Appendix 1:
Supporting Documents from the Florida Department of Health

An Appendix to the

Florida Department of Environmental Protection

Recommended

Scrap Dental Amalgam

Management Procedures

December 1, 2000 Draft

Jeb Bush
Governor

FLORIDA DEPARTMENT OF HEALTH

Robert Brooks, M.D.
Secretary

July 17, 2000

RECEIVED
JUL 25 2000
HAZARDOUS WASTE

Jack Price, Environmental Manager
Hazardous Waste Management Section
Department of Environmental Protection
2600 Blairstone Road – MS 4555
Tallahassee, FL 32399-2400

Dear Mr. Price:

Thank you for the opportunity to comment on *Waste Dental Amalgam Management Procedures* in relation to Florida's biomedical waste regulation, Chapter 64E-16, Florida Administrative Code (F.A.C.), administered by the Department of Health.

Subsection 64E-16.002(2), F.A.C., includes 'body parts' in the definition of biomedical waste. A body part, such as an extracted tooth in a dental setting, becomes biomedical waste when a dentist determines there is no further use for the tooth and designates it for the solid waste stream. At that point, the tooth falls under Chapter 64E-16, Florida Administrative Code, and must be managed as biomedical waste.

It is the position of the department that if a dentist determines there is further use for an extracted tooth, the tooth is not considered waste and, therefore, not subject to the requirements of Chapter 64E-16, F.A.C. Accordingly when a dentist determines that extracted teeth containing amalgam fillings are designated for reclamation of the mercury component in the amalgam, the teeth are not considered biomedical waste and are not subject to the requirements of Chapter 64E-16, F.A.C.

Your effort to reduce mercury emissions from medical waste incinerators through reclamation of mercury is commendable. Please let me know if this bureau can be of further assistance.

Sincerely,

Eric J. Grimm, Chief
Bureau of Facility Programs

Department of Health
Bureau of Facility Programs
2020 Capital Circle SE, BIN A08
Tallahassee, Florida 32399-1710
Telephone (904)487-0004

CHAPTER 64E-16
FLORIDA ADMINISTRATIVE CODE
BIOMEDICAL WASTE

Effective June 3, 1997

STATE OF FLORIDA
DEPARTMENT OF HEALTH
Bureau of Environmental Health Programs
Chapter 64E-16, Florida Administrative Code
Biomedical Waste

General.	64E-16.001
Definitions.	64E-16.002
Facility Policies and Procedures.	64E-16.003
Storage and Containment	64E-16.004
Labeling.	64E-16.005
Generator Requirements.	64E-16.006
Treatment.	64E-16.007
Transport.	64E-16.008
Registration of Transporters.	64E-16.009
Inspections.	64E-16.010
Permits.	64E-16.011
Fees.	64E-16.012
Enforcement and Penalties.	64E-16.013

64E-16.001 General.

(1) This rule prescribes minimum sanitary practices relating to the management of biomedical waste, including segregation, handling, labeling, storage, transport, and treatment. This rule applies to all facilities that generate, transport, store, or treat biomedical waste to ensure that the waste is properly handled to protect public health. Further, this rule prescribes minimum standards for permitting biomedical waste generators, storage facilities and treatment facilities, and for registering biomedical waste transporters.

(2) This chapter does not apply to biomedical waste incinerators. This chapter does not apply to linen that is to be laundered and re-used. Further, this chapter does not apply to dead bodies that are disposed of by a person licensed under the provisions of Chapter 470, F.S., or to the transport of bodies, parts of bodies, or tissue specimens in furtherance of lawful examination, investigation, or autopsy conducted pursuant to Section 406.11, F.S. Specimens or samples collected for laboratory testing or use in medical research or teaching are not considered biomedical waste until such time as the material is discarded.

(3) The Department. of Health shall regulate the packaging, transport, storage, and treatment of biomedical waste. The Department of Environmental Protection shall regulate biomedical waste incineration and biomedical waste disposal.

(4) Health care providers shall inform their home user clients verbally and in writing of the recommended method for handling biomedical waste generated in the home setting. Health care providers who deliver in-home medical services shall remove or have removed by a registered biomedical waste transporter all biomedical waste generated during the performance of these services.

(5) Home users should segregate and package their biomedical waste in a manner that reduces the chance of exposure to the public.

(6 Inspections, permitting and enforcement of emergency medical services that generate biomedical waste shall be performed by the Bureau of Emergency Medical Services.

