTIE Chemicals Branch has also ignored ICdA's comments on the UNEP Scientific Review on Cadmium and continues to request information designed to establish international transboundary flow of cadmium, either through trade in products or atmospheric transport in the Southern Hemisphere. Again, the danger here is that this report, in its present form with many mis-statements and inaccuracies, will be tabled at the UNEP Governing Council Meeting in Nairobi in February 2011 in support of international prohibitions on cadmium-containing products.

OECD Pollutant Release and Transfer Registry Task Force (Slide 32) – Hugh Morrow reported on the recent work of an OECD Task Force, originally intended to promote effective and high quality PRTR systems in OECD Member States. This task force, prompted by Nordic Council initiatives, has now become involved in pilot projects to estimate releases from products, with the ultimate intention of demonstrating that products are a greater and greater proportion of chemicals releases than hitherto assumed. Of particular interest to the cadmium industry are investigations of lead product bans, chemical releases from electrical and electronic products (such as from contacts and solders), and toys and low-cost jewelry (children's products).

Strategic Approach to International Chemicals Management (SAICM) (Slide 33) – Hugh Morrow reviewed past and present activities in the SAICM program. Of concern to the cadmium industry is the chemicals in products emerging policy issue, spearheaded by Sweden, and the identification of chemicals of concern along with analysis of the global flow of chemicals and products of concern, the very same issues that are appearing the UNEP DTIE reports previously discussed. Two recent meetings have now been held, a Chemicals in Products Scoping Meeting in December 2009 in Geneva and a Lack of Information on Chemicals in Products meeting held in May 2010 in New York. Toys, jewelry, electronics and food packaging were the main products discussed in the December 2009 meeting, while cadmium in cathode ray tubes, contacts in circuit boards, and in nickel-cadmium batteries were mentioned in the May 2010 meeting.

6. EIGHTH INTERNATIONAL CADMIUM CONFERENCE

At the October 2009 General Assembly of Members, approval was given to proceed with the organization and planning of an Eighth International Cadmium Conference (see Slide 34). The proposed venue is Shanghai, China in April 2011, and a two to three day conference with between 200 and 300 attendees is envisioned. Income from the conference should balance expenses. It has now been noted that ICdA would require approval of Chinese authorities to hold this meeting in Shanghai. A meeting of the International Cadmium Conference Steering Committee was held on Monday, June 28th by conference call to further discuss the conference. It was tentatively decided that the theme of the meeting should be Risk Management and Control of Cadmium. The tentative program has now been suggested to consist of five sessions as follows:

- Welcome and Organizational Overview
- Overview Papers
 - o Markets and Applications
 - o Health Effects
 - o Environmental Effects
 - o Regulations
- Controlling Cadmium in the Workplace
- Controlling Cadmium in the Environment
- Controlling Cadmium in the General Population
 - o Recycling of Cadmium
 - o Cadmium in Consumer Products
 - o Cadmium from Non-Product Sources

It was noted that, since most of the world's cadmium is produced and consumed in Asia, it is important to determine current public and political thinking regarding cadmium in Asia. Issues such as Asian levels of cadmium risk management, public concern, and research should be established so that the ICdA International Cadmium Conference can be planned to meet the needs of a largely Asian audience. Further comments are solicited from Steering Committee members and all ICdA member companies. Suggestions regarding specific subjects and specific speakers are particularly welcome. Comments should be directed to either Noomi Lombaert or Hugh Morrow.

7. NORTH AMERICAN HEALTH & SAFETY COMMITTEE

As previously noted in the North American Regulatory Affairs Report, the recent upsurge in regulatory and legislative activity in the United States and Canada has caused some to consider that ICdA should be more active here in dealing with these issues (see Slide 35). Specifically, Maxime Cossette of 5Nplus proposed that ICdA organize a North American Health & Safety Committee similar to the one that is active in Europe on EU regulatory and legislative issues. In view of the TSCA Reform and consumer product issues that have recently emerged, Hugh Morrow agreed with this proposal and sent out an email on May 17, 2010 asking for member interest and participation. To date, responses have been received from seven ICdA member companies, and an initial organizational meeting is now planned for either September 14th or September 16th in Washington DC. Maxime Cossette of 5Nplus has volunteered to serve as the Committee's Chairman.

8. CADMIUM MARKET REPORT

Hugh Morrow presented an update on the cadmium market as of June 29, 2010 (Slides 36 through 46). The trends noted in the market reports for the past year have continued with both

primary and secondary cadmium production increasing while primary cadmium consumption is decreasing. A larger share of cadmium consumption now however is being supplied from secondary or recycled NiCd battery sources. Asia (China, Korea and Japan) is the largest supplier of primary cadmium while most cadmium is ultimately consumed to produce NiCd batteries either in China or Japan. Eastern European primary cadmium production from areas such as Poland and Bulgaria has been increasing in recent years. Collection and recycling programs for NiCd batteries, by far the largest end use for cadmium, continue to increase in Europe, North America and Japan, even though market forecasts for the future NiCd battery predict decreasing usage from 2010 to 2018. Published *Metal Bulletin* prices for cadmium have remained reasonably stable during the past year in the range of US \$2 per pound.

9. UPDATE OF THE INTERNATIONAL CADMIUM ASSOCIATION'S WEBSITE

Christian Canoo announced that the association's two former separate websites, one for the general public and one for ICdA members, are being consolidated into one website with a Members-Only password-protected section. This website will be updated into one at the address www.cadmium.org, and will have much of its content revised and updated to reflect the latest information. ICdA Members are invited to submit their input and suggestions for the new website that should be up and running in the next few months. Noomi Lombaert will be the administrator of the new combined ICdA website.

10. UPCOMING MEETINGS

Christian Canoo announced that upcoming meetings of the International Cadmium Association would be held as follows:

- Board of Directors Meeting by teleconference – Tuesday, September 28, 2010
- General Assembly of Members – Thursday, October 14th, 2010, 1300 Hours in London
- Health & Safety Committee (Europe) – Friday, October 15, 2010 in Brussels
- Board of Directors Meeting by teleconference – December 2010

11. OTHER BUSINESS

Maxime Cossette of 5Nplus was pleased to announce that an exemption had been granted from the EU RoHS Directive for renewable energy applications. This exemption means that cadmium telluride and cadmium sulfide use is permitted in photovoltaic cells in the European Union.

