

# **Memorandum of Understanding Respecting the Implementation of the Canada-wide Standard on Mercury for Dental Amalgam Waste**

## **Between:**

Her Majesty the Queen  
as represented by the Honourable Minister of the Environment

And

The Canadian Dental Association

**Dated:** February 18, 2002

## **Background:**

In March 2000, the Canadian Council of Ministers of the Environment hosted a Products Workshop to provide guidance in the development of Canada-wide Standards for mercury. The Canadian Dental Association, hereafter referred to as the Association, assisted in focusing issues surrounding the management of mercury in dental practices, and subsequently agreed to negotiate with Environment Canada towards a Memorandum of Understanding to establish best practices for the management of amalgam waste, and assist in implementing the associated Canada-wide Standard on Mercury for Dental Amalgam Waste (CWS).

## **Objectives of the Memorandum of Understanding**

This Memorandum of Understanding (MOU) is intended to describe initiatives by the Federal Minister of the Environment, herein referred to as the Minister, on behalf of the Government of Canada, and initiatives by the Canadian Dental Association to achieve the voluntary implementation of the CWS, to provide regular progress reports in an open and transparent manner, and to advocate and recognize supportive action by provincial and territorial governments, by CDA Corporate Members and Dental Regulatory Authorities (DRA).

## **Canada-wide Standard on Mercury for Dental Amalgam Waste**

The Canada-wide Standard is the application of "Best Management Practices" to achieve a 95% national reduction in mercury releases from dental amalgam waste discharges to the environment, by 2005, from the base year 2000. "Reduction in mercury releases" refers to the amount of mercury, either in the form of elemental mercury or mercury containing compounds, removed from the dental waste stream. Best Management Practices are defined as including the use of an International Organization for

Standardization (ISO) certified amalgam separator or equivalent, and appropriate management of waste so mercury does not enter the environment. Appropriate management may include landfilling in an approved, confined, engineered landfill with leachate collection systems, such as a hazardous waste landfill, recycling to either produce reusable materials such as mercury, silver and copper, or for stabilization/immobilization in a form that may be retired permanently. Environment includes soils, water, air and municipal waste landfills. Locally, implementation of Best Management Practices and reductions in amalgam use may achieve reductions in excess of the 95% reduction target in some instances. Where substantiated, such additional reductions will be considered in assessing overall compliance with the national reduction target. The Canada-wide Standard on Mercury for Dental Amalgam Waste is a result of the invocation of the precautionary approach, in recognition that mercury is persistent, bioaccumulative and toxic, not of evidence of environmental harm resulting from current management of amalgam waste.

### **Roles of the Parties to this Memorandum of Understanding**

Under the terms of this Memorandum of Understanding, the Minister of the Environment and the Association agree to a joint and mutual program to attain the Canada-wide Standard. This Memorandum does not preclude the normal obligations of either party, and addresses only the roles of the Minister and the Association with respect to implementation of this MOU.

This MOU does not in any way modify or restrict the authorized mandate, responsibilities or authorities of the Crown or the Minister of the Environment. This MOU does not purport nor can be construed as curtailing the powers of the Crown and its regulatory capacity. The Minister may review regulatory options under his authority, including the use of CEPA 1999, and take appropriate measures to promote attainment of the Canada-wide Standard on Mercury for Dental Amalgam Waste.

The President of the Association is a signatory to this Memorandum of Understanding on behalf of the Canadian Dental Association. (CDA). The CDA is a national professional body which does not have regulatory or licensing power, but which is a "professional association". As such it is recognized that the President has an authority that coincides with the duly authorized mandate and responsibilities of the Canadian Dental Association. This MOU does not in any way modify or amend those responsibilities or authorities.

### **Implementation and Duration of Memorandum of Understanding**

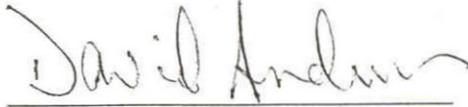
By signature below, the Minister of the Environment, in a manner consistent with roles noted below, agrees that Environment Canada staff will support in a manner consistent with the MOU, the voluntary implementation of actions by the dental profession to achieve the objectives of the Canada-wide Standard on Mercury for Dental Amalgam Waste.