Specific Authority 381.006, 381.0098 FS. Law Implemented 381.006, 381.0098, 395.002(13), 395.1011 FS. History-New 6-19-89, Amended 12-14-92, 1-23-94, 6-3-97, Formerly 10D-104.001.

64E-16.002 Definitions.

For the purpose of this chapter, the following words and phrases shall have the meanings indicated:

(1) American Society for Testing Materials, also referred to as ASTM - A technical society with headquarters located at 100 Barr Harbor Drive, West Conshohocken, Pennsylvania, 19428-2959, which publishes national standards for the testing and quality assurance of materials.

(2) Biomedical waste - Any solid or liquid waste which may present a threat of infection to humans, including nonliquid tissue, body parts, blood, blood products, and body fluids from humans and other primates; laboratory and veterinary wastes which contain human disease-causing agents; and discarded sharps. The following are also included:

(a) Used, absorbent materials saturated with blood, blood products, body fluids, or excretions or secretions contaminated with visible blood; and absorbent materials saturated with blood or blood products that have dried.

(b) Non-absorbent, disposable devices that have been contaminated with blood, body fluids or, secretions or excretions visibly contaminated with blood, but have not been treated by an approved method.

(3) Biomedical waste generator - A facility or person that produces biomedical waste. The term includes hospitals, skilled nursing or convalescent hospitals, intermediate care facilities, clinics, dialysis clinics, dental offices, health maintenance organizations, surgical clinics, medical buildings, physicians' offices, laboratories, veterinary clinics and funeral homes.

(a) Mobile health care units, such as bloodmobiles, that are part of a stationary biomedical waste generator, are not considered individual biomedical waste generators.

(b) Funeral homes that do not practice embalming are not considered biomedical waste generators.

(4) Body fluids - Those fluids which have

the potential to harbor pathogens, such as human immunodeficiency virus and hepatitis B virus and include blood, blood products, lymph, semen, vaginal secretions, cerebrospinal, synovial, pleural, peritoneal, pericardial and amniotic fluids. In instances where identification of the fluid cannot be made, it shall be considered to be a regulated body fluid. Body excretions such as feces and secretions such as nasal discharges, saliva, sputum, sweat, tears, urine, and vomitus shall not be considered biomedical waste unless visibly contaminated with blood.

(5) Contaminated - Soiled by any biomedical waste.

(6) Decontamination - The process of removing pathogenic microorganisms from objects or surfaces, thereby rendering them safe for handling.

(7) Department - The Department of Health or its representative county health department.

(8) Disinfection - A process which results in a minimum Log 6 kill against the vegetative organisms listed in Table 1, and a minimum Log 4 kill against *Bacillus Stearothermophilus* spores utilizing steam or a minimum Log 4 kill against *Bacillus Subtilis* spores utilizing dry heat, chemicals, or microwave shredding.

(9) Facility - All contiguous land, structures, and other appurtenances which are owned, operated, and licensed as a single entity which may consist of several generating, treatment, or storage units.

(10) Hazardous waste - Those materials defined in Chapter 62-730, F.A.C.

(11) Health Care Provider - Any person who provides medical care or personal services,as that term is defined in section 400.402, F.S., to another individual.

(12) Home User - An individual who generates biomedical waste as a result of self-care or care by a family member or other non health care provider.

(13) Leak resistant - Prevents liquid from escaping to the environment in the upright position.

(14) Outer container - Any rigid type container used to enclose packages of biomedical waste.

(15) Packages - Any material that completely envelops biomedical waste. This includes red bags, sharps containers and outer containers.

(16) Person - Any individual, partnership, corporation, association, or public body engaged in the generation, storage, transport, or treatment of biomedical waste.

(17) Point of origin - The room or area where the biomedical waste is generated.

(18) Public sharps collection program - A cooperative program designed as a non-profit community service to assist the home user in the safe disposal of discarded sharps.

(19) Puncture resistant - Able to withstand punctures from contained sharps during normal usage and handling.

(20) Restricted - The use of any measure, such as a lock, sign, or location, to prevent unauthorized entry.

(21) Saturated - Soaked to capacity.

(22) Sealed - Free from openings that allow the passage of liquids.

(23) Sharps - Objects capable of puncturing, lacerating, or otherwise penetrating the skin.

