

MINUTES  
ENVIRONMENTAL POLICY ADVISORY COMMITTEE  
AUGUST 1, 2019

A meeting of the Environmental Policy Advisory Committee (EPAC) was convened on Thursday, August 1, 2019, at 5:15 p.m., in the Pueblo County Department of Planning and Development Conference Room, 229 West 12th Street. Chair Lopez called the meeting to order at 5:21 p.m.

ROLL CALL

Those members present were:

Andrea Crockenberg  
Sherie Caffey  
Gail Conners  
Becky Cortese

Jim Sharp  
Nancy Keller  
Ted Lopez

Members absent: Alicia Solis\* (\*excused).

Staff present: Sandra Smith and Monica Grosso, EPAC Recording Secretaries.

Chair Lopez asked those present to introduce themselves.

APPROVAL OF THE AUGUST 1, 2019 EPAC AGENDA

Chair Lopez stated there were no changes to the August 1, 2019 agenda. No action was taken.

APPROVAL OF MINUTES FROM THE JUNE 6, 2019 MEETING

Ms. Conners moved to approve the minutes from the June 6, 2019 meeting as mailed. Ms. Keller seconded the motion. The motion carried unanimously.

CHAIR'S REPORT - TED LOPEZ, CHAIR

Chair Lopez asked those present if they recalled Roots Recycling was going out of business at the end of June, that did not happen, and they are not going to go out of business. He visited the establishment near the end of June and spoke with an employee. They stated they had been asked by several people if they were closing and they assured them all that they are still consolidating recyclables. They also stated that they collect the recyclables and then they are marketing it. She said glass goes to Canon City; paper, cardboard and plastic goes to a location in Oregon and the plastics are used to make Trex decking material. She said the market is down, but they are still able to sell what they collect. They are still doing curbside, and they are still collecting drop-offs from RecycleWorks with the City. Chair Lopez stated he asked the employee, from her experience, what she would like, and she replied, a larger facility, and a larger warehouse.

Chair Lopez stated he had heard an National Public Radio report about plastic raining from the sky. The report said they are measuring microplastics in the rainfall, it's everywhere, so plastics really have an impact on the environment that we are not aware of. Several state, cities, and municipalities are thinking of, or have gone forward to banning plastic bags. He stated there was another article about single use plastic containers, or packaging. They are trying to find another use for them or, design them in a different way so that they can be recycled. In another article about coffee shops, it stated around 6 billion coffee cups a year are used for only 5-10 minutes, are thrown out, but that item is very difficult to recycle because there is a plastic or wax

coating on the inside. Making small efforts to get away from single use materials is at least an effort.

Chair Lopez queried about an email that was received regarding Ms. Laura Getts no longer being with Pueblo County and stated she went over to San Isabel Electric. He sent her an email asking her if she was still going to be involved with SPAT (The Sustainability Plan Action Team) and she said that she was and that it was a condition of her employment. He questioned if she is still going to be involved with the EPAC (Environmental Policy Advisory Committee)? Ms. Smith replied she wasn't sure and that she had forwarded her email to Ms. Louella Salazar, PACOG's recording secretary. Ms. Salazar advised that she had consulted with the PACOG attorney and was told Ms. Getts must resign her current position and reapply as a citizen, and as of now she has not gone through that process.

Ms. Conners questioned if the water plan got accepted. Chair Lopez replied that he wasn't sure it has been accepted and that he did ask Ms. Getts what action she had taken on trying to get people to attend that forum. She said she was working on it trying to contact people. Ms. Conners acknowledged it would be a good group and that it was a group that she had been involved with previously and had spoken at. She advised she was aware that the application had gone in and she was just curious on the status.