12. ADJOURNMENT

With no further business before the Board of Directors, Chairman Emil Josendal adjourned the meeting at 1735 Hours (5:35 PM) Brussels Time.

Respectfully Submitted,

Approved,

Hugh Morrow
Secretary, Pro-Tempore

Emil Josendal
Chairman



ICdA - Board meeting

29 June 2010, 3pm

For the meeting, link to
<https://www1.gotomeeting.com/join/208597105>

*For audio, dial +32 2 404 03 05, or national
number, and Pin code 84414579#*

BM 29 June 10



Agenda

- Introduction by the chairman & statement of Compliance
- Approval of the minutes - Board meeting January 8, 2010
- Update on the EU-regulatory issues
 - Status REACH-files
 - Update of the H&S-meetings
 - Publication of SCOEL report (?)
 - New proposal on "Cd-restriction & use" >> brazing sticks
- Regulatory affairs report North-America / International programs
 - North-American Cd-issues: TSCA revision
 - UNECE LRATP Task force report
 - UNEP reports and planning forward
- Next International Cd Conference in China – Q2 2011
- Next Meeting Date

BM 29 June 10



2

STATEMENT OF COMPLIANCE

- The purpose of the meeting is to address, under the applicable confidentiality rules, issues concerning Cadmium and Cadmium compounds producers and importers and more particularly their obligations under the several regulations.
- The minutes kept during 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 (ICdA), 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.

BM 29 June 10



3

Approval of the minutes – Board meeting 8 January 2010

- Call to order (8/10 directors attending or represented) and reminder of statement of Compliance
- Review and approval of the minutes of the Board meeting of July 27th 2009
- Review of the final accounts of 2009, together with forecasts years 2010, 2011 & 2012 ; they have to be proposed for approval by the General Assembly in October
- Membership report: two new members – Accurec & 5NPlus
- Review of European Cd-related dossiers:
 - ✓ Update of the EU H&S-meetings
 - ✓ RPA-Consulting report publication: on the effectiveness of a ban of Cd-brazing sticks in jewellery; additionally, it treats also impact of recycling EoL-Cd-containing PVC
 - ✓ ICdA-response to public consultation of SCOEL-provisional report
 - ✓ Review of the REACH Consortium activities
- Review of North-American regulations: TSCA, DEQ, IRIS revision
 - Update on the Cd-International issues: UNEP / UNECE
 - Divers :
 - A shorter, user-friendly version of the "ICdA-Guidance" should be planned for end of 2010
 - ✓ An International Conference should be planned for early 2011
- Next Meeting: tentatively scheduled on June 29th 2010

BM 29 June 10



4

Update on the EU-regulatory issues

□ Cd REACH Consortium



- Restriction in use : Cd-brazing stick (RPA –report)
- SCOEL recommandation
- H&S committee

BM 29 June 10



5

REACH data requirements Status IUCLID files on Cd and Cd compounds

□ IUCLID V sections

- 1: identification ⇒ **by registrant**, default to be made with lead registrant
- 2: classification: translation from Annex 1 into GHS/CLP: **done**
- 3: manufacture and identified uses: encoded in IUCLID **done**
- 4: physchem: **done**
- 5: fate & transport: cross-reading from Cd metal file: **done**
- 6: ecotox: Cd⁺⁺ data updated ⇒ cross reading between Cd-files: **done**
- 7: human tox Cd⁺⁺: **done**
- 11: guidance on safe use: **done**
- **13: CSR**
- Technical completeness checks OK, except for sections 1, 3 ⇒ **work with (lead) registrants**

BM 29 June 10



6

Chemical safety assessment: status of the CSRs on Cd and Cd compounds

- **CSR sections : done**
 - 1: (identity & properties physchem): from IUCLID
 - 2 = manufacture and use: following IUCLID
 - 3: classification & labelling: Cd compounds: following IUCLID V
 - 4: (env fate) (bioaccumulation, secondary poisoning...): mostly done
 - 5: human tox master text (Cd++ toxicity)
 - 6: human health hazards from physchem: ongoing / done
 - 7: ecotox master text
- **⇒ to be done:**
 - **9/10 = exposure scenarios / GES / risk characterisations**
 - ✓ **Local, consumer, man through environment**
 - ✓ **Regional: Arche Consulting**

BM 29 June 10



7

GES Cd: Organisational measures to prevent /limit releases, dispersion and exposure

- Stepwise risk management system aimed at
 - prevention of exposure
 - protection against early manifestation of (subclinical) effect at the level of the critical organ, the kidney.
- System described in detail in "*Management of the risk related to the chronic occupational exposure to cadmium and its compounds*" (ICdA 2006).
- It involves 2 elements of action:
 - 1) Controlling the Cd-concentration in the workplace air
 - 2) Individual medical follow up of parameters of exposure and effect

BM 29 June 10



8

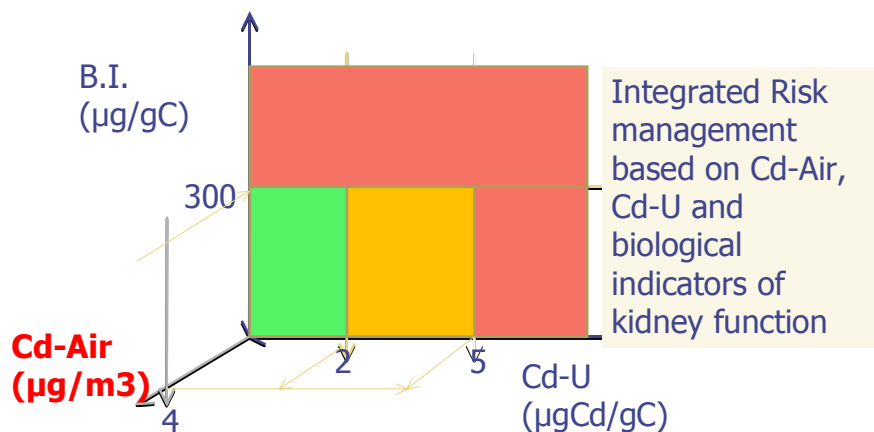
Controlling the Cd-concentration in the workplace air