By signature below the President of the Canadian Dental Association, in a manner consistent with the roles noted below, agrees that the Association will make determined efforts to ensure that dental practitioners voluntarily take the requisite steps and actions necessary to achieve the objectives of the CWS.

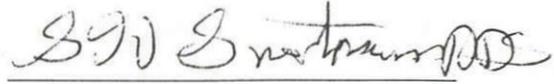
This Memorandum of Understanding shall take effect as of February 18, 2002, and shall be in effect until December 31, 2007, in order to conform to the objectives of Canada-wide Standard on Mercury for Dental Amalgam Waste which is to be met by 2005, with public reporting in 2007.

The Memorandum of Understanding and Annexes will be periodically reviewed by the Parties and may be amended, deleted, or supplemented through addendums that will be approved by the Parties.

Signed 28 February 2002 at Ottawa by:



The Honourable David Anderson  
Minister of the Environment



Dr. George Sweetnam  
President, Canadian Dental Association

#### Annexes to the Memorandum of Understanding (MOU)

Annex A outlines the roles of the Minister of the Environment and the Canadian Dental Association, (the Association), in the implementation of the numeric target and time frame of the Canada-wide Standard on Mercury for Dental Amalgam Waste (CWS).

Annex B describes the commitments by Environment Canada and the Association to report progress on the implementation of the CWS.

Annex C outlines the groups of dental practitioners considered as exceptions to full voluntary compliance with the CWS.

Annex D describes the Canadian Dental Association - Environment Canada Best Management Practices for Amalgam Waste in Canada - 2002

Annex E provides a List of Provincial Dental Associations that have confirmed support for the implementation of the Canada-wide Standard on Mercury for Dental Amalgam Waste.

## **Annex A**

### **Roles of the Minister of the Environment and the Canadian Dental Association in the Implementation of the Canada-wide Standard on Mercury for Dental Amalgam Waste**

#### **Part 1**

##### **Roles of Minister of the Environment (the Minister)**

- By March 2002, using best available information, provide an estimate of the quantities of amalgam waste generated and collected from all Canadian dental offices for the baseline year 2000.
- By April 2002, review the information provided by the Association and establish the baseline number of Canadian dentists targeted for voluntary compliance with the Best Management Practices for Amalgam Waste in Canada - 2002, in order to achieve the Canada-wide Standard on Mercury from Dental Amalgam Waste. This baseline number will be used in the assessment of compliance with the MOU.
- By March 2002, develop in cooperation with the Canadian Dental Association, Provinces and Territories, a process for verification of “equipment equivalent to the criteria stated in the ISO 11143”, as defined within the CWS.
- By April 2002 collect information from licensed waste haulers across Canada to establish baseline amounts of amalgam waste collected for 2000.
- Between February 2002 and March 2003, organize 12 Regional workshops on “Best Management Practices for Amalgam Waste in Canada – 2002” to assist dental practitioners across Canada. Workshops will be organized in consultation and with the cooperation of Provinces and Territories, the Canadian Dental Association and its Corporate Members.
- Prepare a report by March 2002, identifying sources of amalgam separators and waste management firms in each jurisdiction authorized to collect, transport and dispose of dental amalgam waste.
- By May 2002, prepare a report, in consultation with the Association, Provinces and Territories on federal, provincial and municipal waste management requirements relative to the management of amalgam waste from dental practitioners with a view to harmonizing and streamlining these requirements to better enable voluntary implementation of the Best Management Practices for Amalgam Waste in Canada – 2002 while providing equivalent health and environmental protection.
- Prepare an article for publication in the Association’s journal providing background and rationale for the MOU and the CWS amalgam waste issue. Prepare an article for publication in the journal in 2002 and for each subsequent year until 2007, to describe progress on the implementation of the Memorandum of Understanding.
- Where appropriate, cooperate with the Canadian Dental Association, its Corporate Members, other government agencies and partners in joint projects to promote and implement Best Management Practices for Amalgam Waste in Canada - 2002. Where Environment Canada sponsors research into the environmental impact of amalgam waste and on the best methods for its management, it will inform the Association on the planning, execution and reporting of any such projects.
- Assist the Canadian Dental Association with the development of technical guidance documents to help dental practitioners in implementing Best Management Practices for Amalgam Waste in Canada – 2002.
- Support the Association in its efforts to incorporate a training component to address amalgam waste management issues in the curricula of Canadian dental schools.

