# Phase Out Dental Amalgam Use in the European Union

26th May 2016

Dear Environment Attaches and Member State experts on mercury,

After long delays, the European Commission proposed its revised EU mercury regulation on 2 February 2016, positioning the EU to finally ratify the Minamata Convention on Mercury. The proposed regulation updates existing EU law to conform to the Convention, but falls short in several key areas, including a new proposal that would essentially perpetuate mercury use in EU dentistry. This proposal is clearly out of step with both the spirit and intent of the treaty.

The Minamata Convention requires each party to "phase down the *use* of dental amalgam."[1] The EC mercury package on the other hand, proposes merely to require amalgam separators and encapsulated amalgam – two measures that fail to phase down European amalgam use for three reasons. First, ensuring that the mercury for dental amalgam is delivered in capsules, and implementing end-of-pipeline waste control measures does not lessen the amount of amalgam in *use*. Second, these measures have already been largely implemented – and, as expected, they have failed to result in a reduction in amalgam use. Third, these measures run the risk of increasing, and not decreasing, amalgam use in the EU as many dentists may be led to believe that capsules and separators somehow make their mercury "safe".

To avoid these pitfalls, the EC mercury package should be amended to include at least the following effective measures, supported by the elements in the annex:

1. Amalgam use should be phased out in the EU by 2020 with time limited, specified exemptions;

2. In the interim, and in addition to the measures proposed by the EC,

    a. Advise that for the first treatment of primary teeth in children and for pregnant patients, alternative materials to amalgam should be the first choice.
    b. Phase out mercury use in dentistry for children and pregnant women as soon as possible, and by 2018 at the latest.
    c. Ensure that every dental patient and parent learn that (1) amalgam is 50% mercury, (2) the use of amalgam restorations is not indicated in primary teeth, in patients with mercury allergies, and persons with chronic kidney diseases with decreased renal clearance, and (3) mercury-free dental fillings are available.

Consuming at least 90 tonnes of mercury in 2010, the European Union is the largest user of dental mercury in the world.[2] In order to provide a responsible example for other countries, the EU must phase out its own major application of mercury - dental amalgam. We therefore strongly urge you to support amending the EC proposed mercury regulation, to put the EU on a clear path to phase down and eventually phase out the use of dental amalgam.

Yours Sincerely,

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Lisette van Vliet, Health and Environment Alliance

Anja Leetz, Health Care Without Harm Europe

Johanna Hausmann, Women in Europe for a Common Future.

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Trine Jorgensen, The Danish Association for Non Toxic Dentistry

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Hanna Schudy, ECO-UNIA, Poland

João Branco, Quercus – Associação Nacional de Conservação da Natureza, Portugal

Servando Pérez-Domínguez, *MERCURIADOS*, Spain

Minna Blom, Amalgamskadefonden, Sweden

**Annex**

The opinion of EC experts supports the need to phase out dental amalgam – a filling material that is 50% mercury:

- ***The EC's independent consultant urged an amalgam ban:*** The European Commission's independent consultant BIOIS has examined all the policy options and related costs, and urged the EU to "ban the use of mercury in dentistry" because – among other reasons – it is "necessary to achieve mercury-related requirements of EU legislation on water quality."[3] BIOIS explicitly rejected policy options that only required separators because that "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)."[4]

- ***SCHER confirmed that amalgam poses environmental risks:*** SCHER has confirmed that dental amalgam in the environment can methylate (forming the most toxic form of mercury, methylmercury), that as a result "the acceptable level in fish is exceeded" under some circumstances, and thus there is "a risk for secondary poisoning due to methylation."[5]

- ***SCENIHR recommended amalgam restrictions:*** In 2015, SCENIHR concluded that "The use of amalgam restorations is not indicated in primary teeth, in patients with mercury allergies, and persons with chronic kidney diseases with decreased renal clearance....To reduce the use of mercury-added products in line with the intentions of the Minamata Convention (reduction of mercury in the environment) and under the above mentioned precautions, it can be recommended that for the first treatment of primary teeth in children and for pregnant patients, alternative materials to amalgam should be the first choice."[6]

Contrary to its expert consultants' conclusions, the EC proposed only encapsulated amalgam and separators – a proposal that does not focus on mercury use reduction. Furthermore the EC practically ignored the results of its online consultation as well as other relevant developments around Europe:

- ***The public consultation supports phasing out amalgam use:*** The European Commission launched an online public consultation that asked EU citizens: Should amalgam use be phased down…or phased out? 88% of answering respondents voted to phase out amalgam use.[7] This question reached the highest scores of participation in the survey in terms of responses (3.518 – almost double the numbers reached in other questions) as well as comments (2.117), demonstrating the high public concern[8]. Of all the phase down measures, promoting the use of mercury-free alternatives received the most support, while merely restricting amalgam to its encapsulated form received the least public support.[9]