- Technical measures are taken to comply with the indicative EU (i-)OEL of $4 \mu\text{g}$ respirable Cd/ m^3 (SCOEL 2009).
 - This i-OEL is considered as a DNEL;
 - applicable to Cd and Cd-compounds in general, unless the limited solubility of a given Cd-compound is documented.
 - The total/inhalable fraction corresponding to the respirable fraction is function of the particle size of the inhaled particles.
- **compliance with the i-OEL is mandatory if no other measurements of Cd-exposure and effect are done.**

BM 29 June 10



⇒ Management of Cd-risk at the workplace (post-SCOEL)



BM 29 June 10

10



Workplan Q2'10⇒Q3'10

- Q2:
 - Finalisation of (G)ES
 - Inclusion of all follow-up studies, finalisations of cases
 - Completion of Intermediates files
- Q3: finish all by August 15th
 - General finalisations and fine-tuning, CSRs, completeness checks...
 - Work with lead registrants on template sections 1
- **Q3: submissions of registration files from August 15th till September 15th**

BM 29 June 10

11 

Update on the EU-regulatory issues

- Cd REACH Consortium
- Restriction in use : Cd-brazing stick (RPA –report)
- SCOEL recommandation
- H&S committee

BM 29 June 10

12 

New restriction in use proposed for Cd in brazing sticks and jewellery

- In line with recommendations of the “Risk Reduction strategy meetings”, a study has been ordered to RPA last year, on the feasibility of such policy-choice
- The study was well documented but we voiced some objections on
 - methodology inconsistencies
 - wrong repetition of the “carcinogenicity (cmr)without threshold status”
- The amendment to Annex XVII of REACH regulation has now been published

“8. Cadmium should be banned / not placed on the market in brazing fillers above 0,01 % by weight: brazing meaning a joining technique using alloys above 450° C.

9. By derogation, paragraph 8 shall not apply to brazing fillers used in defence and aerospace applications and to brazing fillers used for safety reasons.

10. Cadmium should be banned / not placed on the market above 0,01 % by weight of the metal, in beads and other accessories for jewellery making, in jewellery and costume jewellery articles including:

- Piercing jewellery,
- Wrist-watches and wrist-wear,
- Hair accessories,
- Brooches and cufflinks." BM 29 June 10



13

Update on the EU-regulatory issues

- ❑ Cd REACH Consortium
- ❑ Restriction in use : Cd-brazing stick (RPA –report)
- ❑ SCOEL recommandation
- ❑ H&S committee

BM 29 June 10



14

The SCOEL report has now officially been transmitted to the Commission

- We met the SCOEL secretariat in Luxemburg in November 2009 and voiced three points:
 - ✓ General acceptance of the proposed indicative Occupational Exposure Limit (i-OEL) of 4 µg Cd/m³ (respirable fraction)
 - ✓ Question of the applicability of such OEL to non-classified Cd-compounds (very insoluble)
 - ✓ Proposal of delay of final SCOEL-discussion i.o. to embark results of a recent publication of Prof. Bernard before fixing BLV-limits as intended (<2 µg Cd/g creatinine)
- Apparently, while first proposed to delay the Cd-discussion until the June-meeting, the Cd-case has been debated at the March-meeting:
 - ✓ without waiting for Prof. Bernard publication (in the mean time in press at OEM - Occupational Environmental Medicine) >> so probably no change in the <2 µg Cd/g creatinine limit
 - ✓ But with a reference to the insoluble salts case (wording not known yet)

“

BM 29 June 10

15



Update on the EU-regulatory issues

- Cd REACH Consortium
- Restriction in use : Cd-brazing stick (RPA –report)
- SCOEL recommandation
- H&S committee

BM 29 June 10

16



The 2010-H&S-committee meetings

- The tentatively scheduled February-meeting has been postponed and the June-meeting took the agenda over
- The meeting was dedicated to the practical implementation of the medical surveillance
 - With reference to the ICdA-guidance
 - Different action levels
 - Frequency of monitoring
 - Connection with SCOEL recommendations
- A second collection of monitoring data (ICdA trustee function) has been launched and data are expected to be compiled mid of July and transferred to Prof. Bernard (UCL) for comments and recommendations
- Next meetings: 15 October 2010 > personal protection equipment
 14 Juni 2011 > prevention culture in our facilities

BM 29 June 10

17



Quid planning & follow-up on “Threshold / non-threshold”-status ?

- Parry review: Not possible to get clear-cut answer with current database
- ⇒for Reach-registration, we build the case for kidney-based protection on available evidence:
 - Prof. Bernard study results, SCOEL,...
 - Risk management focused on protection against kidney effect reflects ongoing practice in EU countries (SW, G) and industry
- Way forward:
 - Long term in vivo research ? (was beyond scope/timing of REACH)
 - Sorahan review on recent epidemiological evidence?
- > After registration: organise brainstorming to define further strategy (October 2010⇒)

BM 29 June 10

18



Regulatory Affairs Report North America and International

BM 29 June 10

19 

North American Cadmium Issues

- Reform of Toxic Substances Control Act (TSCA)
 - US Senate Lautenberg "Safe Chemicals Act of 2010"
 - US House Rush-Waxman "Discussion Draft"
 - Legislation Unlikely in 2010
- Cadmium in Consumer Products
 - Brazing Alloys in Jewelry from China and India
 - Pigments in Enamels on McDonald's Shrek Glasses
- Cadmium in Children's Products
 - Legislation in CT, MA, ME, MI, RI, VT and WA
 - Legislation Proposed in CA and NY
 - Legislation Proposed in U.S. Congress (H.R. 4428)
- Update of Cadmium IRIS File
 - Schedule Appears Delayed Beyond 2011
 - May be Opportunity for ICdA Input to EPA NCEA
- Organization of North American H&S Committee
 - Five Companies Have Responded to Date