#### ENVIRONMENTAL COORDINATOR REPORT - ANDREA CROCKENBERG

Ms. Crockenberg announced that they are going to be launching the Recycle Coach App to replace the recycling guide that has been the resource for the community in the past. The App and Recycle Guide will also have a searchable database where customers can put in whatever you they are looking to recycle and it will give them multiple options on where they can take it to be reused, recycled or taken to the landfill. It is going to be launched August 19, 2019, and they will do a press release and are really going to try and get the word out. The goal is to get 11% of households utilizing the App within the first three months and, then, hopefully, within the year 50% of households will be utilizing it. The App can be used for many things such as educational campaigns, for example, rinsing your recyclables. It is a flexible platform to utilize depending on what kinds of issues we are seeing in the community.

Ms. Crockenberg stated the Household Hazardous Waste Event is still in the planning stages; they are trying to get an agreement together with the City to hold it at Recycle Works. They are hoping to have it at the end of October, and it will be for City and County residence. It will not be for electronics and tires or any other trash; it is for hazardous waste disposal only.

Ms. Crockenberg stated Pueblo West and Avondale are holding their Clean Ups that they are coordinating this year since the Environmental Coordinator is not doing the clean up production. Those events will be held in September. Avondale's Clean Up is scheduled for September 7, 2019 and Pueblo West's is scheduled for September 21, 2019. The Avondale event is going to be free. Goecyle will be there recycling tires and they will be collecting electronics, that will be the only thing that there will be a charge for. The Pueblo West event will be held at the East McCulloch location and they will have it promoted on their website.

Ms. Crockenberg reported discount day at the Landfill is either going to be October 5<sup>th</sup> or October 12<sup>th</sup> and they are trying to coordinate yard waste and mattress collections separately at that location. She is hoping to have to have yard waste composted and mulched with Rock Works, and mattress recycled with Spring Back. She is meeting with them in a couple weeks to try and coordinated that and see if they can make that happen. She knows they can definitely do the yard waste. They are just trying to figure out how they are going to charge for the

mattress recycling. Chair Lopez questioned if Ms. Crockenberg was talking about having the Clean Up day to include yard waste and mattresses? Ms. Crockenberg replied they were, as they will be trying to divert those from going into the landfill, noting the majority of what people bring is yard waste and mattresses. Chair Lopez questioned if there would be restrictions on the type of yard waste allowed? Ms. Crockenberg replied they will have to specify and will put on the advertisement what will be accepted. Chair Lopez questioned who will be staffing the event and asked if it will be Waste Connections monitoring the loads of yard waste? He stated in the past when they have had the yard waste drop offs at the dump, they would have people bring loads with yard waste on the top and trash on the bottom. If there was trash underneath, the whole load would have to go to the landfill. Ms. Crockenberg replied her plan was to have a dumpster there that they can direct people to dump their clean yard waste in. That will be taken to Rock Works, and that they will be specific on what types of waste will be accepted on the advertisements.

