EUROPEAN ENVIRONMENTAL BUREAU

The real cost of dental mercury revealed

[Thursday 22/3/2012, Brussels, Belgium] FOR IMMEDIATE RELEASE

EEB[i], Europe's largest federation of environmental citizens' organizations, has released a new report *"The Real Cost of Dental Mercury ,"* showing that dental amalgam is much more costly than the alternatives when so-called "external" costs to society are factored in. This report contributes to the EU discussions on potentially phasing out dental amalgam, vis-à-vis the presentation of a draft EC study on Monday 26 March, in Brussels
[ii]. The EEB has repeatedly called for a phase out of mercury in dentistry
[iii], a threat to human health and nature that many of us carry around in our mouths.

"The calculations in the report confirm that amalgam is by no means the least expensive tooth filling material when the external costs to society are also taken into account," said Elena Lymberidi-Settimo, Project Coordinator, Zero Mercury Campaign. "Amalgam's negative environmental effects are increasingly well known in the EU and globally. Ultimately, it is society that pays for the uncontrolled releases of mercury from amalgam use through additional pollution control costs, the loss of common (publicly-owned) resources, and the health effects associated with mercury contamination. "

The report demonstrates that the basic cost of an "equivalent" amalgam filling in the US is around 109 Euros compared to 140 Euros for an "equivalent" composite filling. However, the report then shows that even using conservative assumptions, when the real cost (to the environment and society at large) of amalgam is accounted for, amalgam turns out to be significantly more costly than composite as a filling material, by up to 66 Euro for a single filling,[iv].

‘While this report focuses on amalgam use only in the U.S., this case can serve as a valuable example also for the EU, said Elena Lymberidi-Settimo, ‘Amalgam is already banned in Sweden, Norway, and Denmark and severely restricted in Germany and Finland. These experiences clearly show there is scarcely any clinical situation in which the use of amalgam might be necessary. Clearly, there is every reason to accelerate the shift to mercury-free dentistry’.

In summary, the environmental concerns, the substitution principle, and the precautionary principle regarding direct health effects from amalgams all show the need for an amalgam phase out. Yet now another clear reason is provided: amalgam is far from being a bargain, and is in fact significantly more costly than composites. EEB is therefore urging the European Commission and Member States to act immediately to phase out the use of mercury in the dental sector as quickly as possible.

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Notes to the editor

[1] 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 - COM(2010) 723 final, COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the review of the Community Strategy Concerning Mercury

[2] The new report describes in detail, and costs out the significant contribution of dental mercury waste to the environment, including: to the soil and into the air via wastewater sludge, burial, atmospheric deposition; to the atmosphere via cremation; to surface waters, and eventually to the groundwater. Since high quality and cost-effective alternatives – including composites, glass ionomers and “compomers” – are readily available, this report therefore concludes, from both an environmental and societal cost perspective, that dental amalgam should be phased out.

[3] Adverse effects on the environment and society over the whole life cycle of dental amalgam[v] are also clearly demonstrated in the recent draft BIOS report for the European Commission. They can only be sustainably avoided by phasing out amalgam as a dental restorative material and switching to mercury-free alternatives.

Relevant documents

EEB/ZMWG/HEAL/HCWH/WFPHA Letter to EU Environment Ministers: Support for phase-outs of mercury use in dentistry in the EU and globally (146.80 kB) , 23 February 2012

Mercury in Dental Use: Environmental Implications for the European Union (689.69 kB) 01 May 2007

Report from the conference 'Dental Sector as a Source of Mercury Contamination', Brussels, 25 May 2007 (1.22 MB) 01 October 2007

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[i] Mercury Policy Project and Consumers for Dental Choice will be co-releasing the report

shortly in the US.

[ii] http://ec.europa.eu/environment/chemicals/mercury/

[iii] EEB/ZMWG/HEAL/HCWH/WFPHA Letter to EU Environment Ministers: Support for phase-outs of mercury use in dentistry in the EU and globally, http://www.zeromercury.org/index.php?option=com_phocadownload&
;view=file&id=156:eeb-zmwg-heal-hcwh-letter-to-eu-environment-ministers-support-for-phase-outs-of-mercury-use-in-dentistry-in-the-eu-and-globally&Itemid=15

[iv] Cost of amalgam filling is 144 USD (109 Euro), and cost of composite is 185 USD (140Euro). Two approaches are analysed; one adds an extra 41-67 USD (31-51 Euro) to the commercial cost of the filling if we consider the additional cost required to keep dental mercury out of the environment. Tthe second adds (60-128 USD) 45-97 Euro to the commercial cost of amalgam when quantifying the benefits for people and the environment that would result from a phase-out of mercury use in dentistry. These would include such benefits as reduced health costs, reduced environmental effects, additional jobs created, etc. In most cases these benefits are simply the same as “avoided costs.” Therefore on average when external costs are considered the cost of amalgam would be up to 87 USD (66 Euro) more, than the cost of composite.

[v] Including: mercury production, preparation of filling materials, removal of old fillings and placement of new ones, and environmental and health impacts from mercury recycling, sewage discharges, waste disposal and releases from crematoria and cemeteries