BM 29 June 10

20 

Safe Chemicals Act of 2010

- Issues for Metals Industry
 - Alloys and Mixtures Language in Legislation
 - Aggregate and Cumulative Exposures Which Could Include Natural and Background Contributions
 - Use of Persistence and Bioaccumulation Criteria Which Are Not Appropriate for Metals (EPA Metals Framework)
 - Bioavailability is Key Factor for Metals
- Working with North American Metals Council
 - Collective Efforts of Entire Metals Industry
 - Would Other Metals Disassociate Themselves from Cadmium?
 - Propose that ICdA Become Regular Member of NAMC (\$3,000/yr)
- Individual Efforts on Behalf of Cadmium Industry
 - ICdA or Members with Interests in Less Soluble Compounds (CdS, CdTe, CdO, Cd(OH)₂) Ensure That All Cadmium Compounds and Uses are Not Characterized by Properties of Cadmium Chloride

BM 29 June 10

21



Cadmium in Consumer Products

- Cadmium in Jewelry Alloys
 - Normally Used as Brazing Alloys (Ag-Cu-Zn-Cd-Ni) for Ag-Cu Base Alloys and May Contain High Levels of Cadmium
 - Has Been Found in Imports from China to USA and India to EU with Very High (15% - 90%) Cadmium Levels
- Cadmium Pigments in Enamels on Shrek Glasses
 - McDonald's Recalled 12 Million Glasses and Offered \$0.50 Rebate for Returning Glasses
 - Cadmium Levels Met CPSC Cadmium Standards
 - Alarm Raised by Environmental Watchdogs and Politicians
 - Lawsuit Filed under California Proposition 65 (Labeling)
- Cadmium Levels in Vitamins and Diet Supplements
 - Issue Raised by New York Times Reporter in Interview
 - Associated with High Zinc Levels in Vitamins & Supplements?

BM 29 June 10

22



Cadmium in Children's Products

- ❑ Children's Toxic Metals Act (H.R. 4428)
 - Prohibits Ba, Cd, Sb in Children's Jewelry and "for other purposes."
- ❑ Chemicals in Children's Products are Often Listed as Priority Toxics in US State Legislation if They are:
 - A Carcinogen (IARC, NTP, IRIS, ACGIH)
 - Reproductive or Developmental Toxicant
 - Endocrine Disruptor
 - Persistent, Bioaccumulative and Toxic (PBT)
 - Very Persistent and Very Bioaccumulative
 - Banned or Prohibited by Any Other State Legislation
 - "Found through biomonitoring to be present in human blood, breast milk, urine, or other bodily tissues or fluids"

BM 29 June 10

23



Cadmium in Children's Products

- ❑ Connecticut
 - Compile List, Identify Safer Alternatives to Toxics
- ❑ Massachusetts
 - Requires Toxics Use Reduction Institute (TURI) to Reduce Presence of Priority Toxics by Promoting Alternatives
- ❑ Maine
 - Identifies Chemicals of High Concern if Banned Elsewhere
 - State May Prohibit Sale if Alternatives Exist
- ❑ Michigan
 - Executive Directive to State Agencies to Promote Green Chemistry for Sustainable Economic Development
 - Design Safer Chemicals and Products - Part of Policy

BM 29 June 10

24



Cadmium in Children's Products

- Rhode Island
 - Define and Prioritize 100 Chemicals of High Concern That Threaten Normal Development of the Fetus or Child
 - Requires Reporting and Replacement with Safer Alternatives
- Vermont
 - Advisory Council to Evaluate 10 Priority Toxic Substances and Include Safer Alternatives to These Substances. These 10 include Lead and Chromium (+6) but Not Cadmium.
 - Action Plan to Replace Priority Toxics with Alternatives
- Washington
 - Prohibits Sale of Children's Products Containing Lead, Cadmium and Six Phthalates Beginning July 1, 2009, emphasizes children's jewelry but excludes batteries.
 - Ban in State of Washington would Affect Prohibitions or Listings as Priority Substances in Other States

BM 29 June 10

25



International Cadmium Issues

- United Nations Economic Commission for Europe (UNECE) LRTAP Heavy Metals Protocol
- United Nations Environment Program (UNEP)
- Organization for Economic Cooperation and Development (OECD) Pollutant Release and Transfer Registries (PRTR)
- Strategic Approach for International Chemicals Management (SAICM)

BM 29 June 10

26



UNECE LRTAP

Task Force on Heavy Metals

- Task Force Meeting in Stockholm on June 1-2, 2010 to Further Consider EU Proposal to Add Mercury Products to Restrictions of Annex VI of HM Protocol
- Lead in Gasoline and Mercury in Primary Batteries Already Prohibited. No Cadmium Products Prohibited.
- EU Proposal is to Prohibit Other Mercury Products
- TFHM Evaluated Information from United States and Canada Regarding:
 - Whether atmospheric emissions occur during production and use which lead to a bioavailable form
 - Whether emissions are significant part of LRTAP
 - Whether emissions cause adverse effects on HH & E

BM 29 June 10

27 

TFHM Stockholm Meeting

- Products Evaluated Included Batteries, Measuring Devices, EEE, Fluorescent Lamps, Dental Amalgams and Vehicles (Switches and Relays)
- Canada Will Restrict Hg in Batteries, Switches and Relays, Measuring Devices, Exemptions for Lamps and Dental Amalgams
- USA Conducting Studies to Regulate Hg in Batteries, Switches and Relays, Measuring Devices, Switches and Relays, Flame Sensors and Thermostats, But Will Not Regulate Amalgams, Lamps or Vehicles
- UNECE LRTAP HM Protocol Will Probably Add Hg in Batteries, Measuring Devices, and Switches and Relays to List of Prohibited Products

