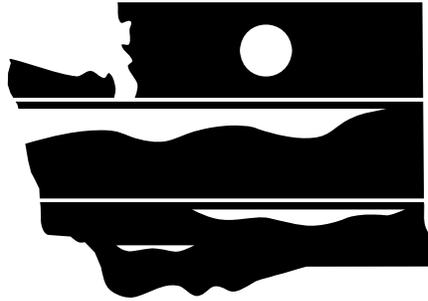




Best Management Practices For Hospital Waste

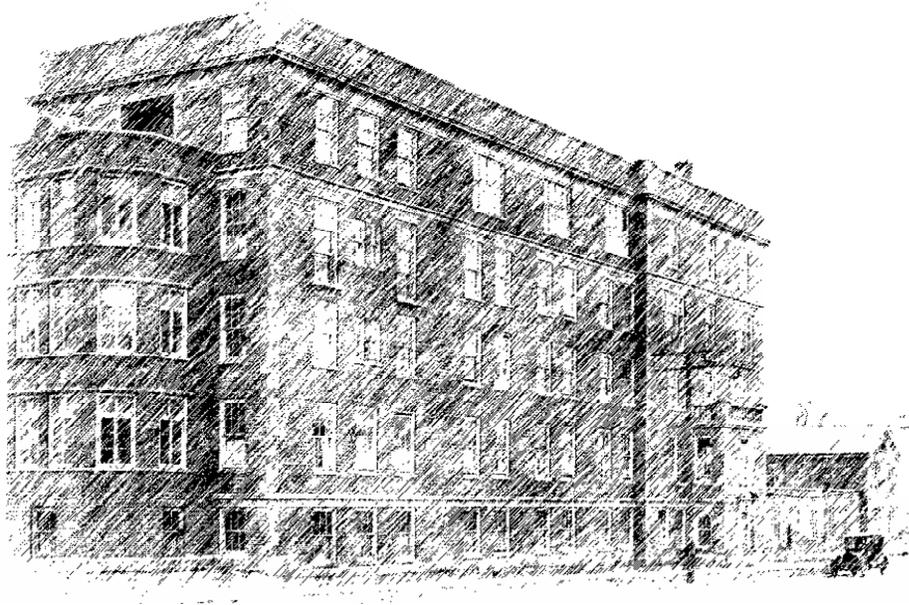


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WASHINGTON STATE
DEPARTMENT OF
E C O L O G Y

Best Management Practices for Hospital Waste



Publication Number 05-04-013
December 2005

If you need this information in an alternate format, please call the Hazardous Waste and Toxics Reduction Program at 360-407-6700. If you are a person with a speech or hearing impairment, call 711, or 800-833-6388 for TTY.

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This guide is a product of the Washington State Department of Ecology (Ecology) Best Management Practices (BMPs) for Hospitals Project and financially supported by the Spokane Aquifer Joint Board and Ecology. The project is part of Ecology's Mercury Action Plan to eliminate mercury use in the state of Washington.

Goals of Ecology's Mercury Action Plan include:

- Mercury-free hospitals,
- Protecting groundwater and drinking water sources,
- Encouraging implementation of pollution prevention alternatives,
- Reducing the use of toxic substances and generation of dangerous wastes,
- Improving dangerous (hazardous) waste management practices, and
- Increasing regulatory compliance through technical assistance.

This guide suggests ideas and steps you can take to manage wastes generated in your hospital properly. Hospitals can generate large amounts of dangerous (hazardous) wastes. If not managed properly, dangerous waste can pose threats to your safety, and public safety, and can damage the environment. Proper management of chemicals and wastes can help prevent serious consequences of catastrophic events or accidents. Your hospital is most likely already doing some, but not all, of the best management practices suggested in this guide.

Inside this guide you will find:

- An introduction to environmental waste management concerns in hospitals
- A hospital Self-Audit Form to copy and use in each department
- A page of best management practices and information about toxic substance substitution and waste minimization, for each specific department
- Other guidance documents, pertinent to hospital waste management
- A list of pollution prevention vendors
- A list of resources
- A list of dangerous wastes often found in hospitals
- Biomedical regulations
- A bibliography of publications and resources used to write this publication
- A glossary of terms and acronyms used in this guide.

The information in this guide is not complete and does not address all of the hazards associated with handling chemicals and dangerous waste. For more information about the hazards of chemicals, contact a chemical manufacturer or supplier, the American Chemical Society, a qualified consultant, or an appropriate government agency. Do not consider information provided about vendors or product suppliers as an endorsement by Ecology. Contact Ecology's Hazardous Waste and Toxics Reduction Program for technical assistance at your nearest regional office.

If you have any questions regarding this publication, please contact: Camille Martin (509) 329-3551, or Terri Miller (509) 329-3476.

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This section discusses Ecology's environmental management concerns in hospitals. The focus of this section is to address proper management of dangerous waste in hospitals, but some of the concerns affecting water quality are included in this section as well. There are also brief summaries of other environmental concerns such as solid waste, air quality, spills, and underground storage tanks.

Dangerous Waste (also known as “Hazardous Waste”)

The *Dangerous Waste Regulations*, Chapter 173-303 WAC, address designating wastes, generator status, counting your wastes, satellite accumulation requirements, and treating wastes. We encourage your hospital to keep a copy of the *Dangerous Waste Regulations* at your facility. You can order a copy by calling (360) 407-6752 or download a copy from <http://www.ecy.wa.gov/pubs/9291.pdf>

For your convenience, the following Ecology publications have been included in Appendix A:

- Designating Dangerous Waste (Publication # 96-436)
- Counting Dangerous Waste Under the *Dangerous Waste Regulations* (#98-414)
- Satellite Accumulation (#94-120)
- Treatment by Generator (#96-412)
- Universal Waste Rule for Dangerous Waste Lamps (#00-04-020)
- Universal Waste Rule for Batteries and Mercury-Containing Thermostats (98-407)
- Focus on Pharmaceutical Waste (#03-04-035)
- Pesticide Container Cleaning and Disposal (#01-04-024)
- Domestic Sewage Exclusion (#94-136)
- Wastewater Discharge Permits in Washington State.(#WQ-R-019)
- Guide for Dangerous Waste Generators in Washington State (#98-1252-HWTR)

Getting Started

To determine if a waste is dangerous waste, you need to know its physical and chemical nature. It is necessary to know all chemical components that make up the specific waste. Material Safety Data Sheets (MSDS) may tell you something about the properties and constituents of your waste. Without this type of information, you may have to test each waste to determine if it is dangerous waste.

The following pages describe a three-step process for waste designation. You will need a copy of the *Dangerous Waste Regulations* and *Designating Dangerous Waste* guidance (located in Appendix A).

Step 1 – Designate your waste

Take a waste inventory of your hospital, in all departments that generate waste. For each waste, follow the flow chart in the *Designating Dangerous Waste* Fact Sheet. This flow chart leads you through a series of questions that will help you decide if your waste is dangerous.

Each dangerous waste has a four-digit waste number assigned to it. If your waste meets the definition of a particular type of dangerous waste, write the four-digit waste number in the “waste number(s)” column of the **Waste Inventory Table** section of *Designating Dangerous Waste*. A single container of dangerous waste may have several different codes.

Using the flow chart, write down all of the waste numbers that apply to each waste on the **Generator Status** section of the worksheet. Stop when you reach a box on the flow chart that reads, “No further designation is required.”

Step 2 - Counting your Dangerous Waste

Dangerous waste generators must count their waste facility-wide each calendar month. Write the dangerous waste quantities in the **Waste Inventory** section of the **Generator Status Worksheet** to determine generator status (small, medium, or large quantity generator).

The following six sections provide details on how to count wastes in various situations:

1. Stored and/or Accumulated Dangerous Waste

Dangerous waste counted under the accumulation regulations:

Dangerous waste is counted at the point of generation prior to storage or accumulation in the generator’s 90- or 180-day accumulation area. Likewise, dangerous waste accumulated under the satellite accumulation (SA) provisions (WAC 173-303-200) is also counted toward the generator’s status on a monthly basis.

Dangerous waste not counted under the accumulation regulations:

It is not necessary to count the dangerous waste again when it is moved from satellite accumulation to the generator’s 90- or 180-day accumulation area.

2. Recycled or Excluded Dangerous Wastes

As a general “rule,” dangerous waste that is stored, treated, recycled or manifested for disposal is counted. However, there are exceptions to this “rule.” This involves wastes being recycled or managed to fulfill the requirements of a conditional exclusion. Recycled solvent wastes need to be counted in a particular way. If you are recycling or reusing your wastes, refer to Sections -016, -017 and -120 of the *Dangerous Waste Regulations* and the fact sheet *Counting Dangerous Waste under the Dangerous Waste Regulations*, publication # 98-414 (in Appendix A). For excluded wastes, refer to Sections -071 and -073 of the *Dangerous Waste Regulations*. There is a conditional exclusion for state-only dangerous waste disposal of controlled substances, legend drugs, and over-the-counter drugs for hospitals and pharmacies. See the publication *Focus on Pharmaceutical Waste* in Appendix A for an explanation of the pharmaceutical waste conditional exclusion.

3. Closed - loop Recycling without Prior Accumulation or Storage

Under this counting exclusion there can be no storage or accumulation prior to the closed-loop recycling activity. “Without prior storage or accumulation” means that as soon as the waste is generated, it immediately enters the recycling unit through a piped system. Dangerous waste residues and still bottoms generated from the recycling activity are counted. If you are “closed-loop recycling” your wastes, refer to Sections -017 and -120 of the *Dangerous Waste Regulations* and the fact sheet *Counting Dangerous Waste under the Dangerous Waste Regulations*, publication # 98-414 in Appendix A.

4. Domestic Sewage Exclusion (Water Quality)

The Domestic Sewage Exclusion (DSE) allows dangerous waste to be discharged to a publicly owned wastewater treatment works (POTW) only when such wastes are treatable at the POTW, and the discharger has a permit which authorizes the discharge of the specific waste described in the permit. For more information, please refer to section -071 of the *Dangerous Waste Regulations and Domestic Sewage Exclusion* (publication number 94-136) and *Wastewater Discharge Permits in Washington State* (Ecology Report WQ-R-019 Revised 10/03), in Appendix A.

Dangerous waste counted under the DSE:

Dangerous waste managed prior to being directly discharged to the sanitary sewer system is counted. This means dangerous waste stored, treated, or recycled prior to the point of direct discharge is counted.

Dangerous waste not counted under DSE:

As a policy, Ecology will not require dangerous wastes mixed with domestic sewage to be counted when the waste is being directly discharged into the POTW system in compliance with the domestic sewage exclusion (WAC 173-303-071(3)(a)).

5. Permit-by-Rule (Water Quality)

The Permit-by-Rule (PBR) provisions allow on-site treatment of dangerous waste without a written Resource Conservation and Recovery Act ("RCRA") Treatment, Storage, and Disposal ("TSD") treatment permit under certain conditions, such as waste treated in a wastewater treatment unit, elementary neutralization unit, or totally enclosed treatment unit. Please refer to sections -040 and -802(5) of the *Dangerous Waste Regulations* for additional permit-by-rule requirements.

Dangerous waste counted under PBR:

Dangerous wastes removed from the PBR unit are counted and no longer covered by the PBR provisions. Examples of wastes that are counted include, but are not limited to, sludges, still bottoms, and other residuals.

Dangerous waste not counted under PBR:

Wastes managed immediately upon generation in an on-site PBR unit are not counted. "Immediately" means that there is no temporary storage, accumulation, or other type of waste management between the point of generation and the PBR unit. The system is piped. Dangerous wastes discharged to a Publicly Owned Treatment Works (POTW) in compliance with the PBR provisions are not counted.

6. Treatment by Generator

For information on Treatment by Generator (TBG) requirements, refer to *Dangerous Waste Regulations*, sections -170(3) and -200. TBG provisions allow generators to treat their own dangerous waste on-site without obtaining a RCRA "TSD" treatment permit. For additional guidance, refer to *Treatment by Generator* (publication #96-412), in Appendix A.

Dangerous waste counted under TBG:

Dangerous waste intended for treatment under the TBG allowance is counted toward the generator's status before it is treated. A TBG activity is considered a separate activity from the production or cleaning process originally generating the dangerous waste. Therefore, dangerous waste derived from (generated at) a TBG activity is also counted toward the generator's status.

Step 3- Determine your Generator Status

Use the **Generator Status** Worksheet and follow the instructions. Add up all of the pounds of dangerous wastes generated for the month, from all departments throughout your hospital. You can now determine if you are a small, medium, or large quantity generator, and what you must do to correctly handle your waste. You may be:

- A *small quantity generator* (SQG) and responsible only for following the handling requirements described in WAC 173-303-070(8) in addition to any county or city hazardous waste management requirements; or
- A *medium quantity generator* (MQG) and required to follow the standards listed by WAC 173-303-201 and -202; or
- A *large quantity generator* (LQG) subject to full regulation under the requirements of WAC 173-303-170 and -200.

Dangerous Waste Management

In the state of Washington, hospital staff have the responsibility to manage waste properly. Municipal solid waste, biomedical, and dangerous waste needs to be managed separately following the distinct management and disposal requirements for each waste type. Dangerous waste generation amounts need to be counted throughout your hospital, each month. The *Dangerous Waste Regulations* describe the characteristics or properties that cause a waste to be considered dangerous, and what amounts of waste cause you to be regulated as a dangerous waste generator.

Designating Dangerous Waste, in Appendix A, leads you through the steps you must take to determine whether you generate a dangerous waste subject to special handling requirements. The designation process works well for most dangerous wastes. Generators should be aware, however, that exclusions exist for certain dangerous wastes. Refer to the dangerous waste exclusions (section -071) of the *Dangerous Waste Regulations*.

Satellite Accumulation

A "satellite" is defined as a location at or near the point of hazardous waste generation, where waste is initially accumulated in containers before consolidating it at a designated accumulation area (*i.e.*, centralized dangerous waste storage/accumulation area). Satellite accumulation provisions are:

1. 55 gallons of each dangerous waste or 1 quart of each acutely hazardous waste can be accumulated;
2. The satellite area must be secured and under the control of the process operator;
3. Satellite accumulation is allowed without a permit if the generator complies with these WAC 173-303 sections:

- Container labeling/marking requirements -200 (1)(d)
- Condition of containers -630 (2)
- Compatibility of waste with containers -630 (4)
- Containers be closed -630 (5)(a)
- Container handling to prevent leaks -630 (5)(b)
- Special requirements for ignitable or reactive wastes -630 (8)(a), and
- Special requirements for incompatible wastes -630 (9)(a) & (b).

When 55 gallons of dangerous waste or 1 quart of acutely hazardous waste is accumulated in a satellite accumulation area, the container(s) must be marked immediately with accumulation date. The waste must be moved within three days to the designated central storage/accumulation area. If you are a large quantity generator, the time limit for storage is 90 days. If you are a medium quantity generator the time limit is 180 days. If you are a small quantity generator there is no limit as long as you do not collect more than 2,200 pounds.

Treatment by Generator

You can treat some dangerous waste generated in your hospital without a permit. Described below are the “treatment by generator” (TBG) methods that are allowed without a permit. Before treating a waste you must know if any of the following restrictions apply:

- land disposal restriction standards,
- wastewater disposal limits and restrictions, when “permit by rule” standards apply, or
- when a RCRA “TSD” treatment permit is necessary.

Permission might be necessary when you are doing treatment that does not fit within the categories below. Contact your local Ecology Regional Office (addresses and phone numbers listed in back of this guide), and ask for a hazardous waste inspector if you have any questions about treatment methods, information on treatment permits, or are seeking authorization to conduct treatment without a permit. Ask for someone from the Water Quality Program if you have questions regarding disposing wastes down the drain or wastewater discharge permits. We strongly encourage you to find an alternative to disposing wastes down the drain.

When doing TBG, you must keep a treatment log. Record the date of treatment, hazardous waste constituents, treatment method(s), and pounds of waste treated. This is very important because the amount of waste generated before treatment must be reported to Washington State Department of Ecology in your *annual hazardous waste report*.

Remember, you may need to do multiple treatment methods to remove all hazardous waste constituents. Record all methods used on the treatment log.

Treatment by Generator Methods

In this section, six treatment methods are summarized. Obtain guidance for each of these methods by calling Ecology’s Hazardous Waste and Toxics Reduction publications office at (360) 407-6752.

1. Solidification or Stabilization

Solidification or stabilization reduces the mobility of dangerous waste and/or the toxicity of pollutants. Solidification reduces or eliminates the free liquids in the waste. Stabilization

limits the hazard potential of a dangerous waste by converting the constituents into a less soluble form. The solidified waste must pass the Paint Filter Liquids Test (PFLT). The waste must be solidified by using non-biodegradable solidification materials. The solidified waste must be resistant to change due to temperature, wet/dry cycling, radiation exposure, chemical exposure, and compressive forces.

Elementary Neutralization

Elementary neutralization reduces the corrosivity (acidic or caustic properties) of a waste. The material's pH is raised or lowered to a neutral pH range between six and nine. Neutralization should be done by trained staff. Manage and dispose elementary neutralization treatment residuals according to state and local regulations. If there are any other dangerous waste constituents in the waste, the waste must be disposed and coded according to proper disposal requirements. Obey local wastewater discharge limits and restrictions.

Carbon Adsorption

Carbon adsorption uses molecular attraction to bind soluble and gaseous chemicals to carbon. The carbon removes the chemical contaminants until it reaches its adsorptive capacity. Use carbon to remove metals, organic solvents, inorganic, and organic contaminants from wastes. See the specific TBG guidance on *Carbon Adsorption* (publication # 96-415) for examples of how well various chemicals adsorb. Manage effluent, backwash, and spent carbon according to all regulations. There should be no releases to the environment. Decontaminate all equipment as needed.

Separation

Accomplish separation by using air flotation, centrifugation, coagulation or flocculation, decanting, emulsion breaking or demulsification, ion exchange, oil skimming or phase separation, precipitation, sedimentation, or clarification. See the specific TBG guidance on *Separation* (Ecology publication # 96-418) for description and definitions of separation techniques. Assure that ignitable or reactive waste treatment complies with WAC 173-303-640(9)(a). The treatment process should not alter chemical structure except to form a precipitate. No process may emit air pollutants.

Filtration

Filtering dewater waste effluents, slurries, and sludges, and removes undissolved heavy metals present in suspended solids. Filtration uses pressure to move water through the filter media, leaving solids behind. Done correctly, filtering should not pose a threat to the environment. Appropriately manage filtered liquid and filter/filter cake. Decontaminate all equipment as needed.

Evaporation

Evaporation removes water from wastes to reduce weight and volume before disposal. Evaporators are appropriate for concentrating certain inorganic wastes (no organic evaporation). The process must not pose a threat to the environment or to public health. Do not allow air pollutants to be emitted during evaporation. Do not "overcook" evaporator waste. Appropriately dispose of sludge or filter wastes. In most instances, sludges and filters designate as dangerous waste. Keep the evaporator inside secondary containment around to catch spills.

Air Quality

Whenever a new hospital is built, an existing hospital replaces or adds a boiler, ethylene oxide sterilizer (EtO), or an emergency generator, the hospital may need a Notice of Construction permit to allow limited releases of air pollution to the environment. Permits are issued by either Ecology or the local air quality agency (<http://www.ecy.wa.gov/programs/air/local.html>). Not all cities, counties, or regions in Washington State have local air quality agencies. Ecology is the air quality agency for those areas.

When planning for construction at an existing hospital or building a new facility, be sure to contact Ecology well before construction begins to determine if an air quality permit is necessary. Permitting staff can explain what circumstances require a permit and provide technical assistance to make sure the permitting process goes smoothly and quickly.

Existing equipment (boilers, EtO's or, emergency generators), may require registration with the local or state (Ecology) air quality agency. Check with the appropriate air quality agency to make sure that your hospital has all the required permits or registration.

Spills

If you have a spill of oil or a hazardous substance to the environment, you must contact both the National Response Center (1-800-424-8802) and Ecology (1-800-OILS-911 or 1-800-258-5990). Be prepared to answer questions about the nature of the spill, the identity and quantity of material spilled, the potential or actual environmental impact, and plans for clean-up.

For more information, go to Ecology's Spill Prevention, Preparedness, and Response Web site at <http://www.ecy.wa.gov/programs/spills/spills.html> or the federal Environmental Protection Agency's (EPA) oil spills Web site at <http://www.epa.gov/ebtpages/emeroilspills.html>.

Underground Storage Tanks

Underground storage tanks used to store fuel for fleet vehicles, boilers, or emergency generators, are a potential source of release of hazardous substances to the environment. Such releases are relatively rare since most older tanks have been removed or replaced with more modern systems. To minimize the chance for future leaks or releases, underground storage tank systems should use double-walled tanks and cathodic protection to minimize corrosion. Connecting pipes should be periodically checked for leaks. Ecology requires a registration tag for each underground storage tank. The \$100.00 per tank fee should be included in the hospital's master business license issued through Washington State Department of Licensing.

For more information, go to <http://www.ecy.wa.gov/programs/tcp/ust-lust/tanks.html> or <http://www.epa.gov/swrust1/fsprevt.htm>.

Solid Waste Management

In the state of Washington, solid waste management is delegated to local (municipal and county) agencies. Permitting and other regulatory functions usually are performed by local health departments. County public works department typically develops solid waste

reduction programs. These departments have solid waste specialists to help with reduction and recycling of non-hazardous solid waste within your facility.

This guide includes solid waste reuse and recycling information in the self audit, department pages, and in the appendices under vendor and resource lists.

Biomedical Waste Management

Ten counties (listed below) in Washington State passed local ordinances with provisions for management of medical waste within their jurisdictions. Please note that in addition to these listings, other local health departments may have adopted locally initiated biomedical waste management requirements since this list was last updated. It's always a good idea to call your local health department if you're unsure if any special local provisions apply to your facility.

- Bremerton-Kitsap County Health Department, (360) 337-5672
- Island County Health Department, (360) 679-7351
- Lewis County Health District, (360) 740-1417
- Town of Friday Harbor, San Juan County (360) 378-2390
- Seattle-King County Health Department, (206) 296-4807
- Skagit County Health District, (360) 336-9380
- Snohomish County Health Department, (425) 339-5250
- Spokane County Health Department, (509) 324-1571
- Tacoma-Pierce County Health Department, (253) 798-6528
- Whatcom County Health Department, (360) 676-6724

The Washington State Biomedical Regulations are included in Appendix E.

Emergency Planning & Community Right-to-Know Act (EPCRA)

In 1987, Washington State adopted the federal SARA Title III regulations, also known as the Emergency Planning & Community Right-to-Know Act (EPCRA), in Chapter 118.40 WAC. A State Emergency Response Commission (SERC) was established to oversee implementation of requirements under this regulation, including the formation of local emergency planning committees and the development of a statewide master plan for hazardous materials incident response. Ecology receives EPCRA reports and manages the data on behalf of the Washington SERC.