- Receive amalgam waste management data in electronic format on an annual basis from the Canadian Dental Association, and annually from 2001 to 2007, conduct data analyses and in cooperation with CDA, produce a summary report addressing the reported compliance with the Best Management Practices for Amalgam Waste in Canada – 2002.
- Provide a contact, for the duration of this MOU to serve as the “one-window” for the Association to raise concerns and issues affecting implementation of the CWS.
- Communicate with provincial and territorial governments in order to ensure they are aware of this initiative, and promote the importance of local government actions to aid implementation, and where appropriate, raise CWS implementation concerns, as expressed by the Association, with relevant provincial or territorial Ministers or official(s).
- Organize a meeting with the Association on an annual basis, or more frequently by mutual consent, to assess progress, prepare reporting summaries and conduct any other business deemed necessary toward the achievement of the CWS and other activities under this Memorandum of Understanding, at a time mutually agreeable to Environment Canada and the Association.
- Provide reports on the implementation of the MOU to the Canadian public consistent with Departmental policy on Non-Legislative Initiatives.
- Report progress as outlined in Annex B.

**Roles of the Minister of the Environment and the Canadian Dental Association in the  
Implementation of the Canada-wide Standard on Mercury for Dental Amalgam Waste**

**Part 2**

**Roles of Canadian Dental Association (the Association)**

- Undertake determined efforts to achieve implementation of the CWS by all dentists in Canada.
- Seek the commitment of the Association's Corporate Members to make determined efforts to promote implementation of the CWS.
- Seek the signatures of the provincial Dental Associations to confirm support for the voluntary implementation of the CWS. These Associations will be listed in Annex E which will be updated periodically by the Parties.
- Cooperate with Corporate Members, government agencies and other partners in joint projects to implement "Best Management Practices for Amalgam Waste in Canada – 2002"
- Communicate with Dental Regulatory Authorities, and dental schools, appropriate information on the CWS and explore the options for obtaining assistance from Dental Regulatory Authorities and others to develop mechanisms for tracking implementation of "Best Management Practices for Amalgam Waste in Canada – 2002".
- Promote the incorporation of a training component to address amalgam waste management in the curricula of all Canadian dental schools.
- By March 2002, develop in cooperation with Environment Canada, Provinces and Territories, a process for verification of "equipment equivalent to the criteria stated in the ISO 11143", as defined within the CWS.
- Consistent with Annex C, by March 2002 provide a baseline estimate of the number of Canadian dentists in year 2000, targeted for full compliance with "Best Management Practices for Amalgam Waste in Canada – 2002" by 2005, in order to achieve the Canada-wide Standard on Mercury for Dental Amalgam Waste.
- Assist Environment Canada in developing an estimate of the quantities of amalgam waste generated and collected from all Canadian dental offices for the baseline year 2000.
- Collect survey information on an annual basis, addressing compliance by individual dental practices with the "Best Management Practices for Amalgam Waste in Canada – 2002" and submit data in electronic format to Environment Canada for analysis and report preparation.
- As the lead national voice of dentistry in Canada, accept its responsibility to provide for periodic updates and information to all Canadian dentists and also to provide representation for members and non-members as feasible. The means and mechanisms for communicating with, tracking progress of, and for broadly representing Canadian dentists are to be explored in conjunction with Corporate Members, Dental Regulatory Authorities and others as necessary.
- Provide information to Environment Canada accounting for progress towards compliance with the Canada-wide Standard on Mercury for Dental Amalgam Waste. Such accounts will include the estimated number of dental practices employing best management practices and a description of concerns pertinent to implementation and reporting on the CWS.
- Provide an Association contact, for the duration of this Memorandum of Understanding who will serve as the "one-window" to raise concerns and issues affecting implementation of the CWS.
- Act as liaison with its Corporate Members and the Dental Regulatory Authorities.
- Raise CWS implementation concerns raised by Environment Canada with the appropriate Corporate Members.
- Meet with Environment Canada on an annual basis, or more frequently by mutual consent, to assess progress, prepare reporting summaries and conduct any other business deemed necessary toward the

achievement of the CWS and other activities under this Memorandum of Understanding, at a time mutually agreeable to Environment Canada and the Association.