#### WATER QUALITY SUBCOMMITTEE - NANCY KELLER

Ms. Keller distributed two flyers on updates for new requirements from the EPA (Environmental Protection Agency). The first relating to dental facilities. The amalgam that's in your teeth, contains mercury. Several years ago, there was a program where Pueblo qualified to get a number of separators that they distributed to different dentists in town. Pueblo has had this in place for quite a while, but not necessarily meeting today's standards. They have certain ISO standards that they have to meet due to the new regulation. This regulation was somewhat cumbersome as they put it out, then pulled it back, then revised it, then pulled it back again, then announced that organizations would need to self-certify and provide their certification to the pretreatment program. Any organization (dental office) that was existing prior to July 14, 2017 must comply by July of 2020, but if the dental office was established after July 2017, then they need to comply immediately. If a facility moves to a new location, they would be a new source, so they would need to comply immediately. The idea is to keep that mercury out of the sewers so that it doesn't end up getting into the rivers. Mercury is not really what the wastewater plants are designed to remove and so keeping the source out initially is ideal. Chair Lopez questioned if this was intended to separate the shavings? Ms. Keller replied it is just for the small particles that come off when they are drilling an old filling on a patient. Dental offices are a large source of mercury, noting it was always considered to be 80% in the past, and she would assume that is still true. EPA states that this regulation is expected to reduce 10.2 tons of mercury per year in the U.S. by putting this in place. That is a lot of mercury removed from the environment. Ms. Connors questioned if the City has an outreach group? The reason being is she worked in a mercury discharge program with utilities; it was a number of years ago when that first came out, and they did a lot of research on dentists. Funeral homes seemed to be one of the larger groups for mercury pollution. Ms. Keller replied all of this is done through the pretreatment program so they will be sending out letters to all of the dental offices. Dental offices, right now, are the only ones required to comply by the regulation, but there are other sources, such as hospitals and funeral homes. Those at this point are not regulated. Initially, they will put this in place and then they can expand as they identify sources. She stated there was not high mercury recorded at the plant. They have never had an analysis that has shown anything high, and it is done on a quarterly basis. It is not a particular issue for the plant, possibly because there are already amalgam separators in most of the dental offices that has kept them from having high results. If you exceed the mercury standards, then you must put a new program in place. Chair Lopez questioned if the separators use centrifugal force? Ms. Keller replied no; they are more of a filtration device noting the dentists get frustrated with them because a lot of the grit that they use to clean teeth plugs them up so they have to change them more often than they think they should. Chair Lopez questioned how they disposed of the mercury particles that they catch? Ms. Keller replied they must be sent into a specific location once the filters are

used. Most of the dental offices will purchase the filters and send them back to the same location once they are used. Chair Lopez questioned how the City tracks compliance? Is it self-reporting? Ms. Keller replied it will be self-reporting. The way the reporting was set up initially, it was not required, but this new regulation will require them to submit a compliance letter. If they do not send in a compliance letter the city will go and inspect them. So, if they don't want to see them, they will submit the compliance letter.

Ms. Keller reported the second flyer distributed information related to the disposal of medications. Ms. Keller explained it was a long-term pet peeve of hers. Her mother-in-law was in an assisted care facility and she watched all the medications that they disposed of. They prepackaged all the medications for each patient. They are dispensed by CNAs, who are not really certified to dispense medications but they are able to give the resident the package of medications. If the patient's medications are changed even slightly, they must throw all those packages away with everything in them and get new packages with the new dose. Every time the patients go into the hospital, they throw away the patient's medication packages because they come home with different prescriptions and they literally flush them down the toilet. This regulation will give us a way to enforce those facilities that distribute medications, to be responsible for proper disposal of those medications, or take back those medications. If the medication is a hazardous waste, there are only certain things that fall under the hazardous waste requirements, and it will be mandatory. A person could put the ordinance in to require it for all medications. There are places that will take medications back, and there are places that will reuse them. In third world countries, if it is properly labeled, they can be reused. There are a lot of options out there. Walgreens will take just about anything back. There are some medications that will be mandatory and there are some that will be voluntary. This must be in place 60 days after it is finalized which is August 21, 2019, so basically by the first of the year this program will need to be in place. It again will be somewhat of a self-compliance. They will have to report where they are disposing of those medications and how they are handling it, then we will have to do some inspections to verify it. Chair Lopez questioned if the waste treatment plant can detect medications that have been put in the water? Ms. Keller replied you can for some. The methods for detections are not well established, and they are not EPA approved, but there are methods that can be done down to that level, the low level. USGS has developed quite a few methods for pharmaceuticals that is not typically done in wastewater. Wastewater does not treat for pharmaceuticals. They are not designed for that, and so that would be another whole set of processes that would have to be added to a plant. There is not even one process that will take everything out. It's multiple different processes that are needed to remove all pharmaceuticals. Chair Lopez questioned if there is a possibility that some level of the drinking water we ingest has pharmaceuticals in it? Ms. Keller replied there is always a potential. Water gets reused and what Canon City disposes of is what goes into the Pueblo Reservoir, so we are always recycling water over and over. There is always that potential that our water has pharmaceuticals. Chair Lopez noted he had heard reports about deformities in fish due to these deposits. Ms. Keller replied there are not many that cause deformities, but feminization is something found due to estrogenic compounds. Ms. Crockenberg questioned if water filters take some of the pharmaceuticals out? Ms. Keller replied not very many. There are certain types of granulated carbon that will take some out, but normally that's not what a water filter is designed to do. Typically, there are varying levels of these pharmaceuticals. Most prevalent found in groundwater is caffeine. They actually use caffeine to trace for human presence; if you have groundwater you can use the caffeine levels in it to see if there are any human sources, Caffeine will carry through and it is very persistent.