Ecology staff also provides technical and regulatory assistance to businesses, local emergency planning committees, and the public. Under this regulation, both small and large businesses are required to plan for possible emergencies and report chemical storage and release information to Ecology, on behalf of the SERC, to the Local Emergency Planning Committee (LEPC), and to the local fire department, and sometimes tribal nations. Facilities that store at least 10,000 pounds of a hazardous substance such as diesel or oxygen are required to report. Extremely hazardous substances such as chlorine or ammonia are reportable at much lower thresholds; 100 and 500 pounds respectively. Get more information on reporting requirements at www.ecy.wa.gov/epcra.

Self Audit Form

Hospital Self-Audit Form

Hazardous Waste	Yes	No
Number of beds? _____		
Average number of beds occupied per day? _____		
Number of staff) _____		
Average number of staff in 24 hour period? _____		
Does your hospital have a RCRA Site ID number? _____		
Do departments generating dangerous wastes have satellite accumulation areas?	<input type="checkbox"/>	<input type="checkbox"/>
Are the collection/satellite areas properly and clearly identified and labeled?	<input type="checkbox"/>	<input type="checkbox"/>
Does your hospital have a centralized collection area for dangerous waste?	<input type="checkbox"/>	<input type="checkbox"/>
Are hazardous waste containers kept closed except when adding disposed waste?	<input type="checkbox"/>	<input type="checkbox"/>
Are all waste containers properly labeled with the type of dangerous waste and accumulation start date?	<input type="checkbox"/>	<input type="checkbox"/>
Are all hazardous waste containers maintained in good condition?	<input type="checkbox"/>	<input type="checkbox"/>
Does your dangerous waste storage area have a secondary containment system?	<input type="checkbox"/>	<input type="checkbox"/>
If so, will the floor in your storage area completely contain any spills?	<input type="checkbox"/>	<input type="checkbox"/>
Does the dangerous waste storage area have a floor drain?	<input type="checkbox"/>	<input type="checkbox"/>
Where does it go? _____	<input type="checkbox"/>	<input type="checkbox"/>
Do you have any concerns about the proper storage and/or handling of your hospital's hazardous waste? If so, explain:	<input type="checkbox"/>	<input type="checkbox"/>
Do staff who handle waste receive hazardous waste management training?	<input type="checkbox"/>	<input type="checkbox"/>
Does your department keep a log of the amounts of dangerous waste generated per month?	<input type="checkbox"/>	<input type="checkbox"/>
Does your hospital account for all dangerous waste generated hospital-wide?	<input type="checkbox"/>	<input type="checkbox"/>
Does your hospital use a hazardous waste firm to service, properly transport, and dispose of your dangerous waste?	<input type="checkbox"/>	<input type="checkbox"/>
Does your hospital keep records of hazardous waste shipping manifests (TSD-signed copy) and other dangerous waste reports/analyses for at least five years?	<input type="checkbox"/>	<input type="checkbox"/>
Does your hospital have a spill plan?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have emergency response information posted near a telephone?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have a contingency plan with a copy filed at your local fire department?	<input type="checkbox"/>	<input type="checkbox"/>
Has your facility worked to reduce, eliminate, and recycle toxic chemicals, equipment and materials or use pharmaceutical return programs whenever possible?	<input type="checkbox"/>	<input type="checkbox"/>

What is your hospital's hazardous waste generator status?

- Generates no hazardous waste
- Generates less than 220 lbs/month and accumulates less than 2200 lbs (Small Quantity Generator)
- Generates more than 220 lbs/month but less than 2200 lbs/month (Medium Quantity Generator)
- Generates more than 2200 lbs/month or generates 2.2 lbs or more of an acutely hazardous waste (Large Quantity Generator)

Do you generate the following hazardous substances or dangerous wastes? (Check all that apply.)

- | | |
|---|---|
| <input type="checkbox"/> Glutaraldehyde | <input type="checkbox"/> Alcohols |
| <input type="checkbox"/> Formaldehyde/Formalin | <input type="checkbox"/> Ethers |
| <input type="checkbox"/> Xylene | <input type="checkbox"/> Solvents |
| <input type="checkbox"/> Stains | <input type="checkbox"/> Heavy Metals |
| <input type="checkbox"/> Dyes | <input type="checkbox"/> Germicides/Sterilants |
| <input type="checkbox"/> Pharmaceuticals | <input type="checkbox"/> Disinfectants |
| <input type="checkbox"/> Mercury-containing devices or pumps | <input type="checkbox"/> Caustics |
| <input type="checkbox"/> Amalgam | <input type="checkbox"/> Acids |
| <input type="checkbox"/> Silver/Fixer | <input type="checkbox"/> Other |
| <input type="checkbox"/> Developer (Hydroquinone) | <input type="checkbox"/> Electrical/Computer equipment (heavy metals) |
| <input type="checkbox"/> Construction/Maintenance dangerous waste | |

Does your hospital use or purchase mercury-containing equipment or supplies? (Check all that apply.)

- | | |
|--|---|
| <input type="checkbox"/> Blood pressure units | <input type="checkbox"/> Lab chemicals |
| <input type="checkbox"/> Mercury thermometers <input type="checkbox"/> labs <input type="checkbox"/> patients
<input type="checkbox"/> Outpatients/newborns | <input type="checkbox"/> Pharmaceuticals (federally listed or Toxicity Characteristic Leaching Procedure (TCLP) wastes) |
| <input type="checkbox"/> Dilators | <input type="checkbox"/> Cantor tubes |

Does your hospital/department generate universal waste? (Check all that apply.)

- | | |
|--|---|
| <input type="checkbox"/> Fluorescent lamps | <input type="checkbox"/> Other mercury-containing equipment |
| <input type="checkbox"/> Thermostats (Mercury) | <input type="checkbox"/> Batteries |

Does your hospital generate PCB-containing wastes? (Check all that apply.)

- | | |
|---------------------------------------|---|
| <input type="checkbox"/> Ballasts | <input type="checkbox"/> Other PCB wastes |
| <input type="checkbox"/> Transformers | |

Universal Waste	Yes	No
Does your hospital handle universal wastes (batteries, lamps, mercury thermostats, etc.) separately from your other hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>
If yes, does your hospital label these wastes and specify type (e.g., "Batteries," "Lamps," etc.?)	<input type="checkbox"/>	<input type="checkbox"/>
Does your hospital properly store universal waste in appropriate containers that prevent releases to the environment?	<input type="checkbox"/>	<input type="checkbox"/>
Does your hospital document the length of time that each universal waste has been accumulating (maximum of one year)?	<input type="checkbox"/>	<input type="checkbox"/>

Medical Waste	Yes	No
Does your facility ensure that medical wastes are labeled and managed properly, segregated from dangerous wastes and solid wastes?	<input type="checkbox"/>	<input type="checkbox"/>
Are sharps segregated from other wastes and kept in a puncture-resistant biomedical waste containers?	<input type="checkbox"/>	<input type="checkbox"/>
Are all biomedical waste containers labeled "biomedical waste?"	<input type="checkbox"/>	<input type="checkbox"/>

Do you donate or compost any of the following? (Check all that apply.)

- | | |
|--|---|
| <input type="checkbox"/> Food scraps or plate wastes | <input type="checkbox"/> Office equipment |
| <input type="checkbox"/> Medical devices/equipment | <input type="checkbox"/> Edible food |
| <input type="checkbox"/> Landscape waste | <input type="checkbox"/> Linen |
| <input type="checkbox"/> Mattresses | <input type="checkbox"/> Other _____ |

Do you recycle any of the following materials (Check all that apply.)

- | | | |
|---|--|---|
| <input type="checkbox"/> Paper, white | <input type="checkbox"/> Aluminum cans | <input type="checkbox"/> Shrink wrap |
| <input type="checkbox"/> Paper, colored | <input type="checkbox"/> Steel cans | <input type="checkbox"/> Fluorescent lamps |
| <input type="checkbox"/> Cardboard | <input type="checkbox"/> Sharps | <input type="checkbox"/> Tyvek |
| <input type="checkbox"/> Newspaper | <input type="checkbox"/> Toner cartridges | <input type="checkbox"/> Solvents/fixers |
| <input type="checkbox"/> Pallets | <input type="checkbox"/> Inkjet cartridges | <input type="checkbox"/> Motor oil |
| <input type="checkbox"/> Wood | <input type="checkbox"/> Printer ribbons | <input type="checkbox"/> Scrap metal |
| <input type="checkbox"/> Cooking oil | <input type="checkbox"/> Lead aprons | <input type="checkbox"/> Pharmaceuticals |
| <input type="checkbox"/> Boxboard | <input type="checkbox"/> Computers | <input type="checkbox"/> Ice packs/coolers |
| <input type="checkbox"/> Glass | <input type="checkbox"/> Silver recovery | <input type="checkbox"/> Construction waste |
| <input type="checkbox"/> Mercury | <input type="checkbox"/> X-ray films | <input type="checkbox"/> Foam peanuts |
| <input type="checkbox"/> Batteries | <input type="checkbox"/> Alkaline | <input type="checkbox"/> Nickel cadmium |
| <input type="checkbox"/> Lead acid | <input type="checkbox"/> Other: _____ | |
| <input type="checkbox"/> Plastics | <input type="checkbox"/> #1 PET | <input type="checkbox"/> #2 HDPE |
| <input type="checkbox"/> #3 PVC | <input type="checkbox"/> #4 LPDE | <input type="checkbox"/> #5 PP |
| <input type="checkbox"/> #6 PS | <input type="checkbox"/> Other | |

Does your hospital reuse any of the following? (Check all that apply.)

Dietary	Patient Care	Surgery	Equipment
<input type="checkbox"/> Patient dishware	<input type="checkbox"/> Bath Basins	<input type="checkbox"/> Instrument pans	<input type="checkbox"/> Ventilator tubing
<input type="checkbox"/> Employee dishware	<input type="checkbox"/> Bed pans	<input type="checkbox"/> Splash basins	<input type="checkbox"/> Ambu bags
<input type="checkbox"/> Glassware	<input type="checkbox"/> Urinals	<input type="checkbox"/> Medicine cups	<input type="checkbox"/> Pulse oximeters
<input type="checkbox"/> Baking pans	<input type="checkbox"/> Pillows	<input type="checkbox"/> Gowns towels	<input type="checkbox"/> Suture removal kits
<input type="checkbox"/> Metal trays	<input type="checkbox"/> Other: _____	<input type="checkbox"/> Drapes	<input type="checkbox"/> Vaginal speculums
<input type="checkbox"/> Other: _____		<input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____

How does your hospital dispose of its red bag waste? (Check all that apply.)

Incinerate off-site Incinerate on-site Autoclave Other: _____

Clean Water Act / Water Conservation

Does your wastewater discharge to: sewer septic system surface water

If so, what is your discharge per day (in gallons)? _____ How many discharge points? _____

Have you sampled your wastewater discharge? Yes No Last date sampled: _____

Do you have a discharge permit or authorization to discharge a pollutant? Yes No

Permit number: _____

Do you have a diagram of your sewer discharge? Yes No

If yes, please contact the Water Quality Program at your nearest Ecology Regional Office.

Does your facility discharge dangerous waste down the drain? Yes No

If so, list dangerous waste(s): _____

How much dangerous waste do you discharge? _____

Has your hospital assessed its water usage? Yes No (Visit <http://www.h2e-online.org/tools/water.htm>)

Has your hospital implemented a water conservation program? Yes No

Does your facility have a meter to monitor total water usage? Yes No

Does your hospital use any of the following water-efficient equipment or practices? (Check all that apply.)

<input type="checkbox"/> Low-flow showerheads	<input type="checkbox"/> Landscaping/irrigating	<input type="checkbox"/> Regular inspection and repair of leaks
<input type="checkbox"/> Automatic faucet shutoff	<input type="checkbox"/> Kitchen faucet/equipment	<input type="checkbox"/> Flow control mechanisms
<input type="checkbox"/> Low-flow faucets	<input type="checkbox"/> Low water X-ray process	<input type="checkbox"/> Other
<input type="checkbox"/> Low-flow toilets	<input type="checkbox"/> Re-circulate cooling water	

What facilities are at this site?

Dental: traps/amalgam separators filters equipment maintenance schedule

X-ray/photography: digital silver recovery recycle film

Labs: pathology histology testing

Pharmacy: How are pharmaceuticals disposed?

Any compounding (what)?

Laundry: water recycled phosphorus free detergents (type) _____

Kitchen: grinder grease trap grease inceptor

Physical plant: boilers, how many? _____ other items?

Vehicle or equipment maintenance: washing where? _____

solvents waste oil oil/water separator

Decontamination area: Location: _____ How is water collected?

Sterilization/Disinfection: discharge chemicals to sewer? If yes, what chemicals?

Grounds-keeping: irrigation system audit water of irrigation system

Have you tested for the following?

Fats, Oils and Greases (FOG)

Biological Oxygen Demand (BOD)

Silver

Total Suspended Solids (TSS)

Mercury

126 Priority Pollutants

pH

Total Toxic Organics (TTO)

Clean Air Act (CAA)

Yes No

Incineration of solid waste and/or infectious waste on-site

Does your hospital incinerate solid or medical waste on-site?

If so, does your hospital have a Title 5 operating permit or state air permit?

If so, has the incinerator been tested and EPA, the state, or local air authority been notified?

Back up power generation

Does your facility have emergency power generation back-up?

If yes, type: _____

If yes to above, do you sell power back?

Refrigeration and air conditioning

- Does your hospital use certified technicians to service refrigeration units? Yes No
- Are maintenance, repair and leak-rate records maintained for at least five years? Yes No
- Do the technicians recover and recycle the CFCs from the units? Yes No
- Does your facility use ammonia for the refrigeration or air conditioning system? Yes No

Underground storage tanks (UST) / Aboveground storage tanks (AST)

- Does your hospital store motor fuels, waste oils, heating oils, and/or hazardous substances in USTs or ASTs? Yes No
- If yes, are your tanks registered with the state? Yes No
- Is there a leak detection system in use for UST system's tank and piping? Yes No

Emergency Planning and Community Right to Know, SARA Title III "EPCRA"

- Does each department keep Material Safety Data Sheets (MSDS) for all hazardous substances? Yes No
- Does your hospital have on-site a listed Extremely Hazardous Substance (EHS) in any amount over the threshold reporting quantity? For more information go to www.epa.gov/tri Yes No
- If yes, has your hospital submitted a notification letter identifying the EHS and facility emergency coordinator to the Local Emergency Planning Committee (LEPC)/State Emergency Response Committee (SERC)? Yes No
- Do you report hazardous substance use under Toxic Release Inventory (TRI) reporting? Yes No
- Has your facility worked to reduce, eliminate, and recycle toxic chemicals, equipment and materials or use pharmaceutical return programs whenever possible? Yes No

Federal Insecticides, Fungicide and Rodenticide Act (FIFRA)

- | | Yes | No |
|--|--------------------------|--------------------------|
| Does your hospital mix or blend your own pesticides? (Pesticides include disinfectants, sterilants, germicides, algacides, virucides, swimming pool compounds, insecticides, fungicides, etc.) | <input type="checkbox"/> | <input type="checkbox"/> |
| If yes, is your hospital registered with EPA? | <input type="checkbox"/> | <input type="checkbox"/> |
| If your hospital uses your own janitorial employees to apply disinfectants and other pesticides, do you offer/provide training as to the proper use of pesticides? | <input type="checkbox"/> | <input type="checkbox"/> |
| Are your hospital pesticide applicators licensed or certified by the state? | <input type="checkbox"/> | <input type="checkbox"/> |
| Are any "restricted use" pesticides used at your hospital? (See product label.) | <input type="checkbox"/> | <input type="checkbox"/> |
| If yes, is a certified applicator applying or directly supervising the application of the restricted use pesticide? | <input type="checkbox"/> | <input type="checkbox"/> |

Purchasing ¹	Yes	No
-------------------------	-----	----

- | | | |
|--|--------------------------|--------------------------|
| Does your office use a centralized purchasing system so that there is not duplicate purchasing by individual departments? | <input type="checkbox"/> | <input type="checkbox"/> |
| Has your hospital called upon vendors and your Group Purchasing Organization (GPO) to identify and develop alternatives to harmful and/or wasteful products and materials? | <input type="checkbox"/> | <input type="checkbox"/> |
| Has your hospital worked with suppliers to minimize wasteful packaging? | <input type="checkbox"/> | <input type="checkbox"/> |
| Does your hospital receive supplies in reusable shipping containers? | <input type="checkbox"/> | <input type="checkbox"/> |
| Does your hospital use office paper with at least 30% recycled content? | <input type="checkbox"/> | <input type="checkbox"/> |
| Has your hospital evaluated alternatives to polyvinyl chloride (PVC) and di(2-ethylhexyl) phthalate (DEHP) – containing products? | <input type="checkbox"/> | <input type="checkbox"/> |
| Does your hospital purchase non-toxic/less toxic alternatives for janitorial chemicals? | <input type="checkbox"/> | <input type="checkbox"/> |
| Does your hospital use ethylene oxide? | <input type="checkbox"/> | <input type="checkbox"/> |
| If yes, have you evaluated alternatives? | <input type="checkbox"/> | <input type="checkbox"/> |
| Does your hospital have a central system in place for tracking and quantifying the amount of chemicals purchased, dispensed, and disposed of? | <input type="checkbox"/> | <input type="checkbox"/> |
| Does your hospital track the quantity or amount of green products and services used? | <input type="checkbox"/> | <input type="checkbox"/> |

Has your hospital instituted purchasing policies in any of the following areas? (Check all that apply.)

- | | |
|---|---|
| <input type="checkbox"/> Green products | <input type="checkbox"/> Low volatile organic compound (VOC) products |
| <input type="checkbox"/> Energy Star products | <input type="checkbox"/> Polyvinyl chloride (PVC) products |
| <input type="checkbox"/> Less toxic materials | <input type="checkbox"/> Di (2-ethylhexyl) phthalate (DEHP) products |
| <input type="checkbox"/> Latex | <input type="checkbox"/> Recycled content in products |
| <input type="checkbox"/> Mercury | <input type="checkbox"/> Other (specify) _____ |

Energy Conservation ²	Yes	No
----------------------------------	-----	----

- | | | |
|--|--------------------------|--------------------------|
| Have you created a baseline of energy performance for your hospital using EPA's benchmarking tool? (http://208.254.22.6/index.cfm?c=eligibility.bus_portfolio manager_eligibility_hospitals) | <input type="checkbox"/> | <input type="checkbox"/> |
| Has your hospital done an energy management review within the last three years? | <input type="checkbox"/> | <input type="checkbox"/> |
| Has your facility implemented a water conservation program? | <input type="checkbox"/> | <input type="checkbox"/> |
| Does your facility use LEED™ or Green Building standards? | <input type="checkbox"/> | <input type="checkbox"/> |

¹ Read about green purchasing at <http://www.noharm.org/greenpurchasing/issue> and <http://www.ofee.gov/gp/gp.htm>

² To view EnergyStar information for healthcare, visit http://www.energystar.gov/index.cfm?c=healthcare.bus_healthcare

Has your hospital implemented any of the following within the last three years? (Check all that apply.)

- Heating/ventilation upgrades
- Energy efficient lighting upgrades
- Air side cooling economizer cycle
- Lighting occupancy sensors
- Programmable thermostats
- Control ventilation rates to minimum requirements

Does your hospital purchase EnergyStar equipment? (Check all that apply.)

- Computers
- Monitors
- Water coolers
- Multifunction devices
- Commercial refrigerator/freezers
- Scanners
- Fax machines
- Printers
- Roofing products
- Other (specify) _____
- Exit signs
- TVs
- Copiers

General Yes No

Does your hospital have an Integrated Pest Management (IPM) Program?

What environmental topics would you like more training in? (Check all that apply.)

- General compliance
- Mercury management
- Green purchasing
- Universal waste
- Clean Air Act
- Red bag waste reduction
- Resource management
- Energy management/conservation
- Environment
- Emergency Planning and Community Right-to-Know Act (EPCRA) management system
- Federal EPA's Spill Prevention, Control, and Countermeasures (SPCC) regulations
- Water conservation
- EPA Audit Program
- Green building
- Solid waste recycling
- RCRA Hazardous waste conservation
- Other: _____

What are your top three training needs?

- 1. _____
- 2. _____
- 3. _____

Yes No

Has your hospital taken any action not covered above to improve environmental performance? (Specify)

Mercury

Yes No

- | | | |
|---|--------------------------|--------------------------|
| Has your facility assessed and inventoried your facility for mercury devices/sources? | <input type="checkbox"/> | <input type="checkbox"/> |
| Have you replaced mercury thermometers with non-mercury alternatives? | <input type="checkbox"/> | <input type="checkbox"/> |
| Have you discontinued dispensing mercury thermometers to patients? | <input type="checkbox"/> | <input type="checkbox"/> |
| Are you using mercury-free blood pressure units? | <input type="checkbox"/> | <input type="checkbox"/> |
| Are you using mercury-free esophageal tubes and dilators? | <input type="checkbox"/> | <input type="checkbox"/> |
| Do you have a mercury spill response plan and have kits on hand? | <input type="checkbox"/> | <input type="checkbox"/> |
| Have you identified mercury-containing chemicals used in the lab? | <input type="checkbox"/> | <input type="checkbox"/> |
| Have you activated a plan to replace mercury-containing lab chemicals? | <input type="checkbox"/> | <input type="checkbox"/> |

Notes:

Department-specific Pages

Environmental Concerns and Pollution Prevention Opportunities

These department-specific pages are designed to be distributed and used by the various departments within your hospital. Each department has a double-sided page addressing related environmental management concerns and will provide:

- A list of best management practices (BMP) and possible less toxic options;
- A list of hazardous substances and hazardous wastes often found in the specific department, and the source of the hazardous substance or waste;
- Available safe alternatives available, if any; and
- Additional methods for managing hazardous substances and reducing waste generation.

Be sure to determine the proper disposal method for all wastes.

Many of the pages briefly discuss what can or cannot be disposed in wastewater discharges. Many dangerous wastes cannot be treated appropriately at Publicly Owned Treatment Works (POTW) nor can they be discharged into septic systems. Dangerous wastes should not be disposed down the drain unless your hospital has a Washington State Waste Discharge Permit, discharge authorization to a POTW or a National Pollution Discharge Elimination System (NPDES) permit that allows certain surface water discharges after pretreatment.

Also, be sure to check with the local air authority or the Washington State Department of Ecology's Air Quality Program for managing the hospital's air emissions and air contaminant source registration requirements.

Boilers, water treatment systems, Ethylene Oxide Sterilizers (EtO), back-up generator systems and fuel tanks may require regulatory oversight. Do not evaporate volatile organic compounds, oil, or petroleum-based paint wastes. Water can be evaporated off inorganic wastes (primarily metals) as long as no air pollutants are emitted. The dried metal waste would most likely be dangerous waste.

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Administration and Purchasing Department



Many administrative services such as billing services, record keeping and documentation, printing and copying, and shipping and receiving generate large amounts of municipal solid waste. Recycling items such as paper, glass, aluminum cans, cardboard, plastics, computer equipment, printer and copier cartridges, wood waste and scrap metals will drastically reduce your solid waste output. Improving waste segregation systems can increase recycling and reduce solid waste.