- Report progress as outlined in Annex B.

## **Annex B**

### **Reporting Progress on Implementation of the Canada-wide Standard**

#### **Role of Canadian Dental Association**

- Prepare an annual report to Environment Canada outlining progress by Canadian dental practitioners in implementing the Canada-wide Standard, and progress in meeting the Association's commitments within the Memorandum of Understanding.

#### **Role of Environment Canada**

- Prepare by May 2002, in collaboration with the Association, a reporting template for Environment Canada's use in the years 2004 and 2007 to report to the Canadian public on overall progress in the implementation of the Canada-wide Standard on Mercury for Dental Amalgam Waste.
- Report to the Canadian Public annually on progress to fulfill the parties' roles and responsibilities as described in the Memorandum of Understanding.

#### **Joint Annual Progress Report**

- Environment Canada and the Association agree to prepare together an annual report outlining progress to fulfil their roles and responsibilities as described in the Memorandum of Understanding for presentation to the Canadian Council of Ministers of the Environment, and to the Association's Board of Governors, for tabling at the fall meetings of these respective groups.

## Annex C

### Exceptions to Full Voluntary Compliance with the Canada-wide Standard on Mercury for Dental Amalgam Waste

Several dental specialties do not generate dental amalgam waste in sufficient quantities to warrant voluntary compliance with the Canada-wide Standard on Mercury for Dental Amalgam Waste.

In order to effectively achieve the CWS objective of a 95% reduction in mercury releases from dental waste discharges to the environment, all clinical dental practices are to be targeted for voluntary compliance with the CWS with the exception of those where the following specialties are exclusively practiced.

- 1) Orthodontics and Dentofacial Orthopedics  
*Orthodontics and Dentofacial Orthopedics* is that branch and specialty of dentistry concerned with the supervision, guidance and correction of the growing or mature dentofacial structures and the diagnosis, prevention and treatment of any abnormalities associated with these structures.
- 2) Oral and Maxillofacial Surgery  
*Oral and maxillofacial surgery* is that branch and specialty of dentistry which is concerned with and includes the diagnosis, surgical and adjunctive treatment of disorders, diseases, injuries and defects involving both the functional and aesthetic aspects of the hard and soft tissues of the oral and maxillofacial regions and related structures.
- 3) Oral Medicine and Pathology  
*Oral Medicine and Pathology* is the branch and specialty of dentistry concerned with the diagnosis, nature and primarily non-surgical management of oral, maxillofacial and temporomandibular diseases and disorders, including dental management of patients with medical complications. Oral medicine and oral pathology are two applied components of this specialty.
- 4) Oral and Maxillofacial Radiology  
*Oral and Maxillofacial Radiology* is that branch and specialty of dentistry concerned with the prescription, production and interpretation of diagnostic images for the diagnosis and management of diseases and disorders of the craniofacial complex.
- 5) Periodontics  
*Periodontics* is that branch and specialty of dentistry concerned with the diagnosis, prevention, and treatment of diseases and conditions of the supporting and surrounding tissues of the teeth or their substitutes and the maintenance of the health, function and aesthetics of these structures and tissues.

## **Annex D**

### **Canadian Dental Association - Environment Canada Best Management Practices for Amalgam Waste in Canada - 2002**

#### **Acknowledgments**

These Best Management Practices (BMPs) were produced by the Canadian Dental Association and Environment Canada, with thanks and gratitude to the Ontario Dental Association's Occupational Health and Safety and Environmental Issues Working Group who provided the material that formed the foundation of this document. Their work was performed in conjunction with Environment Canada, the Ontario Ministry of the Environment, the Regional Municipality of Hamilton-Wentworth and the City of Toronto, as well as waste management companies that service the dental community that also provided information.

#### **Introduction**

The Best Management Practices below are intended to clarify the steps that dental offices should be taking to be considered as compliant with the Canada-Wide Standard on Mercury for Dental Amalgam Waste. These BMPs aim at reducing the amount of amalgam waste generated in dental offices (pollution prevention) and assuring that the waste that is being produced is captured at its source and disposed of appropriately (pollution control).