BM 29 June 10

28 

UNECE WGSR Protocol Revision

- Working Group on Strategies and Review Meeting in Geneva, 12-16 April 2010
- Proposal Tabled by Switzerland to Revise HM Protocol
 - Update BATs and ELVs per TFHM's S&E Review
 - Accommodations for Countries with Economies in Transition
 - Consider EU Proposal to Add Hg Products to Annex VI
 - Consider Alternate Mercury Reduction Strategies
 - Make Consistent with POPs and Gothenburg Protocols
- Specific Changes Requested
 - Change Base Year from 1990 to 1985-1995 or Beyond
 - Add Manganese and Aluminum to Certain Categories
 - Most ELVs for Cadmium Placed at 0.05 mg/m³ except Glass Production which is 0.05 mg/Nm³(at Normal T and P)
 - Introduce New Annex VIII Prohibiting Export of Mercury

BM 29 June 10

29



UNEP Report on Trade in Cadmium Products in Africa

- No Response from UNEP on ICdA's Extensive Comments Filed in May 2009
- Canada Indicated Support for Our Comments and Thought Report Would Have to be Rewritten
- ICdA Comments Have Not Been Posted on UNEP DTIE Chemicals Branch Website
- Letter Requesting Additional Input was Never Sent to ICdA as Member of Pb and Cd Working Group
- ICdA Has Protested Twice Now to UNEP DTIE That Industry Comments Have Been Ignored
- Danger is That UNEP Will Table Report in Present Form at Governing Council Meeting in February 2011

BM 29 June 10

30



UNEP Scientific Review on Cadmium

- ❑ UNEP DTIE Chemicals Branch Has Ignored Comments
- ❑ Requested Exposure Assessments and Release Inventories Especially for Developing Countries
- ❑ Atmospheric Transport Models for Southern Hemisphere
- ❑ Extension of Cadmium Atmospheric Models, Trying to Demonstrate Long Range Transport of Cadmium
- ❑ Ocean Transport of Cadmium
- ❑ Examination of Natural vs. Anthropogenic Sources
- ❑ Effects of Dermal Exposure to Cadmium from Jewelry
- ❑ Sources of Cadmium in Waste Other Than Batteries
- ❑ Global Flow of Cadmium in Products
- ❑ To Be Considered at Governing Council Meeting in February 2011

BM 29 June 10

31 

OECD Pollutant Release and Transfer Registry Task Force

- ❑ Originally Meant to Promote Effective and High Quality PRTR Systems in OECD Member States
- ❑ New Pilot Projects Have Now Been Proposed
 - Release Estimates from Products
 - Potential Chemicals Releases from and through Disposal(Waste)
- ❑ Releases from Products Driven by Nordic Council
- ❑ Products of Possible Interest to Cadmium Industry
 - Lead (Lead Product Bans Lead to Cadmium Product Bans)
 - Electrical and Electronic Products (Contacts, Solders)
 - Toys and Low-Cost Jewelry (Children's Products)
- ❑ Nordics Wish to Conclude That Products are Source of a Greater and Greater Proportion of Chemical Releases

BM 29 June 10

32 

Strategic Approach to International Chemicals Management (SAICM)

- International Conference on Chemicals Management Held in May 2009 in Geneva, Switzerland (ICCM 2)
- Technical Briefing on Emerging Policy Issues
 - Chemicals in Products (Sweden)
 - Electronic Waste (Africa and Peru)
 - Lead in Paint (USA and IFCS)
- Chemicals in Products Proposal
 - Identify and Prioritize Product Groups
 - Determine Chemicals of Concern
 - Analyze Global Flow of Chemicals and Products of Concern
- Chemicals in Products Project Scoping Meeting Dec 2009 Geneva
 - Toys, Jewelry, Electronics, Food Containers Main Products
- Lack of Information on Chemicals in Products May 2010 New York
 - Cd in CRTs, Contacts in Circuit Boards, Batteries

BM 29 June 10

33



International Cadmium Conference

- Now Tentatively Planned for April 2011 in Shanghai But Need Approval of Chinese Authorities
- Steering Committee Conference Call Held Yesterday on Monday, June 28, 2010
 - Risk Management and Control of Cadmium
- Tentative Program
 - Welcome and Organizational Overview
 - Four General 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

BM 29 June 10

34



North American Health & Safety Committee

- ❑ Proposed by Max Cossette of 5NPlus, Seconded by Hugh Morrow to Help Deal with TSCA Reform and Other Issues in North America
- ❑ Memo Sent Out May 17th Asking for ICdA Interest and Participation
- ❑ Responses to Date
 - James M. Brown – Michael Hughes and Jeff Mamarella
 - Nyrstar – Anne Dekker re: Clarksville TN Plant
 - INMETCO – Al Hardies
 - 5NPlus – Max Cossette
 - SAFT America – Patrick de Metz and Chip Wildes
- ❑ Tentative Initial Meeting – September 2010