(24) Sharps container - A rigid, leak and puncture resistant container, designed primarily for the containment of sharps, clearly labeled with the phrase and international biological hazard symbol as described in section 64E-16.004(2)(a), F.A.C., and manufactured with dyes meeting the requirements for incidental metals as described in section 64E-16.004(2)(b)1.b.,F.A.C.

(25) Sterilization - A process which results in a minimum Log 6 kill against *Bacillus Stearothermophilus* spores utilizing steam or a minimum Log 6 kill against *Bacillus Subtilis* spores utilizing dry heat, chemicals, or microwave shredding.

(26) Storage -The holding of packaged biomedical waste for a period longer than three days at a facility or in a transport vehicle.

(27) Transfer - The movement of biomedical waste within a facility.

(28) Transport - The movement of biomedical waste away from a facility.

(29) Transport vehicle - A motor vehicle, as defined in Section 320.01 F.S., a rail car, watercraft or aircraft, used for the transportation of biomedical waste.

(30) Treatment - Any process, including steam, chemicals, microwave shredding, or incineration, which changes the character or composition of biomedical waste to render it noninfectious by disinfection or sterilization.

Specific Authority 381.006, 381.0098 FS. Law Implemented 381.006, 381.0098, 395.002(13), 395.1011 FS. History-New 6-19-89, Amended 4-2-90, 12-14-92, 1-23-94, 8-20-95, 6-3-97, Formerly 10D-104.002.

64E-16.003 Facility Policies and Procedures.

(1) All biomedical waste facilities shall comply with the following:

(a) Biomedical waste mixed with hazardous waste, as defined in Chapter 62-730, F.A.C., Hazardous Waste, shall be managed as hazardous waste.

(b) Biomedical waste mixed with

Appendix 2:
Supporting Documents from
the United States Department of Labor
Occuptional Safety and Health Administration

An Appendix to the

Florida Department of Environmental Protection

Recommended

Scrap Dental Amalgam

Management Procedures

December 1, 2000 Draft

U.S. Department of Labor

Occupational Safety and Health Administration
61 Forsyth Street SW
Atlanta, Georgia 30303

JUL 27 2000

Raoul ~~Clarke~~ RC, Administrator
Hazardous Waste Management Section
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED
AUG 02 2000
HAZARDOUS WASTE

Dear Mr. Clarke:

This is in response to your letter and attachments dated June 30, 2000, requesting a review of your department guidelines for the management of scrap dental amalgam.

Generally, OSHA does not review documents such as your guidelines you have developed. However, we will provide comments to assist you in your review of the document. OSHA cannot endorse the document, or make any statement that in any way presumes that following the guidelines would result in compliance with OSHA rules and regulations. The final determination of compliance must take into account all factors pertaining to potential hazards at a particular worksite with observation of employee work practices and all conditions in the workplace with respect to all requirements of applicable regulations.

The following comments are provided:

1. Extracted teeth, either with or without amalgam, are considered "sharps" and must be deposited in a container designed in accordance with paragraph 1910.1030(d)(4)(iii)(B) - *Other Regulated Waste Containment*, unless the extracted teeth are decontaminated. *Note: extracted teeth may be given to patients. In these situations, the teeth are not subject to the containerization and labeling provisions of the standard.*

2. The "sharps" container must be easily accessible to personnel and located as close as feasible to the immediate work area .

3. Decontamination can be achieved by using 1) 5.25% bleach/water solution mixed at between a 1-to-10 to a 1-to-100 ratio (bleach to water); 2) EPA-registered sterilants (List A), tuberculcides (list B), or products registered against HIV/HBV (List D); or 3) autoclaving lists A, B, and D can be obtained from the National Antimicrobial Information Network at (800)447-6349 or its web site at http://ace.orst/edu/info/nain/lists.htm.

4. Employers who have employees that work with amalgam containing mercury (and other hazardous chemicals) must follow the requirements of OSHA's *Hazard Communication* standard, 29 CFR 1910.1200 (copy enclosed). The standard requires a written program covering labeling, material safety data sheets, and training.

5. OSHA's *Hazardous Waste Operations and Emergency Response*, 29 CFR 910.120, standard may be applicable where there have been "spills" of amalgam containing mercury. Please see the enclosed standard for the specific requirements.

If you have any questions, please contact Benjamin Ross at (404)562-2300.

