



## SCIENTIFIC COMMITTEE ON HEALTH AND ENVIRONMENTAL RISKS (SCHER)

### PRELIMINARY OPINION ON THE ENVIRONMENTAL RISKS AND INDIRECT HEALTH EFFECTS OF MERCURY IN DENTAL AMALGAM

#### SUMMARY RECORD OF THE PUBLIC HEARING HELD ON 6 NOVEMBER 2013

**Commission:** Stefan Schreck, Donata Meroni (SANCO.DDG1.C.2), P. Mouratidis (ENV.C.3)

**SCHER experts:** Dr. Jan Linders, retired from RIVM, now private expert, NL  
Prof. Marco Vighi, University of Milano, IT

**Excused:** Dr. Emanuela Testai, Istituto Superiore di Sanità, IT (SCENIHR member, who participated in the Working Group)

#### **Participants:**

Mr. Michael Bender	Zero Mercury Working Group (ZMWG) / EEB
Ms. Edith Bon	World Alliance for a Mercury-free Dentistry
Dr. Lars Hylander	Uppsala University
Mr. Dominique Bally Kpokro	NGO JVE Cote d' Ivoire
Mr. André Lefranc	Non au mercure dentaire
Mr. Ian McKay	Council of European Dentists
Mr. Sanni Baltzer Petersen	Danish EPA
Mr. Florian Schulze	Centrum for Amalgamttoxikologie (CAT), Berlin
Mrs. Sara Roda	Council of European Dentists
Dr. Alexander Tolmeijer	Council of European Dentists
Mrs. Anne-Marie Vaas	Kemi, Sweden

## **1. WELCOME AND OPENING (DG SANCO)**

The Commission (DG SANCO) welcomed the participants and explained briefly the role of the SCHER committee as an independent advisory body on scientific matters. COM reminded that the current opinion was an update of the 2008 SCHER opinion on the same issue. COM explained that the purpose of the public hearing was to provide explanations and to receive contributions on the preliminary opinion and briefly informed participants on the rules of procedure. The agenda of the hearing was then introduced and participants were reminded that written input in the framework of the public consultation was expected till 20<sup>th</sup> November 2013.

## **2. PRESENTATION OF THE MANDATE (DG ENV)**

The Commission (DG ENV) thanked also participants and stressed that the hearing (as well as the public consultation) is an important part of the process to reach a scientifically sound and politically acceptable opinion. DG ENV thanked colleagues from DG SANCO who managed the long (more than 1 year) process as well as the experts who prepared the opinion.

COM explained that the dental amalgam issue as a mercury environmental problem is examined within the framework of the Mercury Strategy adopted by the Commission in 2005 and reviewed in 2010. In implementing Action 6 of the Strategy, SCHER produced a first opinion on this issue in 2008, but cautioned that due to missing information, a comprehensive risk assessment could not be performed by the committee. As a follow-up to the Mercury Strategy review in 2010 and as a response to an invitation by the Environment Council in 2011, the Commission prepared a study focusing on the environmental aspects of dental amalgam use (Bio Intelligence Service, 2012). In July 2012, the Commission asked both SCHER and SCENIHR to update their 2008 opinions taking into account the latest scientific findings as well as the information compiled by the Bio Intelligence Service study. The Commission reminded the questions the Scientific Committee was asked to respond to as phrased in the mandate.

The Commission also informed that the EU signed the Minamata Convention on Mercury in October 2013, which it would try to ratify as soon as possible. The Convention foresees a number of measures to be taken by the Parties in relation to dental amalgam in order to phase down its use.

The Commission emphasised that it will wait for both SCHER and SCENIHR opinions to be finalised before concluding on the appropriateness of any next steps.

## **3. PRESENTATION OF THE PRELIMINARY OPINION (SCHER)**

**Dr. Jan Linders** and **Prof. Marco Vighi** who represented SCHER at the hearing presented in detail the preliminary opinion. They explained that that it was based on the previous 2008 opinion, but new evidence had been considered in order to determine whether the risk assessment needed to be updated.

The methodology followed and the conclusions reached on the three questions of the mandate were explained and clarifications were provided on specific questions raised. The powerpoint presentation is attached.

#### 4. QUESTION AND ANSWER SESSION

Almost all participants took the floor in the "Question and Answer" session. The Commission asked that issues raised along with supporting evidence be also submitted through the public consultation process, so that SCHER can examine them in more detail when drafting the final opinion. **Mr. André Lefranc** from Non au mercure dentaire and **Mr. Michael Bender** from ZMWG/EEB made powerpoint presentations (attached). A summary of the main points raised orally is provided here below:

- Important input on methylmercury concentration in dental-units wastewater (*Stone's* publication, submitted to SCHER) was not taken into consideration.
- Great variation among different countries (e.g. some MS not even using separators) should be reflected in the worst-case scenario.
- There should be specific reference to sensitive populations (pregnant women, children, people susceptible to mercury poisoning) in the opinion.
- Recent epidemiological data show that levels established by WHO should be updated.
- The dentist discharge figure (460g/dentist/year) considered for the worst case scenario is extremely high – according to other studies emissions of mercury would be less than 1700mg/dentist/day which would correspond to less than 400 g/dentist/y. Given the decline in the use of dental amalgam, figures as low as 40g/dentist/y could be a more reasonable basis for the calculations.
- The fact that not all mercury discharged by dentists is bioavailable should be considered in the analysis.
- Old studies do not reflect current practice, as high-speed drilling creates fine particles not captured by amalgam separators and having a very high surface area, hence high potential for methylation.
- Silver (which is a common component of the dental amalgam) should be considered in the risk assessment.
- The opinion should consider statistics on concentration of mercury/methylmercury in human blood/body, as this will finally end up in the environment through burial/cremation.
- Possibility of methylation in the oral cavity should be considered and relevant scientific proof should be taken into account.
- Historic use of dental amalgam (e.g. amalgam lying in pipes etc) has been ignored in the preliminary opinion.
- Mercury-contaminated sewage sludge used in farming or incinerated is not mentioned. Other participants argued, however, that mercury from dental amalgam is a minor contributor causing no additional risk in sewage sludge.
- Other potential pathways (e.g. when drinking beverages) should be examined.
- Mercury has no biological function and is extremely toxic – wastewater plants are faced with mercury concentrations from dentistry up to 1000 times higher in comparison to other streams.
- Mercury entering the environment through human excretion has not been considered in the opinion – the issue is covered in the scientific literature.

- Not all waste streams mentioned in the Bio Intelligence report have been taken into account in the opinion.
- The Commission should keep in mind the pre-cautionary principle as a basis for any decision taken on this issue.

## **5. CLOSING (DG SANCO)**

COM thanked participants for their constructive attitude and their contributions and reiterated the deadline for the submission of written contributions through the public consultation process (20 November 2013).