## SOLID WASTE SUBCOMMITTEE - BECKY CORTESE

Ms. Cortese reported she did not have anything stating they did not meet in July because they found out Ms. Getts had resigned the day before their meeting. It kind of threw a monkey wrench in. She has not yet talked with her replacement, but she will get in touch with her before we have their next meeting. Chair Lopez questioned if she had any information on her replacement? Ms. Cortese replied she was given her name but was not sure if it is her actual replacement, or if it is just someone else overseeing things in the interim, noting they will meet again in September.

Chair Lopez questioned if what M. Crockenberg mentioned about the new App would be applicable to her use for educating the public to properly treat or deal with clean up. Ms. Cortese replied, absolutely. She didn't know exactly how the app works but, just what was said right here, they could probably put something up in regard to that. Ms. Crockenberg replied they could probably use the search engine for multiple websites, so it can go on Ms. Cortese's website. It would make it possible for anyone who is looking for something to find it on a number of different websites. Chair Lopez questioned if this would be in lieu of a paper recycling guide? Ms. Crockenberg replied yes, they will probably still have a few paper guides available for people who don't get on the internet, and she'll still take phone calls from people, but mostly they will just try and direct everyone to the App and the Website. Ms. Caffey stated that her organization gets a good amount of calls so that may be a good thing to put on their Website as well. Ms. Crockenberg stated she would get that done as well. Ms. Cortese questioned if when the App and the other events were launched and posted if she could be sent a link so that they could be added to the Next Door App. Ms. Crockenberg replied yes. Also with Recycle Coach it will have all the events posted, and they can sign up for alerts on events. The events will also be listed on their Website. Another feature of the App is the customizable advertising distribution. You can put in a zip code and any notification you want to send would just go to those people in that zip code. Chair Lopez questioned if the launch for the Recycle Coach is going to be an actual event, or is it something that is just going to be announced at the Health Department? Ms. Crockenberg replied that date is when the App is going live. They do want to publish a Chieftain article about it and really promote it. They are going to provide them with a press release once they have a banner on their Website, and they will provide us with some social media posts for that as well. Their plan is to promote it through Easy Social since it's online to get the word out that way.

Chair Lopez announced that in the next month or two the City will be looking at its budget for next year. He asked Ms. Crockenberg what the Trash Task or Health Department is looking to request for funds from the City? Ms. Crockenberg replied that would be a question for her Department Director. Her position is actually not with the Public Health Division. She is in Health Promotion. She promotes education and recycling, whereas Environmental Health does more enforcement. She can get back to Chair Lopez and have them reach out to him. Chair Lopez questioned if for the next meeting, she would have some information as to what they might be looking for in terms of educational campaigns or what they might be asking the City for, because there is that natural user fee. Ms. Crockenberg replied it has changed a lot in the last two years. They changed what her program was focusing on so she wasn't sure what they are wanting next year. Chair Lopez stated he would like to know what that will be in light of what we have been talking about, since they haven't put any numbers together in terms of a budget for outreach or education. Ms. Cortese noted they have some numbers on social media marketing and they do have some numbers on print advertising as well. It's a package, TV, newspaper, and billboard. Chair Lopez stated he would think that would be something to be aware of, at least an item. A use of any money that is requested from the City for this education, whether it's through the Health Department or other media to get that word out,

specifically for education through the EC. Ms. Crockenberg replied that's definitely a part of her program, promotion and education on recycling, so the money for her program could go for that and it is.