- Buy and use durable products and materials instead of “use-once, throw-away” items. Recycle and purchase products with recycled content.
- Avoid excessive and/or unnecessary packaging. Insist that manufacturers reduce, collect, and/or re-use packaging (containers, foam peanuts, inserts). Use reusable packaging and totes instead of corrugated shipping containers.
- Collect and recycle fluorescent bulbs (keep intact), thermostats, mattresses, furniture, and equipment. Keep furniture, carpet, and equipment out of the dump. Consider having a reprocessing durable goods center. Sell or donate excess durables to clinics, shelters, and foreign medical aid.
- If they haven’t done so already, demand that your vendors start take-/buy-back programs for computers and peripherals, printer and copier cartridges, etc. Recycle computer equipment and toner cartridges.
- Use energy efficient computer equipment, lights, and appliances (Green Star/Lights Programs).
- Keep batteries out of the trash. Use non-mercury, rechargeable batteries and implement a battery collection program.
- Place mercury spill kits in mercury use areas.
- Start a mercury elimination program. Buy mercury-free products and equipment (digital sphygmomanometers and thermometers, tilt and float switches, reed or displacement relays, thermostat probes and plungers).
- Strive to achieve the Hospitals for a Healthier Environment (H2E)’s *Making Medicine Mercury-Free Award*. Find the link to H2E’s Web site in Appendix 3.
- Choose less- or least-toxic products and materials. Eliminate carcinogenic chemicals, and use CFC/Freon management systems to avoid releasing CFC’s.
- Dangerous waste is generated hospital-wide. Know your dangerous waste generator status and do hospital-wide dangerous waste generation counts monthly.
- Inventory all chemical, hazardous waste, and spill management systems. Keep all records for at least 5 years.

**Note: This is the first of 29 department-specific waste information pages. If the Administration Office manages waste for the entire hospital, the designated personnel are responsible for the information in each of these pages.*

Alternatives to and Management of Hazardous Substances found in Hospital Administration & Purchasing Departments

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Mercury	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Light bulbs, lamps, and older microwaves. <input checked="" type="checkbox"/> Greeting cards, gift shop novelty items with motion lights 	<ul style="list-style-type: none"> • Low-mercury or energy-efficient lamps • Newer microwaves • Digital thermostats • Non-mercury-containing novelty items 	Check Universal Waste list in Appendix 1 to find out which can be disposed under the Universal Waste Rules and which ones must be managed as dangerous waste.
<input type="checkbox"/> Batteries: Mercury, lead, acid, cadmium, nickel	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Hearing aids and pacemakers <input checked="" type="checkbox"/> PDAs and digital cameras <input checked="" type="checkbox"/> Communication devices 	<ul style="list-style-type: none"> • Rechargeable batteries • Lithium or alkaline • Zinc air 	See Appendix 2 for vendor list.
<input type="checkbox"/> Toner cartridges	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Copiers <input checked="" type="checkbox"/> Printers 	<ul style="list-style-type: none"> • Recycle • Use vendor take-back programs 	
<input type="checkbox"/> Solvents	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Several used in print shops 	<ul style="list-style-type: none"> • Use digital print system 	Recycle, distill, or dispose of as dangerous (hazardous) waste.
<input type="checkbox"/> Cleaning chemicals	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Janitorial supplies 	<ul style="list-style-type: none"> • Use least toxic chemicals 	See vendor list in Appendix 2.
<input type="checkbox"/> Electronic waste	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Computers <input checked="" type="checkbox"/> Cathode Ray Tubes (CRTs) 	<ul style="list-style-type: none"> • Recycle • Send for re-use • Use vendor take-back programs 	



Anesthesia services generate dangerous wastes such as nitrous oxide, halogenated agents: halothane (fluothane), enflurane (ethrane), isoflurane (forane), and other inhalation anesthetics. Waste anesthetic gases are generally removed from the site of application by either a scavenging unit attached to the anesthesia unit which may capture halogenated waste gases with a charcoal filter or by vacuum lines which vent to the outside. Charcoal filters will not trap nitrous oxide. Spent charcoal filters and Soda Sorb must be handled as dangerous waste.

All wastes must be evaluated to determine if they are dangerous wastes, biomedical wastes (permitted or allowed), wastewater discharges, permitted air polluting emissions, or municipal solid waste. Keep municipal solid, dangerous and biomedical wastes separate. Dangerous waste cannot legally be thrown in the trash, disposed of down the drain, or evaporated into the air. All dangerous waste, including excess gas cartridges, cylinders and cans, needs to be properly collected, stored, and recycled, treated or disposed of through a dangerous waste service firm (see Ecology's *Hazardous Waste Services Directory* at <http://www.ecy.wa.gov/apps/hwtr/hwsd/default.htm>).

- Consider replacing hazardous substances, including mercury-containing devices, with less-toxic alternatives. See Appendix 2 for a list.
- Educate staff to ensure sharps containers are used solely for sharps—**not** batteries, broken glass, broken thermometers, or anything other than syringe needles, lancets, etc. Purchase reusable, leak-proof, puncture-resistant, cadmium-free sharps containers.
- Inform staff about proper segregation and disposal of red bag and biomedical waste containers.
- Use scavenging systems for anesthesia unit gas emissions. Restrict waste gases to anesthesia units—stop any flow into other work areas inside the hospital or outside. Use low-leakage equipment. Check anesthesia unit daily for possible leaks (e.g., loose tubing, etc.). Do regular maintenance checks on anesthetic units and scavenging systems—especially on equipment that is more than 10 years old. Perform quarterly monitoring of anesthetic levels in rooms that dispense anesthetics.
- Eliminate gas cylinders/cartridges/cans not currently being used or lacking a specific purpose. Return empty containers, cartridges or cylinders to supplier. Determine if they are dangerous waste.
- Keep pharmaceuticals, spent charcoal filters, halogenated anesthetic bottles, and other dangerous or biomedical waste out of the trash.
- Dangerous waste is generated hospital-wide. Know your dangerous waste generator status and do hospital-wide dangerous waste generation counts monthly.
- Maintain all disposal records on-site for five years.

Alternatives to and Management of Hazardous Substances found in Hospital Anesthesia Services Departments

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Liquid and gas halogenated wastes	<input checked="" type="checkbox"/> Anesthetic gases <input checked="" type="checkbox"/> Containers		Return unused portions and/or containers back to vendor or dispose of properly. Filters and Soda Sorb are dangerous waste
<input type="checkbox"/> Waste anesthesia gases	<input checked="" type="checkbox"/> Air emissions <input checked="" type="checkbox"/> Filters <input checked="" type="checkbox"/> Soda Sorb	<ul style="list-style-type: none"> • Use low-leak equipment • Use scavenging units 	Routinely check equipment and maintain against leaks; avoid liquid anesthetic spills. Fit patient mask properly; turn gas supply off before disconnecting. Check wall piping and connections routinely. Do leak tests daily and monitor anesthetic levels in operating and recovery rooms, emergency dental and adjacent/other rooms receiving gases quarterly.
<input type="checkbox"/> Compressed gas cylinders			Eliminate gas cylinders not in use or lacking specific purpose. Return to vendor for recycling when possible.
<input type="checkbox"/> Dangerous waste air emissions	<input checked="" type="checkbox"/> Air pollutants <input checked="" type="checkbox"/> Halogenated gases		Capture fugitive gases and pollutants.
<input type="checkbox"/> Biomedical wastes	<input checked="" type="checkbox"/> Body fluids <input checked="" type="checkbox"/> Saturated materials	<ul style="list-style-type: none"> • Separate solid from biomedical waste 	Great cost savings can be achieved by separating solid from biomedical wastes.



Autopsy services generate biomedical, dangerous, and solid wastes. Determine the proper disposal methods for all wastes generated. Bio-hazardous wastes include sharps, blood, or any material saturated with blood or bodily fluids. Store and dispose in a labeled biomedical waste red bag or in a leak proof, puncture-resistant, cadmium-free, hard bio-hazardous waste container. Sharps need to be stored separately in a rigid, secure container. When containers are full, use a permitted biomedical waste hauler.

High level disinfectants and preservatives such as formalin/formaldehyde and glutaraldehyde wastes need to be neutralized, recycled, or disposed of as dangerous waste. Ecology encourages hospitals to use a central sterile department to reduce the use of cold sterilants. Less-toxic high level disinfectants are available including those containing acetic acid, peracetic acid, hydrogen peroxide, alcohols, or ketones.

- Recycle plastics, paper, cardboard, unopened surgical devices, and other items. Don't throw away items that can be reused or recycled. Distill and reuse alcohols, solvents and xylene.
- Instead of using high-level disinfectants like glutaraldehyde, formaldehyde, Bouin's solution, or formalin, investigate and use less-toxic alternatives. See the vendor list in Appendix 2 for information on less-toxic alternatives.
- Never dispose of still bottoms or other dangerous, pathological, and/or biological wastes down the drain, sink, or into the air, garbage, sewer, or septic tank.
- Properly collect, segregate, store, label and dispose of all wastes. Inform staff on proper separation and disposal of biomedical red bags, dangerous and municipal solid wastes.
- Use reusable, leak-proof, puncture resistant, cadmium-free sharps containers for needles, syringes, lancets, etc. only – not for batteries, broken glass, broken thermometers or other non-sharps.
- Neutralize disinfectants before discharging into drain/sewer. Keep high-level disinfectants, even if neutralized, out of septic systems.
- Decant formalin/formaldehyde from pathological specimens prior to packaging for disposal or reuse.
- Use digital or other mercury-free devices and instruments whenever possible. Manage mercury-containing devices (thermometers, fluorescent bulbs, etc.) dangerous waste or universal waste.
- Don't dispose of mercury down the drain or in the trash. Always wear gloves when handling mercury and mercury-containing products. Have mercury spill cleanup kits readily available—don't allow spills to be cleaned up without proper materials, equipment, and disposal methods.
- Maintain all disposal records on-site for five years.

Alternatives to and Management of Hazardous Substances found in Hospital Autopsy Services

Hazardous wastes and substances often found in this department Use or Manage?	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Non-hazardous solid waste	<input checked="" type="checkbox"/> Packaging	<ul style="list-style-type: none"> Request less packaging Purchase in bulk when possible Use reusable totes rather than cardboard boxes 	Recycle; minimize use of hard-to-recycle plastics and glass; follow hauler's waste separation specifications.
<input type="checkbox"/> Bio-medical waste	<input checked="" type="checkbox"/> Body fluid <input checked="" type="checkbox"/> Saturated materials <input checked="" type="checkbox"/> Blood <input checked="" type="checkbox"/> Sharps		Make sure waste meets standards to reduce total volume; store in bio-medical waste "red bags;" separate sharps into a puncture-resistant container labeled " <i>Bio-medical Waste</i> ;" keep bio-medical and solid waste separate to reduce costs.
<input type="checkbox"/> Glutaraldehyde, formaldehyde, xylene and alcohols	<input checked="" type="checkbox"/> Chemiclaves <input checked="" type="checkbox"/> Tissue preservation <input checked="" type="checkbox"/> Embalming	<ul style="list-style-type: none"> Use autoclaves or sonic sterilization (see vendor list in Appendix 2 for alternative sterilization methods) 	<p>Waste aldehydes are hazardous. Use glycine, glutarex or formalex to detoxify them. Never discharge into a septic tank; use proper ventilation and medical monitoring of staff.</p> <p>Note: Cidex OPA is <u>NOT</u> recommended as a substitute for Chemiclaves.</p>
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Thermometers <input checked="" type="checkbox"/> Barometers <input checked="" type="checkbox"/> Chemicals	<ul style="list-style-type: none"> Alcohol thermometers Digital equipment Non-mercury chemicals 	Dispose or recycle as dangerous waste or universal waste (see factsheet in Appendix 1)
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Fluorescent bulbs <input checked="" type="checkbox"/> Mercury switches <input checked="" type="checkbox"/> Batteries	<ul style="list-style-type: none"> Low-mercury bulbs Mercury-free switches and batteries 	Dispose or recycle as dangerous waste or universal waste (see factsheet in Appendix 1)
<input type="checkbox"/> Dangerous waste discharges	<input checked="" type="checkbox"/> Wastewater		Don't pour untreated dangerous or bio-medical waste into the sewer system. Contact your local wastewater facility for regulations for your area.



Biomedical Engineering services provide support to the maintenance and supply of equipment and devices used in patient care. Wastes generated include batteries, used equipment and devices which contain mercury, degreasers and other dangerous wastes. Determine the proper disposal methods for all wastes generated.

All dangerous waste, including excess gas cartridges, cylinders and cans, needs to be properly collected, stored, and recycled, treated or disposed of through a dangerous waste service firm (see Ecology's *Hazardous Waste Services Directory* at <http://www.ecy.wa.gov/apps/hwtr/hwsd/default.htm>).

- Improve segregation systems for recycling and disposal; never mix different types of wastes. Recycle whenever possible.
- Recycle or dispose of mercury-containing devices (batteries, barometers, etc.) intact, not broken, as universal or dangerous waste. Keep batteries, switches, thermometers, manometers, barometers, and other mercury-containing items out of the trash.
- Handle mercury-containing lamps (fluorescent, mercury vapor, metal halide, high-pressure sodium vapor, or neon) with care: don't crush them. See Appendix 2 for vendors.
- Remove the entire flame sensor unit that contains mercury from the appliance that is going to be disposed. Remove mercury switches using screwdrivers or wire cutters. Store in an airtight container that is properly labeled "*Mercury Devices for Recycling or Disposal.*"
- Have a mercury spill kit available at all times and clean up spills only with proper materials and equipment. Use gloves to handle spilled mercury and dispose of properly.
- Collect and store waste electronic equipment and devices in a safe, dry place until properly disposed – don't mix them with regular garbage.
- Store each kind of solvent and waste separately. Store flammables in a specially-marked storage cabinet or "H" room. Determine if the solvents are dangerous waste and dispose properly.
- Don't dispose dangerous chemicals and their wastes down the drain or into the garbage.
- Label all containers of dangerous waste legibly and clearly.
- Maintain all disposal records on-site for five years.

Alternatives to and Management of Hazardous Substances found in Hospital Biomedical Engineering Services

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<input checked="" type="checkbox"/> Packaging	<ul style="list-style-type: none"> • Request less packaging • Segregate wastes • Minimize by purchasing in bulk 	Recycle; minimize use of hard-to-recycle plastics and glass.
<input type="checkbox"/> Electronic/computer waste (lead, mercury-containing waste)	<input checked="" type="checkbox"/> Cathode ray tubes <input checked="" type="checkbox"/> Monitors <input checked="" type="checkbox"/> Televisions <input checked="" type="checkbox"/> Hard drives		Universal waste; store in a dry, secure storage area prior to hazardous waste service disposal or recycle with a reputable reclaimer (see vendor list in Appendix 2)
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Thermometers <input checked="" type="checkbox"/> Barometers	<ul style="list-style-type: none"> • Alcohol thermometers • Digital equipment 	Mercury may be recycled or handled as dangerous waste.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Fluorescent bulbs <input checked="" type="checkbox"/> Mercury switches <input checked="" type="checkbox"/> Batteries	<ul style="list-style-type: none"> • Low-mercury bulbs • Mercury-free switches and batteries 	Universal waste (see Appendix 1)
<input type="checkbox"/> Solvents (alcohols, ketones and chlorinated compounds)	<input checked="" type="checkbox"/> Equipment maintenance	<ul style="list-style-type: none"> • Aqueous-based cleaners 	Collect, recycle or dispose as dangerous waste.
<input type="checkbox"/> Used batteries	<input checked="" type="checkbox"/> NiCad, lithium and others	<ul style="list-style-type: none"> • Use rechargeable batteries • Use mercury-free batteries 	Create a battery collection area and recycle when full; separate by type.
<input type="checkbox"/> Wastewater	<input checked="" type="checkbox"/> Dangerous waste discharges		Keep untreated dangerous and/or bio-hazardous wastes out of the sewer system. Contact your local water treatment facility for regulations for your area.

Central Sterile Reprocessing and Distribution



Central Sterile Reprocessing and Distribution services use ethylene oxide (“EtO”) sterilizers, chemiclaves which use formaldehyde or glutaraldehyde, autoclaves (steam) and chemical disinfection systems. Sterilization and high-level disinfection operations should be centralized in your hospital, if at all possible. Nearly all sterilants and disinfectants designate as dangerous waste—minimize their use to reduce cost of products and waste disposal.

Monitor air emissions of EtO and capture pollutants. Replace chemical sterilization with less-toxic processes such as sonic sterilization, gas plasma, electron beam, microwave, or hydrogen peroxide, whenever possible. EtO, with freon as the carrier gas, is in the process of being banned. Consider less-toxic carriers such as 100% ethylene oxide or carbon dioxide.

Designate all wastes to determine if they are dangerous wastes and to determine proper waste management and disposal. If high-level disinfection is necessary, neutralize with glycine or another aldehyde neutralizer (see Appendix 2 for vendors) and dispose down the drain if your hospital’s wastewater discharges go to a wastewater treatment system. If your hospital’s wastewater discharges to a septic system, collect and dispose disinfectants as a dangerous waste.

All dangerous waste needs to be properly collected, stored, and recycled, treated or disposed of through a dangerous waste service firm (see Ecology’s *Hazardous Waste Services Directory* <http://www.ecy.wa.gov/apps/hwtr/hwsd/default.htm>).

- Use durable items such as, towels, instruments, and stainless steel products.
- Neutralize high-level disinfectants before discharging to sewer. Keep Chemiclave wastewater out of septic systems; treat as a dangerous waste. Keep Chemiclaves closed.
- Manage all wastes containing formaldehyde or glutaraldehyde as dangerous waste. Keep glutaraldehyde or formaldehyde out of septic tanks even if neutralized first. Never release any dangerous waste into sewer or septic systems. Use less-toxic alternatives whenever possible.
- Use scrubbers, combustion units, or gas collection, when using EtO. Use EtO only in well-ventilated areas; monitor and dispose filter waste as dangerous waste. Don’t dispose of EtO down the drain or emit into the air.
- Fit autoclaves with recirculated cooling water systems.
- Keep batteries out of the trash.
- Recycle or dispose of any mercury-containing device (fluorescent, vapor, metal halide, and high-pressure sodium vapor, or neon lights and lamps, thermometers, etc.) as dangerous waste. Keep out of the regular garbage. Switch to mercury-free devices and products whenever possible.
- Use secondary containment and keep spill kits on hand. Train employees on proper use. Don’t try to clean up spills without proper materials and equipment.
- Maintain disposal records on-site for 5 years.

Alternatives to and Management of Hazardous Substances found in Central Sterile Reprocessing Units

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<ul style="list-style-type: none"> <input type="checkbox"/> Packaging <input type="checkbox"/> Paper <input type="checkbox"/> Disposable items 	<ul style="list-style-type: none"> • Use durable instruments • Purchase in bulk 	Recycle, reuse. Follow hauler's waste separation specifications. Segregation and recycling saves on disposal costs.
<input type="checkbox"/> Biomedical waste	<ul style="list-style-type: none"> <input type="checkbox"/> Sharps <input type="checkbox"/> Items soaked with blood and/or bodily fluids 		Separate solid waste from biomedical wastes; separation saves on disposal costs.
<input type="checkbox"/> Ethylene oxide (EtO) with 88% Freon-based carrier	<ul style="list-style-type: none"> <input type="checkbox"/> Sterilization 	<ul style="list-style-type: none"> • See alternative sterilization equipment vendor list 	Freon is being banned. Recover and dispose of EtO and Freon as dangerous waste. Filter air and dispose of spent filters as dangerous waste.
<input type="checkbox"/> Glutaraldehyde, formaldehyde, xylene, and alcohols	<ul style="list-style-type: none"> <input type="checkbox"/> Used in chemiclaves 	<ul style="list-style-type: none"> • Autoclaves/sonic sterilization • See alternatives vendor list in Appendices 	Aldehydes can be neutralized by using glycine or other neutralizers. Never discharge to septic system. Use proper ventilation and staff medical monitoring. Count as treated dangerous waste. Note: Cidex OPA is not recommended for use in chemiclaves
<input type="checkbox"/> Glutaraldehyde	<ul style="list-style-type: none"> <input type="checkbox"/> Cold sterilization 	<ul style="list-style-type: none"> • Use non-hazardous substance or non-inhalation hazard sterilization equipment (see Appendix 2) 	Use gloves or personal protection equipment. Use proper ventilation. Never discharge into septic system, even if neutralized. Can be neutralized and discharged to sewer. Count as treated dangerous waste.
<input type="checkbox"/> Waste water containing dangerous wastes	<ul style="list-style-type: none"> <input type="checkbox"/> Dangerous waste 	<ul style="list-style-type: none"> • Reduce generation of dangerous waste (see vendor list in Appendix 2) 	Do not dispose untreated dangerous waste or into the sewer system. Contact Ecology or local wastewater facility for exact disposal regulations for your area.
<input type="checkbox"/> Mercury	<ul style="list-style-type: none"> <input type="checkbox"/> Thermometers, gauges, barometers <input type="checkbox"/> Fluorescent bulbs, mercury switches, batteries <input type="checkbox"/> Electronics, equipment 	<ul style="list-style-type: none"> • Use digital or alcohol instruments • Use low-mercury bulbs and mercury-free switches and batteries 	Mercury may be recycled or handled as dangerous waste or Universal Waste (see fact sheet in Appendix 1). Store and dispose of according to local state regulations.



Clinical research generates biomedical, dangerous, and municipal solid wastes. Chemicals and wastes not generally associated with healthcare services may be present, such as solvents, alcohols, reagents, used or discarded chemicals, acid and bases. All dangerous waste, including excess gas cartridges, cylinders and cans, needs to be properly collected, stored, and recycled, treated or disposed of through a dangerous waste service firm (see Ecology's *Hazardous Waste Services Directory* <http://www.ecy.wa.gov/apps/hwtr/hwsd/default.htm>).

- Recycle or dispose of xylene, methanol, acetone, methylene chloride and other solvent wastes as dangerous waste.
- Manage chemicals and wastes properly. Use closed, clearly labeled and dated containers. Store in a secure area, keeping incompatibles separate in secondary containment. Dispose of properly.
- Dangerous wastes, including cadmium, chromium, copper, cyanide, lead, mercury, nickel, selenium, silver or zinc cannot legally be disposed down the drain.
- Store specimens prepared in formaldehyde or metal-containing fixatives away from sinks. Don't dilute chemical wastes for the purpose of disposal. You may need a wastewater discharge permit—contact your local publicly-owned wastewater treatment facility for requirements.
- Don't use a sink or hood as a secondary containment area for hazardous materials or dangerous wastes, or evaporate solvents or other organic chemical wastes in the fume hood as a means of disposal.
- Train staff on waste designation and proper disposal methods for all wastes. Keep unlike wastes separate. Count all dangerous wastes generated on a monthly basis, hospital-wide. Add any treated and recycled dangerous wastes to the dangerous waste totals.
- Avoid using chromic acid solutions for cleaning glassware. Keep waste solutions containing chromic acid out of the drain or sink—these are dangerous wastes.
- Store staining supplies in a secure storage area. If the staining waste is a dangerous waste, manage properly. Keep copper or chromium reagents used in protein, stool or albumin testing out of the sewer.
- Extract mercury from mercury-containing equipment and manage as dangerous waste. Keep mercury-containing lamps out of the garbage—manage as Universal waste.
- Don't discharge cold sterilants, such as, glutaraldehyde or formaldehyde into sewer unless thoroughly neutralized. Never dispose to septic tanks.
- Use reusable, leak-proof, puncture-resistant, cadmium-free sharps containers for needles, syringes, lancets, etc., only – **not** for batteries, broken glass or thermometers, or other non-sharps material.
- Manage cell culture or microbiological lab waste as biomedical waste. Keep microbiological lab waste from cell cultures and stains out of the garbage and/or drain.
- Wherever possible, use central sterilizing reprocessing. Install recirculating cooling water device on autoclaves or equipment that supplies cooling water.
- Replace all plastic tubing containing DEHP with tubes that are DEHP-free.
- Maintain a current inventory of all hazardous substances and chemicals stored within the facility and a materials data safety sheet (MSDS) for each chemical within the work place. Also, maintain all disposal records on-site for five years.

