

Information on Availability Non-Mercury Alternatives in Arab Countries in Response to the Decision on Dental Amalgam at COP3

Dear Mr. Anan:

As NGOs in the Arab countries, we are submitting this information in response to the Secretariat's call for information about non-mercury alternatives to dental amalgam.

Alternatives to mercury dental amalgam exist, such as composites (most common), glass ionomers and copolymers (modified composites). These are all effective alternatives that also help to preserve natural tooth structure. These alternatives are readily available and widely used in Arab countries. A number of clinics in the region report the complete cessation of use of mercury amalgam for years.

We ask that the Secretariat also consider studies demonstrating the environmental and health risks of dental amalgam, directing you especially to the study by our colleagues at IndyAct, who measured mercury in the air of dental clinics in Lebanon and Morocco. [\[i\]](#) The study found that the use of mercury containing amalgam in the dentistry sector leads to high concentrations of mercury inside the closed spaces of dental care clinics – even when packaged amalgam capsules are used and after amalgam is not used in the clinic. Given the wide variation in clinics and locations visited, there are four categories according to levels of mercury concentrations in indoor air, including:

1. *Dental care clinics uses mercury amalgam without reservation or limitation.* The level of mercury exceeds 3000 ng/m³. The dentists and staff in this category of dental care clinics are highly exposed and subjected to a high level of risk of chronic intoxication.
2. *Dental care clinics still uses mercury amalgam, but in packaged form and using a mechanical closed mixer.* The level of concentration in this clinical category is between 214 - 797.1 ng/m³. This level of concentration is always important and poses real risks to the health of those exposed.
3. *Dental care clinics have stopped the use of mercury amalgam completely, and can be used only very rarely in special cases.* The level of mercury concentrations in indoor air in this category is between 62 - 170.4 ng/m³. This concentration level is medium. It shows the persistence of mercury in closed rooms, and that its complete clearance will last a long time. The long-term exposure to such concentration is not without risk to health.
4. *Clinics and locations where they have completely stopped using mercury amalgam for a long time, and for locations where the mercury is not directly used, but they are in the vicinity of dental clinics (including the pediatrician's office located next to the dental clinic in Dahiyeh, Lebanon; the store of materials at the Faculty of Dentistry in Rabat and the waiting rooms).* The level of concentration in indoor air in this category

is between 2.4 - 31.4 ng/m³. This level of concentration is low, but given the severe toxicity of mercury, it is not to be neglected.

We believe mercury levels are similarly high in amalgam-using dental clinics in other Arab countries as well. This leaves dentists and personnel of dental care clinics exposed to high concentrations of mercury vapor, which poses risk of chronic mercury intoxication.

Thank you for taking this information into consideration as the Secretariat prepares its report on non-mercury alternatives to amalgam.

Sincerely,
Naji Kodeih., vice president Arab States
World Alliance for Mercury-Free Dentistry

[i] IndyAct, *Mercury Rising: Mercury Pollution in Lebanon and Morocco* (October 2011), <https://mercuryfreedentistry.files.wordpress.com/2020/06/zmwg-mercury-rising-2011.pdf>.

Dr. Eng. Najj KODEIH
Independent Consultant
Senior Environmental Expert
Senior Expert in Hazardous Materials, Wastes and Contaminated Sites