Chair Lopez questioned if with that in mind if anybody had read today's article on Lori Winters' suggestion for a tax to address illegal dumping? Any comments, and reaction? He hadn't read it. Ms. Cortese replied she had read it, and didn't think it's necessarily a bad idea, but she thinks it's conflicting with what Garrison Ortiz is working on with the Trash Task Force, so she doesn't think the timing is good. She wasn't sure if the public will support a tax. Chair Lopez questioned if she is proposing a separate tax, like a ballot question? Ms. Cortese replied yes; it is supposed to bring in \$1.9 million a year for five years. Chair Lopez asked if she recalled if there was a percentage. Ms. Cortese replied she believed it was 1/8%. It is supposed to bring in \$1.9 million a year for five years, \$1.7million of which would go to illegal dumping clean up. She was not sure where the other \$200,000 would go, but that is what it said. Chair Lopez noted the funds that come in through the landfill user fees are intended for programs like neighborhood clean ups and education. That money is there, maybe not to the level that she would want, but that money could be allocated for these kinds of projects. Ms. Cortese replied absolutely. Just looking at online comments, that's what people were saying. The comments that she saw were basically saying, why do all of us have to pay for other's bad behavior, and why would we pay an additional tax when were already paying one at the landfill? Those were just the reoccurring themes throughout the comments that were made.

Ms. Crockenberg questioned if Chair Lopez could tell her more about the Waste Management Plan that he was mentioning, and who put the Waste Management Plan together. Chair Lopez replied it's online, it's somewhere at the Health Department from around 2001 through the Environmental Coordinator. EPAC put it together. He believed they had started when they had gotten the grant from the EC; the grant also covered an informal waste study. Based on that, after approximately 5 years, when he got back in June of 1994, they put it together and they got it adopted through PACOG. The County and City adopted it. They pushed it here and PACOG adopted it. He thought he had it at home and advised he would send it to Ms. Crockenberg. Ms. Crockenberg stated she thought that eventually it needs to be revised, based off of how things are changing. Waste management and diversion has changed so much in that time period. State goals for waste diversion have changed, so it would be nice if we could have the City and County adopt a much more stringent waste diversion effort. Chair Lopez stated they could probably incorporate that through the Materials Management Task Group, or at least find out what documents are out there to put it together. Chair Lopez noted at the last meeting or the meeting before Ms. Crockenberg talked about having to look at it now. It's 18 years old, they need to review it for any revisions or updates. He thought it would need revisions in terms of the current terminology. Ms. Crockenberg stated when she was trying to get things together for SPAT and Materials Management it was difficult. They asked a lot of questions on what her waste diversion goals for the City and County were and, although she was fervently researching, it was hard to find materials. Ms. Connors questioned if there were standards for updating the Waste Management Plan for the State? Ms. Crockenberg advised she was not sure. Ms. Cortese stated the State Health Department does have a solid waste management plan that they just updated in the last year or so, but as far as individual counties, they did not.

Chair Lopez asked if there was any feedback on the recycling conference. Ms. Crockenberg announced the general message was the markets are difficult when you are recycling in Colorado. The cost to ship recyclables out is high. There are not a lot of markets close by. That was the main focus. They also talked about a waste diversion grant that has become available through the Colorado Department of Public Health and Environment, which they are going to apply for. The plan is for the Pueblo Health Department to apply for it. They composted all the

food at the event. The Convention Center staff got a good education on composting and how it works. They also learned about recycling at the Convention Center. They did not have a process set up for recycling. Mr. Kevin Ortiz is working on implementing a recycling program there now. The exposure was great. The Mayor was there and so were different municipalities. Chair Lopez noted getting the Mayor educated on the subject and pushing for a comprehensive materials management plan within the City would be great.

#### AGENDA FOR AUGUST 1, 2019 MEETING

The next regularly scheduled EPAC meeting is Thursday, October 3, 2019, at 229 West 12th Street, from 5:15 p.m. to 6:30 p.m.