Alternatives to and Management of Hazardous Substances found in Clinical Research Labs

Hazardous wastes and substances often found in this department Use or Manage?	Use or Source	Available Alternatives	Additional Management Comments	
<input type="checkbox"/>	Municipal solid waste	<ul style="list-style-type: none"> ■ Packaging 	<ul style="list-style-type: none"> • Request less packaging 	Use reusable plastic totes instead of cardboard boxes.
<input type="checkbox"/>	Biomedical waste	<ul style="list-style-type: none"> ■ Sharps ■ Blood 	<ul style="list-style-type: none"> • Reduce biomedical waste by separating out solid waste 	Use biomedical “red bags.” Separate sharps into puncture-resistant, clearly-labeled container.
<input type="checkbox"/>	Dangerous waste (toxic, mercury or flammable)	<ul style="list-style-type: none"> ■ Waste pharmaceuticals 	<ul style="list-style-type: none"> • Use take-back pharmaceutical programs (see Appendix 4) 	Follow label and storage requirements. Separate non-compatible materials. Never dispose to sewer.
<input type="checkbox"/>	Air emissions	<ul style="list-style-type: none"> ■ Lab chemicals ■ Sterilization and disinfection 	<ul style="list-style-type: none"> • See list of air pollutants that can’t be emitted in Appendix 5 	Use charcoal filters in hoods and dispose of as dangerous waste when spent.
<input type="checkbox"/>	Formaldehyde	<ul style="list-style-type: none"> ■ Tissue preservation or disinfection 	<ul style="list-style-type: none"> • Neutralize • Use alternatives 	Separate, disinfect and dispose of mixed waste (formaldehyde and tissue) as dangerous waste.
<input type="checkbox"/>	Glutaraldehyde, formaldehyde, xylene and alcohols	<ul style="list-style-type: none"> ■ Used in chemiclaves 	<ul style="list-style-type: none"> • Use autoclaves or sonic sterilization • Aldehydes can be neutralized 	Dangerous waste. Never discharge into septic system. Use proper ventilation. (Note: Cidex OPA is not recommended as a substitute in chemiclaves.)
<input type="checkbox"/>	Glutaraldehyde	<ul style="list-style-type: none"> ■ Cold sterilization 	<ul style="list-style-type: none"> • Cidex OPA, Sporox • See vendor list in appendices for equipment alternatives 	Use gloves and/or personal protective equipment. Use proper ventilation. Never discharge into septic system. Detoxify and discharge to a treatment plant.
<input type="checkbox"/>	Mercury	<ul style="list-style-type: none"> ■ Thermometers, barometers ■ Fluorescent bulbs, mercury switches, batteries 	<ul style="list-style-type: none"> • Digital equipment, alcohol thermometers • Use low-mercury bulbs and mercury-free switches and batteries 	Mercury may be recycled or handled as dangerous waste or Universal Waste .
<input type="checkbox"/>	Wastewater	Dangerous waste discharge		Don’t discharge dangerous waste unless you have a sewer permit.



Construction, renovation, and demolition waste in hospitals mainly consists of solid waste. Hospitals must identify which materials are dangerous waste including lead shielding, lead paint peelings, asbestos (contained in some ceiling tiles, floor tiles or heating systems/boilers), demolished equipment containing lead, mercury, silver and/or cadmium (residuals in drain traps, gauges, switches, batteries, fluorescent light bulbs, and computer monitors). Light ballasts may contain PCB's.

Determine the proper disposal methods for all wastes generated. Mercury is a toxic, bioaccumulative substance and needs to be managed as dangerous waste. All dangerous waste needs to be properly collected, stored, and recycled, treated or disposed of through a dangerous waste service firm (see *Hazardous Waste Services Directory* <http://www.ecy.wa.gov/apps/hwtr/hwsd/default.htm>).

To reduce disposal costs, identify and separate wastes that are recyclable. Some debris is municipal solid waste, but the volume may warrant separate disposal in an approved construction and debris landfill. Check with your county health district and solid waste departments on local disposal requirements.

- Use recycled materials and energy-efficient design principles. See Resource List for *Green Guide to Healthcare*.
- Prevent saw-cut slurries, dirt, leftover paints (including rinse water), solvents, or toxic chemicals from getting into storm drains, sewer, or septic tanks, or run-off into streets, alleys, or parking lots.
- Ensure wastewater meets discharge standards before discharging to any drain. Don't store chemicals and other hazardous substances or wastes, above or near any drain.
- Install separate piping for laboratory and sanitary waste when installing new plumbing.
- Use an asbestos abatement contractor when removing or disturbing asbestos. Don't use any asbestos-containing materials when constructing or renovating a facility, or burn any material containing asbestos. Dispose of asbestos waste properly.
- Have spill clean up kits, materials, and neutralizing agents readily available. Train employees in spill preparedness. Clean up spills of hazardous substances immediately and dispose as dangerous waste. Never handle spilled mercury with bare hands.
- Manage waste lead paint & debris, asbestos ceiling or floor tiles, materials/equipment containing lead, mercury, silver or cadmium, batteries, computer monitors, lighting ballasts and thermostats properly – never put into trash or sewer.
- Identify and properly manage all demolition debris. Manage municipal wastes separately. Separate dangerous wastes from wastes like metal and wood wastes, used mattresses, carpeting, solid waste from construction debris, and furniture. Sort and recycle, don't mix wastes.
- Manage mercury-containing lamps (fluorescent, mercury vapor, metal halide, high-pressure sodium vapor, and neon) correctly; don't put into the regular trash. Switch to mercury-free thermostats, fluorescent lamps, switches, floats, temperature control devices, and cleaning products.
- Improve segregation systems for all wastes to aid with proper disposal and recycling.
- Replace all plastic tubing/piping containing DEHP (PVC) with tubes that are DEHP-free.
- For information on materials containing a PCB, go to: <http://yosemite.epa.gov/R10/OWCM.NSF/pcb/pcb> and get in touch with the PCB specialist at your Ecology regional office.

Alternatives to and Management of Hazardous Substances found in Construction and Renovation Areas

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
 <p>Municipal solid waste</p>	<ul style="list-style-type: none">  Packaging  Disposable, single-use items 	<ul style="list-style-type: none"> • Use durable containers • Request less packaging 	Recycle cardboard, paper, newspaper, metals (including steel and aluminum), glass plastics, and packaging materials. Follow recycler's separation specifications.
 <p>Mercury</p>	<ul style="list-style-type: none">  Lamps, switches  Batteries  Drain traps  Cleaning products 	<ul style="list-style-type: none"> • Use low-mercury bulbs • Use rechargeable , non-mercury batteries • Use non-mercury cleaning supplies 	Recycle. Dispose of properly as dangerous waste or Universal Waste. See vendor lists in Appendix 2.
 <p>Polychlorinated Biphenyl (PCB)</p>	<ul style="list-style-type: none">  Light ballasts 	<ul style="list-style-type: none"> • Replace old ballasts with PCB-free ballasts 	Dispose as TSCA/dangerous waste. Avoid using any material containing PCBs.
 <p>Asbestos</p>	<ul style="list-style-type: none">  Flooring felt  Rollboard, corrugated, commercial specialty paper  Ceiling "popcorn"  Asbestos-containing products 	<ul style="list-style-type: none"> • Use asbestos-free products 	Use a registered asbestos removal and disposal firm. Dispose of all wastes containing asbestos as a dangerous waste or a special waste. See Ecology's <i>Hazardous Waste Services Directory</i> at http://www.ecy.wa.gov/apps/hwttr/hwsd
 <p>Contaminated storm water</p>	<ul style="list-style-type: none">  Runoff from construction area, lawns, parking areas 	<ul style="list-style-type: none"> • Use barriers to filter runoff from site 	Keep contaminants out of storm water runoff. Do not dispose of paint or other wastes down the storm drain.
 <p>Lead, petroleum-based paints, metals, toxic tints</p>	<ul style="list-style-type: none">  Paint, stains, and lacquers 	<ul style="list-style-type: none"> • Use latex or waterborne products • Donate usable items 	Paint chips containing lead must be managed as dangerous waste. Dispose of properly. Separate dangerous and Universal Wastes.
 <p>Construction, demolition debris</p>	<ul style="list-style-type: none">  Wood  Flooring, etc. 	<ul style="list-style-type: none"> • Recycle • Donate usable items 	Paint chips containing lead must be managed as dangerous waste. Dispose of properly. Separate dangerous and Universal Wastes.



Critical care services can include these areas:

Burns	Neonatal
Cardiac	Pediatric
Intensive Care	Surgical
Medical	

Therefore critical care can generate large amounts of wastes that may include: devices and products that contain mercury, unused pharmaceuticals, sterilants, disinfectants, anesthesia and other gas wastes, biomedical waste, solid waste, and chemotherapy waste.

All dangerous waste, including excess gas cartridges, cylinders and cans, needs to be properly evaluated, collected, stored, and recycled, treated or disposed of through a dangerous waste service firm (see *Hazardous Waste Services Directory* <http://www.ecy.wa.gov/apps/hwtr/hwsd/default.htm>).

- Biomedical waste, such as material containing blood and bodily fluids, needs to be stored in clearly labeled red bags or hard, leak-proof containers. Train staff about proper biomedical waste segregation and disposal.
- Manage chemicals and wastes properly. Use closed, clearly labeled and dated containers. Store in a secure area, keeping incompatibles separate in secondary containment. Dispose of properly.
- Dangerous wastes must be properly managed, it can't be disposed into the garbage, poured down the drain, or evaporated into the air.
- Air pollutant control devices (filters, scrubbers, etc.) should be used on any equipment that could potentially release emissions into the air. Contact Ecology's Air Quality Program or your local Air Quality Authority on the requirements for air pollution control for your area.
- Separate trace and bulk chemotherapy waste. Trace chemo waste can go into biomedical waste bags; bulk chemotherapy waste is classified as dangerous waste.
- Sharps should be stored in a labeled, secured, puncture-resistant, cadmium-free, container especially designed for sharps. Use the containers for sharps only - no batteries, broken thermometers, or glass.
- Consider developing a hospital program that donates or sells used equipment and furnishings.
- Investigate less-toxic alternatives to high-level disinfectants and reverse osmosis water supply equipment to reduce formaldehyde usage. Keep formaldehyde, glutaraldehyde out of drains and the sewer unless thoroughly neutralized. Don't discharge formaldehyde or glutaraldehyde into septic tank, even if neutralized. Decant formalin and formaldehyde from pathological specimens prior to reuse or disposal. Distill and reuse alcohol and solvents. Use an alternative to ethylene oxide (EtO) and Bouin's solution when available.
- Use mercury-free devices (electronic sensors, temperature strips, digital thermometers, air-, water-, or Tungsten-filled gastrointestinal tubes or bougies). Send patients home with digital thermometers.
- Keep a container for unused pharmaceuticals. Return them to the pharmacy. Keep out of sewer/septic and garbage.
- Maintain all disposal records on-site for three years.

Alternatives to and Management of Hazardous Substances found in Critical Care Services

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<input checked="" type="checkbox"/> Packaging <input checked="" type="checkbox"/> Disposable items	<ul style="list-style-type: none"> • Request less packaging • Use durable items 	Recycle cardboard, paper, newspaper, metals (including steel and aluminum), glass, plastics, and packaging materials.
<input type="checkbox"/> Lindane, cresols, saline, preservatives, flammables, mercury, thimerosal	<input checked="" type="checkbox"/> Dangerous waste pharmaceuticals, patient care	<ul style="list-style-type: none"> • Use take-back pharmaceutical programs (see Appendix 4) • Use pharmaceuticals that don't contain mercury • Use thimerosal-free products 	Any waste pharmaceuticals, cleaners or devices that contain mercury are dangerous wastes. See alternative vendor list in Appendix 2.
<input type="checkbox"/> Air emissions	<input checked="" type="checkbox"/> Sterilization and disinfection (EtO)	<ul style="list-style-type: none"> • Sterilox, Sterad or Steris. See vendor list in Appendix 2. 	Capture air pollutants. Monitor EtO levels.
<input type="checkbox"/> Glutaraldehyde, formaldehyde, xylene and alcohols	<input checked="" type="checkbox"/> Used in chemiclaves	<ul style="list-style-type: none"> • Use autoclaves or sonic sterilization • Microwave • Electron beam • Gas plasma • Hydrogen peroxide 	Use gloves and/or personal protective equipment. Use proper ventilation. Never discharge into septic system. Detoxify and discharge to a treatment plant. (Note: Cidex OPA is not recommended as a substitute in chemiclaves.)
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Thermometers, sphygmomanometers <input checked="" type="checkbox"/> Cantor tubes, feeding tubes, esophageal dilators	<ul style="list-style-type: none"> • Digital equipment, alcohol thermometers, aneroid sphygs • Tungsten, air, or water weighted esophageal dilators and tubes 	Mercury may be recycled or handled as dangerous waste or Universal Waste. See alternative vendor list in Appendix 2.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Fluorescent bulbs, mercury switches, batteries	<ul style="list-style-type: none"> • Use low-mercury bulbs and mercury-free switches and batteries 	Mercury may be recycled or handled as dangerous waste or Universal Waste. See fact sheet in Appendix 1.
<input type="checkbox"/> Lead	Sterilizer/autoclave tape	<ul style="list-style-type: none"> • Non-lead indicator tape 	Dangerous waste, dispose properly.
<input type="checkbox"/> Wastewater	Dangerous waste being discharged down drains		Check with local waste water treatment facility for discharge limits.



Emergency departments may perform services which include the decontamination of patients, use of formalin for specimen preservation, operation of x-ray equipment, management of photographic chemicals, wastewater, silver recovery and films, mercury-containing devices, sterilants, high level disinfectants and waste pharmaceuticals. Biomedical waste in the form of saturated or free-flowing blood and bodily fluids needs to be placed in red bags or puncture-resistant containers and labeled for removal as biomedical waste. Manage sharps the same way, but store separately.

Dangerous waste cannot be disposed in the garbage, down the drain, or evaporated to the air. All dangerous waste needs to be properly stored, and recycled, treated, or disposed through a hazardous waste firm. See Ecology's *Hazardous Waste Services Directory* at <http://www.ecy.wa.gov/apps/hwtr/hwsd/default.htm>.

- Dangerous waste that is also biomedical waste must be disinfected, then disposed as dangerous waste. Consider replacing hazardous substances and mercury-containing devices with less-toxic alternatives.
- Manage regulated biomedical wastes—soiled or blood-soaked non-dangerous wastes, culture swabs, tissues/organs, sharps, blood products, bodily fluids or isolation waste—properly, in red bags. Keep out of the garbage or sanitary sewer. Collect sharps separately; don't place sharps in red bags.
- Store all chemicals used for preserving tissues (formaldehyde, formalin, etc.) in a separate and secure area and dispose of as dangerous waste. Keep chemicals out of sinks and sewer system.
- Segregate each type of waste— dangerous, biomedical, sharps, radioactive, recyclables, or municipal solid waste. Sort and recycle wastes including solid waste and hazardous wastes.
- Recycle film and spent fixer or dispose as a dangerous waste, never put down the drain. Comply with all local and state regulations. Don't mix spent fixer waste with x-ray processor cleaning agents if they contain chromic acid, i.e., Kodak's Liquid Developer System Cleaner. If recycled on-site, use a two or three-stage silver recovery canister system. Contact your local wastewater treatment facility to make sure all local discharge limits are met with the silver recovery system used.
- Collect high-level disinfectants (i.e., glutaraldehyde) and dispose as dangerous waste. Glutaraldehyde, ethylene oxide, and anesthetic gas waste are a health hazard; don't release into air or water. Always use proper ventilation when using these chemicals.
- Use filtered or separate ventilation system in decontamination areas for hazardous emissions.
- Contain wastewater in decontaminated areas in a sump tank. Properly store all decontamination waste water until treated and prior to sewer discharge.
- Keep chemical cleaning and disinfecting agents, or their respective waste water, and any chemical containing mercury out of the drains and sanitary sewers. Dispose cleaners and soaps as dangerous waste if they contain mercury (Alconox soap, Derma scrub).
- Dispose Miller-Abbot, Cantor tubes or bougies as dangerous waste, not in the trash or red biomedical waste bags. Close, label and date the container.
- Manage epinephrine and used epinephrine residual containers as extremely hazardous waste. Never dispose of pharmaceutical waste into the garbage or down the drain.

Alternatives to and Management of Hazardous Substances found in Emergency Care Services

Hazardous wastes and substances often found in this department Use or Manage?	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Dangerous waste (Pharmaceuticals list in Appendix 1)	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Medical procedures (epinephrine) <input checked="" type="checkbox"/> Mercury-containing pharmaceuticals 	<ul style="list-style-type: none"> • Use same class pharmaceuticals that don't contain dangerous waste, such as mercury 	Label and store according to requirements. Segregate non-compatible materials. Never store over sink. Keep MSDS readily available.
<input type="checkbox"/> Glutaraldehyde and other high level disinfectants	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Medical devices <input checked="" type="checkbox"/> High level disinfection <input checked="" type="checkbox"/> Chemiclaves <input checked="" type="checkbox"/> Cold sterilization 	<ul style="list-style-type: none"> • Hydrogen peroxide, peracetic acid, acetic acid (Sporox, Cidex OPA, Steris 20 Sterrad 5, Sterrad 100S, Sterilox 2501, Metrex Compliance) 	Glutaraldehyde is dangerous waste and must be counted toward dangerous waste generation or neutralized and discharged to the sewer. Use air and medical monitoring and proper ventilation.
<input type="checkbox"/> Mercury	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Thermometers <input checked="" type="checkbox"/> Sphygmomanometers <input checked="" type="checkbox"/> Cantor/Miller-Abbot tubes 	<ul style="list-style-type: none"> • Use digital devices • Replace GI tubes with air, water, or Tungsten-filled tubes • Use mercury/PVC-free gastrointestinal tubes 	Dispose as either Universal or dangerous waste. Hurst and Malone have mercury and PVC-free gastrointestinal tubes available.
<input type="checkbox"/> Mercury, NiCad, lithium, heavy metals	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Used batteries 	<ul style="list-style-type: none"> • Use rechargeable batteries • Use non-mercury batteries 	Use separate collection bin for each battery type and dispose as Universal or dangerous waste.
<input type="checkbox"/> Formaldehyde/formalin	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Tissue preservation 	<ul style="list-style-type: none"> • Use turpine, ethylene, or propylene glycol-based preservatives 	Bio-hazardous waste needs to be disinfected and neutralized or disposed as dangerous waste.
<input type="checkbox"/> Silver (fixer solution effluent, steel wool filter)	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Radiology films <input checked="" type="checkbox"/> Fixer and developer <input checked="" type="checkbox"/> Silver recovery materials 	<ul style="list-style-type: none"> • New, efficient processors or digital processors. • Use metallic replacement or electrolytic deposition for silver recovery 	Reclaim or dispose as dangerous waste. Recycle fixer on- or off-site.
<input type="checkbox"/> Lead	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Shielding from radiology 	<ul style="list-style-type: none"> • 	Recycle lead from shields; dispose as a dangerous waste.
<input type="checkbox"/> Air emissions	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> EtO sterilization 	<ul style="list-style-type: none"> • Switch to Steris or Sterrad (see vendor list in Appendix 2) 	EtO is a known carcinogen.
<input type="checkbox"/> Chromium (chromic acid)	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> X-ray processor cleaning agent 	<ul style="list-style-type: none"> • Use cleaners without chromium (see vendor list in Appendix 2). 	Never mix chromium-containing cleaner waste with spent fixer.



Dentistry generates a variety of dangerous (hazardous), universal, biomedical, and municipal solid waste. This page provides information on proper waste management and possible alternatives for using less-toxic products and reducing the generation of certain wastes.

- Segregate dangerous, biomedical, and municipal solid wastes and recyclables.
- Properly manage and dispose of dangerous waste generated by the dental department (e.g., fixer, or lead foils and aprons, sterilants, and amalgam, etc.).
- Mercury is toxic and bioaccumulative. Dental amalgam is a concern if discharged into the sewer. Contact your publicly owned treatment works for local regulations and guidelines. Collect and manage amalgam for recycling or disposal as dangerous waste. Do not disinfect with bleach.
- Other dangerous wastes of concern in emergency dentistry include fixer (silver), lead shields and packaging, high-level disinfectants and sterilizers, waste pharmaceuticals, and mercury-containing devices.
- Use precapsulated amalgam alloys, not bulk mercury. Recycle used amalgam capsules, salvage, store, and recycle non-contact scrap amalgam and recycle salvage contact amalgam pieces from restorations after removal.
- Disinfect extracted teeth that contain amalgam restorations. Check with your recycler to see if they will accept extracted teeth with amalgam restorations. Don't dispose of used amalgam capsules, non-contact or contact amalgam waste, nor extracted teeth that contain amalgam in bio-medical containers into municipal solid waste. Never flush amalgam waste down the drain, or rinse vacuum pump filters, chair-side traps, or other amalgam collection devices into drains or sinks.
- Collect and recycle amalgam from separators, chair-side traps, vacuum pump filters or other amalgam collection devices. Install ISO 11143-approved amalgam separators in your department.
- Never place uncovered hands directly into cold sterilants—use nitrile gloves and aprons. Sterilants which contain glutaraldehyde are an inhalation hazard. Use products with ortho-phthalaldehyde that are glutaraldehyde-free. See vendor list in Appendix 2.
- Keep cold sterilant containers covered. Neutralize cold sterilants with an appropriate neutralizer before discharging into drain/sewer.

