



To: EU Environment Ministers  
Cc: Commissioner Potocnik  
Director General Falkenberg

23 February 2012

**Subject: Support for phase-outs of mercury use in dentistry in the EU and globally**

Dear Environment Minister,

As you know, the national governments of the world are now negotiating a legally binding treaty to address the global mercury crisis that is endangering our environment and health. According to United Nations Environment Program, the use of dental amalgam fillings constituted a global mercury consumption of about 313-411 tons annually, thus being among the largest consumer uses of mercury in the world.<sup>1</sup> Since high quality and cost-effective alternatives to dental amalgam are readily available, **we believe that dental amalgam use should be phased out and time-tables for such action should be supported at both the EU and global levels.**<sup>2</sup>

As you may be aware, the European Commission (EC), under the *Review of the Community Strategy Concerning Mercury*<sup>3</sup> has decided to undertake a full lifecycle assessment of the mercury use in dentistry. BIO Intelligence Service is now carrying out a *Study on potential for reducing mercury pollution from dental amalgam and batteries* for the EC, the results of which are expected in Spring 2012. Member states have been asked to answer a questionnaire and provide all relevant national data, and if your country has not yet done so, we respectfully request that your administration do its utmost to respond to this request in the most thorough and timely way.

Although the relative health impacts from direct exposure from amalgams are still being debated, the significant contribution of dental mercury waste and its persistence in the environment are certain<sup>4</sup>. In the EU, mercury in dental tooth fillings is the second largest use of mercury, comprising 23.5% of the annual consumption, equal to 90-110 tonnes of mercury in 2007.<sup>3</sup> In reviewing mercury releases to the environment from dental amalgam use, it has been estimated that:

- 35-50 tonnes end up in various environmental media, of which 45-60% to the soil (via wastewater sludge to land disposal, burial of deceased persons with fillings, atmospheric deposition following cremation or wastewater sludge incineration, etc.),
- 5-15% into the atmosphere (via cremation, etc)<sup>5</sup>,
- 10-20% to surface waters and eventually 5-15% to groundwater<sup>6</sup>.

Once dental mercury has been used, there are a number of “end-of-pipe” techniques to prevent it from entering the environment, but each comes at a (sometimes very high) cost, and may not be as effective as intended. Further, the broad application of “end-of-pipe” techniques throughout the EU is severely limited, particularly in regard to mercury abatement from cremation (which is increasing).<sup>7</sup>

While most dental professionals continue to charge somewhat lower prices for amalgams, it's increasingly clear that the full 'external' costs borne by the rest of society are high, when the full range of environmental and potential health ramifications are taken into account.<sup>8</sup> Ultimately, society pays for the uncontrolled releases of mercury from dental amalgam through additional pollution control costs, the loss of common resources, and the health effects associated with mercury contamination.<sup>9</sup>

The most cost-effective and environmentally responsible solution to the dental mercury problem is its rapid phase out, since there are a range of affordable mercury-free alternatives. Regarding the availability of alternatives, the Swedish experience, among others, has proven that there are very few cases where a compelling argument can be made that amalgam fillings are 'necessary.' This is also backed up by the EU Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR 2008), which concluded in their study "that dental health can be adequately ensured by both types of materials" (i.e. mercury-free alternatives and amalgam), noting that alternatives have been in clinical use for over 30 years, and revealed little evidence of clinical significant adverse effects to date<sup>10</sup>.

Further, a 2011 World Health Organization (WHO) report, *Future Use of Materials for Dental Restoration*, acknowledges concerns about environmental releases of dental mercury. It also recognizes the need "to prepare for a treaty on mercury use," stating that "the Geneva meeting encourages a global 'phasing down' of dental amalgam," including support for use of dental material alternatives to amalgam.<sup>11</sup>

Leading up to and during the 3<sup>rd</sup> Intergovernmental Negotiating Committee meeting in November 2011, the Nordic Council<sup>12</sup>, Switzerland, and the African Region, expressed support for a dental amalgam phase out. In addition, the Council of Europe recently passed a resolution calling on nations to start "restricting or prohibiting the use of amalgams as dental fillings."<sup>13</sup>

Clearly, the environmental pollution from dental amalgam and health consequences from indirect exposures<sup>14</sup> are significant, and the precautionary principle further obliges us to take a pro-active stand with regard to potential health risks from direct amalgam exposures. To that end and considering all of the above, **we call on you to swiftly submit any additional relevant information to the EC per the earlier BIOS request, and at the same time send a clear message that you support phase-outs of mercury from dentistry at the EU level and globally.**

Thank you in advance for your attention to this important environmental and health issue.