BM 29 June 10

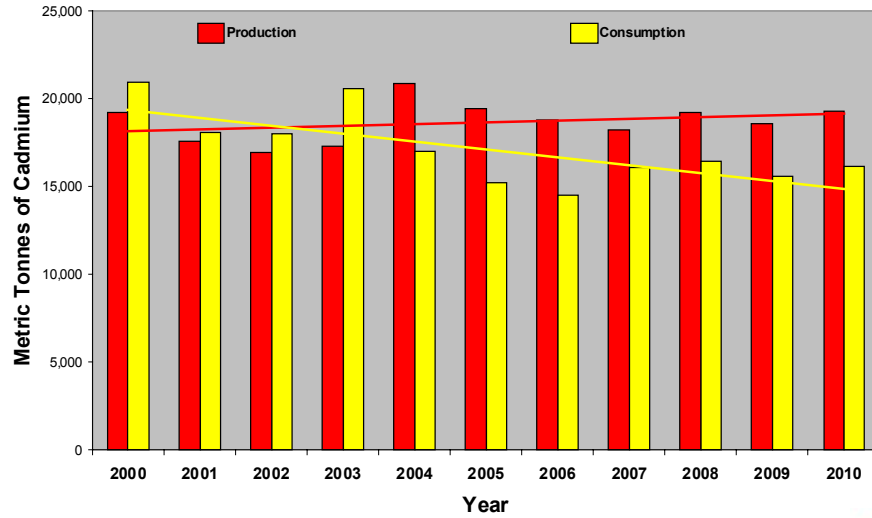
35 

Cadmium Market Report 29 June 2010

BM 29 June 10

36 

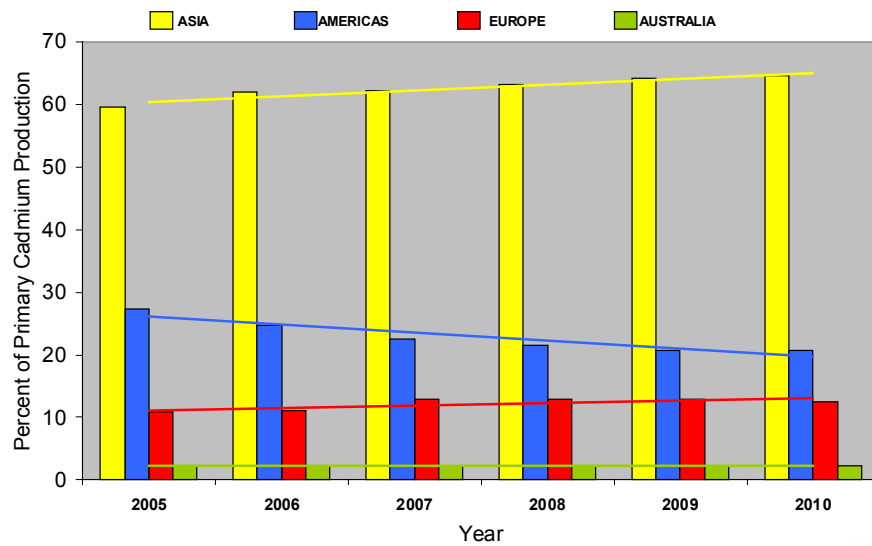
Primary Cadmium Production and Consumption, 2000-2010



BM 29 June 10

37 

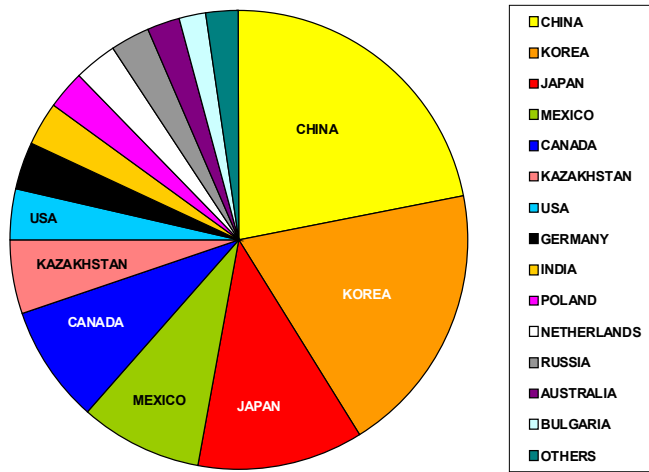
Geographical Trends in Primary Cadmium Production, 2005-2010



BM 29 June 10

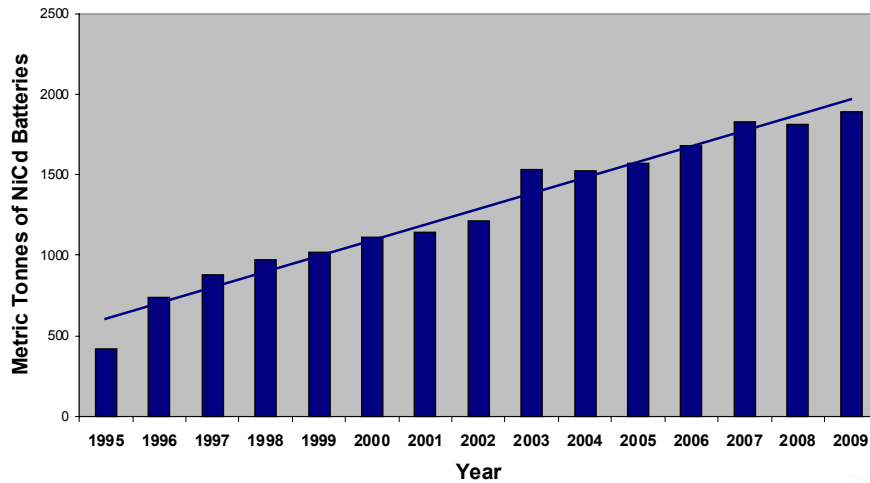
38 

Estimated 2010 Primary Cadmium Production by Country



BM 29 June 10

NiCd Batteries Collected in the USA and Canada by the Rechargeable Battery Recycling Corporation

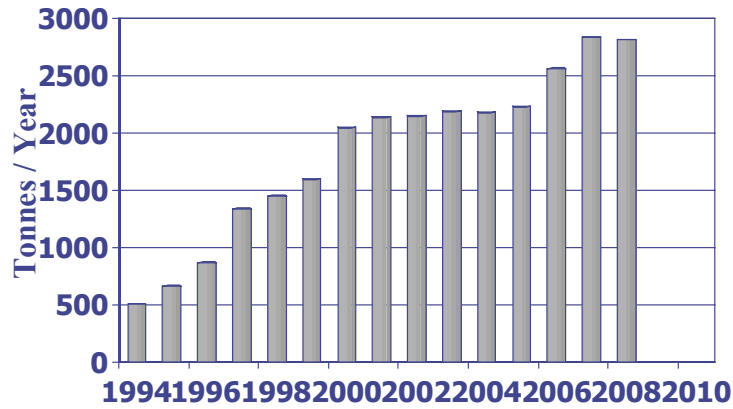


BM 29 June 10



Portable Ni-Cd Batteries

Spent Portable Ni-Cd Batteries from European Sources collected separately and processed in Recycling Plants



