Ohio | Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

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February 7, 2012

Ms. Sharon Christ
Pediatric Dentistry South
3924 Marshall Road
Kettering, OH 45429

OHRØØØ1646835

RE: NOV PEDIATRIC DENTISTRY SOUTH

Dear Ms. Christ:

Thank you for the courtesies you extended during my January 23 complaint investigation. I was investigating an anonymous complaint originally phoned into the office of Public Health Dayton-Montgomery County. The complaint alleged that your office was pouring chemical solutions used in the processing of dental x-ray film directly into the sewer. The office was closed during my first visit on Friday and I made an appointment with you on Monday, January 23 to meet with later that day. As part of my investigation I performed a hazardous waste inspection. The purpose of the inspection was to determine your compliance with Ohio's hazardous waste laws as found in Chapter 3734. of the Ohio Revised Code (ORC) and Chapter 3745. of the Ohio Administrative Code (OAC). The following summarizes what I learned.

Pediatric Dentistry South has not converted to a digital x-ray system and you do in fact process x-ray film using the traditional wet chemistry developer/fixer methods. You admitted to pouring your liquids straight down the drain. You are apparently aware that there are better ways to dispose of photographic chemicals as you told me you had a Porter Silver Recovery System on back-order. We both agreed that it would be best if you would accumulate your developing solutions instead of sewering them until you implement a longer-term solution.

You were able to show me a small cardboard box in the 'Dental Hygienists Room' that is used to store empty lead foil wrappers from x-ray film. When Jim Cretecher phoned me the next day he said that he had recycled lead foil 7 or 8 years ago at the Montgomery South Transfer Facility as house hold hazardous waste, but he doesn't recall recycling lead more recently.

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You told me that the office uses mostly composite dental fillings but the traditional mercury amalgam fillings are sometimes used. We looked at a small container in an examining room where amalgam residuals were stored under water. The container was no larger than several cups and it was covered with a glass plate. There was only a very small amount of amalgam waste-about enough to fit in the palm of your hand.

Jim Cretcher told me he performs general maintenance including monthly servicing of the vacuum system. He does not remember ever managing dental amalgam waste and he did not mention whether his servicing of the vacuum system included the emptying of traps designed to prevent amalgam traces from entering the sewer. Mr. Cretcher told me the office was seven years old and that Schein Dental Supply designed the vacuum system.

I found the following violation of the Ohio Revised Code:

Hazardous Waste Determination: **OAC 3745-52-11** requires that all persons who generate a waste determine if that waste is hazardous. Please be aware that this is a requirement everyone who generates waste regardless of the quantity.

You admitted that you have been sewering your x-ray film processing chemicals. You have been accumulating lead foil and amalgam scraps but I was not able to determine what has been happening to those materials. The x-ray developer/fixer solutions may be regulated as hazardous waste (D011) because of the silver content; the waste amalgam may be hazardous because of the mercury content (D009); discarded lead film wrappers may be classified as D008 wastes.

To be returned to compliance, you should devise and implement a plan to determine whether your wastes are hazardous. The plan should include determining how to take a representative sample of the different wastes. You will also need to choose an analytical laboratory that is capable of reliably performing the required testing.

Alternately, you should choose best management practices for the three types of wastes as described below. Note that all these practices include recycling toxic metals.

In either case, you should continue to collect your developing solutions until you have a permanent strategy in place and of course don't discard any amalgam or scrap lead in your trash.

After a month, I will schedule a 'return to compliance' inspection to evaluate your progress.

A brief summary of management practices follows.

X-ray film developing chemicals

Photographic chemicals should not be poured down the drain unless they are properly treated. I have already provided you with information on two types of products-an in-line cartridge that treats photographic chemicals and a disposable silver-fixing container. The cartridge system is preferable from an environmental stand point because the silver can be recovered and recycled.

Be sure to carefully follow the instructions for whichever product you choose.

Lead foil and lead aprons

Lead is a material of commerce and has value on the scrap metal market. Look up scrap dealers in the Yellow Pages. Since the lead is recycled, you do not need to register as a waste generator and in the small amounts you will be transporting, you do not have any transportation requirements to follow. You can also recycle lead shields and aprons at a scrap metal recycler. The scrap dealer will pay you a nominal amount based on the weight of lead.

