

**Mercury-Containing Products Partnership Area  
Meeting Report  
Summary of Day One  
28 April 2010**

**Overview**

1. The annual meeting of the Mercury-Containing Products Partnership Area (Products Partnership) opened on 28 April 2010, at the Pepperdine University-Seaver College in Washington, D.C.
2. The meeting was hosted by the Partnership lead, Dr. Maria Doa of the U.S. Environment Protection Agency (EPA).
3. The meeting was attended by more than 40 attendees, representing 8 national governments and 5 non-governmental organizations. In addition, attendees included participants from 7 international organizations and 17 members of the U.S. federal government. In addition to Dr. Maria Doa, Professor Masaru Tanaka, lead of the Mercury Waste Management Partnership Area, and Michael Bender, lead of the Storage and Supply Partnership Area, were in attendance. A meeting attendance list is attached.

**Opening Plenary: Overview of the UNEP Global Mercury Partnership**

4. Dr. Desiree Narvaez of United Nations Environment Programme (UNEP) Chemicals branch of the Division of Technology, Industry and Economics provided an overview of the UNEP Global Mercury Partnership and how the Products Partnership – and all Partnership areas – might operate in accord with the forthcoming Intergovernmental Negotiating Committee (INC) meetings to elaborate a mercury legally-binding instrument. She presented the UNEP Governing Council (GC) mandates since GC 21 (2001) until a breakthrough decision in GC 25 (2009) that called for the development of a mercury treaty. Negotiations will begin at INC 1 from 7-11 June in Stockholm and will finish by February 2013 with 5 INCs being planned. The future mercury treaty will include both binding and voluntary measures. Documents for mercury INC 1 are available at [http://www.chem.unep.ch/mercury/INC/INC1/INC1\\_homepage.htm](http://www.chem.unep.ch/mercury/INC/INC1/INC1_homepage.htm).

The overall goal of the UNEP Global Mercury Partnership is to protect human health and the global environment from the release of mercury and its compounds by minimizing and, where feasible, ultimately eliminating global, anthropogenic mercury releases to air, water and land. Currently, there are 7 partnership areas: products, coal combustion, artisanal and small scale gold mining, chlor alkali, supply and storage, waste, fate and transport. The Mercury Partnership overarching framework was launched in 2008 and has currently 46 active partners. The Partnership generates important information for the treaty negotiation process, such as technical guidance documents and awareness raising materials. More partners are invited to join. Further information on the UNEP Global Mercury Partnership is available at [http://www.chem.unep.ch/mercury/partnerships/new\\_partnership.htm](http://www.chem.unep.ch/mercury/partnerships/new_partnership.htm).

5. Dr. Maria Doa of EPA provided a progress report on the status of the Products Partnership and previewed the new directions being considered, including the application of the lifecycle approach, addressing emerging product sectors, and reviewing existing goals and objectives. Dr. Doa discussed the development of the Products Partnership since its inception, how projects involving health care facilities have been very successful, and how the Products Partnership was eager to expand projects to emerging product sectors and under-represented regions. She also discussed the importance of considering the lifecycle approach to mercury-containing products, as well as cross-cutting issues associated with Waste Management and Storage and Supply partnerships.
6. Key questions and comments included:

- a. Participants discussed what was driving the ongoing production vinyl chloride monomer both in consumer products and construction. A voluntary catalyst substitution in China and applicable UNEP grants were cited.
- b. Participants discussed the difficulties in finding funding and other mechanisms necessary to achieve the substitution of mercury-free alternatives. Reaching out to underrepresented nations, regions, and private sector parties was identified as a key area to explore.
- c. Participants expressed concerns about future levels of support – monetary and political commitment – for the Partnerships and other voluntary programs as the INC process approaches. Participants also discussed that the Partnerships could be seen as a “two-way” vehicle to inform the INC process and to disseminate information from the INC process to constituents.