Sincerely,

CINDY A. COE
Regional Administrator

Contaminated Sharps Discarding and Containment

29 CFR 1910.1030(d)(4)(iii)(B) and (g)(1)(I)

(downloaded by J.L. Price 10/12/00 and 10/16/00from http://frwebgate.access.gpo.gov/cgi-bin/get-cfr.cgi)

Sec. **1910.1030 Bloodborne pathogens.**

(a) Scope and Application. This section applies to all occupational exposure to blood or other potentially infectious materials as defined by paragraph (b) of this section.

(b) Definitions.

. . .

(c) Exposure control

. . .

(d) Methods of compliance—

(1) General.

(2) Engineering and work practice controls.

. . .

(3) Personal protective equipment

. . .

(4) Housekeeping—

(i) General.

. . .

(ii) All equipment and environmental and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.

. . .

(iii) Regulated Waste—

(A) Contaminated Sharps Discarding and Containment.

(1) Contaminated sharps shall be discarded immediately or as soon as feasible in containers that are:

(i) Closable;

(ii) Puncture resistant;

(iii) Leakproof on sides and bottom; and

(iv) Labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard.

(2) During use, containers for contaminated sharps shall be:

(i) Easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found (e.g., laundries);

(ii) Maintained upright throughout use; and (iii) Replaced routinely and not be allowed to overfill.

(3) When moving containers of contaminated sharps from the area of use, the containers shall be:

(B) Labels required by this section shall include the following legend:
[GRAPHIC] [TIFF OMITTED]

[J.L. Price, DEP, editorial note 10/16/00: Same symbol and wording as specified in 64E-16.004(2)(b), F.A.C., i.e., international biological hazard symbol and "Biohazardous Waste" – Florida also allows use of "Biomedical Waste", "Biohazard" or "Infectious Substance"]

(C) These labels shall be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color.
(D) Labels shall be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.
(E) Red bags or red containers may be substituted for labels.
(F) Containers of blood, blood components, or blood products that are labeled as to their contents and have been released for transfusion or other clinical use are exempted from the labeling requirements of paragraph (g).
(G) Individual containers of blood or other potentially infectious materials that are placed in a labeled container during storage, transport, shipment or disposal are exempted from the labeling requirement.
(H) Labels required for contaminated equipment shall be in accordance with this paragraph and shall also state which portions of the equipment remain contaminated.
(I) Regulated waste that has been decontaminated need not be labeled or color-coded.

. . .
(h) Recordkeeping

Hgdental\19101030.doc

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

June 30, 2000

Mr. Benjamin Ross, ARA/TS
USDOL-OSHA
Sam Nunn Atlanta Federal Center
61 Forsyth St., SW
Room 6T50
Atlanta, GA 30303

Re: Florida Management Guidelines for Scrap Dental Amalgam

Dear Mr. Ross:

On March 8, 1999 (copy of email enclosed) Mr. Sven Rundman provided us with some guidance on the OSHA requirements for managing extracted teeth that contain dental amalgam, especially the sharps and decontamination issues. We incorporated Mr. Rundman's guidance into our Scrap Dental Amalgam Management Procedures. We are nearing finalization of our procedures for managing scrap dental amalgam, including that in extracted teeth. I have enclosed our most recent flow chart and explanation. When final, these procedures will be disseminated to Florida dentists via the Florida Dental Association. Our intent is to provide procedures that meet all applicable environmental, health, occupational safety and transportation regulations so that the dentists know they are complying with the regulations of all of the various agencies that regulate the management of these materials.

Please confirm Mr. Rundman's March 8, 1999 interpretation that these procedures for scrap dental amalgam management comply with OSHA regulations, particularly, how the extracted teeth as "sharps" issue is handled. In summary, extracted teeth containing amalgam are deposited into a "sharps type" container at the operatory immediately after extraction (to avoid carrying sharps to a container located elsewhere) and then subsequently decontaminated using a 1:100 bleach solution. As we understand it, at this point the extracted teeth containing amalgam have complied with OSHA regulations.

We would appreciate such confirmation at your earliest convenience. Please advise us of any other applicable OSHA regulations that we may need to address in finalizing these procedures. If you have any questions, please contact Mr. Jack Price at 850-921-9218 or john.l.price@dep.state.fl.us.