Alternatives to and Management of Hazardous Substances found in Emergency Dental Services

Hazardous wastes and substances often found in this department Use or Manage?	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Biomedical waste	<input checked="" type="checkbox"/> Sharps <input checked="" type="checkbox"/> Materials saturated with blood and/or bodily fluids	<ul style="list-style-type: none"> Separate municipal solid waste (sharps in separate container) 	Store/dispose biomedical waste in red bags or puncture-resistant containers. Use biomedical waste hauler and facility.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Fluorescent bulbs <input checked="" type="checkbox"/> Mercury switches <input checked="" type="checkbox"/> Batteries	<ul style="list-style-type: none"> Low-mercury bulbs Mercury-free switches Mercury-free batteries 	Universal Waste: see fact sheet and vendor list in Appendices 1 and 2.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Thermometers <input checked="" type="checkbox"/> Sphygmomanometers	<ul style="list-style-type: none"> Digital/aneroid equipment 	Can be recycled as Universal or dangerous waste.
<input type="checkbox"/> Dangerous waste pharmaceuticals	<input checked="" type="checkbox"/> Cresols and Lindane <input checked="" type="checkbox"/> Mercury-based preservatives	<ul style="list-style-type: none"> Return to manufacturer Use reverse distributor 	See Ecology pharmaceutical fact sheet in Appendices.
<input type="checkbox"/> Glutaraldehyde, formaldehyde, xylene and alcohols	<input checked="" type="checkbox"/> Used in chemiclaves	<ul style="list-style-type: none"> Autoclaves (neutralize aldehydes by using glycine, glutarex, or formalex); discharge to a sewer system 	Never discharge into septic system. Use proper ventilation. Check if it can be discharged to your POTW. (Note: Cidex OPA is not recommended as a substitute in chemiclaves)
<input type="checkbox"/> Glutaraldehyde	<input checked="" type="checkbox"/> Cold sterilization	<ul style="list-style-type: none"> Cidex OPA, nitrile gloves and personal protection equipment Use proper ventilation 	Never discharge into septic system and neutralize prior to sewer discharge.
<input type="checkbox"/> Silver	<input checked="" type="checkbox"/> X-ray <input checked="" type="checkbox"/> Fixer	<ul style="list-style-type: none"> Recycle on- or off-site 	Manage as dangerous waste or recycle. Don't discharge waste water.
<input type="checkbox"/> Lead	<input checked="" type="checkbox"/> Lead boxes and foil packets <input checked="" type="checkbox"/> Aprons	<ul style="list-style-type: none"> Recycle (see vendor list in Appendices) 	Dangerous waste.
<input type="checkbox"/> Chromium	<input checked="" type="checkbox"/> X-ray cleaners	<ul style="list-style-type: none"> Use non-chromium cleaners 	Dangerous waste. See Appendix 2.
<input type="checkbox"/> Zinc-based compounds	<input checked="" type="checkbox"/> Cements		Don't discharge into sewer. May be disposed as a solid waste.

Endoscopy and Cardiac Catheterization Services



There are several sources for the generation of dangerous wastes, such as mercury-containing devices, pharmaceuticals, sterilants, sharps, biomedical, disinfectants, and chemotherapy wastes. High-level disinfectants and sterilants such as glutaraldehyde and ethylene oxide gas (EtO) represent significant health and environmental hazards when released to water or air. Mercury-containing products and devices need to be managed properly.

Some suggestions for reducing pollution and wastes:

- Stop using feeding tubes, Cantor Tubes, Miller-Abbot Tubes, incubators, dilators, refrigerators, sphygmomanometers, thermometers, and other items that have mercury in them. Recycle or manage these items as universal waste.
- Replace plastic tubing & vinyl bags containing DEHP (PVC) with DEHP-free tubes wherever possible.
- Investigate least-toxic alternatives to high-level disinfectants like glutaraldehyde, formaldehyde, etc. If you must use aldehydes, then distill, filter, and reuse them. Use alternatives to EtO whenever available.
- Decant formalin/formaldehyde from pathological specimens prior to packaging for disposal-reuse.

Alternatives to and Management of Hazardous Substances found in Endoscopy and Cardiac Catheterization Services

Hazardous wastes and substances often found in this department Use or Manage?	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<ul style="list-style-type: none"> <input type="checkbox"/> Packaging <input type="checkbox"/> Disposable one-use items 	<ul style="list-style-type: none"> • Request less packaging • Use durable totes 	Recycle whenever possible. Dispose properly. Use proper segregation.
<input type="checkbox"/> Dangerous waste pharmaceuticals (including those containing mercury)	<ul style="list-style-type: none"> <input type="checkbox"/> Patient medications (cresols, lindane, mercury-based preservatives like thimerosal and saline) 	<ul style="list-style-type: none"> • Send back to manufacturer • Use reverse distributor 	Never store over drains. See pharmaceutical waste information in Appendix 1.
<input type="checkbox"/> Mercury	<ul style="list-style-type: none"> <input type="checkbox"/> Thermometers <input type="checkbox"/> Sphygmomanometers and other monitoring equipment <input type="checkbox"/> Cantor and Miller/Abbot tubes <input type="checkbox"/> Esophageal dilators 	<ul style="list-style-type: none"> • Digital monitor devices • Tungsten, air or water-filled GI tubes • Mercury/PVC-free tubing • Non-mercury devices 	Dangerous waste, recycle or dispose properly. See resource list in Appendix 3. Hurst and Malone have mercury-free and PVC-free GI tubing.
<input type="checkbox"/> Mercury	<ul style="list-style-type: none"> <input type="checkbox"/> Fluorescent bulbs <input type="checkbox"/> Mercury switches <input type="checkbox"/> Batteries 	<ul style="list-style-type: none"> • Low-mercury bulbs • Mercury-free switches • Rechargeable batteries 	Manage as dangerous or Universal Waste. See fact sheet in Appendix 1.
<input type="checkbox"/> Glutaraldehyde and other high-level disinfectants	<ul style="list-style-type: none"> <input type="checkbox"/> Medical device high-level disinfection: chemiclaves and cold sterilization 	<ul style="list-style-type: none"> • Hydrogen peroxide, peracetic acid, acetic acid (Sporox, Cidex OPA, Steris 20 Sterad 5, Sterad 100S, Sterilox 2501, Metrex Compliance) See vendor list in Appendix 2 	<p>Glutaraldehyde use requires proper WISHA/OSHA-approved ventilation system and air and medical monitoring.</p> <p>Glutaraldehyde also needs to be counted toward your dangerous waste generation. It can be neutralized and discharged to the sewer. See list of neutralization products in the vendor list in Appendix 2.</p>
<input type="checkbox"/> Lead	<ul style="list-style-type: none"> <input type="checkbox"/> Autoclave indicator tape 	<ul style="list-style-type: none"> • See Appendix 2 	Dangerous waste, manage properly.
<input type="checkbox"/> Air emissions	<ul style="list-style-type: none"> <input type="checkbox"/> Sterilization (EtO) 	<ul style="list-style-type: none"> • See vendor list in Appendix 2 for Steris, Sterrad sterilizers 	EtOs must be registered as an air pollution source.



Large amounts of meat, vegetables, and canned goods are used in hospital food service departments. This can generate substantial quantities of solid and organic wastes. Special wastes such as grease from fryalators need special collection and disposal systems to avoid disposing down the drain or as solid waste. Wastewater from dishwashing and food preparation must be monitored to avoid excess grease, harsh chemicals, or an excessive amount of organic substances being discharged into the sewer.

The following suggestions provide information on proper waste management and less-toxic alternatives. Because all dangerous waste needs to be collected, stored, and recycled, treated or disposed appropriately, it pays to reduce the generation of these wastes. To contact a hazardous waste firm to assist you, see Ecology's *Hazardous Waste Services Directory* at <http://www.ecy.wa.gov/apps/hwtr/hwsd/default.htm>.

- Investigate food recovery programs to reduce food waste going to landfills and reduce waste costs. Consider giving food waste to farmers as feed stock. Be sure that meat and other animal products are not used in feed stock. Check with your County Health Department for guidelines.
- Avoid preparing excessive amounts of food and garnishes. Donate excess food to charitable organizations.
- Consider on or off-site composting programs, for vegetative food wastes. Consider working with other local businesses in your area to combine composting efforts to reduce costs.
- Use durable food service items (trays, covers, utensils, cups, plates, glasses, napkins, etc.). Eliminate individual condiment packaging. Use bulk milk dispensers, not individual milk cartons. Ask suppliers to reduce packaging.
- Recycle glass, cans, cardboard, plastics, and paper, whenever possible. Keep food waste out of containers you want to recycle. Avoid throwing away items that can be reused. Recycle kitchen greases—don't throw them into garbage, septic, sewer, or down the drain.
- Store, label, maintain, and dispose of chemicals properly. Use secondary containment. Replace toxic chemicals with less-toxic alternatives. Don't store toxic/hazardous chemicals near drains or above sinks. Keep chemicals to be discarded out of the trash; don't discharge into any drain, sewer, or septic tank.
- Keep area clean and free of unnecessary items and food debris that will attract unwanted pests. Reduce the use of chemical pesticides and seek non-chemical or less-toxic products and methods for pest control. Implement an Integrated Pest Management Plan.
- Avoid the purchase and/or use of mercury-containing devices or products. Keep mercury devices out of the trash—recycle or manage as dangerous or Universal waste.
- Maintain all disposal records on-site for five years.

Alternatives to and Management of Hazardous Substances found in the Food Services Department

Hazardous wastes and substances often found in this department Use or Manage?	Use or Source	Available Alternatives	Additional Management Comments	
	Municipal solid waste	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Packaging <input checked="" type="checkbox"/> Disposable items <input checked="" type="checkbox"/> Food and kitchen waste 	<ul style="list-style-type: none"> • Request less packaging from suppliers • Use durable materials • Compost food waste • Donate excess food to charities 	Compost food waste or donate to farms for feed stock. Check for local restrictions for donating feed stock.
	Dangerous waste chemicals	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Decalcifiers <input checked="" type="checkbox"/> Cleaners <input checked="" type="checkbox"/> Degreasers/solvents 	<ul style="list-style-type: none"> • Use least-toxic chemicals available 	See vendor information in Appendix 2.
	Pesticides	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Pest control 	<ul style="list-style-type: none"> • Use Integrated Pest Management (IPM) practices, including non-chemical alternatives 	See resource list in Appendix 3 for more information on IPM.
	Mercury-containing devices, such as thermometers	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Refrigerators <input checked="" type="checkbox"/> Ovens <input checked="" type="checkbox"/> Other heating units <input checked="" type="checkbox"/> Temperature monitoring devices 	<ul style="list-style-type: none"> • Use digital devices 	Eliminate mercury-containing devices or manage as dangerous or Universal waste.
	Kitchen grease	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Cooking/frying food 	<ul style="list-style-type: none"> • Recycle through waste kitchen grease and oil recycler 	Don't dispose in the trash or down the drain.
	Wastewater	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Washing food <input checked="" type="checkbox"/> Dishwashing <input checked="" type="checkbox"/> Cooking 	<ul style="list-style-type: none"> • Reduce the fats, grease and organic materials going down the drain 	Check with your local publicly owned wastewater treatment facility for requirements. Discharge only when wastewater meets local discharge limits.
	Electronic waste	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Computers <input checked="" type="checkbox"/> Equipment 		Dangerous waste: Recycle, reuse. Dispose properly. See vendor list in Appendix 2.



Conventional grounds keeping uses a variety of fertilizers and pesticides (herbicides, fungicides, insecticides, rodenticides, and anti-bacterial agents) to promote healthy plant growth and eliminate pests, molds, and bacteria. Many pesticides are extremely hazardous or dangerous, and emit volatile organic compounds into the air during and after application. Many fertilizers cause unwanted environmental side-effects.

By reducing or eliminating the need of fertilizers and pesticides, Integrated Pest Management principles minimize the risks to human health and the environment. This is accomplished by using native drought and pest-resistant, slower-growing plants instead of planting lawns that demand great quantities of water, fertilizers and pesticides. Mulches are used to reduce weeds and pests and, by reducing evaporation, decrease the need for watering. Watering may be further reduced by conducting water audits to determine how much and where water needs to be distributed.

Because all dangerous waste needs to be collected, stored, and recycled, treated or disposed appropriately, it pays to reduce the generation of these wastes. Contact a hazardous waste firm to assist you in Ecology's *Hazardous Waste Services Directory* at <http://www.ecy.wa.gov/apps/hwtr/hwsd/default.htm>.

- Compost yard wastes on- or off-site. Use compost and mulching for pest reduction.
- Limit or eliminate copper-based root control products.
- Follow state regulations for on-site daycares.
- Avoid high-maintenance, pest-attracting, invasive, or non-native plant species. Use drought-tolerant, slow-growing, native plants to reduce chemical and water use. Use a timed watering system during the night; don't use sprinklers during the day.
- Don't over-treat/use excessive amounts of pesticides to the point of runoff. Avoid mixing excess fertilizer or pesticide material resulting in "leftovers."
- Use less-toxic products for pest control, post notices/flags at entrances and application sites. Implement an Integrated Pest Management Plan. Identify and eliminate the causes of a pest population, rather than just treating the symptom.
- Establish preventive measures: coarse mulch for weed control, trim vegetation away from buildings, mow grass to 2 inch height, etc.
- Label waste pesticide name and storage date on containers. Clean and dispose of pesticide containers in accordance with Appendix 1.
- Clean up spills immediately and properly, and report them if necessary. Use secondary containment.
- Dedicate equipment for compatible spraying. Don't mix incompatible chemicals or rinse water. Use container rinse water as make-up water for compatible pesticide spray solutions.
- "The Label is the Law"—read pesticide labels carefully. Never mix materials which have labels indicating they cannot be legally applied to the same site.
- Protect outside environment from your operation's pollutants; provide environmental protection and waste reduction training to employees annually.
- Keep disposal records on-site for five years.

Alternatives to and Management of Hazardous Substances found in the Grounds Keeping Department

Hazardous wastes and substances often found in this department Use or Manage?	Use or Source	Available Alternatives	Additional Management Comments
 Municipal solid waste	<ul style="list-style-type: none">  Packaging  Disposable items 	<ul style="list-style-type: none"> • Request less packaging • Use reusable totes/ containers 	Recycle and reuse whenever possible. Manage pesticide containers appropriately.
 Green waste	<ul style="list-style-type: none">  Grounds maintenance 	<ul style="list-style-type: none"> • Reduce waste by using IPM 	Compost green waste. See resource list in Appendices.
 Organophosphates, chlorinated or heavy metals, other chemicals	<ul style="list-style-type: none">  Pesticides and fertilizers for pest and weed control, ground maintenance 	<ul style="list-style-type: none"> • Use Integrated Pest Management practices (see resource list in Appendix 3) 	Use pest-resistant and native species. Use organic gardening methods. Use non-chemical/least toxic alternatives (Appendix 3). Minimize use of dangerous waste chemicals. Follow special state regulations for on-site daycare centers.
 Pressurized canisters and containers	<ul style="list-style-type: none">  Sprayers  Pesticide containers  Fertilizer containers 	<ul style="list-style-type: none"> • Use refillable containers (always triple rinse before using another product) 	Rinsates may designate as dangerous waste. Return pressurized canisters or containers for refill or reuse to distributor.
 Contaminated pesticide containers	<ul style="list-style-type: none">  Pesticides  Fertilizers 	<ul style="list-style-type: none"> • Rinse/wash • Return for recycling 	Dangerous waste: manage properly.
 Dangerous waste contaminated wastewater	<ul style="list-style-type: none">  Drains, washing equipment and cleaning out containers 	<ul style="list-style-type: none"> • Use rinse water as part of pesticide application 	Avoid creating contaminate rinsewater. Reuse as make-up water for compatible sprays. Contaminate wastewater can be a dangerous waste. Contact your local POTW for disposal requirements.
 Air emissions	<ul style="list-style-type: none">  Chemical pesticide spraying or evaporation 	<ul style="list-style-type: none"> • Minimize use of volatile organic pesticides 	Avoid creating dust and don't allow material to blow around. Cover containers to avoid evaporation.
 Pesticide or fertilizers contaminated storm drain runoff	<ul style="list-style-type: none">  The application of pesticides and fertilizers  Vegetation watering 	<ul style="list-style-type: none"> • Use pest resistant native vegetation species that require less use of pesticides and watering 	Do not allow runoff of pesticides and fertilizers. Minimize the use of water pesticides and fertilizers by using IPM and Xeriscape techniques.



Housekeeping duties in a hospital involve a variety of techniques and equipment to maintain surfaces such as floors, using strippers, waxes, and cleaners. Housekeepers are also often in charge of collecting, transporting, and overseeing the storage of all wastes generated including solid, bio-hazardous, and dangerous wastes. The operation of equipment which employs hydraulic fluids may be involved as well. Many cleaning agents, disinfectants, and detergents may contain formaldehyde or other toxic chemicals. It is important employees learn how to work safely with the products they use and how to use safer alternatives when available.

Waste (liquid, solid, or gaseous) generated must be evaluated to determine whether it is dangerous (hazardous) waste, biomedical waste, permitted, or allowed wastewater discharge, permitted air-polluting emission, or municipal solid waste. Keep municipal solid, dangerous, and bio-hazardous wastes separate. Dangerous waste cannot legally be thrown in the garbage, disposed down the drain, or evaporated into the air. Because all dangerous waste needs to be collected, stored, and recycled, treated, or disposed appropriately, it pays to reduce the generation of these wastes. To find a company that can assist you, see Ecology's *Hazardous Waste Services Directory* at <http://www.ecy.wa.gov/apps/hwotr/hwosd/default.htm>.

- Keep items that can be recycled or that must be disposed of as a dangerous waste out of the garbage/sewer/septic. Wastes and recyclables should be stored separately.
- Segregate and store biomedical, solid, and dangerous wastes and recyclables. Segregate non-compatible materials. Dangerous waste needs safe, clearly labeled containers with secondary containment.
- Use only zinc-free floor waxes or strippers and tri-butyltin-free toilet cleaners, disinfection products, and carpet and upholstery cleaners. See vendor list in Appendix 2.
- Have spill preparedness procedures clearly posted, and spill cleanup materials and neutralizing agents easily available at strategic locations. Provide spill-preparedness training for employees. Clean up hazardous waste spills immediately and dispose properly. Have Material Safety Data Sheets (MSDS) for all chemicals available to staff. Don't throw spilled dangerous or biomedical waste in the garbage.
- Minimize packaging by buying chemicals in bulk, in concentrated form, to dilute at time of use.
- Keep concentrated disinfectants out of sanitary sewer. Thoroughly neutralize cold sterilants before discharge into drains/sewer.
- Use less-toxic disinfectants. See vendor list in Appendix 2. Don't use phenolic disinfectants unless required for certain pathogens.
- Maintain dangerous waste disposal records on-site for five years.
- Use refillable, automatic soap and lotion dispensers, bulk containers for cleaning chemicals. Use air hand-dryers instead of paper towels. Avoid using hand soaps with disinfectants (anti-microbial) unless necessary—disinfectants become less effective when overused.

Alternatives to and Management of Hazardous Substances found in Housekeeping and Facility Services Department

Hazardous wastes and substances often found in this department Use or Manage?	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Packaging <input checked="" type="checkbox"/> Disposable items 	<ul style="list-style-type: none"> • Request less packaging • Use vendor take-back programs 	Recycle glass, cardboard, aluminum cans, scrap wood and metal, etc., whenever possible.
<input type="checkbox"/> Mercury	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Fluorescent bulbs <input checked="" type="checkbox"/> Batteries <input checked="" type="checkbox"/> Monitor devices <input checked="" type="checkbox"/> Mop water from cleaning floors 	<ul style="list-style-type: none"> • Use rechargeable batteries, non-mercury batteries • Use low-mercury, green tip fluorescent bulbs 	Universal waste: keep bulbs and lamps intact; recycle. Clean up mercury spills properly and keep spill kits readily available. See Appendix 2 for vendor alternative list.
<input type="checkbox"/> Chemicals, waxes	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Cleaning <input checked="" type="checkbox"/> Disinfecting <input checked="" type="checkbox"/> Maintaining surfaces 	<ul style="list-style-type: none"> • Eliminate strippers and waxes containing zinc. • See vendor list in Appendix 2 for alternatives. 	Use least-toxic products, avoid spills, prepare only needed amount. Store in secondary containment. Never discharge concentrated disinfectant into sewer.
<input type="checkbox"/> Pesticides	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Pest control 	<ul style="list-style-type: none"> • IPM (see resource list in Appendices) 	Use non-chemical pest control.
<input type="checkbox"/> Glutaraldehyde Cidex, Glutarex, Sonacide Phenolic disinfectants	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Cold sterilization <input checked="" type="checkbox"/> Preservation <input checked="" type="checkbox"/> Disinfection 	<ul style="list-style-type: none"> • Consider quaternary amine disinfectants, Cidex OPA, peracetic acid 	Avoid glutaraldehyde (inhalant hazard) use; use ventilation hood and personal protective gear. Never discharge into septic. Neutralize and discharge to sewer.
<input type="checkbox"/> Tributyltin (chloride, neoconate, bis tributyltin oxide, benzoate, etc.)	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Mildew control in shampoos, lavatory and germicidal cleaners 	<ul style="list-style-type: none"> • See vendor list in Appendix 2 	Pesticide wastes are dangerous wastes.
<input type="checkbox"/> Hospital generated dangerous waste	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Determine generator status (Appendix 1) 	<ul style="list-style-type: none"> • See Appendix 2 for list of vendor alternatives 	Hospital-wide dangerous waste generation counts taken monthly.
<input type="checkbox"/> Biomedical wastes	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Body fluid, parts or tissue <input checked="" type="checkbox"/> Body fluid saturated 	<ul style="list-style-type: none"> • Separate solid waste from bio-hazardous 	Great cost savings can be achieved by separating wastes.



Biomedical waste including pathological waste, waste contaminated with trace amounts of chemotherapy products and sharps are likely candidates for incineration. Incineration of hospital municipal solid waste is also a concern for good reason: PVC plastics make up a large part of the hospital's waste stream, and are converted to toxic dioxins when burned. Improper incineration temperatures and incineration of mercury-containing wastes are other air pollution concerns.

Your hospital is responsible for how its waste is managed and disposed. Take dioxin and mercury emission concerns into account when managing waste incineration on-site. To reduce toxic air emissions, incinerate only required bio-hazardous wastes and attempt to use non-combustion methods such as autoclaves and microwaves for the rest of the biomedical waste. Always use proper waste segregation methods to decrease contaminants being emitted to the environment.

Boiler air emissions are also a concern. Follow the new source performance standards for operation requirements for industrial boilers. Store and manage boiler treatment chemicals, keeping incompatibles separated and stored in secondary containment. Boilers, fuel tanks, and back-up generators also need to be registered with the local air authority or Department of Ecology.

The following section provides information on proper waste management and possible alternatives for using less-toxic products and reducing the generation of certain wastes.

- Monitor air emissions (i.e., dioxins, mercury, and cadmium) and hazardous substances (formaldehyde, glutaraldehyde, etc.) with inhalation concerns used for disinfection (i.e., autoclaves, incinerators).
- Regulate PM10 (particulate), nitrogen oxides and sulfur dioxides from new boilers. Use scrubbers/filters to keep nitrogen oxide and sulfur dioxide from boilers out of the atmosphere. Don't release air emissions and residual wastes into the environment until properly removed or treated.
- Replace incinerators with alternative types of equipment for sterilization of biomedical wastes.
- Keep metals and suspended solid waste from incinerators out of the public sewer system.
- Ensure that all hazardous waste containers are closed, clearly labeled, and stored properly with secondary containment.