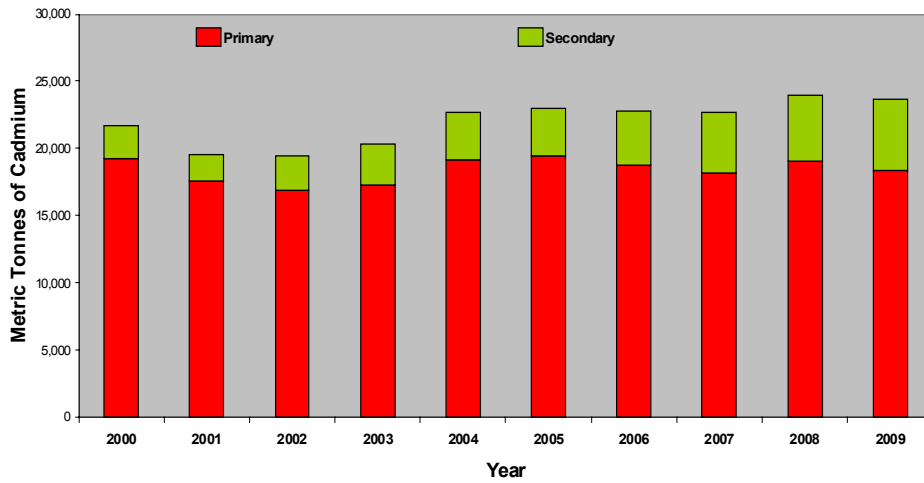
Data consolidated from SNAM, ACCUREC GmbH & SAFT AB by RECHARGE aisbl

BM 29 June 10

41



Primary and Secondary Cadmium Production Trends, 2000-2009

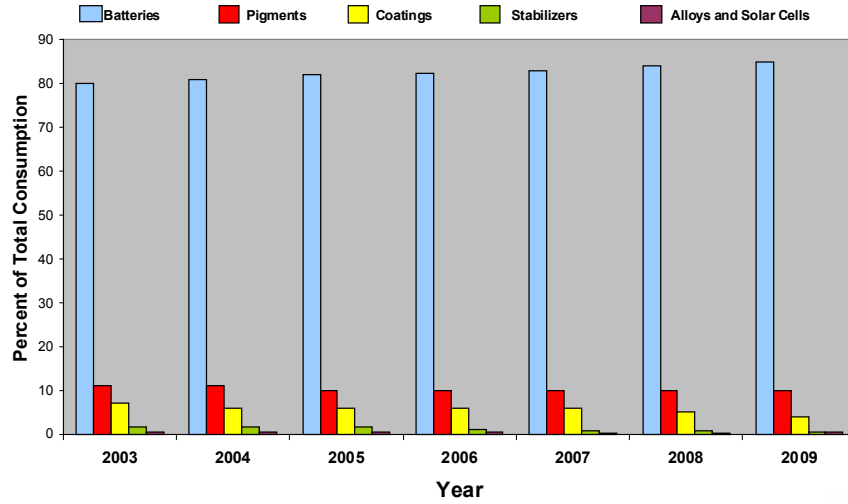


BM 29 June 10

42



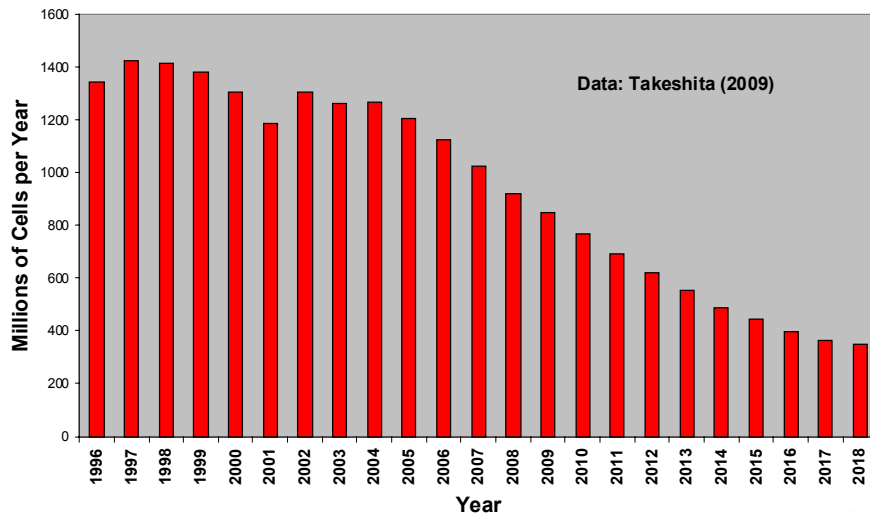
Trends in Cadmium Consumption Patterns, 2003-2009



BM 29 June 10

43

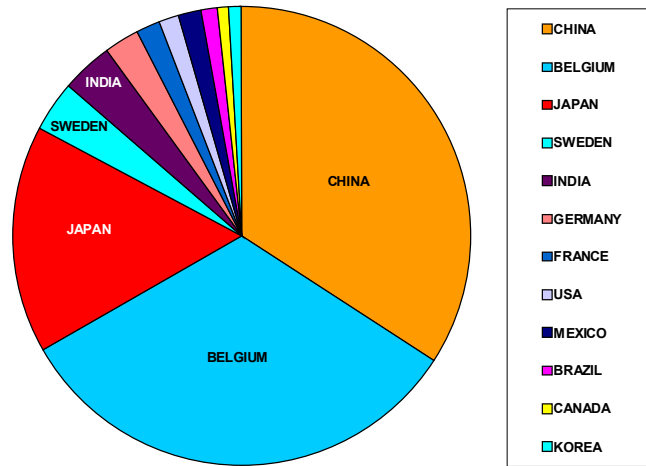
Portable NiCd Battery Demand Forecast, 1996 - 2018