- ***Many dentists prefer mercury-free fillings:*** As one European dental researcher explains, the "tooth-friendly features of resin based composites make them preferable to amalgam, which has provided an invaluable service but which, we believe, now should be considered outdated for use in operative dentistry."[10]

- ***Experts show phasing out amalgam use will lower costs:*** As one study explains, due to the high costs of dental mercury pollution, amalgam is now recognized as "more expensive than most, possibly all, other fillings when including environmental costs."[11] Another study, conducted by Concorde East/West, concluded that an amalgam filling can cost up to $87 more than a composite filling after costs to the environment and society are taken into account.[12]

- ***Industry is already prepared for amalgam's demise:*** The dental industry is already anticipating the phase-out of amalgam use in the EU. At the 2013 European Dental Materials Conference, dental manufacturers devoted an entire day to discussing "The Demise of Amalgam Use".[13]

- ***Member nations are already phasing out amalgam use:*** Amalgam is already used for 0% of fillings in Sweden[14], 3% in Finland[15], 5% in Denmark,[16] and less than 10% in the Netherlands.[17] These nations have successfully implemented restrictions and bans on amalgam use, demonstrating that other EU nations can too. Many have already expressed their willingness to do so. For example, the United Kingdom announced that it can "support a ban on the use of dental amalgam from 2016 with agreed exemptions" (essentially the narrow exemptions used in Denmark).[18]

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[1] *Minamata Convention* (2013) (emphasis added)
[2] AMAP/UNEP, *Technical Report for the Global Mercury Assessment* (2013), http://www.amap.no/documents/doc/technical-background-report-for-the-global-mercury-assessment-2013/848, p.103
[3] 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_110712.pdfpage 20
[4] 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_110712.pdf page 19
[5] SCHER, *Opinion on Environmental Risks and Indirect Health Effects of Mercury from Dental Amalgam* (2014), http://ec.europa.eu/health/scientific_committees/environmental_risks/docs/scher_o_165.pdf, page 4
[6] European Commission Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR), *Final opinion on the safety of dental amalgam and alternative dental restoration materials for patients and users* (29 April 2015), http://ec.europa.eu/health/scientific_committees/emerging/docs/scenihr_o_046.pdf, p.75 (Furthermore, SCENIHR withdrew the claim that amalgam is safe. Similar to its earlier 2008 opinion, SCENIHR's preliminary opinion in 2014 claimed in section 4.1 that amalgam is "a safe and effective restorative material." But after reviewing the evidence, SCENIHR explained in its response to experts' comments, "The word 'safe' has been deleted in 4.1." So SCENIHR's 2015 final opinion states that amalgam is merely "an effective restorative material." European Commission Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR), *Preliminary opinion on the safety of dental amalgam and alternative dental restoration materials for patients and users* (26 August 2014), p.66; European Commission, *Results of the public consultation on SCENIHR's preliminary opinion on the safety of dental amalgam and alternative dental restoration materials for patients and users*, http://ec.europa.eu/health/scientific_committees/emerging/docs/followup_cons_dental_en.pdf, p.97; European Commission Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR), *Final opinion on the safety of dental amalgam and alternative dental restoration materials for patients and users* (29 April 2015), http://ec.europa.eu/health/scientific_committees/emerging/docs/scenihr_o_046.pdf, p.71)
[7] https://ec.europa.eu/eusurvey/publication/MinamataConvention
[8] *Impact Assessment* (2 February 2016), http://ec.europa.eu/environment/chemicals/mercury/pdf/20151218MercuryPackageIA.pdf, p.60
[9] *Impact Assessment* (2 February 2016), http://ec.europa.eu/environment/chemicals/mercury/pdf/20151218MercuryPackageIA.pdf, p.73
[10] Christopher D. Lynch, Kevin B. Frazier, Robert J. McConnell, Igor R. Blum and Nairn H.F. Wilson, *Minimally invasive management of dental caries: Contemporary teaching of posterior resin-based composite placement in U.S. and Canadian dental schools*, J AM DENTA ASSOC 2011; 142; 612-620, http://jada.ada.org/content/142/6/612.abstract (emphasis added)
[11] Lars D. Hylander& Michael E. Goodsite, *Environmental Costs of Mercury Pollution*, SCIENCE OF THE TOTAL ENVIRONMENT 368 (2006) 352-370.
[12] Concorde East/West, *The Real Cost of Dental Mercury* (March 2012), http://www.zeromercury.org/index.php?option=com_phocadownload&view=file&id=158%3Athe-real-cost-of-dental-mercury&Itemid=70, pp.3-4
[13] http://www.euro.addisondental.co.uk/Programme/
[14] World Health Organization, *Future Use of Materials for Dental Restoration* (2011), http://www.who.int/oral_health/publications/dental_material_2011.pdf, p.21
[15] 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.190
[16] *Ibid.*, p.190
[17] World Health Organization, *Future Use of Materials for Dental Restoration* (2011), http://www.who.int/oral_health/publications/dental_material_2011.pdf, p.21
[18] Letter, Department of Health to British Dental Association (23 May 2012).