Alternatives to and Management of Hazardous Substances found in Hospital Incinerators and Boilers

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<input checked="" type="checkbox"/> Packaging <input checked="" type="checkbox"/> Disposable items	<ul style="list-style-type: none"> • Recycle • Request less packaging 	Follow hauler’s waste separation specifications.
<input type="checkbox"/> Biomedical waste incineration	<input checked="" type="checkbox"/> Pathological waste <input checked="" type="checkbox"/> Chemotherapy substances <input checked="" type="checkbox"/> Contaminated waste <input checked="" type="checkbox"/> Sharps	<ul style="list-style-type: none"> • Consider non-combustion methods (autoclaves and microwaves) 	Store biomedical waste in non-cadmium “red bags;” never throw them in the garbage.
<input type="checkbox"/> PVC (gas dioxins)	<input checked="" type="checkbox"/> Incineration	<ul style="list-style-type: none"> • See vendor list in Appendix 2 	Use non-PVC products. Don’t incinerate on-site.
<input type="checkbox"/> Cadmium	<input checked="" type="checkbox"/> Pigment/colorant <input checked="" type="checkbox"/> Incineration	<ul style="list-style-type: none"> • Use cadmium-free red bags 	Use of cadmium-free red bags.
<input type="checkbox"/> Formaldehyde used as a tissue fixative	<input checked="" type="checkbox"/> Incinerator emissions	<ul style="list-style-type: none"> • Don’t incinerate. • Use alternative fixatives 	See vendor list in Appendix 2. Direct all departments to separate formaldehyde and neutralize or dispose as a dangerous waste.
<input type="checkbox"/> Dangerous and biomedical waste being discharged in the sewer system	<input checked="" type="checkbox"/> Sewer disposal	<ul style="list-style-type: none"> • See vendor list of safer alternatives in Appendix 2 	Do not pour dangerous or bio-hazardous wastes into the sewer system. Contact your local wastewater facility for local regulations. Implement condensing hot water boilers.
<input type="checkbox"/> Hydrochloric acid, dioxin/furan, lead, cadmium, mercury	<input checked="" type="checkbox"/> Air emissions	<ul style="list-style-type: none"> • Non-combustion equipment such as autoclaves, or microwave treatment 	Incinerate only those bio-hazardous substances that are required to be incinerated. Use other disposal methods for other bio-hazardous waste.



Surgical, orthopedic, neurology, urology, cardiac, psychiatric/behavioral health, geriatric, palliative care, maternal/child care (labor & delivery/birthing, postpartum care, and nursery), pediatrics, and rehabilitative care are all part of inpatient care services. Services such as dialysis and oncology may be administered in this department as well.

Wastes of concern involved with these services include high-level disinfectants, sterilants, cleaners, dangerous waste pharmaceuticals, and mercury-containing devices (thermometers, sphygmomanometers, Cantor tubes, etc.), biohazard wastes (mainly from sharps), and municipal solid waste. Residuals from these preparations may include contaminated vials, bottles, syringes, IV bags, packaging, and personal protective equipment.

The following section provides information on proper waste management, less-toxic alternatives, and reducing the generation of certain wastes.

- Use a system to collect “soft” trace chemotherapy wastes in biomedical bags and “sharp” trace chemotherapy wastes in rigid, leak-proof containers (must be labeled “for incineration only” at time of generation).
- Replace all plastic tubing and vinyl bags containing DEHP (PVC) with tubes that are DEHP-free.
- Store radionuclide waste properly for the designated time period to allow for proper decay to non-hazardous levels, then dispose of properly—not into the trash.
- Collect all reverse osmosis system and dialysis equipment disinfection waste containing formaldehyde, and dispose of as dangerous waste.
- Keep chemiclaves, etc. covered.
- Recycle old lead shields as dangerous waste.

Alternatives to and Management of Hazardous Substances found in Inpatient Care Services

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Biomedical waste	<input checked="" type="checkbox"/> Blood, body fluids <input checked="" type="checkbox"/> Specimens <input checked="" type="checkbox"/> Sharps	<ul style="list-style-type: none"> • Reduce volumes by segregating out solid waste 	Store in biomedical “red bags.” Separate sharps into a puncture-resistant, clearly labeled container.
<input type="checkbox"/> Dangerous waste pharmaceuticals and chemo	<input checked="" type="checkbox"/> Medical procedures (epinephrine)	<ul style="list-style-type: none"> • See list of dangerous waste pharmaceuticals in Appendix 1 	Label/store according to requirements. Segregate non-compatible materials.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Fluorescent bulbs <input checked="" type="checkbox"/> Mercury batteries/switches	<ul style="list-style-type: none"> • Use low-mercury bulbs • Mercury-free batteries/switches 	Universal wastes, see fact sheet in Appendix 1.
<input type="checkbox"/> Mercury-containing devices	<input checked="" type="checkbox"/> Thermometers <input checked="" type="checkbox"/> Sphygmomanometers <input checked="" type="checkbox"/> Cantor/Miller-Abbot tubing <input checked="" type="checkbox"/> Other devices	<ul style="list-style-type: none"> • Use digital devices • Air or water, or Tungsten-filled GI tubing • Alcohol thermometers 	Dangerous waste, keep separate from other types of dangerous waste. Hurst and Malone have GI tubing that is mercury and PVC free (Appendix 2).
<input type="checkbox"/> Cleaning solutions and high-level disinfectants (glutaraldehyde, formaldehyde)	<input checked="" type="checkbox"/> Sanitizing <input checked="" type="checkbox"/> Disinfecting	<ul style="list-style-type: none"> • Acetic acid, peracetic acid and hydrogen peroxide • Aqueous reagents and alcohols 	Do not use halogenated hydrocarbon solvents. Never release into the septic system. Consider sonic rather than chemical sterilization. Neutralize aldehydes prior to disposal in sewer.
<input type="checkbox"/> Chemicals used in leatherwork /plastic-casting	<input checked="" type="checkbox"/> Rehabilitation/prosthesis devices product settings	<ul style="list-style-type: none"> • Minimize the amount of dangerous waste generated 	Evaluate wastes to determine if they designate as dangerous wastes.
<input type="checkbox"/> Air emissions	<input checked="" type="checkbox"/> Sterilization and disinfection	<ul style="list-style-type: none"> • Consider sonic sterilization 	Use local exhaust ventilation. Use personal protective equipment.
<input type="checkbox"/> Radionuclides (Nuclear medicine)	<input checked="" type="checkbox"/> Tritium <input checked="" type="checkbox"/> Iodine-125 <input checked="" type="checkbox"/> Carbon-14	<ul style="list-style-type: none"> • Use less-radioactive isotopes 	Hold radionuclides in a safe place until they are considered non-radioactive, then dispose of the remaining material.
<input type="checkbox"/> Lead	<input checked="" type="checkbox"/> Lead radiation shields	<ul style="list-style-type: none"> • See vendor list for alternatives (Appendix 2) 	Make sure old lead shields are recycled or disposed as dangerous waste.



The Kidney Dialysis Department generates wastes such as biohazardous, hazardous and municipal solid waste. Staff in this department need to determine the proper management and disposal methods for all their wastes. The following section provides information on proper waste management and possible alternatives for using less-toxic products and reducing the generation of certain wastes.

Large quantities of liquid biohazardous wastes such as blood and other bodily fluids, are generated during hemodialysis. These wastes need to be collected and disposed as biohazardous waste. The equipment used requires water treatment and high-level disinfectants. Formaldehyde, glutaraldehyde, and phenols are used for disinfection. Often, a dilute bleach solution, acetic acid, peracetic acid, and hydrogen peroxide-based disinfectant solutions including Sporox or Cidex OPA may be used instead. Central sterilization is highly recommended.

- Collect all waste from reverse osmosis and dialysis equipment. Neutralize or dispose as dangerous waste.
- Manage glutaraldehyde and other high-level disinfectants properly. Keep away from drains.
- Find ways to reduce formaldehyde use such as reverse osmosis equipment and reusing redistilled solutions. Keep liquid waste out of the drain or sink.

Alternatives to and Management of Hazardous Substances found in the Kidney Dialysis Department

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<input checked="" type="checkbox"/> Packaging <input checked="" type="checkbox"/> Disposable, single use items	<ul style="list-style-type: none"> • Request less packaging • Use reusable totes, recycle 	Recycle; minimize use of hard-to-recycle plastics and glass. Follow hauler's waste separation specifications. Purchase in bulk.
<input type="checkbox"/> Biomedical waste	<input checked="" type="checkbox"/> Blood, body fluids <input checked="" type="checkbox"/> Sharps	<ul style="list-style-type: none"> • Separate solid waste from biomedical waste 	Make sure waste meets standards to reduce total volume. Store in biomedical "red bags." Separate sharps into a puncture-resistant, clearly labeled container.
<input type="checkbox"/> Dangerous waste pharmaceuticals	<input checked="" type="checkbox"/> Patient care	<ul style="list-style-type: none"> • Send back to manufacturer • Use reverse distribution 	Dangerous waste: Label/store according to requirements.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Thermometers <input checked="" type="checkbox"/> Sphygmomanometers <input checked="" type="checkbox"/> Other monitoring devices <input checked="" type="checkbox"/> Fluorescent bulbs <input checked="" type="checkbox"/> Batteries	<ul style="list-style-type: none"> • Use digital equipment • Low- or non-mercury bulbs and batteries • Non-mercury cleaning agents • Alcohol thermometers 	Dangerous waste: keep separate from other types of hazardous waste. Don't handle with your bare hands. Know the location of the nearest mercury spill kit.
<input type="checkbox"/> Glutaraldehyde, formalin, formaldehyde, cleaning solutions	<input checked="" type="checkbox"/> Cold sterilization <input checked="" type="checkbox"/> Disinfection	<ul style="list-style-type: none"> • Alternative sterilization equipment • Bleach, acetic acid, peracetic acid or hydrogen peroxide • Neutralize with deactivation compound 	Use other chemicals or processes to avoid using glutaraldehyde (e.g., reverse osmosis equipment, recycle/reuse solution). Enclose operation areas. Use local exhaust ventilation. Hand and store properly. Use personal protective equipment. You cannot legally dilute to meet discharge limits. Dilution is not an allowed treatment method. Only discharge to sewer if meets local limit of 1% or less.
<input type="checkbox"/> Wastewater containing dangerous waste	<input checked="" type="checkbox"/> Patient care <input checked="" type="checkbox"/> Disinfection	<ul style="list-style-type: none"> • See vendor lists in Appendix 2 	Don't dispose dangerous waste into the sewer. Contact your local public wastewater facility for regulations for your area.

Laboratory Services: Testing, Pathology & Histology



Laboratory testing involves many different processes which generate dangerous waste such as halogenated hydrocarbon-containing solvents, xylene, alcohols, formalin, disinfectants, mercury-containing chemicals and devices, stains and other hazardous substances.

If nuclear/radioactive wastes are retained on-site, they must be maintained properly until they decay to a non-hazardous level, and disposed as dangerous waste, if necessary. When sharps are included with the material, maintain the material until proper decay level has occurred, then dispose of as a biomedical waste.

The following section provides information on proper waste management and alternatives for using less-toxic products and reducing the generation of certain wastes.

- Avoid using chromic acid solutions for cleaning glassware. Rinsate is dangerous waste.
- Manage mercury-containing histology fixatives, B5, Zenker's solution, ion-selective electrode chloride analysis, and stains as dangerous waste.
- Don't dispose of specimens prepared in formaldehyde or metal-containing fixatives in a sink.
- Dispose of wastes from cell culture and stains as biomedical/infectious waste unless approved to discharge to your wastewater treatment facility.
- Don't dispose of: - microbiological or xylene waste generated from cleaning slides, solvents used for thin-layer or gas chromatography (i.e., chloroform, methylene chloride, etc.), waste from the titrametric analysis of chloride in sweat, copper or chromium reagents used in protein, stool, or albumin testing down the drain or into the trash. Dispose of as dangerous waste.
- Don't use Bouin's solution, seek alternative.
- Store radionuclides in a safe place for the designated time period for proper decay to non-hazardous levels, then dispose of properly as dangerous waste. Never dispose of radionuclides in the trash. Dispose of dangerous waste generated by atomic absorption spectrophotometer analysis properly.
- Store all staining supplies in a secure storage area and dispose of as dangerous waste.
- Dispose/recycle cathode tubes, bubbler traps and other mercury-containing devices as dangerous waste or universal waste, never into the regular trash.

Alternatives to and Management of Hazardous Substances found in Laboratory Services

Hazardous wastes and substances often found in this department Use or Manage?	Use or Source	Available Alternatives	Additional Management Comments	
<input type="checkbox"/>	Municipal solid waste	<ul style="list-style-type: none"> ■ Packaging 	<ul style="list-style-type: none"> ● Request less packaging from suppliers ● Minimize use of hard-to-recycle plastics and glass 	Follow hauler's waste separation specifications. Purchase in bulk.
<input type="checkbox"/>	Mixed biomedical waste	<ul style="list-style-type: none"> ■ Preserved tissue specimens 	<ul style="list-style-type: none"> ● Reduce by separating solid and biohazardous waste 	Dispose of as required by law. Keep sharps separate.
<input type="checkbox"/>	Chemical wastes: alcohols, xylene, toluene, n-butyl acetone, picric acid, acids and bases, phenols and other dangerous waste	<ul style="list-style-type: none"> ■ Laboratory testing and cleaning 	<ul style="list-style-type: none"> ● Use premixed testing kits involving solvent fixation, non-halogenated compounds, simple alcohols or ketones, aqueous reagents (Alconox), replace xylene with Histosolve. 	Dangerous waste. Never dispose of chemicals to a septic system. Recycle xylene, formaldehyde, alcohol and acetone. Reuse or recover solvents through distillation. Consider sonic sterilization instead of chemical sterilization.
<input type="checkbox"/>	Mercury	<ul style="list-style-type: none"> ■ Calibration manometer ■ Thermometers ■ Incubators 	<ul style="list-style-type: none"> ● Use digital equipment ● Alcohol thermometers (see vendor information in Appendix 2) 	Recycle mercury or dispose as dangerous waste.
<input type="checkbox"/>	Mercury	<ul style="list-style-type: none"> ■ Fluorescent bulbs ■ Mercury switches ■ Batteries 	<ul style="list-style-type: none"> ● Use low-mercury bulbs (T-5, T-8) and mercury-free batteries and switches 	Universal waste. See fact sheet in Appendix 1.
<input type="checkbox"/>	Mercury, mercuric nitrate, sulfate or oxide; sodium iodate, silver nitrate, copper sulfate, Zenker's, B-5 and Helley's fixative: zinc formalin	<ul style="list-style-type: none"> ■ Zenker's, B-5 solution, tissue fixatives and process chemicals (formalin, still bottoms), filter paper, B-5 recovery supernatant, rinsate, alcohol, pigment removal waste, section shavings, and tissue blocks 	<ul style="list-style-type: none"> ● Use mercury-free fixatives and other chemicals (see vendor information on less-toxic alternatives in Appendix 2) 	Dangerous waste. Don't dispose of chemicals or testing wastes down the drain or in the trash. Many chemicals contain minute amounts of mercury, but don't list it as an ingredient. Please contact supplier and request mercury-free products.
<input type="checkbox"/>	Chromic acid	<ul style="list-style-type: none"> ■ Cleaning glassware 	<ul style="list-style-type: none"> ● See vendor list for alternatives in Appendix 2 	Dispose as dangerous waste.



Hospitals that provide laundry services on-site may have concerns, such as water and energy use, wastewater discharges, boiler chemical use, industrial detergents, disinfectants, chemicals, metals, and biomedical wastes.

- Purchase the most energy-efficient equipment available.
- Re-use and recycle. Use reusable surgical and patient gowns, diapers, coveralls, drapes, mattress pads instead of disposable items when available.
- Keep wastes and recyclables separate. Don't mix waste materials into linens for disposal.
- Keep hazardous material (thermometers, rags used to clean up chemical spills, etc.) out of laundry. Avoid chlorinated solvents/cleaners/degreasers, and products that contain toxic substances like mercury, zinc, chromium, and tri-butyl tin.
- Reuse gray water and use water-efficient equipment (e.g., tunnel washers, other automated systems) to reduce water use.
- Seek methods to dissolve wastes in the pre-soak stage of washing. Eliminate excessive amounts of grease and oil from wastewater.
- Pre-treat wastewater—through equalization, coagulation/flocculation, dissolved air floatation, micro/ultra filtration clarification, or oil/water separator if possible—if it contains significant amounts of metals and/or organics. Don't discharge wastewater into any drain, sewer, or septic tank unless it meets local standards.
- Don't discharge laundering/cleaning chemicals down any drain or sewer without approval from your treatment facility. Contact your local publicly-owned wastewater treatment facility for regulations.
- Conserve water wherever possible.
- Don't discharge wastewater to the ground.
- Store chemicals within secondary containment, away from floor/sink drains. Keep incompatible substances separate, plug floor drains in areas where hazardous chemicals are stored, and clearly chemical wastes properly.
- Use solvents as long as possible before disposal and never dispose into sewer or storm drains. Don't dispose of solvents before "their time."
- Replace mercury-containing switches, thermostats, and other equipment/devices, with non-mercury switches and devices. Don't purchase equipment with mercury-containing devices. Remove mercury buildup from sewer pipes, sumps, and sink traps. Mercury waste is a dangerous waste. Mercury can be recycled.
- Keep MSDSs and spill kits readily available. Have a spill plan and train your staff. Clean up spilled materials and neutralizing agents immediately, report spills as required.
- Prepare just enough cleaning chemicals to get the job done. Use automated chemical measuring systems whenever possible.
- Maintain all disposal records on-site for five years.

Alternatives to and Management of Hazardous Substances found in the Laundry and Linen Services Department

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments	
<input type="checkbox"/>	Municipal solid waste	<ul style="list-style-type: none"> <input type="checkbox"/> Packaging <input type="checkbox"/> Disposable items 	<ul style="list-style-type: none"> • Request less packaging 	Recycle and reduce packaging. Use reuseable totes/containers when possible.
<input type="checkbox"/>	Solvents, decalcifiers, degreasers, disinfectants, bleach, hydrogen peroxide	<ul style="list-style-type: none"> <input type="checkbox"/> Cleaning <input type="checkbox"/> Disinfecting <input type="checkbox"/> Decalcifying 	<ul style="list-style-type: none"> • Use least-toxic chemicals whenever possible 	Only use non-chlorinated solvents, recycle, consider automated bleach pump to machines to prevent spillage, use most dilute form hydrogen peroxide.
<input type="checkbox"/>	Mercury	<ul style="list-style-type: none"> <input type="checkbox"/> Temperature control and monitoring devices and switches <input type="checkbox"/> Bleach <input type="checkbox"/> Sodium hydroxide 	<ul style="list-style-type: none"> • Use digital equipment • See vendor lists in Appendix 2 	Mercury is dangerous waste. Recycle. Replace all mercury-containing devices with non-mercury devices. Be sure wastewater meets local POTW standards.
<input type="checkbox"/>	Water usage and wastewater discharges	<ul style="list-style-type: none"> <input type="checkbox"/> Cleaning linens 	<ul style="list-style-type: none"> • Use energy and water conserving equipment • See vendor lists in Appendix 2 	Make efforts to reduce wastewater. Conserve by recycling gray water and purchase water efficient equipment (tunnel washers and other automated systems).
<input type="checkbox"/>	Dangerous waste contaminated wastewater	<ul style="list-style-type: none"> <input type="checkbox"/> Disinfectants <input type="checkbox"/> Cleaners <input type="checkbox"/> Detergents 	<ul style="list-style-type: none"> • Use less-toxic products • See vendor lists in Appendix 2 	No dangerous waste can be disposed down the drain. Check with your local POTW about discharge limits for your area.
<input type="checkbox"/>	Dry cleaning solvents (PERC)	<ul style="list-style-type: none"> <input type="checkbox"/> Air emissions 	<ul style="list-style-type: none"> • Use non-solvent dry cleaning methods 	Most dry cleaning solvents and filters are dangerous waste.
<input type="checkbox"/>	Electronics and electrical equipment	<ul style="list-style-type: none"> <input type="checkbox"/> Computers and other equipment 	<ul style="list-style-type: none"> • Recycle • See vendor lists in Appendix 2 	Dangerous waste if not recycled. Use a reputable company for recycling.



Maintenance services includes water treatment systems management, collecting dangerous, biomedical, and solid waste; maintaining equipment and facilities, and janitorial services. Many of these services generate wastes. Maintenance services may generate solvents, degreasers, paints, boiler water treatment chemicals, CFC's, mercury-containing devices and lighting, PCB-containing ballasts, batteries, flammable products, and other hazardous substances and dangerous wastes.

Encourage recycling of paper, glass, aluminum cans, cardboard, plastics, computers and other equipment, furniture, printer, and copier cartridges, kitchen grease, wood waste, and scrap metals. Improving waste segregation systems can increase recycling, reduce solid and biomedical waste, and save money.

Dangerous waste cannot legally be thrown in the garbage, disposed down the drain, or evaporated into the air. Wherever possible, replace hazardous substances with less-toxic alternatives. See less-toxic vendor lists in Appendix 2.

- Re-use solvents as long as possible before disposal and never dispose into sewer or storm drains.
- Keep a current chemical inventory system.
- Keep oil, grease, sludge out of drains or sewer.
- Properly store ion exchange resin and reverse osmosis treatment system chemicals, separate acids and bases. Use secondary containment, plug drains.
- Don't use electrolysis to introduce chromium, tributyltin, copper and silver into water disinfection. Wastewater ends up metal-loaded.
- Either replace water vacuum pumps with non-water systems, or use mechanical pumps without water seals (water seals cause solvents to be carried out with the waste water).
- Don't use water aspirators, single-pass cooling water, or seal water for vacuum pumps -replace with re-circulating systems.
- Use corrosion-prevention measures for your re-circulating hot water system.
- Remove mercury buildup from sewer pipes, sumps, and sink traps.
- Save money and reduce municipal solid waste by recycling metals, paper, cardboard, plastic and glass.
- Waste oil from vacuum pups and lubricants can be re-refined. Don't mix solvents in waste oil.
- Be sure air emissions from HVAC systems, boilers and fueling meet local standards.
- Waste generated hospital-wide will determine your generator status monthly. Complete hospital-wide dangerous waste generation counts.