#### ADJOURNMENT

There being no further business before EPAC, the meeting was adjourned at 6:06 p.m.



Monica M. Grosso  
EPAC Recording Secretary

MMG

DRAFT

# Fact Sheet: Effluent Limitations Guidelines and Standards for Dental Offices

## Summary

EPA finalized technology-based pretreatment standards under the Clean Water Act to reduce discharges of mercury and other metals from dental offices into municipal sewage treatment plants known as publically owned treatment works (POTWs). Dental offices, which discharge mercury and other metals present in amalgam used for fillings, are the main source of mercury discharges to POTWs; these metals are subsequently released to the environment. The rule requires dental offices to comply with requirements based on practices recommended by the American Dental Association, including the use of amalgam separators. Once captured by the separator, dental amalgam can be recycled. Removing mercury when it is concentrated and easy to manage, such as through low-cost amalgam separators at dental offices (average annual cost per dental office is about \$800), is a common sense solution to managing mercury that would otherwise be released to air, land, and water.

In addition, this rule minimizes dental office reporting requirements and the administrative burden to federal, state, and local regulatory authorities responsible for oversight of the new requirements.

EPA expects compliance with this final rule will reduce the discharge of metals to POTWs by at least 10.2 tons per year, about half of which is mercury.

EPA projects the total annual cost of the final rule will be \$59 - \$61 million.

## Background

### *Why are standards needed for the dental industry?*

When dentists remove old amalgam fillings from cavities, or when dentists place a new filling, mercury in the form of dental amalgam enters the wastewater of the dental office. Mercury from waste amalgam can make its way into the environment from the POTW through the incineration, landfilling, or land application of sludge or through surface water discharge. Mercury is a potent neurotoxin that can have a wide range of health effects, and mercury pollution is a global concern. Once released into the aquatic environment, certain bacteria can change mercury into methylmercury, a highly toxic form of mercury that bioaccumulates in fish and shellfish. Eating fish and shellfish is the main source of people's exposure to methylmercury in the U.S.

### **Who is affected by this regulation?**

This rule applies to offices, including large institutions such as dental schools and clinics, where dentistry is practiced that discharge to a POTW. It does not apply to mobile units or offices where the practice of dentistry consists only of the following dental specialties: oral pathology, oral and maxillofacial radiology, oral and maxillofacial surgery, orthodontics, periodontics, or prosthodontics.



Control Authorities (which are often the state or POTW) are responsible for oversight associated with this rule.

### **What does this rule require of dental offices?**

Dental offices that discharge to POTWs that do not place or remove amalgam need only submit a one-time certification.

Dental offices that place or remove amalgam must operate and maintain an amalgam separator and must not discharge scrap amalgam or use certain kinds of line cleaners. They must also submit a One-Time Compliance Report.

### **Where can I find more information?**

You can access the Federal Register notice on EPA's Effluent Guidelines website at: [www.epa.gov/eg/dental-effluent-guidelines](http://www.epa.gov/eg/dental-effluent-guidelines). In addition, the final rule will be available at [regulations.gov](http://regulations.gov) under Docket ID: EPA-HQ-OW-2014-0693.

You may also email Karen Milam at [milam.karen@epa.gov](mailto:milam.karen@epa.gov).

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# Final Rule: Management Standards for Hazardous Waste Pharmaceuticals and Amendment to the P075 Listing for Nicotine

## Rule Summary

EPA's Acting Administrator signed the final rule, titled, "Management Standards for Hazardous Waste Pharmaceuticals and Amendment to the P075 Listing for Nicotine" on December 11, 2018 and it was published in the *Federal Register (FR)* on February 22, 2019.

This final rule establishes cost- saving, streamlined standards for handling hazardous waste pharmaceuticals to better fit the operations of the healthcare sector while maintaining protection of human health and the environment.