BM 29 June 10

44

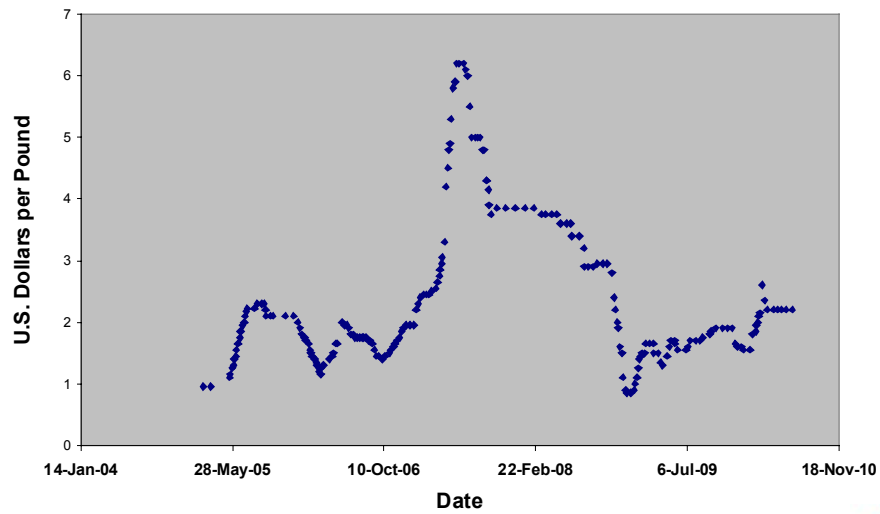
Estimated 2010 Primary Cadmium Consumption by Country



BM 29 June 10

45 

Metal Bulletin 99.99% Cadmium Price, 2005-2010



BM 29 June 10

46 

Update website ICdA

- ❑ The re-looking of the ICdA website(s) is nearly completed
- ❑ The 2 sites have been merged to cadmium.org
- ❑ The contents will be updated ... during the next months
> your input and suggestions are welcome
- ❑ Noomi L. will be the administrator of the sites

BM 29 June 10

47 

Next meetings

- ❑ The next GA is fixed on October 14th, London
- ❑ The next H&S-EU meeting is fixed on October 15th, Brussels
- ❑ A first H&S-NA meeting might be organised in ..., ...
- ❑ The next Board meeting proposed to be scheduled on **December ... ?**

BM 29 June 10

48 



GLOSSARY OF ACRONYMS AND ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
ATSDR	Agency for Toxic Substances and Disease Registry (USA)
BAT	Best Available Technology
BI	Biological Indicator(s)
CDC	Center for Disease Control (USA)
ChAMP	Chemicals Assessment and Management Program (USEPA)
COM	Council of Ministers (EU)
CMR	Carcinogenic, Muta-genetic and Reproductive Toxicant
CRT	Cathode Ray Tube
CSA	Chemical Safety Assessments
CSR	Chemical Safety Report
DG	Directorate General
DEQ	Department of Environmental Quality
DNEL	Default No Effect Level
DTIE	Division of Trade, Industry and Economics (of UNEP)
DU	Downstream User
E	Environment
EB	Executive Body (of the UNECE LRTAP Treaty)
EC	European Commission
ECHA	European Chemicals Agency
EEE	Electrical and Electronic Equipment
EINECS	European Inventory of Existing Chemical Substances
ELV	Emission Limit Value
EPA	Environmental Protection Agency (United States)
EU	European Union
FAO	Food and Agricultural Organization (United Nations)
GA	General Assembly of Members of the International Cadmium Association
GACT	Generally Available Control Technology
GC	Governing Council (of the United Nations Environment Program)
GES	Generic Exposure Scenario
GHS/CLP	Globally Harmonized System of Classification, Labeling and Packaging
HH	Human Health
HM	Heavy Metals
H&S	Health and Safety Committee of International Cadmium Association
IARC	International Agency for Research on Cancer
ICCM	International Conference on Chemicals Management (of SAICM)
ICMM	International Council on Metals and Mining
ICdA	International Cadmium Association
IFCS	Intergovernmental Forum for Chemical Safety

ILA	International Lead Association
i-OEL	Inhalable Occupational Exposure Limit (Based on Respirable Fraction)
IOMC	International Organization for Management of Chemicals
IPSRM	International Panel for Sustainable Resource Management (of UNEP)
IRIS	Integrated Risk Information System (USEPA)
IUCLID	International Uniform Chemical Information Database
IZA	International Zinc Association
IZA-E	International Zinc Association - Europe
JECFA	Joint Expert Committee on Food Additives (World Health Organization)
LRTAP	Long Range Transboundary Air Pollution
MS	Member States (of the European Union)
MSW	Municipal Solid Waste
NAMC	North American Metals Council
NCEA	National Center for Environmental Assessment (of U.S. EPA)
NCOM	Nordic Council of Ministers
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NOEL	No Observable Effect Level
NTP	National Toxicology Program (USA)
OECD	Organization for Economic Cooperation and Development
OSPAR	Oslo-Paris Convention
PRBA	Portable Rechargeable Battery Association (United States)
PRTR	Pollutant Release and Transfer Registry
PTWI	Provisional Tolerable Weekly Intake
PVC	Polyvinylchloride
RA	Risk Assessment
RBRC	Rechargeable Battery Recycling Corporation (North America)
REACH	Registration, Evaluation & Authorization of Chemicals (EU)
RIP	REACH Implementation Projects
RPA	RPA Ltd. (formerly Risk Policy Analysts), Consultant for EU
RRS	Risk Reduction Strategy (European Commission)
SAICM	Strategic Approach to International Chemicals Management
SCOEL	Sub-Committee on Occupational Exposure Levels
SEE	South East Europe
SIEF	Substances Information Exchange Forum
SUMDOC	Summary Document
TCNES	Technical Committee on New and Existing Chemicals
TFHM	Task Force on Heavy Metals (UNECE LRTAP Heavy Metals Protocol)
TSCA	Toxic Substances Control Act (United States)
UCL	Universite Catholique Louvain (Belgium)
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WGs	Working Groups
WGSR	Working Group on Strategies and Review (of UNECE LRTAP Treaty)
WHO	World Health Organization
WSSD	World Summit on Sustainable Development