Amalgam and associated waste

Continue to store amalgam scraps under water in a sealed container. Schein or other dental supply companies provide pre-paid shipping containers for scrap amalgam, extracted teeth (with amalgam fillings), the individual amalgam containers, mixing sticks and similar one-time use amalgam accessories. The vendor ultimately delivers the amalgam to a recycler. Be sure to carefully follow all the directions.

I should mention that my inspection was limited to the hazardous waste issues discussed in this letter. I did not evaluate Pediatric Dentistry South for sharps management, infectious waste management or for any matters relating to the practice of dentistry.

Thank you for your cooperation. I have e-mailed you web links that provide additional information. Please contact me at (937) 285-6090 if you have any questions or if I can assist you in any way.

Sincerely,

Tom Ontko
Hazardous Waste Inspector
Southwest District Office

Enclosures CESQG checklist
October 1996 Small Business Resource article re: CESQG rules

cc: DHWM Data Entry
Dorothy Sorrell
Montgomery County Department of Environmental Services
Water Reclamation Division
Clyde Collins, PH-D&MC

TO/ca

NOTICE:
Ohio EPA's failure to list specific deficiencies or violations in this letter does not relieve your company from having to comply with all applicable regulations.

Waste Management Issues

An Orphan Chemical Recycling Program

Remember the old phrase "what is trash to one person is a treasure to another?" This could be the motto of Bowling Green State University's (BGSU) Orphan Chemical Recycling Program. The program was set up in 1991 through the Department of Environmental Health and Safety to help the university reduce the generation of laboratory wastes. Recognizing that it was common for lab chemicals to remain on shelves, under hoods and in other storage areas, the program focused on identifying and transferring these unwanted but still usable ("orphan") chemicals between university departments. Within the first year, about 700 pounds of solid materials and 50 gallons of liquids were transferred between departments for reuse.

In the fall of 1992, BGSU expanded the program to address orphan chemicals at junior high, senior high and technical schools in Wood County. Since 1993, the orphan chemical recycling program has transferred approximately 3,000 pounds of solids and 900 gallons of Liquid. To date, 42 facilities have participated in the program and it is now available to academic and nonacademic facilities, including small businesses. The cost savings associated with reusing chemicals (versus disposal) have been estimated between $265,000 and $350,000.

The program's coordinator helps facilitate the transfer of usable chemicals from the party wanting to get rid of the material to a party interested in using the material. Information that may be requested as part of this process includes:

- chemical identification
- number of containers and/or total quantity of material
- the manufacturer and chemical grade
- status of the containers (i.e. have they been opened or repacked)

A list of available chemicals is compiled and distributed to program participants (with quarterly updates). This List also can be accessed on the intemet at the following URL identification: gopher:/ /gopher.bgsu.edu/ 1/ Departments/ehs. All orphan materials remain at the originating institution/ facility until they are claimed or otherwise managed. The party wishing to obtain the orphan chemical is responsible for initiating the transfer and transportation must meet applicable Department of Transportation (DOT) requirements. A Material Safety Data Sheet (MSDS) is offered to the party receiving the orphan chemical shipment. Once the transaction has taken place, the program coordinator removes the item from the list.

Since opening in March 1996, Ohio EPA's Small Business Assistance Office has received a few calls from small business owners who have purchased property where chemicals have been left on-site. And, in these cases, the office has been successful in referring businesses to BGSU's Orphan Chemical Program, where usable materials have been transferred to other locations for reuse.

The Orphan Chemical Program is NOT a hazardous waste disposal program for small businesses. However, it can be a valuable resource for businesses trying to find alternatives to disposing of chemicals that can be used by another business. If you have an interest in participating in the program or would Like more information, contact Dave Heinlen, safety and health coordinator, Bowling Green State University, at (419) 372-2173.

There is no fee to participate in the Orphan Chemical Program. The BGSU program is one of several waste exchange programs. There are programs available for larger quantities of materials. For additional information and contacts for these programs, contact the SBAO at 1-800-329-7518 or (614) 7288573.9

Ohio CESQG Rules

Conditionally Exempt Small Quantity Generators (CESQGs) are those facilities which generate less than 100 kilograms or 25 gallons of hazardous waste in any calendar month. In Ohio, the rules regulating CESQGs are found in the Ohio Administrative Code (OAC) Rule 3745-51-05. There are two main requirements CESQGs in Ohio must follow. CE!SQGs are required to evaluate any waste they generate to determine whether it is a hazardous waste and they must deliver their hazardous wastes to a permitted hazardous waste treatment, storage, and disposal facility for management. There is no time limit for how long a CESQG may accumulate hazardous waste; however, once a CESQG has accumulated more than 1000 kilograms of hazardous waste or one quart of acutely hazardous waste, the facility is considered a Small Quantity Generator (SQG) and must remove the waste off-site within 180 days. SQG regulations are found in OAC Chapter 374552.

