

To: EU Member States' representatives and dental experts potentially attending the EC meeting on dental amalgam on October 11th, 2012

9 October 2012, Brussels

Subject: Support phase-out of mercury use in dentistry in the EU and globally

Dear Member State environment/health expert,

We are writing to you in view of the European Commission meeting with Member States' experts on the 11th October, in Brussels, to address dental amalgam.

As you are well aware, the recent EC commissioned BIOIS report, '*Study on potential for reducing mercury pollution from dental amalgam and batteries*' concluded that the most effective way to reduce environmental impacts of dental amalgam use in the EU, would be a combination of banning the use of mercury in dentistry and improving enforcement of EU waste legislation regarding dental mercuryⁱ. Since indeed high quality and cost-effective alternatives to dental amalgam are readily available, **we believe that such policy conclusions should now become legislative measures; dental amalgam use should be phased out and time-tables for such action should be supported at both the EU and global levels.**ⁱⁱ

Although the BIOIS report does not consider the health impacts from direct exposure from amalgams that are still being debated, it does recognize that dental mercury "remains a significant contributor to overall environmental mercury releases in the EU."ⁱⁱⁱ "In 2007, dental amalgam was the second largest mercury use in the EU after chlor-alkali production and it is expected to become the largest mercury use once mercury cell-based chlor-alkali production is phased out in the EU (target date 2020)."^{iv} The report estimates that consumption of dental amalgam represented between 55 and 95 t Hg per year in 2010, and estimated to be an average of 75 tonnes/year. Furthermore, it is estimated that dental amalgam contributes 21-32% of overall EU mercury emissions to air and up to 9-13% of overall mercury emissions to surface water.^v

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).^{vi} BIOIS concludes that waste management alone is not sufficient because "While [...]it tackles environmental impacts from both historical and current dental amalgam use, it focuses on releases from dental practices and is not sufficient in itself to address the whole range of mercury releases from the dental amalgam life cycle (it does not address mercury releases from the natural deterioration of amalgam fillings in people's mouths, from cremation and burial, and residual emissions to urban WWTPs)."^{vii}

While most dental professionals continue to charge somewhat lower prices for amalgams, it is 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.^{viii} 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.^{ix}

For those reasons, phasing out dental mercury use is necessary and cost-effective: “since the associated costs are considered to be reasonable for the various stakeholders, especially as they are considered to be outweighed by the associated environmental and health benefits.”^x

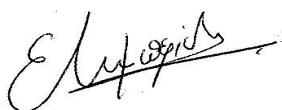
Furthermore and most importantly there are a range of safe and affordable mercury-free alternatives. The Swedish experience, among others, has proven that there are very few cases where a compelling argument can be made that amalgam fillings are ‘necessary.’ This is also backed up by the EU Scientific 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^{xi}. In addition BIOIS finds, among other advantages, that, due to technological progress, composite can last just as long as amalgam, and in some cases even longer.^{xii}

Therefore in view of advancing discussions at EU level, a route to transitioning out of dental mercury could be, phasing it out as fast as possible, with some exceptions. Exemptions however, should be set in a restricted framework, otherwise they risk becoming a loophole and potentially undermining the policy proposals and the objectives of the regulators. Nevertheless, amalgam should not be allowed into children’s mouth, that is to say in milk teeth.

Clearly, the environmental pollution from dental amalgam and health consequences from indirect exposures are significant^{xiii}, and the precautionary principle further obliges us to take a pro-active stand with regard to potential health risks from direct amalgam exposures. The BIOIS report shows that the transition to mercury-free dentistry can occur in all of Europe. To that end, **we call on you to send a clear message to the EC 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 and for considering our concerns.

Yours sincerely,



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Project Coordinator ‘Zero Mercury Campaign’
European Environmental Bureau

This letter is also supported by:

World Alliance for Mercury-Free Dentistry, www.toxicteeth.org
Zero Mercury Working Group, www.zeromercury.org
Health and Environment Alliance, www.env-health.org
The International Academy of Oral Medicine and Toxicology – Europe
Health Care Without Harm- Europe, www.noharm.org
European Academy for Environmental Medicine e.V, www.europaem.org
Deutscher Berufsverband der Umweltmediziner, www.dbu-online.de
Deutsche Gesellschaft für Umweltzahnmedizin, www.deguz.de
Non au mercure dentaire, www.non-au-mercure-dentaire.org
Réseau Environnement & Santé, <http://reseau-environnement-sante.fr/>
Association Toxicologie Chimie, <http://atctoxicologie.free.fr/>

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- ⁱ EC- BIOIS Study on potential for reducing mercury pollution from dental amalgam and batteries, http://ec.europa.eu/environment/chemicals/mercury/pdf/Final_report_11.07.12.pdf
- ⁱⁱ With possible limited exemptions for specific medical conditions
- ⁱⁱⁱ BIO Intelligence Service (2012), *Study on the potential for reducing mercury pollution from dental amalgam and batteries*, Final report prepared for the European Commission-DG ENV, http://ec.europa.eu/environment/chemicals/mercury/pdf/Final_report_11.07.12.pdf, p. 10
- ^{iv} BIO Intelligence Service (2012), *Study on the potential for reducing mercury pollution from dental amalgam and batteries*, Final report prepared for the European Commission-DG ENV, http://ec.europa.eu/environment/chemicals/mercury/pdf/Final_report_11.07.12.pdf, p.10
- ^v BIO Intelligence Service (2012), *Study on the potential for reducing mercury pollution from dental amalgam and batteries*, Final report prepared for the European Commission-DG ENV, http://ec.europa.eu/environment/chemicals/mercury/pdf/Final_report_11.07.12.pdf, p.176
- ^{vi} *Ibid.*
- ^{vii} BIO Intelligence Service (2012), *Study on the potential for reducing mercury pollution from dental amalgam and batteries*, Final report prepared for the European Commission-DG ENV, http://ec.europa.eu/environment/chemicals/mercury/pdf/Final_report_11.07.12.pdf, p.108
- ^{viii} Hylander & Goodsite 2006, Maxson 2006 Environmental costs of mercury pollution, *Science of the Total Environment* 368 (2006) 352–370
- ^{ix} <http://mpp.cclearn.org/wp-content/uploads/2008/08/finalreportfrommpptestimony0707081.pdf>
- ^x BIO Intelligence Service (2012), *Study on the potential for reducing mercury pollution from dental amalgam and batteries*, Final report prepared for the European Commission-DG ENV, http://ec.europa.eu/environment/chemicals/mercury/pdf/Final_report_11.07.12.pdf, pp.108-09
- ^{xi} http://ec.europa.eu/health/ph_risk/committees/04_scenihhr/docs/scenihhr_o_016.pdf
- ^{xii} BIO Intelligence Service (2012), *Study on the potential for reducing mercury pollution from dental amalgam and batteries*, Final report prepared for the European Commission-DG ENV, http://ec.europa.eu/environment/chemicals/mercury/pdf/Final_report_11.07.12.pdf, p.68
- ^{xiii} 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 methylmercury in dental-unit wastewater, *Dental Materials* 19 (2003) 675–679, Elsevier Ltd.