Sincerely,

Raoul Clarke

Raoul Clarke, Administrator
Hazardous Waste Management Section

LRC/jp

Enclosures

INTEROFFICE MEMORANDUM

Date: 23-Jun-2000 04:26pm
From: John L. Price TAL
PRICE_JL
Dept: Waste Management
Tel No: 850/488-0300

To: Sven Rundman (rundman-sven@dol.gov)
CC: Irene Gleason TAL (GLEASON_I)
CC: Raoul Clarke TAL (CLARKE_R)

Subject: Florida management practices for extracted teeth containing amalgam: OSHA regulations

Dear Mr. Rundman:

On March 8, 1999 (email attached) you provided us with some guidance on the OSHA requirements for managing extracted teeth that contain dental amalgam, especially the sharps and decontamination issues. We are nearing finalization of our overall guidelines for managing scrap dental amalgam, including that in extracted teeth. I have attached our most recent flow chart and explanation (first as 2 .pdf files; also as 2 .doc Word97 files). When final, these guidelines will be disseminated to Florida dentists via the Florida Dental Assn. Our intent is to provide guidelines that meet all environmental, health, occupational safety and transportation regulations so that the dentists know they are doing the right thing for all the various agencies that regulate them on these materials.

Please provide confirmation that OSHA is OK with these guidelines for amalgam management, particularly, how the "sharps" issue is handled, i.e., by depositing them into a "sharps type" container at the operatory (to avoid carrying sharps to a container located elsewhere) and subsequent decontamination using a 1:100 bleach solution.

We would appreciate such confirmation at your earliest convenience. If you have any questions, please contact me 8:30-5:30 M-F or via email.

Thank you.

~~~~~~~~~~~~~~~~~~~~~~

John L. (Jack) Price
Environmental Manager
Hazardous Waste Management
Florida Department of Environmental Protection
Phone/Direct/Voice Mail: (850) 921-9218
Phone/Switchboard: (850) 488-0300
Fax: (850) 414-0414
Email: john.l.price@dep.state.fl.us
Web: www.dep.state.fl.us
Mailing Address:
Jack Price MS 4555
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400
~~~~~~~~~~~~~~~~~~~~~~

INTEROFFICE MEMORANDUM

Date: 08-Mar-1999 10:11am
From: Rundman Sven
rundman-sven@dol.gov@PMDF@EPIC66
Dept:
Tel No:

Subject: Re: Extracted teeth as "sharps"

You asked:

> It would be helpful to us if you could answer these 2 questions:
> 1. Are we accurate in our understanding of OSHA's position on the
> handling of
> extracted teeth?
> 2. Is there a decontamination protocol which OSHA (or NIOSH or CDC) can
> specify by which
> extracted teeth can be "appropriately decontaminated" and hence not need
> to be
> handled with universal precautions, i.e., as "sharps"? Such a
> decontamination
> protocol would allow dentists to send extracted teeth with amalgam
> fillings to
> mercury reclamation facilities rather than to medical waste incinerators
> which
> tend to have no effective mercury emissions controls.
>
>
>
Answers:

1. Yes, extracted teeth are considered sharps and must be handled as regulated waste and disposed of in a sharps-type container.

2. Extracted teeth can be decontaminated by either placing the teeth in a 1-to-100 ratio bleach solution, immersing the teeth in an appropriate Tuberculocidal/HIV efficacy solution or autoclaving.

I hope this information helps. If you have any further questions, please contact me at (404)562-2281.

INTEROFFICE MEMORANDUM

Date: 10-Mar-1999 05:02pm
From: Graham Nicol
gnicol@floridadental.org@PMDF@EPIC66
Dept:
Tel No:

To: John (Jack) L. Price TAL 850/488-03 (PRICE_JL@A1@DER)

Subject: Re: Extracted teeth as "sharps"

Jack,
Got your e-mail. I'm looking into it. I will get back with you.