### **Updates on the Status and Results of Existing Projects**

7. Vera Barrantes of the United Nations Institute for Training and Research (UNITAR) described the progress of mercury emissions and products inventories projects in Nicaragua, the Dominican Republic, and South Africa. The methodology to strengthen capacities in pilot countries towards sound mercury management was also presented. Stages of the methodology include development of a national situation analysis, a Mercury Emissions Inventory following UNEP’s toolkit for Identification and Quantification of these releases, and development of a Mercury Risk Management Plan. The inventory includes quantification of emissions from mercury-containing products. The first pilot countries were Chile, Ecuador and Panama. Now these projects are being replicated in Nicaragua, Dominican Republic and South Africa. Examples of results obtained in the pilot projects, as well as in the ongoing projects in three new countries were presented. Synergies being achieved with other national and regional initiatives were also outlined.
8. Key questions and comments included:
  - a. Participants inquired as to specific categories of emissions, including vinyl chloride polymer, artisanal gold mining, and waste incineration – and how those emissions were assessed. Participants also discussed how the reporting of point and non-point sources was essential, but often required increased outreach and education.
  - b. The limitations of the use of customs data in tracking mercury-containing products were also discussed.

Catherine Galligan of the University of Massachusetts at Lowell (UMass), described the Sustainable Hospitals Program, which is working with partners in Ecuador and Mexico on a year-long project to engage healthcare stakeholders and train specialists and hospital staff in Latin America on mercury reduction. The Lowell Center for Sustainable Production, Dr. Margaret Quinn, Principal Investigator; is conducting a project to reduce mercury in two hospitals in Quito, Ecuador and two hospitals in Hermosillo, Mexico. Major goals of the project are to reduce the use of mercury-containing products, improve management of mercury-containing wastes, and to develop technical skills and organizational capacity so the work can be expanded and replicated in other hospitals.

The project was formally launched in the hospitals in Fall 2009 with a ceremony and presentations by hospital administrators, representatives of ministries of health and environment, university representatives, and our project team members. In this first year we have completed in each hospital: training on the hazards of mercury, a baseline assessment of policies and practices pertaining to mercury, and an inventory of mercury. An evaluation and pilot of alternative products is nearing completion. A workbook is being developed and

will be online in Spanish and English. Called *The ABCs of Mercury Reduction*, the workbook provides guidance on the process of reducing mercury (or other pollutants) and includes key resources for any hospital to undertake or expand a mercury reduction program. The draft workbook is not available <http://www.sustainableproduction.org/MercuryProject.resources.php>.

9. Key questions and comments included:
  - a. Participants discussed how – in some instances – training exercises in hospitals require very basic outreach and education on the dangers associated with mercury and mercury-containing products. In addition to funding.
  - b. Participants also discussed the potential for hospital inventories to be extrapolated to regional and national estimates, as well as ways to reach local, provincial, and national officials.
10. Clarice Sandoval of the Pan American Health Organization presented on behalf of the World Health Organization. Ms. Sandoval discussed progress in pilot projects in Nepal and Tanzania. **[Speakers are requested to submit a brief summary of their presentation after the completion of the meeting]**
11. Josh Karliner of Health Care Without Harm (HCWH) reported on the WHO-HCWH Global Initiative to Substitute Mercury-Based Medical devices with safer, affordable and accurate alternatives, which was initiated in July 2008. Overall, actions by hospitals, health care systems and governments around the world have put the Initiative on track or ahead of schedule to reach each of its Short-Term, 3-Year Objectives. Highlights include Argentina and the Philippines creating national policies to phase-out mercury-based medical devices. Four mega-cities—Buenos Aires, Mexico City, Delhi and Sao Paulo—having completed or in the process of phasing-out mercury medical devices in their health systems. And overall more than 5,000 developing country hospitals committed to mercury phase out. Momentum is growing and mercury-free health care is increasingly becoming the status quo in many countries. The Global Initiative is moving closer to a tipping point that will shift the dynamics of supply and demand in the global thermometer and blood pressure device markets away from mercury and toward the alternatives.
12. Key questions and comments included:
  - a. Pharmaceutical uses of mercury and mercury preservatives used in vaccines were cited as an essential yet very challenging issue to be addressed. This topic was also cited as a good candidate to reach out to private sector parties.
  - b. Other categories of mercury-containing products and equipment (e.g., thermometers in autoclaves), were proposed as additional areas of concern in health care facilities.
13. Matthias Kern of the Secretariat of the Basel Convention described the progress to date in efforts to identify gaps, raise awareness, exchange information, and develop environmentally sound waste management plans to safely manage mercury wastes in a regional pilot project in Latin America and the Caribbean (Argentina, Costa Rica, and Uruguay). The project will support the development of inventories, decision supportive tools, awareness raising material and national plans, and will build institutional capacity to manage mercury containing wastes on national level. It is planned to build a temporary storage facility in at least one country. Mr. Kern also indicated that the 5<sup>th</sup> draft of the Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Mercury is available on the Basel Convention website since January 2010 for comments. The next steps in the further development of the technical guidelines will be discussed during the Basel Convention Open-Ended Working Group meeting in Geneva from 10-14 May 2010.