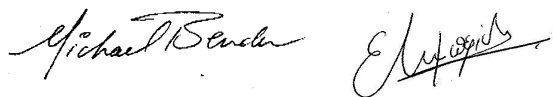
Yours sincerely,



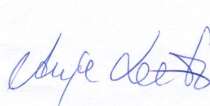
Jeremy Wates  
Secretary General  
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Michael Bender and Elena Lymberidi-Settimo  
International coordinators  
Zero Mercury Working Group (ZMWG)



Anja Leetz  
Executive Director  
Health Care Without Harm Europe (HCWHE)

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<sup>1</sup> [http://www.chem.unep.ch/mercury/Atmospheric\\_Emissions/Technical\\_background\\_report.pdf](http://www.chem.unep.ch/mercury/Atmospheric_Emissions/Technical_background_report.pdf). p.20

<sup>2</sup> With possible limited exemptions for specific medical conditions

<sup>3</sup> COM(2010) 723 final, COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the review of the Community Strategy Concerning Mercury

<sup>4</sup> [http://ec.europa.eu/environment/chemicals/mercury/pdf/study\\_report2008.pdf](http://ec.europa.eu/environment/chemicals/mercury/pdf/study_report2008.pdf)

<sup>5</sup> The Cremation Society of Great Britain provides rather comprehensive statistics on cremations in the EU-27 (CSGB 2004), amounting to nearly one-third of all EU deaths, and based on previous assumptions, releasing about 4.5 tonnes of mercury annually. Since then, the rate of cremation has increased significantly. There are two simultaneous trends contributing to this: a rise in the average number of fillings per person cremated (due to increasing numbers of original teeth), and a rise in the number of cremations. It has estimated that the amount of mercury from cremations will increase in the UK by two-thirds between 2000 and 2020, accounting for between 11% and 35% of all mercury emissions to the air in 2020. The upper figure is consistent with UK emissions as reported to UN/ECE and EU. These conclusions reinforced those of Tauw Milieu (Coenen 1997, as cited by Defra 2003) that predicted for the Netherlands a doubling of mercury emissions from crematoria between 1995 and 2020, and a 68% increase for the period 2000 to 2020. For more information, see EEB/Concorde sprl 'Mercury in Dental Use: Environmental Implications for the European Union', May 2007

<sup>6</sup> COWI/Concorde for DG Env 'Options for reducing mercury use in products and applications, and the fate of mercury already circulating in society', September 2008 and EEB/Concorde sprl 'Mercury in Dental Use: Environmental Implications for the European Union', May 2007

<sup>7</sup> *Ibid.*

<sup>8</sup> Hylander & Goodsite 2006, Maxson 2006 Environmental costs of mercury pollution, *Science of the Total Environment* 368 (2006) 352–370

<sup>9</sup> <http://mpp.cclearn.org/wp-content/uploads/2008/08/finalreportfrommpptestimony0707081.pdf>

<sup>10</sup> [http://ec.europa.eu/health/ph\\_risk/committees/04\\_scenihr/docs/scenihr\\_o\\_016.pdf](http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_016.pdf)

<sup>11</sup> [http://www.who.int/oral\\_health/publications/dental\\_material\\_2011.pdf](http://www.who.int/oral_health/publications/dental_material_2011.pdf)

<sup>12</sup> <http://www.norden.org/en/publications/publikationer/2010-738>

<sup>13</sup> Parliamentary Assembly of the Council of Europe, *Resolution 1816* (2011), available at <http://assembly.coe.int/Mainf.asp?link=/Documents/AdoptedText/ta11/ERES1816.htm>

<sup>14</sup> Studies have demonstrated that a certain portion of this dental mercury becomes bioavailable, and may constitute a significant source of risk to human health and the environment, Stone *et al.* (2005) – ME Stone, ME Cohen, L Liang and P Pang, Determination of methyl mercury in dental-unit wastewater, *Dental Materials* 19 (2003) 675–679, Elsevier Ltd.