Graham

NOTE!
TEXT OF ORIGINAL INQUIRY TO SVEN RUNDMAN FROM J.L. PRICE

At 11:39 AM 3/4/99 -0500, you wrote:
>X400-MTS-identifier: [;11931140309991/3325910@DER]
>A1-type: MAIL
>Hop-count: 2
>
> The Florida Department of Environmental Protection is currently
>developing mercury waste management practices for dentists in
>cooperation with the Florida Dental Association (FDA)and our own
Department of
>Health (which regulates biomedical waste management). Among other things,
>these management practices will specify the proper management of extracted
>teeth which contain mercury amalgam fillings. Our preference is for these
>teeth to be sent (along with amalgam scrap from removal and placement of
>amalgam fillings) to companies which can reclaim the mercury from the
teeth and
>amalgam scrap, which are hazardous wastes due to the mercury they contain,
>rather than being "redbagged" as biomedical waste and sent to
>medical waste incinerators as is currently common practice in Florida.
The FDA
>favors the reclamation approach but is concerned that OSHA regulations may
>require "redbagging" of extracted teeth with amalgam fillings as "sharps"
under
>the Bloodborne Pathogen standard.
> As we understand OSHA's position and as we have been advised by the
>Florida Dental Association, extracted teeth must be managed as "sharps" under
>OSHA regulations. In a letter to Clarke Johnson, DDS on May 12, 1992 on the
>subject of "Bloodborne pathogen standard as it relates to extracted teeth"
for
>use by dental students, OSHA stated that such teeth "must be handled with
>universal precautions" and "are subject to the containerization and labeling
>requirements of the standard unless they are appropriately
decontaminated." In
>that same letter, OSHA stated that it "has requested the assistance of the
>National Institute for Occupational Safety and Health and The Centers for

>Disease Control in determining the proper means of decontaminating teeth so
>that they may be used for study without having to resort to these
>containerization and labeling requirements." OSHA further stated that the
>NIOSH and CDC recommendations would be provided by OSHA when they are
received
>from NIOSH and/or CDC.
> It would be helpful to us if you could answer these 2 questions:
>1. Are we accurate in our understanding of OSHA's position on the
handling of
>extracted teeth?
>2. Is there a decontamination protocol which OSHA (or NIOSH or CDC) can
>specify by which
>extracted teeth can be "appropriately decontaminated" and hence not need
to be
>handled with universal precautions, i.e., as "sharps"? Such a
decontamination
>protocol would allow dentists to send extracted teeth with amalgam
fillings to
>mercury reclamation facilities rather than to medical waste incinerators
which
>tend to have no effective mercury emissions controls.
> Thank you for your help.
>John L. (Jack) Price
>Environmental Specialist
>Florida Department of Environmental Protection
>Hazardous Waste Management
>Phone/Direct/Voice Mail: (850) 487-4666
>Phone/Switchboard: (850) 488-0300
>Fax: (850) 414-0414
>Email: price_jl@dep.state.fl.us
>Mailing Address:
>Jack Price MS 4555
>Florida Department of Environmental Protection
>2600 Blair Stone Road
>Tallahassee, FL 32399-2400
>

Appendix 3:
Supporting Documents from
the United States Department of Transportation

An Appendix to the

Florida Department of Environmental Protection

Recommended
Scrap Dental Amalgam
Management Procedures

December 1, 2000 Draft

U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

SEP 21 2000

Ms. Irene Gleason
Hazardous Waste Management Section
Florida Department of Environmental Protection
Two Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Ref. No. 00-0199

Dear Ms. Gleason:

This is in response to your letter dated July 17, 2000, requesting clarification on shipping scrap dental amalgam under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you ask whether scrap amalgam is regulated under the HMR.

According to your letter and attached "Scrap Dental Amalgam Management Procedures," dental amalgam, usually a mix of 50% mercury with the remainder being silver and small amounts of tin, copper, and other metals, is used for filling cavities in teeth. The scrap amalgam is decontaminated with 1:100 bleach before being sent for reclamation to various facilities.

Under § 173.22, it is the shipper's responsibility to properly classify and describe a hazardous material. This office does not normally perform that function. However, based on the information provided in your letter, it is the opinion of this Office that since the waste amalgam is decontaminated before shipping for reclamation, it does not meet the defining criteria for a Division 6.2 infectious substance or regulated medical waste. However, if the quantity of mercury in one package meets or exceeds the reportable quantity specified in the HMR, it would be regulated as a Class 9 environmentally hazardous substance when shipped to the reclamation facility.

I hope this answers your inquiry.

Sincerely,

Delmer F. Billings
Chief, Standards Development
Office of Hazardous Materials Standards

DOT PACKAGING STANDARDS

The DOT established specific criteria for packaging of hazardous materials, including hazardous waste. From the new DOT descriptions you probably noticed a "PG I", "PG II", or "PG III" as part of the shipping description. These are packing group designations for shipping hazardous materials.

The more hazardous the material the more restrictive the packaging requirements will be.

Packing Group I	**PG I**	**Great Danger/Hazard**
Packing Group II	**PG II**	**Medium Danger/Hazard**
Packing Group III	**PG III**	**Minor Danger/Hazard**

The basis for determining the acceptability of a package for a particular packing group is its performance based on a series of tests. These performance tests may include:

drop test,

leakproofness test,

hydrostatic pressure test,

stacking test, and

vibration tests.