Alternatives to and Management of Hazardous Substances found in the Maintenance Department

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments	
<input type="checkbox"/>	Mercury	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Thermometers, lamps, switches, batteries <input checked="" type="checkbox"/> Barometers, pressure gauges, thermostats <input checked="" type="checkbox"/> Traps, bubblers, seals 	<ul style="list-style-type: none"> • Use digital equipment whenever possible • Use non-mercury devices • See vendor lists in Appendix 2 	Eliminate mercury-containing devices. Recycle or dispose of as dangerous waste.
<input type="checkbox"/>	Solvents, paints, turpentine, strippers, oils, decalcifiers, disinfectants, hydraulic fluids, pesticides	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Cleaning <input checked="" type="checkbox"/> Painting <input checked="" type="checkbox"/> Pest Management 	<ul style="list-style-type: none"> • EcoSafe • BioKleen • See vendor lists in Appendix 2 	Don't use chlorinated products. Use reusable or recyclable tote drums. Manage used oils, sludges, and other dangerous wastes appropriately.
<input type="checkbox"/>	Solvents	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Cleaning 	<ul style="list-style-type: none"> • Use aqueous or non-chlorinated solvents. See vendor list. 	Segregate solvent wastes, distill, reuse or dispose as dangerous waste.
<input type="checkbox"/>	Caustics, ions, cat ions	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Boilers <input checked="" type="checkbox"/> Water treatment 	<ul style="list-style-type: none"> • Use ozonation or filtration systems 	Segregate reactive and incompatible chemicals.
<input type="checkbox"/>	Disinfectants, sulfuric acid, sodium hydroxide	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Water treatment systems 	<ul style="list-style-type: none"> • Use sodium hypochlorite systems, bomine, peracetic acid 	Waste treatment chemicals may be dangerous waste.
<input type="checkbox"/>	Batteries: mercury, lead, acid, cadmium and nickel	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Pagers <input checked="" type="checkbox"/> Cell phones 	<ul style="list-style-type: none"> • Rechargeable, lithium, zinc air, or alkaline batteries 	Recycle or dispose as dangerous or universal waste.
<input type="checkbox"/>	Metals	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Cooling tower sludges and sediments 	<ul style="list-style-type: none"> • Eliminate single-pass systems. 	Determine if sludges are a dangerous waste.
<input type="checkbox"/>	Acids, caustics, pesticides	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Janitorial supplies 	<ul style="list-style-type: none"> • See vendor lists in Appendix 2 	Dangerous waste; neutralize acids/bases.
<input type="checkbox"/>	Biomedical/infectious wastes	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Body fluid saturated materials <input checked="" type="checkbox"/> Specimens/tissue 	<ul style="list-style-type: none"> • Separate solid wastes from biomedical 	Great cost savings can be achieved by separating wastes.
<input type="checkbox"/>	Pesticides	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Pest control 	<ul style="list-style-type: none"> • Use IPM methods 	See vendor lists in Appendix 2.



The chemicals of concern within this area include formalin, formaldehyde, glutaraldehyde, and other high-level disinfectants and preservatives, solid (SW) and biomedical waste (BW) and mercury. Formaldehyde and glutaraldehyde may be recycled as dangerous waste or neutralized. See vendor lists in Appendix 2 for substitutes and neutralizers. If your hospital does not already have central sterilization please consider having a central sterile department. It will reduce costs and the use of sterilants and high-level disinfectants used in the hospital.

Your department needs to determine the proper disposal methods for all wastes. The following section provides information on proper waste management and possible alternatives for using less-toxic products and reducing the generation of certain wastes.

- Keep chemiclaves closed—never allow them to remain open.
- Tissue samples preserved in formalin need to be separated and properly managed for disposal.
- Mercury, found in various equipment and cleaning agents within the facility such as thermometers, batteries and lighting, is extremely toxic even in small amounts and must be disposed of as hazardous waste.
- Donate items that are no longer used at the hospital but are still usable by others.

Alternatives to and Management of Hazardous Substances found in Hospital Morgue Services

Hazardous wastes and substances often found in this department Use or Manage?	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<input checked="" type="checkbox"/> Packaging	<ul style="list-style-type: none"> Request less packaging Recycle Purchase in bulk 	Minimize the use of hard to recycle plastics and glass. Follow hauler's waste separation specifications.
<input type="checkbox"/> Biomedical waste	<input checked="" type="checkbox"/> Body preparation wastes <input checked="" type="checkbox"/> Sharps	<ul style="list-style-type: none"> Separate solid waste from biomedical waste 	Store in red bags or hard containers (sharps) and dispose of when full to the appropriate waste hauler.
<input type="checkbox"/> Formaldehyde	<input checked="" type="checkbox"/> Tissue preservation <input checked="" type="checkbox"/> Embalming	<ul style="list-style-type: none"> Neutralize prior to discharging to sewer 	Mixed waste (formaldehyde and tissue) needs to be separated, disinfected and disposed as dangerous waste.
<input type="checkbox"/> Glutaraldehyde, formaldehyde, xylene and alcohols	<input checked="" type="checkbox"/> Used in chemiclave	<ul style="list-style-type: none"> Use autoclaves or sonic sterilization Neutralize aldehydes prior to sewer disposal 	Dangerous waste; never discharge into septic system. Use proper ventilation. Cidex OPA is not recommended as a substitute in chemiclaves. Consider sonic sterilization instead of chemical.
<input type="checkbox"/> Glutaraldehyde	<input checked="" type="checkbox"/> Cold sterilization	<ul style="list-style-type: none"> Cidex OPA, Sporox, Metrex Compliance, other similar products 	Use gloves or PPE. Use proper ventilation. Never discharge into septic systems. Can be detoxified and discharged to a treatment plant.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Thermometers <input checked="" type="checkbox"/> Barometers	<ul style="list-style-type: none"> Digital equipment Alcohol thermometers 	Mercury may be recycled as universal waste or handled as dangerous waste.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Fluorescent bulbs <input checked="" type="checkbox"/> Mercury switches <input checked="" type="checkbox"/> Batteries	<ul style="list-style-type: none"> Use low-mercury bulbs (T-5, T-8) Use mercury-free switches and batteries 	Universal waste (see fact sheet in Appendices).
<input type="checkbox"/> Dangerous waste	<input checked="" type="checkbox"/> Wastewater	<ul style="list-style-type: none"> See vendor list in Appendix 2 	Don't dispose dangerous or bio-hazardous waste into the sewer system. Contact your local wastewater facility for exact regulations for your area.



Various radionuclides are used in Nuclear Medicine for a variety of processes and need to be managed with care until they are at safe enough radioactive levels for disposal. It is important to know how they must be managed.

The most common radionuclides used at hospitals include tritium, iodine-125, and carbon-14. Be sure you are maintaining those radionuclides stored on-site properly until they decay to a non-hazardous level. This includes short-lived radioactive waste.

Low-level radioactive waste storage containers need to have labeling clearly stating the isotope and its form, the volume, laboratory origin, activity, and chemical composition. Use central processing if possible. Have long-lived radioactive waste removed to an off-site location for proper storage and decay. When the material is considered non-radioactive, properly dispose the waste. Determine if it designates according to the *Dangerous Waste Regulations*.

When biomedical waste such as sharps are included with the material, maintain the material until proper decay level has occurred, then dispose of as biomedical waste. Use less hazardous isotopes whenever possible. Because radioactive waste cannot be treated or neutralized, source reduction and substitution are the main strategies to minimize such wastes.

Your department needs to determine the proper disposal methods for all wastes. The following section provides information on proper waste management and possible alternatives for using less-toxic products and reducing the generation of certain wastes.

- Use less hazardous isotopes whenever possible.
- Keep radionuclides out of the trash.
- Investigate nuclear byproduct materials' proper handling requirements from the Nuclear Regulatory Commission (NRC).
- Properly segregate label and store radioactive wastes. Isolate wastes for the designated time period to allow for proper decay and dispose properly.
- Determine if the remaining properly decayed waste is regulated as a dangerous waste. Make sure it is properly stored and disposed.
- Remember to monitor radioactivity on a regular basis while radionuclides are in storage.
- Update log books monitoring radioactive decay on a routine basis.
- Properly manage dangerous waste that is also biomedical. Disinfect, then decay radioactive materials, then dispose as a dangerous waste.
- Use silver recovery equipment or have reclaimed off-site. Never dispose of photochemical wastes, including silver-bearing, down the drain.

Alternatives to and Management of Hazardous Substances found in Nuclear Medicine

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<input checked="" type="checkbox"/> Packaging <input checked="" type="checkbox"/> Disposable items <input checked="" type="checkbox"/> Single-use items	<ul style="list-style-type: none"> • Recycle metals, paper, cardboard, plastic and glass • Request less packaging 	Recycle and minimize use of hard-to-recycle plastics and glass. Follow hauler's waste separation specifications. Purchase in bulk.
<input type="checkbox"/> Radionuclides	<input checked="" type="checkbox"/> Tracers <input checked="" type="checkbox"/> Diagnostic <input checked="" type="checkbox"/> Treatment procedure	<ul style="list-style-type: none"> • Use less radioactive isotopes whenever possible 	Isolate radionuclides until considered non-radioactive; properly dispose of remaining material. Replace iridium-192 and cesium-137 with radium-226.
<input type="checkbox"/> Wastewater contaminated with dangerous waste	<input checked="" type="checkbox"/> Chemicals <input checked="" type="checkbox"/> Solvents and disinfectants disposed in drains	<ul style="list-style-type: none"> • See list of less-toxic alternatives in Appendix 2 	Do not dispose dangerous waste into the sewer system. Contact your local wastewater facility for exact regulations for your area.
<input type="checkbox"/> Biomedical waste	<input checked="" type="checkbox"/> Sharps <input checked="" type="checkbox"/> Blood/bodily fluid saturated materials	<ul style="list-style-type: none"> • Separate solid and biomedical wastes 	Store in a non-breakable, sealable, sturdy container; dispose of appropriately when full.
<input type="checkbox"/> Glutaraldehyde and other high-level disinfectants	<input checked="" type="checkbox"/> Disinfection <input checked="" type="checkbox"/> Sterilization	<ul style="list-style-type: none"> • Hydrogen peroxide, peracetic acid, acetic acid (Sporox, Cidex, Steris 20, Sterrad 50 and Sterrand 100S, Sterilox 2501, Metrex Compliance) 	Label and store according to requirements. Segregate non-compatible materials. Never store over sink. MSDS should be readily available.
<input type="checkbox"/> Radioactive contaminated personal protective clothing	<input checked="" type="checkbox"/> Personal protective clothing <input checked="" type="checkbox"/> Cloths and sheeting	<ul style="list-style-type: none"> • See vendor information in Appendix 2 	A new line of biodegradable product engineered specifically for the nuclear industry called Orex is available. After treatment (decay), Orex products may be disposed down the drain.
<input type="checkbox"/> Silver	<input checked="" type="checkbox"/> Imaging	<ul style="list-style-type: none"> • Use digital imaging 	Silver-bearing waste can be recycled or disposed as dangerous waste.



Oncology services include the administration of chemotherapy medications. It is important to know how to manage wastes generated when preparing and administering chemotherapy medication and disinfecting equipment. Evaluate all wastes to determine if they are dangerous waste. Many wastes from chemotherapy pharmaceuticals, mercury-containing devices, disinfectants, and sterilants are dangerous waste (DW).

The following section provides information on proper waste management and possible alternatives for using less-toxic products and reducing the generation of certain wastes.

- Place residuals from chemotherapy medication preparation in either the “bulk” or “trace” categories and dispose of each type according to guidelines.
- Segregate chemotherapy medication residuals from other, non-chemotherapy dangerous wastes.
- Use preformulated/premixed chemotherapy drugs whenever possible to avoid excess.
- Keep radionuclides, chemotherapy contaminated clothing, gloves, etc. out of the regular trash.
- Use **cadmium-free** red bags for biomedical waste. Educate staff about proper segregation of biomedical waste (only trace, not bulk, chemotherapy drugs can be placed in biomedical waste containers).
- Isolate, segregate, label and store radioactive wastes properly for the amount of time needed to decay to non-hazardous levels. Dispose properly.
- Determine whether nuclear byproduct materials generated are regulated by the Nuclear Regulatory Committee (NRC) or state agencies. Follow the regulations.
- Reduce biomedical waste (blood, bodily fluids, sharps) by separating from solid waste. Store in biomedical red bags. Separate sharps into a puncture-resistant, clearly-labeled container.
- Avoid the use and disposal of pharmaceuticals from medical procedures that are dangerous waste, such as epinephrine. Label and store according to requirements. Segregate incompatible materials.
- Waste water contaminated with dangerous waste can contain solvents, disinfectants, pharmaceuticals and chemotherapy wastes. Keep untreated dangerous and/or biohazardous waste out of the sewer system. Contact your local water treatment facility for regulations in your area.
- Use sanitizing, disinfecting and sterilizing chemicals (such as formaldehyde, glutataldehyde, or chlorine) in well-ventilated areas. Airborne emissions are regulated by WISHA/OSHA.
- Releasing dangerous wastes into the sewer is illegal except for NPDES-permitted facilities. Always check local requirements.

Alternatives to and Management of Hazardous Substances found in the Oncology Services Department

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<input checked="" type="checkbox"/> Packaging <input checked="" type="checkbox"/> Single-use items	<ul style="list-style-type: none"> • Request less packaging • Use reusable totes 	Recycle/minimize the use of hard-to-recycle plastics and glass. Follow hauler's waste separation specifications. Purchase in bulk.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Thermometers <input checked="" type="checkbox"/> Sphygmomanometers <input checked="" type="checkbox"/> Other monitoring devices	<ul style="list-style-type: none"> • Digital devices • Alcohol thermometers 	Universal or dangerous waste. Segregate from other types of dangerous waste. See vendor list in Appendix 2 for alternatives.
<input type="checkbox"/> Chemotherapy dangerous waste	<input checked="" type="checkbox"/> Trace chemo <input checked="" type="checkbox"/> Bulk chemo	<ul style="list-style-type: none"> • Use premixed chemo drugs to reduce waste generated 	Dispose of <i>bulk</i> chemo wastes as dangerous waste. <i>Trace</i> chemo wastes can be disposed as biomedical waste.
<input type="checkbox"/> Radioisotopes	<input checked="" type="checkbox"/> Nuclear medicine	<ul style="list-style-type: none"> • Use less hazardous isotopes 	Once considered non-radioactive, determine if the waste is dangerous waste.
<input type="checkbox"/> Glutaraldehyde, formaldehyde, xylene	<input checked="" type="checkbox"/> Cleaning and sanitizing <input checked="" type="checkbox"/> Disinfecting <input checked="" type="checkbox"/> Sterilizing	<ul style="list-style-type: none"> • Sonic sterilization, acetic acid, hydrogen peroxide, peracetic acid, (Sporox, Cidex, Steris, Sterrad, Sterilox) 	Never release into the septic system. Neutralize aldehydes or dispose as dangerous waste. Keep MSDSs on hand and available.
<input type="checkbox"/> Lead	<input checked="" type="checkbox"/> Radiation shields	<ul style="list-style-type: none"> • Use less-toxic alternatives. See vendor list in Appendix 2 	Make sure old lead shields are reused, recycled or disposed as dangerous waste.



Services in this area include surgery, diagnostics, oncology, women's health/gynecology, general medicine, family practice, orthopedics, pulmonary, allergy, urology, pediatrics and rehabilitative services. There are several sources for the generation of dangerous wastes, such as mercury-containing devices, pharmaceuticals, sterilants, disinfectants and chemotherapy wastes.

The following section provides information on proper waste management and possible alternatives for using less-toxic products and reducing the generation of certain wastes.

- Sharps need to be segregated from other biomedical wastes and stored in cadmium-free, sealed, properly-labeled, puncture-resistant containers.
- Pharmaceutical products should be collected and returned to the pharmacy.
- Use a system to collect "soft" trace chemotherapy wastes in biomedical red bags and "sharp" trace chemotherapy wastes in rigid, leak-proof biomedical containers.
- Keep bulk chemotherapy waste out of biomedical bags. Bulk chemotherapy waste will designate as a dangerous waste. Implement a management program to separate bulk chemo wastes from trace chemo wastes. That way, most of the waste generated in chemotherapy administration areas can be categorized as "trace" chemotherapy wastes, which can be packaged and disposed of with biomedical waste. Residuals include contaminated vials, bottles, syringes, IV bags and tubing, packaging, personal protective equipment and linens.
- Use and provide non-metallic medications and shampoos, not selenium-containing shampoo unless necessary.
- Do not dilute waste water containing dangerous waste to meet discharge limits. Contact your local POTW and follow their requirements.

Alternatives to and Management of Hazardous Substances found in Outpatient Care Services

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Packaging <input checked="" type="checkbox"/> Single-use items 	<ul style="list-style-type: none"> • Request less packaging • Use reusable totes 	Recycle. Follow hauler's waste separation specifications.
<input type="checkbox"/> Mercury	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Fluorescent bulbs <input checked="" type="checkbox"/> Mercury switches <input checked="" type="checkbox"/> Batteries 	<ul style="list-style-type: none"> • Low-mercury bulbs • Mercury-free switches and batteries 	Manage as universal wastes, see fact sheet in Appendix 1.
<input type="checkbox"/> Mercury	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Thermometers <input checked="" type="checkbox"/> Monitoring devices <input checked="" type="checkbox"/> Miller-Abbot tubing 	<ul style="list-style-type: none"> • Use digital equipment • Tungsten-filled G.I. tubing and bougies 	Mercury can be recycled or managed as dangerous waste. Phase out mercury-containing devices or equipment. Hurst and Malone have mercury/PVC-free tubing.
<input type="checkbox"/> Chemotherapy and antineoplastics	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Patient treatment 	<ul style="list-style-type: none"> • Reduce volumes used • Centralize chemo compounding 	Use pre-made compounds.
<input type="checkbox"/> Glutaraldehyde, formaldehyde	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Cleaning and sanitizing <input checked="" type="checkbox"/> Disinfecting <input checked="" type="checkbox"/> Sterilizing <input checked="" type="checkbox"/> Chemiclaves¹ 	<ul style="list-style-type: none"> • Recycle, reuse, autoclave • Microwave, electron beam • Gas plasma, hydrogen peroxide 	Never release into the septic system. Neutralize aldehydes or dispose as dangerous waste. Check with POTW. Use gloves, personal protection equipment and proper ventilation.
<input type="checkbox"/> Lead	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Autoclave indicator tape 	<ul style="list-style-type: none"> • Use non-lead autoclave tape 	Dangerous waste; dispose of properly.
<input type="checkbox"/> Dangerous waste pharmaceuticals	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Patient medications (cresols, lindane, mercury preservative) 	<ul style="list-style-type: none"> • Send back to manufacturer • Use reverse distributor 	Dangerous waste; do not discharge to sewer. See Ecology pharmaceutical fact sheet in Appendix 1.
<input type="checkbox"/> Ethylene oxide (EtO)	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Sterilization (heated) 	<ul style="list-style-type: none"> • Consider using steam or sonic sterilization 	Steris, Sterad, Sterilox

¹ Cidex OPA is not recommended as a substitute in Chemiclaves.



Pharmacies may accumulate unused or expired medications and chemicals which need to be disposed of properly. Some pharmaceuticals and other generated wastes may designate as dangerous/ hazardous waste.

Many common waste pharmaceuticals are toxic, ignitable, reactive, caustic, or state-only dangerous wastes that include toxic and persistent criteria wastes. Some common sources of pharmaceutical wastes include: IV preparation, compounding, spills/ breakage, partially used vials and syringes, unused/ outdated preparations/ pharmaceuticals, unused repacks, chemo wastes, and patient medications.

Pharmacy services throughout a healthcare facility generate large quantities of packaging, insert paper, and waste plastics. Residual wastes, including dangerous waste, from administration of pharmaceuticals to patients are also numerous.

- Separate bulk from trace chemotherapy waste; use a system to collect trace chemotherapy wastes in biomedical bags and “sharp” trace chemo wastes in rigid, labeled, leak-proof containers. Manage bulk chemotherapy wastes as dangerous waste.
- Use single-dose, not multiple-dose vials of chemotherapy drugs. Don’t purchase and prepare chemotherapy drugs in excess when pre-formulated, pre-mixed preparations are available.
- Keep chemotherapy-contaminated clothing and gloves out the regular trash.
- Establish an identification protocol for dangerous waste pharmaceuticals; manage them properly and purchase least-toxic alternatives.
- Work with radiation safety officer to establish protocols for radioactive waste decay and find ways to minimize generation of radioactive wastes.
- Maintain an ongoing inventory of pharmaceutical and chemical stores. Use first in – first out system for pharmaceuticals. Don’t allow unused, outdated, or spoiled chemicals or medications to sit on shelves. Inventory often and use take back programs.
- Autoclave indicator tape is leaded and must be handled as dangerous waste.
- Reuse or recycle electronic waste (such as computers) as dangerous waste.

Alternatives to and Management of Hazardous Substances found in Hospital Pharmacy Departments

Hazardous wastes and substances often found in this department Use or Manage?	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Dangerous waste generated hospital-wide	<input checked="" type="checkbox"/> Compounding <input checked="" type="checkbox"/> Corrosives, reactives, acids/bases and solvents	<ul style="list-style-type: none"> See vendor list of less-toxic substitutes in Appendix 2 	Take monthly counts of hospital-wide dangerous waste generation.
<input type="checkbox"/> Dangerous waste pharmaceuticals	<input checked="" type="checkbox"/> Unused/outdated medications, controlled substances	<ul style="list-style-type: none"> Return to manufacturer before end date or use reverse distribution 	Inventory often. Use first in – first out system. Pharmaceutical disposal to garbage or sewer is not acceptable.
<input type="checkbox"/> Chemotherapy and antineoplastics	<input checked="" type="checkbox"/> Patient treatment and wastes	<ul style="list-style-type: none"> N/A 	Reduce excess and centralize chemo compounding locations. Use pre-formulated compounds. Bulk chemo wastes are dangerous wastes.
<input type="checkbox"/> Mercury (thimerosal) and mercury-containing items and monitoring devices	<input checked="" type="checkbox"/> Pharmaceuticals <input checked="" type="checkbox"/> Mercurochrome, ophthalmic products, nasal sprays, vaccines, preservatives <input checked="" type="checkbox"/> Batteries, lamps, switches	<ul style="list-style-type: none"> Use non-mercury-containing medications, devices and equipment 	Hazardous waste. Collect, recycle, reuse, or dispose of as dangerous or universal waste.
<input type="checkbox"/> Silver nitrate	<input checked="" type="checkbox"/> Burn medicines	<ul style="list-style-type: none"> Use alternative anti-bacterial creams 	Dispose silver concentrations of 5 ppm or more as dangerous waste.
<input type="checkbox"/> Radionuclides	<input checked="" type="checkbox"/> Radioactive wastes	<ul style="list-style-type: none"> Decay waste 	Manage and dispose properly.
<input type="checkbox"/> Selenium	<input checked="" type="checkbox"/> Dandruff shampoos	<ul style="list-style-type: none"> Apple cider vinegar rinse 	Minimize use of medicated shampoo.
<input type="checkbox"/> Waste water with dangerous waste	<input checked="" type="checkbox"/> Drains, sinks	<ul style="list-style-type: none"> Recycle or dispose as dangerous waste 	Meet local limits for metals and other wastes.



If prosthetic devices are made on-site, leather-working chemicals and plastics-molding chemicals may be used. Mercury containing devices may also be used. Biomedical waste such as sharps, blades, forceps, and lancets may be generated if debridement or treatment of burns or wounds takes place. It is important for you to know how they must be managed and disposed of properly. Be sure that you are meeting all labeling, storage, and disposal requirements.

- Tanning chemicals and adhesives from plastic-molding and leather-making wastes may need to be separated and disposed of as dangerous waste.
- Disinfection can use highly toxic chemicals such as formaldehyde and glutaraldehyde. Less toxic forms are available including acetic acid, peracetic acid, hydrogen peroxide, and simple alcohols and ketones. Central sterilization may be the best option.
- All sharps or materials contaminated with blood or bodily fluids need to be disposed of as biomedical waste.