While Ohio's environmental regulations are typically equivalent to U.S. EPA's environmental regulations, CESQG rules are one area where they differ. U.S. EPA's CESQG regulations are found in Title 40 of the Code of Federal Regulations (40 CFR) in Part 261.5. Part 261.5 (f)(3)(iv) and 261.5 (g)(3)(iv). They indicate that it is permis sible for a CESQG to dispose of hazardous waste at a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste. The rules in place in Ohio regulating CESQGs differ, as they do not permit the disposal of hazardous waste in a municipal or industrial solid waste facility. While a CESQG may transport its hazardous waste if they desire, the waste must be disposed of in a permitted hazardous waste facility.

For more information on regulations for CESQGs, contact the Technical Support Unit in the Division of Hazardous Waste Management at (614) 644 2956.

A special thank you to the Division of Hazardous Waste Management for submitting this article.

CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR REQUIREMENTS COMPLETE AND ATTACH A PROCESS, WASTE, P2 SUMMARY SHEET			
CESQG: =100Kg. (Approximately 25-30 gallons) of waste in a calendar month or < 1 Kg. of acutely hazardous waste. SQG: Between 100 and 1,000 Kg. (About 25 to under 300 gallons) of waste in a calendar month. LQG: = 1,000 Kg. (~300 gallons) of waste in a calendar month or =1 Kg. of acutely hazardous waste in a calendar month. *NOTE: To convert from gallons to pounds: Amount in gallons x Specific Gravity x 8.345 = Amounts in pounds.*			
Safety Equipment Used:			
WASTE EVALUATION			
1.	Have all wastes generated at the facility been adequately evaluated? [3745-52-11]		No
GENERATOR CLASSIFICATION			
2.	Does the generator produce <100 kg. of hazardous waste per month? [conditionally exempt small quantity generator ("CESQG")]		Yes
*NOTE: If quantities of hazardous waste accumulated on-site at any one time exceed 1,000 Kg. - or the generator produces between 100 and 1,000 Kg. of hazardous waste per month, it is operating as a Small Quantity Generator ("SQG"). **If so,** complete the Small Quantity Generator Requirements checklist.*			
OFF-SITE SHIPMENT OF HAZARDOUS WASTE			
3.	Does the CESQG ensure delivery of hazardous waste(s) to an off-site permitted TSD? [3734.02(F)] **Not documented**		Not documented
TREATMENT OF HAZARDOUS WASTE			
4.	Does the generator treat hazardous waste in a:		
	a.	Container that meets 3745-66-70 to 3745-66-77?	No
	b.	Tank that meets 3745-66-90 to 3745-66-101 except 3745-66-97(C)?	No
	c.	Drip pads that meet 3745-69-40 to 3745-69-45?	No
	d.	Containment building that meets 3745-256-100 to 3745-256-102?	No
NOTE: Complete appropriate checklist for each unit.			
NOTE: If the CESQG conducts treatment they are subject to the LQG requirements.			
NOTE: If waste is treated to meet LDRs, use LDR checklist.			
MIX HAZARDOUS WASTE WITH USED OIL			
5.	Does the CESQG mix its hazardous waste with used oil for the purpose of burning for energy recovery? [3745-51-05(J)] If so:		No
	a.	Does the CESQG manage the mixture in accordance with 3745-279-21?	N/A

Pediatric Dentistry South still processes its own x-ray film. They use mostly composite dental fillings but occasionally they use the mercury amalgam fillings.
PDS was not able to give a satisfactory answer to the management practices for waste dental amalgam or lead foil from the storage of dental x-ray film. They admit to sewering developer, fixer and rinse solutions.
BMP for silver-containing photographic solutions is an in-line cartridge which can be returned to the vendor for recycling. These are readily available from dental supply companies.
BMP for scrap amalgam is to collect the pieces and mail them to a recycler. Vendors sell returnable containers for the accumulation and shipping of dental amalgam.
The use of an in-line trap at the front end of the vacuum system prevents scraps of amalgam, traces of fillings broken during tooth extractions, etc. from being discharged to the sewer system. It is not clear whether this is considered a BMP or whether this is required to be implemented by dental procices who use mostly composite fillings.