Disposal and transportation of hazardous waste is regulated under the Canadian Environmental Protection Act (CEPA), provincial and territorial laws and regulations as well as Municipal by-laws. Under the law, it is the dentists' responsibility to ensure that they are in compliance with all laws, regulations and by-laws. Dentists have to be aware that local regulatory obligations may impose requirements that go beyond what is set herein.

#### **Pollution Prevention**

In order to minimize the amount of amalgam waste requiring disposal, dentists should:

Purchase pre-capsulated amalgams to avoid using bulk liquid (elemental) mercury and stock amalgam materials in a good choice of capsule sizes in order to better select the right amount of material for a particular restoration.

Avoid stockpiling excessive amount of amalgam.

Stay abreast of advances in restorative materials and provide patients with complete information about the benefits and risks associated with the various restorative materials available.

#### **Pollution Control**

##### **A) Elemental Mercury**

Best Management Practices (BMP):

Store unused elemental mercury in a tightly sealed, break resistant container.

Label the container "Hazardous Waste: Elemental Mercury"

Contact a provincially or territorially certified hazardous waste carrier for recycling or disposal or your provincial or territorial environment agency.

## Other Options

React unused elemental mercury with silver alloy to form amalgam.

Follow the BMP for the disposal of non-contact, amalgam waste.

## Don'ts:

Do not transport elemental mercury yourself.

Do not place elemental mercury in the garbage.

Do not wash elemental mercury down the drain.

## **B) Non-Contact Amalgam Waste**

Non-Contact amalgam waste is amalgam waste that has never been in a patient's mouth. It is generally surplus amalgam left after a new restoration has been completed.

### Best Management Practices (BMP):

Separate non-contact unused amalgam waste from used amalgam waste.

Collect non-contact amalgam waste in a break resistant, airtight container.

Label the Container "Hazardous Waste: Non-Contact Amalgam waste".

Once full, contact a certified hazardous waste carrier for recycling or disposal.

## Don'ts:

Do not throw amalgam into the garbage.

Do not wash amalgam particles down the drain.

Do not transport amalgam yourself.

Do not give amalgam to a scrap metal dealer who is not certified to transport hazardous wastes.

Do not place non-contact amalgam wastes in your sharps container.

## **C) Contact Amalgam Waste**

Contact amalgam waste is amalgam that has been in a patient's mouth. If BMPs for non-contact amalgam waste are followed, it should be the only type of amalgam waste that is evacuated through the high-speed suction or the saliva ejector.

### Best Management Practices:

Install an International Organization for Standardization (ISO) certified amalgam separator (ISO 11143) or equivalent and maintain it according to the manufacturer's instructions.

Use disposable traps and filters in your dental units. Using universal precautions (gloves, glasses and mask) remove the chair-side trap from your dental unit and place the entire trap into a break resistant, air tight container labeled " Hazardous Waste: Contact Amalgam". Fasten the lid securely onto the container.

Using universal precautions (gloves, glasses and mask) remove your vacuum pump filter from your dental unit. Fasten the lid securely onto the filter. Label the filter "Hazardous Waste: Contact Amalgam". Collect filters in secondary container as provided by your supplier (i.e. cardboard box).

Once traps and filters have accumulated, contact a certified hazardous waste carrier for recycling or disposal.

#### Other Options:

Using universal precautions (gloves, glasses, mask) remove chair-side trap vacuum pump filter from the dental unit.

Remove all visible amalgam by tapping the trap and filter contents into a container labeled "Hazardous Waste: Contact Amalgam".

Close the lid tightly.

If the trap and filter are visibly clean, throw them into the regular garbage if they are disposable or insert them back into dental unit if reusable.

If the trap and filter are not visibly clean, they must be treated as hazardous wastes and placed in a contact amalgam container for pick up by a certified hazardous waste carrier.

#### Don'ts:

Do not place contact and non-contact amalgam in the same container.

Do not place contact amalgam waste in the same container as bio-medical wastes or sharps.

Do not rinse traps and filters in the sink.

Do not throw disposal traps that contain amalgam particles into the garbage.

Do not wipe traps/filters with paper towel or any other material as this creates another contaminated waste.

#### **D) Amalgam Capsules**

While it is not likely that all mercury is removed from amalgam capsules, provincial and territorial agencies agree that empty amalgam capsules are considered non-hazardous and can be thrown into the regular garbage.

**Annex E**

**List of Supporting Provincial Dental Associations**