The letters identifying the performance standards are: "X", "Y", or "Z".

"X" is for packagings meeting Packing Group I, II, or III tests

"Y" is for packagings meeting Packing Group II or III tests

"Z" is for packagings meeting only Packing Group III tests

Container Specification Markings

New HM-181 standards require UN packagings to have their performance specifications (or rating) printed on the outside of the container. Any steel drum, 30 gallons or greater in size, manufactured after October 1, 1996, must have the container markings on the side of the drum. Container specification markings for UN performance will indicate:

- **Container Type**

- **Packaging Standard**
- **Specific Gravity Standard (which is 1.2 unless otherwise specified)**
- **Hydrostatic Pressure Standard**
- **Year of Manufacture**
- **Country/State Authorizing Container Marking**
- **Name/Address or Symbol of Manufacturer or Approving Agency**
- **Minimum Thickness for Re-Use (if the container is designed for re-use)**

(The following example can be written on a greaseboard, flipchart or overhead)
EXAMPLE: **UN1A1/Y1.2/150/91/USA/GSI 1234**

Shows what it has been testing

Container Type

In the example above, the **container type** "1A1" indicates it is a steel drum with closed head.

CONTAINER TYPE /MATERIAL-CATEGORY TABLE

Type	Material	Category
1 Drums **2** Barrels **3** Jerricans **4** Boxes **5** Bags **6** Composite Packaging	**A** Steel **B** Aluminum **C** Natural Wood **D** Plywood **F** Reconstituted Wood **G** Fiberboard **H** Plastic **L** Textile **M** Paper, Multi-wall **N** Metal other than steel or aluminum **P** Glass or Porcelain or Stoneware	A,B, or H Drums-Jerricans **1** Closed Head **2** Open Head A or B Boxes **1** Ordinary **A** or **B** **2** **A** or **B** w/inner liner C Boxes **1** Ordinary **2** w/sift proof walls H Boxes **1** Expanded Plastic **2** Solid Plastic L Bags **2** Sift proof **3** Water Resistant M Bags **2** Multi-wall, water resistant

POTENTIAL HAZARDS

HEALTH

- Inhalation of vapors or contact with substance will result in contamination and potential harmful effects.
- Fire will produce irritating, corrosive and/or toxic gases.

FIRE OR EXPLOSION

- Non-combustible, substance itself does not burn but may react upon heating to produce corrosive and/or toxic fumes.
- Runoff may pollute waterways.

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 10 to 25 meters (30 to 80 feet) in all directions.
- Stay upwind.
- Keep unauthorized personnel away.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When any large container is involved in a fire, consider initial evacuation for 500 meters (1/3 mile) in all directions.

EMERGENCY RESPONSE

FIRE

- Use extinguishing agent suitable for type of surrounding fire.
- **Do not direct water at the heated metal.**

SPILL OR LEAK

- Do not touch or walk through spilled material.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Do not use steel or aluminum tools or equipment.
- Cover with earth, sand, or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
- For mercury, use a mercury spill kit.
- Mercury spill areas may be subsequently treated with calcium sulphide/calcium sulfide or with sodium thiosulphate/sodium thiosulfate wash to neutralize any residual mercury.

FIRST AID

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Apply artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

CAPTAIN KEN CARR
HAZARDOUS MATERIALS ENFORCEMENT
MOTOR CARRIER COMPLIANCE OFFICE

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
MIRACLE PLAZA
1815 THOMASVILLE ROAD
TALLAHASSEE, FL 32303-5750

TELEPHONE: (850) 488-7920
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Appendix 4:
Dental Amalgam Recyclers

An Appendix to the

Florida Department of Environmental Protection

Recommended

Scrap Dental Amalgam

Management Procedures

December 1, 2000 Draft

DENTAL AMALGAM RECYCLERS LIST

Solely as a service to the public and businesses, the Florida Department of Environmental Protection (DEP) maintains the following list of companies that have been reviewed by the DEP. These dental amalgam recycling facilities separate the metal-containing components from the organic material so the mercury and silver can be reclaimed. Metals reclamation facilities reclaim commercial grade mercury and silver from dental amalgam. The information was obtained from the DEP's permitting files, other states' environmental agencies, or voluntarily supplied by the companies and is not necessarily a complete list of available services. A company's absence from the list does not imply prejudice or impropriety. The DEP does not endorse specific equipment or companies. The DEP, by providing this list, does not imply that the companies are in compliance with applicable laws. Users of this list are responsible for ensuring that products, equipment, or services comply with the requirements of local, state, and federal law. The DEP cautions users to personally evaluate the services and compliance status of any company they use. The list is updated periodically and subject to change without notice. The DEP welcomes information from other companies who wish to have their services or stewardship programs listed.