Importantly, this final rule will make our drinking and surface water safer and healthier by reducing the amount of hazardous waste pharmaceuticals entering our waterways by 1,644 to 2,300 tons on an annual basis by prohibiting all facilities subject to the rule from sewerage them. This action will help address the issue highlighted by a growing body of publicly available studies documenting the presence of pharmaceuticals in drinking and surface waters as well as their negative impacts to aquatic and riparian ecosystems.

In addition, under this final rule, FDA-approved, over-the-counter nicotine replacement therapies (i.e., nicotine patches, gums and lozenges) will no longer be considered hazardous waste when discarded, which will result in significant cost savings and burden reduction in the management of these types of nicotine wastes.

Finally, the final rule reaffirms EPA's long-standing policy that non-prescription pharmaceuticals and other unsold retail items that have a reasonable expectation of being legitimately used/reused or reclaimed are not solid waste. It also provides regulatory certainty that the Resource Conservation and Recovery Act (RCRA) applies when healthcare facilities send unused, unsaleable prescription hazardous waste pharmaceuticals to reverse distributors to receive manufacturer credit. Simultaneously, the rule incorporates flexibilities to accommodate current reverse distribution business practices to facilitate its implementation.

Healthcare facilities and reverse distributors that generate and manage hazardous waste pharmaceuticals will follow these new, tailored standards for managing their hazardous waste pharmaceuticals instead of the industry-oriented hazardous waste generator regulations.

This rule does not apply to pharmaceutical manufacturers (unless they act as reverse distributors), production facilities or other generators of hazardous waste pharmaceuticals.

In addition, anyone who generates or manages discarded FDA-approved over-the-counter nicotine replacement therapies (i.e., patches, gums and lozenges) is also affected by the

amendment to the P075 listing for nicotine that is also part of this final rule. See the Question & Answer below for more information on the amendment to the P075 listing for nicotine that is part of this final rule.

### **Which pharmaceuticals are considered hazardous waste?**

As thousands of over-the-counter and prescription drugs are currently approved for sale in the United States, it is difficult to provide a precise number of pharmaceuticals that are considered hazardous waste. However, as with any other waste, a solid waste is considered hazardous waste if it meets a listing or exhibits a characteristic described in title 40 of the Code of Federal Regulations Part 261.

There are approximately 30 commercial chemical products listed on the P and U hazardous waste lists that have pharmaceutical uses. As the P and U lists are based on chemical designations, this number does not completely represent the total number of brand name pharmaceuticals that may actually be listed hazardous wastes. For example, the following chemotherapy drugs, CTX, Cytotoxan, Neosar and Procytox, are all designated as a U058 hazardous waste for cyclophosphamide.

In addition, waste pharmaceuticals may also be hazardous because they exhibit one or more of the four characteristics of hazardous waste: ignitability, corrosivity, reactivity and toxicity. For example, solutions containing more than 24 percent alcohol exhibit the ignitability characteristic. Pharmaceuticals exhibiting the corrosivity characteristic are generally limited to compounding chemicals, including strong acids, such as glacial acetic acid, and strong bases, such as sodium hydroxide.

Depending on the concentration in different pharmaceutical preparations, pharmaceuticals may also exhibit the toxicity characteristic because of the use of arsenic (D004), barium (D005), cadmium (D006), chloroform (D022), chromium (D007), lindane (D013), m-cresol (D024), mercury (D009), selenium (D010), and silver (D011).

### **When will this final rule go into effect?**

This final rule will be effective at the federal level six months after the rule is published in the Federal Register.

Authorized states are required to adopt this final rule and to modify their RCRA programs in order to retain their authorized status because this rule is more stringent than current RCRA generator regulations. This rule will not become effective in states authorized for the RCRA program until states have adopted the rule, with one exception.

The exception is the ban on flushing hazardous waste pharmaceuticals. This particular requirement is being finalized under the Hazardous and Solid Waste Amendments (HSWA). Requirements promulgated under HSWA authority become effective in all states on the effective date of the federal regulation, which is six months after publication of the final rule in the Federal Register.