14. Key questions and comments included:

- a. Participants discussed the need to differentiate between storage for immediate necessity (e.g., interim) versus permanent storage solutions. There was also discussion of the need to define key terms, such as “mercury waste” in the storage and collection context; it was cited that waste management often entails techniques that follow collection and separation phases.
- b. Participants discussed that it is essential that the cost of mercury as a commodity is the primary driver of storage and waste management issues. It was also agreed that the cost of storage and waste management itself is generally overlooked in the valuation of mercury.
- c. Participants also discussed the sensitivity of developing nations to export bans that do not capture mercury-containing products because they are limited to bulk elemental mercury.

### **The Transition to Mercury Free Products and Emerging Product Areas**

15. Dr. Desiree Narvaez of UNEP discussed the status of mercury-containing products and several categories of products that are poised for transition to mercury-free alternatives. She highlighted a UNEP commissioned Massachusetts Lowell Center study revealing that most of mercury containing products have available alternatives. Transition success (defined as more than 50% of governments indicating non-mercury substitutes are available, are commonly used, and with no negative consequences) were demonstrated in switches/relays, thermometers, sphygmomanometers, thermostats, batteries (other than button cells), and in HID auto discharge lamps. Some U.S. states and EU countries have mercury product legislations that facilitate the shift to non-mercury products. However, challenges remain in 3 product categories: button cell batteries, lamps of various types, and dental amalgam. Inter-related issues of production capacity, cost, and quality control would benefit from mercury product treaty coverage.

16. Key questions and comments included:

- a. Participants cited the quality control of mercury-free alternatives as essential.
- b. Participants restated the importance of better describing the costs of waste management could be a mechanism to demonstrating the benefits of mercury-free alternatives.

17. Dr. Gerald Sawula described the use of a screening level tool being developed to inventory mercury-containing products and other processes in Africa. **[Speakers are requested to submit a brief summary of their presentation after the completion of the meeting]**

18. Key questions and comments included:

- a. All participants agreed that the emerging category of cosmetics must be addressed.
- b. The feasibility and ongoing development of the screening tool used in Africa was discussed, as well as its applicability to other regions.

### **– Dental Amalgam**

19. Dr. Peter Cooney of the World Dental Federation provided an overview of the use of dental amalgam in dental practice from global perspective. **[Speakers are requested to submit a brief summary of their presentation after the completion of the meeting]**

20. Key questions and comments included:

- a. Participants commended successes in the rates of voluntary implementation of dental amalgam separators in Canada, as well as guidance aimed to reduce the use of dental amalgam for children and mothers.
- b. Participants discussed the desire to reduce the use of dental amalgam as much as possible in the future, as well as the challenges of dealing with a traditionally accepted product and technique. It was suggested that a “middle of the road” approach could be an area of development with private sector entities.
- c. Participants also discussed the need to further discuss and – potentially – reconcile discrepancies in reference dose estimates.

21. Dr. Desiree Narvaez of UNEP reviewed environmental releases and global trade issues associated with dental amalgam. Dental amalgam is approximately 50% mercury. Globally it accounted for 250-300 tonnes of total mercury demand and was a significant source of mercury emissions in 2005. Pathways and end-uses (country, quantity) of dental mercury are very difficult to know more precisely due to tariff codes, reporting requirements, easy diversion to other uses (i.e., artisanal small scale gold mining), and because mercury is released in many ways. Various studies have confirmed that concentrations of mercury in fish increased in the presence of dental amalgam in the water and that two thirds of dental amalgam used is released to the environment. WHO Experts consultation on future dental restorative materials conducted last November 2009 in Geneva, co-sponsored by UNEP, was organized in response to global consensus to transition away from mercury over time through negotiation of a legally binding instrument. It served as a platform for sharing scientific information and country experience. The meeting recognized positive attitude to use of alternative restorative materials and the report will be available soon. Observations gained from the meeting include: Alternatives to amalgam are not available yet for use globally; potential alternatives include glass ionomers and composites; recognized differences in needs of developed and developing world; cost factors currently do not consider environmental burden; an overall near term ban on amalgam would be problematic for public health and the dental sector where in some cases amalgam is still the preferred choice. Possible priority actions include: (1) Promote preventative model and alternatives to amalgam: WHO is considering the development of global guidelines for filling material criteria and use; continued research and development for effective alternatives; entire dental sector (including educators) to play a role in promoting preventative model and alternatives; (2) Consider releases of mercury from the life cycle of dental amalgam: promote transparency and tracking of mercury trade which may be a reality under the mercury treaty; implement waste management measures; and (3) Increase awareness of the global mercury issue: raise awareness of dental professionals; and engage dental insurance industry. The dental community has an opportunity for recognized leadership and responsible stewardship. A proposed next step is for WHO, FDI and other dental sector partners to move towards a phase down approach in the global use of dental amalgam.