Bethlehem Apparatus Co.
Eve Lawrence, Amalgam Program Contact
890 Front Street
P.O. Box Y
Hellertown, PA 18055
(610) 838-7034
FAX (610) 838-6333
www.bethlehemapparatus.com

***Mercury Technologies Intl. (MTI)**
Laurie Chase, Account Representative
4317-L Fortune Place
West Melbourne, FL 32904
1-800-808-4684
(407) 952-1516
FAX (407) 952-1060
www.aerc-mti.com

Mercury Waste Solutions
Customer Service
21211 Durand Ave.
Union Grove, WI 53182-9711
1-800-741-3343
(414) 878-2599
FAX (414) 878-2699
www.mwsi.com

***Superior Special Services (Tallahassee)**
Customer Service
4972 Woodville Highway
Tallahassee, FL 32311
1-800-376-7888
(850) 878-2259
FAX (850) 878-3349
www.recyclights.com

* Florida Permitted Mercury Recovery and Reclamation Facility

Revised October 2000

Auditing Dental Amalgam Recyclers Report

Irene Gleason
October 4, 2000

OVERVIEW

From May to August of 2000, Florida Department of Environmental Protection (Department) invited dental amalgam recyclers to participate in an audit conducted for the Florida Dental Association (FDA). Of the eight companies contacted, four provided all the necessary information showing their ability to properly handle and recycle scrap dental amalgam. Those four are on the Dental Amalgam Recyclers List.

AUDIT

The audit consists of three parts. First, the Department asks companies their ability to accept the scrap dental amalgam as described in the Scrap Dental Amalgam Management Procedures. The procedures suggest all scrap amalgam be placed in one container with a one to one hundred parts bleach disinfectant. Six of the eight companies can accept the scrap amalgam in the proposed form. Amalgaway is unable to accept amalgam in bleach but offers to work with FDA to find a solution. Metasys will not accept dental amalgam from the United States until October of 2000. For these reasons the two companies are not included on The Dental Amalgam Recyclers List.

During the second part of the audit, the Department compiles information about a company's services, operations, and handling procedures. Of the eight companies, Bethlehem Apparatus and Metasys offer turnkey services; they handle scrap amalgam from the point of generation, the dentist, to the point of mercury recovery. MTI offers turnkey services that include some treatment, but sends the separated, untreated metal sludge to Mercury Waste Solutions. Mercury Waste Solutions and Superior Special Services would like to work with FDA to offer turnkey services by providing dentists with a dental amalgam collection kit. The remaining three companies, Amalgaway, DRNA, and Mercury Refinery, provide dental amalgam collection kits and consolidation services but contract with some of the companies above to provide the scrap amalgam recycling. Further information is given in the Auditing Dental Amalgam Recyclers spreadsheet.

Reviewing regulatory compliance information is the last stage of the audit. Companies voluntarily submit a variety of regulatory information ranging from permits and insurance to procedures and plans. Unfortunately DRNA and Mercury Refinery did not provide any information, therefore they are not listed on The Dental Amalgam Recyclers List. The companies that do submit information are also reviewed through their state environmental agencies. Metasys and Amalgaway state environmental state agencies were not contacted because these companies are not taking the proposed form of scrap dental amalgam at this time. Superior Special Services and MTI have Florida facilities inspected periodically by the Department for compliance with applicable environmental regulations. MTI's facility in Pennsylvania (PA) is used for dental amalgam recycling and is under limited operating status because of a March 2000 explosion. The PA state environmental agency did confirm that the facility is in compliance with applicable environmental regulations. The PA state environmental agency also reported that Bethlehem had some odor complaints a few years back and installed new equipment to handle the problem. There have been no problems since and they are in compliance with applicable environmental regulations. Finally Mercury Waste Solutions recently settled a case involving two fires and an explosion in 1998 and 1999. But currently they are complying with applicable environmental regulations according to Wisconsin's state environmental agency.

OTHER

Several of the companies involved in the audit process offered shipping information and approximate price quotations. This information is subject to change without notice. The Department suggests FDA contact companies before distributing this information.