22. Linda Barr of EPA discussed federal waste management strategies for dental amalgam in the United States. Ms. Barr also described a voluntary dental amalgam collection and retirement program and teaching module under development. Ms. Barr reviewed the likely exposure pathways associated with dental amalgam that enters the waste water stream, including publicly owned treatment works, incineration of sludges, and sludges that are used in agricultural applications. She also discussed the existing Memorandum of Understanding between EPA, professional dentists, and water treatment associations advocating the voluntary use of best management strategies to handle dental amalgam. Ms. Barr also described the U.S. EPA and Marquette University School of Dentistry’ jointly-developed environmentally responsible dentistry teaching module to educate dental students on proper amalgam waste management. The module aims to raise dental students’ awareness of the dental amalgam waste issue and to provide the students with practical steps to reduce the release of amalgam waste to the environment. The module, titled *Dental Amalgam Recycling: Principles,*

*Pathways, and Practices*, highlights actions to properly manage amalgam waste: proper handling, separating, and recycling of dental amalgam waste, including the installation of amalgam separators. The module highlights ADA's best management practices for amalgam waste and encourage dental students to practice environmentally responsible dentistry.

23. Key questions and comments included:

- a. The teaching module and recent commitments by a private sector attendee were commended.
- b. It was noted that crematoria are a growing source of mercury emissions due to the rise in land burial costs.
- c. Participants discussed the possibility that lifecycle emissions might result in greater emissions totals for dental amalgam.
- d. Participants inquired about the technical specifications for the "gray bag" technology and agreed to follow up at a later point in time.
- e. It was noted that the occupational exposures of dentist and their staff, as well as and the cost of the consequences on their health have to be taken into account when phase out of the uses of mercury amalgam are considered. A better follow up of the exposure of workers that deal with mercury amalgam could provide better information on the possible health consequences for other professionals that handle and work with mercury amalgam.

#### – Fluorescent Lamps

24. Alicia Culver of the Green Purchasing Institute delivered a comprehensive analysis of the content issues and how the development of content standards can contribute to the reduction and elimination of the use of mercury-containing lamps, which can drive the market away from further manufacture of such lamps. **[Speakers are requested to submit a brief summary of their presentation after the completion of the meeting]**

25. Key questions and comments included:

- a. Participants asked about the current feasibility of LED lamps in non-industrial settings. It was acknowledged that brightness and "fading" remain concerns among consumers. Availability in the context of – in some cases – prohibitive costs was also mentioned.
- b. Participants noted that this product category had special weight due to its unique place in mercury and climate change issues. This demonstrated the challenge of advocating an energy-efficient technology manifested as advocating the placement of mercury in homes and other settings.
- c. An industry co-sponsored GEF project was cited. Participants discussed the possibility of drafting a letter on behalf of the Products Partnership to engage and support UNEP/DTIE/GEF efforts in the context of fluorescent lamps.
- d. Participants discussed scenarios where energy-efficient mercury-containing lamps are distributed in homes, schools, hospitals and other locations, which can increase the risk of direct exposure should lamps break in living, learning, recreational spaces where children and pregnant women may be directly exposed.

- e. Participants also discussed the difficulties associated with collection, transport, and disposal (short-term and final) of the containing mercury lamps; it was noted that, independent from the amount of mercury a particular lamp may contain, such products and potential releases represent an important and wide source of mercury to the environment.

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