Alternatives to and Management of Hazardous Substances found in Hospital Physical Therapy Services Departments

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<input checked="" type="checkbox"/> Packaging	<ul style="list-style-type: none"> • Purchase in bulk • Request less packaging 	Recycle paper, cardboard, metals (aluminum cans), glass, newspaper and plastics. Follow hauler's waste separation specifications.
<input type="checkbox"/> Dangerous waste related to leatherwork, plastic casting, etc.	<input checked="" type="checkbox"/> Rehabilitation <input checked="" type="checkbox"/> Production of prosthesis devices	<ul style="list-style-type: none"> • See vendor list of less-toxic substitutes in Appendix 2 	Dangerous waste. Separate chemicals appropriately while in storage.
<input type="checkbox"/> Dangerous wastes	<input checked="" type="checkbox"/> Waste water	<ul style="list-style-type: none"> • See vendor list of less-toxic substitutes in Appendix 2 	Do not pour dangerous or biomedical wastes into the sewer system. Contact your local waste water facility for the regulations for your area.
<input type="checkbox"/> Glutaraldehyde	<input checked="" type="checkbox"/> Cold sterilization	<ul style="list-style-type: none"> • Cidex, OPA, Sporox, Metrex Compliance or other similar product 	Use gloves or personal protective equipment. Use proper ventilation. Never discharge into septic system. Can be detoxified and discharged to a treatment plant.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Thermometers <input checked="" type="checkbox"/> Barometers	<ul style="list-style-type: none"> • Digital equipment and alcohol thermometers 	Mercury can be recycled or handled as dangerous waste.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Fluorescent bulbs <input checked="" type="checkbox"/> Mercury switches <input checked="" type="checkbox"/> Batteries	<ul style="list-style-type: none"> • Use low-mercury bulbs • Mercury-free switches • Rechargeable batteries 	Dangerous or universal wastes – see fact sheet in Appendix 1.
<input type="checkbox"/> Biomedical waste	<input checked="" type="checkbox"/> Sharps <input checked="" type="checkbox"/> Forceps <input checked="" type="checkbox"/> Blades and lancets	<ul style="list-style-type: none"> • Use source separation to reduce waste 	Place in cadmium-free puncture-resistant clearly labeled container.



Radiology and X-ray services may generate dangerous waste with the use of lead shields, film processing (silver), and other activities. Film and fixer from the developing processes will contain silver.

Low-level radioactive wastes are generated as a byproduct of radiopharmaceuticals, radioimmunology, and nuclear medicine administration procedures. Contaminated materials may include solid wastes, biomedical

wastes, and dangerous wastes. These low-level radioactive wastes include clothing, cleaning materials, medical tubes, swabs, injection needles, syringes, laboratory animal carcasses, and tissues that came into contact with radioactivity.

- Silver from the fixer waste can be reclaimed off-site or on-site by being passed through a filter or silver recovery system. Recycle silver and film.
- Biomedical waste, including sharps and blood-saturated materials need to be disposed in puncture-resistant, leak proof (preferably cadmium-free) red bags and disposed of properly.
- Use “dry” developing methods, switch to digital imaging.. Facilities that switched to PAX systems and digital x-rays have reduced their pollution output of fixer/developer and silver.
- Check with your local waste water treatment facility for requirements for developer and other chemical discharges into the sewer.
- Use low silver content film, implement an on- or off-site silver recovery program.
- Recycle or handle fixer and other spent photographic waste as dangerous waste, don't discharge into sewer into the sewer or on-site septic system.
- Identify lead-containing supplies and equipment and designate for reuse, recycling, or dangerous waste disposal. Consider adapting lead shielding material for other uses within Radiology. Consider lead-free aprons without vinyl coverings.
- Keep spent developer, chromic acid, selenium-bearing solutions, and spent fixer separate, never mix. Manage chromic acid solutions and waste water properly and seek less-toxic substitutes.
- Use less-toxic developers and fixers. Extend fixing bath life, add ammonium thiosulfate, use an acid stop bath prior to fixing bath, add acetic acid to keep pH low, and use squeegees. Use closed-loop recirculation systems.
- Store chemicals, film, and paper properly for longer shelf-life, and don't throw photographic film and paper into regular garbage—recycle it.
- Keep fixer/developer tanks covered (fewer evaporation and oxidation problems). Never use off-spec developer.
- Designate radioactive wastes before disposal. Most need to be disposed of as dangerous waste. Properly decay radioactive materials prior to disposal. Work with radiation safety officer to establish protocols for radioactive waste decay. Minimize radioactive waste generation.

Alternatives to and Management of Hazardous Substances found in Hospital Radiology Services Departments

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<ul style="list-style-type: none"> <input type="checkbox"/> Packaging <input type="checkbox"/> Disposable, single-use items 	<ul style="list-style-type: none"> • Request less packaging • Buy in bulk • Use durable items 	Recycle paper, cardboard, metals and glass.
<input type="checkbox"/> Silver	<ul style="list-style-type: none"> <input type="checkbox"/> Spent x-ray fixer <input type="checkbox"/> Processor solution 	<ul style="list-style-type: none"> • Use digital systems • Collect/recycle on- or off-site 	Use cation exchange, electrolytic recovery, steel wool filtration for silver recovery. Recycle x-ray film.
<input type="checkbox"/> Mercury	<ul style="list-style-type: none"> <input type="checkbox"/> Fluorescent bulbs <input type="checkbox"/> Mercury switches <input type="checkbox"/> Batteries 	<ul style="list-style-type: none"> • Use low-mercury bulbs • Use non-mercury switches and batteries 	Handle as dangerous or universal waste. See fact sheet in Appendix 1.
<input type="checkbox"/> Mercury	<ul style="list-style-type: none"> <input type="checkbox"/> Thermometers <input type="checkbox"/> Sphygmomanometers <input type="checkbox"/> Monitoring devices 	<ul style="list-style-type: none"> • Use digital equipment and devices • Use Anderson tubes 	Mercury can be recycled or disposed as dangerous waste.
<input type="checkbox"/> Chromium chromic acid	<ul style="list-style-type: none"> <input type="checkbox"/> X-ray developer <input type="checkbox"/> Glassware <input type="checkbox"/> Tank cleaners <input type="checkbox"/> Waste water 	<ul style="list-style-type: none"> • Use non-chromium tank cleaners • Use precharged slides or silane. 	Dangerous waste.
<input type="checkbox"/> Collodion ether	<ul style="list-style-type: none"> <input type="checkbox"/> Developing processes 	<ul style="list-style-type: none"> • Use less-toxic preservative 	Dangerous waste.
<input type="checkbox"/> Selenium	<ul style="list-style-type: none"> <input type="checkbox"/> Toners 	<ul style="list-style-type: none"> • Use sodium selenate, not cysteine broth 	Replace with selenium-free version. Dangerous waste – don't discharge into sewer or septic tank.
<input type="checkbox"/> Lead	<ul style="list-style-type: none"> <input type="checkbox"/> Shielding (aprons, blocks) 	<ul style="list-style-type: none"> • Use non-lead alternatives (see vendor list in Appendix 2) 	Recycle or dispose as dangerous waste.
<input type="checkbox"/> Radioactive waste, radionuclides	<ul style="list-style-type: none"> <input type="checkbox"/> Tracers <input type="checkbox"/> Other diagnostic treatment procedures 	<ul style="list-style-type: none"> • Use less-toxic radioactive compounds with short half lives 	Keep wastes in isolation until decay permits disposal. Most decayed wastes are dangerous waste. Check with Health Department to discharge to sewer.



High level disinfectants and sterilants are used in this department. Mercury-containing products and devices may also be used. Used batteries may be generated. Proper management of pressurized tanks such as oxygen is also a concern. Make sure all oxygen and other tanks are secured. Send back empty and partially full tanks and canisters to the distributor.

- Use reusable endotracheal tubes rather than disposable ones.
- Don't use outdated equipment if leaks are a possibility.

Alternatives to and Management of Hazardous Substances found in Hospital Respiratory Care Services Departments

Hazardous wastes and substances often found in this department	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<input checked="" type="checkbox"/> Packaging <input checked="" type="checkbox"/> Disposable items	<ul style="list-style-type: none"> • Use reuseable totes • Ask for less packaging 	Recycle cardboard, paper, metals, glass, batteries, solvents, and lamps.
<input type="checkbox"/> Biomedical waste	<input checked="" type="checkbox"/> Sharps <input checked="" type="checkbox"/> Blood and/or bodily fluid-soaked materials	<ul style="list-style-type: none"> • Reduce and separate solid waste from biomedical waste 	Store in biomedical “red bags.” Separate sharps into a puncture-resistant, clearly-labeled container. Send to a biomedical waste-accepting facility.
<input type="checkbox"/> Dangerous waste pharmaceuticals	<input checked="" type="checkbox"/> Patient medication (cresols, Lindane, Hg preservatives)	<ul style="list-style-type: none"> • Use reverse distributors 	See Ecology Pharmaceutical fact sheet in Appendix 1.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Thermometers <input checked="" type="checkbox"/> Sphygmomanometers <input checked="" type="checkbox"/> Other monitoring equipment	<ul style="list-style-type: none"> • See vendor list in the Appendix 2 for alternative products 	Mercury can be recycled or disposed as dangerous waste. Use mercury-free devices and equipment. Use take-back programs.
<input type="checkbox"/> Mercury	<input checked="" type="checkbox"/> Fluorescent bulbs <input checked="" type="checkbox"/> Mercury switches <input checked="" type="checkbox"/> Batteries	<ul style="list-style-type: none"> • Use low-mercury bulbs • Mercury-free switches • Rechargeable batteries 	Universal wastes – see fact sheet in Appendix 1. Also see vendor lists in Appendix 2.
<input type="checkbox"/> Ethylene Oxide (EtO)	<input checked="" type="checkbox"/> Sterilization	<ul style="list-style-type: none"> • Sterrad, Steris, carbon dioxide, electron beam, gas plasma, microwave 	Routine checks on EtO cylinders and equipment for leaks. Ensure venting to outside. Return cartridges/cylinders to supplier.
<input type="checkbox"/> Formaldehyde, glutaraldehyde, xylene, alcohols	<input checked="" type="checkbox"/> Cleaning solutions and high-level disinfectants, chemiclaves	<ul style="list-style-type: none"> • Use autoclaves, microwave technologies, Cidex OPA² • Steam or sonic sterilization 	Hazardous waste. Recycle. Never discharge into septic system. Use proper ventilation. Neutralize aldehydes using Glycine, Glutarex or Formalex.

² Cidex OPA is NOT recommended as a substitute in chemiclaves.



Surgery services generate dangerous/hazardous waste, biomedical waste, and solid waste. Many substances used in surgery become dangerous wastes at the end of use. These include disinfectants, sterilants, tissue fixatives, solvents and other hazardous substances. Waste gases produced during surgical anesthesia must be managed carefully, too. Be sure that you are meeting all labeling, storage, and disposal requirements.

- Cleaning solutions and high level disinfectants and sterilants such as phenol, formalin, xylene toluene may be replaced with less-toxic chemicals such as Sonic sterilization, Sporox, Cidex, Steris, Sterad, Sterilox, and Metrex Compliance.
- Properly manage and store all hazardous chemicals used by surgical pathology units. Keep pathological waste out of the sewer.
- Employ a scavenging system to anesthetic unit to collect waste anesthetic gases, such as nitrous oxide, halothane, enflurane, isoflurane, etc. Minimize leakage and replace equipment more than 10 years old. Properly manage spent filter cartridges for anesthetic gas wastes as dangerous waste or recycle. Properly manage compressed gas cylinders and return to distributor.
- Never dispose merbromin/water solution waste down the drain, dispose as dangerous waste.
- Separate preserved tissues from formaldehyde, neutralize and dispose as dangerous waste.
- Manage and dispose epinephrine and any residuals as extremely hazardous waste, never into the trash or down the drain.

Alternatives to and Management of Hazardous Substances found in Hospital Surgery Services Departments

Hazardous wastes and substances often found in this department Use or Manage?	Use or Source	Available Alternatives	Additional Management Comments
<input type="checkbox"/> Municipal solid waste	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Packaging <input checked="" type="checkbox"/> Disposable items 	<ul style="list-style-type: none"> • Recycle metals, paper, cardboard, plastic, glass • Buy in bulk • Request less packaging 	Minimize use of hard-to-recycle plastics and glass. Follow hauler's waste separation specifications.
<input type="checkbox"/> Biomedical waste	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Sharps <input checked="" type="checkbox"/> Blood <input checked="" type="checkbox"/> Blood-soaked materials 	<ul style="list-style-type: none"> • Reduce and separate solid waste from biomedical waste 	Store in biomedical "red bags." Separate sharps into a puncture-resistant, clearly-labeled container.
<input type="checkbox"/> Dangerous waste in waste water	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Sterilants and solvents 	<ul style="list-style-type: none"> • See list of vendors in Appendix 2 	Dangerous waste. Check your local waste water facility regulations.
<input type="checkbox"/> Formaldehyde	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Tissue preservation 	<ul style="list-style-type: none"> • Neutralize or use substitute See list of vendors in Appendix 2 	Dangerous waste. Dispose of according to RCRA guidelines.
<input type="checkbox"/> Glutaraldehyde	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Cold sterilization 	<ul style="list-style-type: none"> • Cidex OPA, Sporox, Metrex Compliance 	Use gloves and personal protection equipment. Use proper ventilation. Never discharge into septic system. Neutralize and dispose to sewer.
<input type="checkbox"/> Mercury	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Thermometers <input checked="" type="checkbox"/> Barometers 	<ul style="list-style-type: none"> • Digital equipment, alcohol thermometers 	Mercury may either be recycled or handled as universal waste or dangerous waste.
<input type="checkbox"/> Mercury	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Fluorescent bulbs, mercury switches, batteries 	<ul style="list-style-type: none"> • Use low-mercury bulbs and mercury-free batteries and switches 	Dispose as universal waste or dangerous waste (See fact sheet in Appendix 1)

Guidance Documents

[Designating Dangerous Waste, #96-436,](http://www.ecy.wa.gov/biblio/96436.html)
www.ecy.wa.gov/biblio/96436.html

[Counting Dangerous Waste Under the Dangerous Waste Regulations, #98-414,](http://www.ecy.wa.gov/biblio/98414.html) www.ecy.wa.gov/biblio/98414.html

[Satellite Accumulation, #94-120,](http://www.ecy.wa.gov/biblio/94120.html) www.ecy.wa.gov/biblio/94120.html

[Treatment by Generator, #96-412,](http://www.ecy.wa.gov/biblio/96412.html) www.ecy.wa.gov/biblio/96412.html

[Universal Waste Rule, #98-407,](http://www.ecy.wa.gov/biblio/98407.html) www.ecy.wa.gov/biblio/98407.html

[Universal Waste Rule for Batteries, #98-407a,](http://www.ecy.wa.gov/biblio/98407a.html)
www.ecy.wa.gov/biblio/98407a.html

[Universal Waste Rule for Mercury-containing Equipment, #98-407b,](http://www.ecy.wa.gov/biblio/98407b.html)
www.ecy.wa.gov/biblio/98407b.html

[Universal Waste Rule for Dangerous Waste Lamps, #98-407c,](http://www.ecy.wa.gov/biblio/98407c.html)
www.ecy.wa.gov/biblio/98407c.html

[Pesticide Container Cleaning and Disposal, #01-04-024,](http://www.ecy.wa.gov/biblio/0104024.html)
www.ecy.wa.gov/biblio/0104024.html

[Domestic Sewage Exclusion, #94-136,](http://www.ecy.wa.gov/biblio/94136.html) www.ecy.wa.gov/biblio/94136.html

[Wastewater Discharge Permits in Washington State, #WQ-R-019,](http://www.ecy.wa.gov/biblio/wqr019.html)
www.ecy.wa.gov/biblio/wqr019.html

[Pharmaceutical Waste, #03-04-035,](http://www.ecy.wa.gov/biblio/0304035.html) www.ecy.wa.gov/biblio/0304035.html

[Guide for Dangerous Waste Generators in Washington State, #98-1252-HWTR,](http://www.ecy.wa.gov/biblio/981252hwtr.html) www.ecy.wa.gov/biblio/981252hwtr.html

Appendix 2

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Vendor Information

Washington State Department of Ecology (Ecology) is providing this information as a free and open service to the public. Ecology does not endorse any company or product identified on this or any subsequent pages listed and makes no claims regarding the accuracy, validity or effectiveness of this or any other product or service represented by the provided information.

Keep in mind the following tips when choosing a vendor:

- Ask for least toxic products available. Ask if they have products that do not become dangerous waste when spent or are recyclable.
- Ask vendors for customer references (name, phone and address) that use the product or service in the same manner you will be using it. Contact these customers and ask for their opinion of the product or service. Ask the customers what they like or don't like about the product or service.
- Contact Ecology for vendor's compliance history.
- Get a number of bids and compare. Choose your vendors carefully; consider reliability as well as costs.
- Test the product or service to see if it satisfies your requirements prior to making a commitment to purchase the product or use the service.
- Ask if the product or service is "drop in" prior to product purchase or service use or if new equipment will be necessary. Ask to see total costs or fees associated with the product or service.
- Whenever possible, require your waste contractor to pick-up only on request. In your contract with your waste hauler have it clearly written that they will only pick up on request. Keep wastes separate, if necessary. Don't over-accumulate wastes. Fill all containers prior to disposal. Keep containers closed, labeled and in good condition and stored in secondary containment, when necessary.
- Know the fate of your waste. You are ultimately responsible for the proper disposal of your waste.

The vendor list provides numerous alternatives for specific purposes. Please review the pages to find alternatives for activities occurring in your hospital. The vendor information provided is not all inclusive but attempts to give the best information gathered, to date. We plan on continuing to add useful vendor information to the list. You may find additional vendor information on the Internet.

Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Autoclave Indicator Tape (No Lead)</u>	
Autoclave Indicator Tape Research Products International Corp. 800-323-9814 http://www.rpicorp.com/index/index.html	<ul style="list-style-type: none">• Autoclave tape is less hazardous than those containing metals such as lead or materials such as PVC.• Tape will display autoclave indication after 15 minutes at 120°C.• May be used on paper, cloth, glass, metal and plastic.
Steam Autoclave Indicator Tape Nadco, Inc. PO Box 130 Dover, NH 03820 800-839-9018 Fax: 603-692-0794 E-mail: sale@nadcoinc.com http://www.nadco-inc.com	<ul style="list-style-type: none">• Autoclave tape is less hazardous than those containing metals such as lead or materials such as PVC.• Tape will darken at 273°F (134° C) at steam pressure of 1.02kg/cm² following a 5 minute period.
<u>Amalgam Separators (Amalgam/Mercury Removal From Dental Wastewater)</u>	
AD-1000 American Dental Accessories, Inc. 7310 Oxford Street Minneapolis, MN 55426 800-331-7993 Fax: 888-729-1016 E-mail: info@amerdental.com http://www.amerdental.com/catalog/pdf%20files/pg48.pdf	<ul style="list-style-type: none">• Separates amalgam using wet or dry vacuum systems.• Maximum flow rate is 4 L/min (ISO 11143 testing).• It has been tested to remove 99.3% of the suspended amalgam in wastewater.• Made for use by up to 12 dentists at a time.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Amalgam Separators (Amalgam/Mercury Removal From Dental Wastewater)</u>	
<p>ASDEX Amalgam Separator with: ASDEX Premium Filter (No.: AS-9)</p> <p>American Dental Accessories, Inc. 7310 Oxford Street Minneapolis, MN 55426 800-331-7993 Fax: 888-729-1016 E-mail: info@amerdental.com http://www.amerdental.com/catalog/pdf%20files/pg48.pdf</p>	<ul style="list-style-type: none"> • Separates amalgam using wet or dry vacuum systems. • Maximum flow rate is 250 ml/min (ISO 11143 testing). • It has been tested to remove over 97.3% of the suspended amalgam in wastewater. • Made for use by one dentist.
<p>Guardian Amalgam Collector (No.: A1010)</p> <p>Air Techniques, Inc. 70 Cantiague Rock Road PO Box 870 Hicksville, NY 11802 800-Air-Tech Fax: 516-433-7684 E-mail: info@airtechniques.com http://www.airtechniques.com/products_amalgam.htm</p>	<ul style="list-style-type: none"> • Separates amalgam using wet or dry vacuum systems. • Maximum flow rate is 2.5 L/min (ISO 11143 testing). • It has been tested to remove over 99% of the suspended amalgam in wastewater. • The collector and separation tank must be positioned to drain using gravity. • Uses a sedimentation process to separate amalgam (heavy amalgam settles out of the wastewater and collects in the collection container).
<p>King County Approved Amalgam Separators http://dnr.metrokc.gov/wlr/indwaste/sep_table.doc</p>	<ul style="list-style-type: none"> • Please visit this site for further listings of certified amalgam separators.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Amalgam Separators (Amalgam/Mercury Removal From Dental Wastewater)</u>	
<p>MERC II</p> <p>Bio-Sym Medical Corporation 800-947-7550</p>	<ul style="list-style-type: none"> • Three-stage filtration system that removes 95.2% of amalgam before release to the sewer. • Maximum flow rate is 2 L/min (ISO 11143 testing).
<p>Rasch 890 Systems</p> <p>AB Dental Trends, Inc. 211 Grover St. Lynden, WA 98264 360-354-4722 Fax: 360-354-7460 E-mail: info@amalgamseparation.com http://www.amalgamseparation.com/</p>	<ul style="list-style-type: none"> • Separates amalgam using wet or dry vacuum systems. • Maximum flow rate is 4 L/min. (ISO 11143 testing). • Scrubber module available for increased filtration. • Quiet operation with no electrical or moving parts. • Ship canister to permitted collection depot for recycling when full.
<u>Anaesthetic Gas Scavenger</u>	
<p>Charcoal Scavenger</p> <p>Advanced Anaesthesia Specialists Unit 13, 46-48 Buffalo Road, Gladesville NSW 2111 E-mail: tech@aasmedical.com.au http://www.aasmedical.com.au</p>	<ul style="list-style-type: none"> • Scavenger unit will absorb halothane and Isoflurane gases through activated charcoal filtration. • Charcoal refills are available. • Useful when fume hood system is not available.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Anaesthetic Gas Scavenger</u>	
Evacuation Systems	
Harvard Apparatus 800-272-2775 http://www.harvardapparatus.com	<ul style="list-style-type: none"> • Removes halogenated gases from inhalation anaesthesia. • Useful when fume hood system is not available.
<u>Ballasts (No PCBs or Mercury)</u>	
PowrKut® and Mark 7™ 0-10 Volt Ballasts	
Advance Transformer Co. 10275 West Higgins Road Rosemont, IL 60018-5603 800-372-3331 or 800-322-2086 tech.service.rosemont@philips.com http://www.advancetransformer.com	<ul style="list-style-type: none"> • PowrKut is a hybrid ballast, while Mark 7™ is an electronic ballast. • Both are made of materials without hazardous PCBs or mercury. • PowrKut® is good for hospital situation where electrical interference is a concern. • Mark 7™ ballasts are used in areas where dimmers are needed and use less energy compared to other electronic ballasts.
Ultralux Electronic Ballasts	
Full Spectrum Solutions, Inc. PO Box 1087 Jackson, MI 49204 888-574-7014 Fax: 866-366-4029 shannon@fullspectrumolutions.com http://www.fullspectrumolutions.com	<ul style="list-style-type: none"> • Metal casing is less toxic than those containing PCBs. • Less toxic than ballasts containing mercury. • Comparable in quality to more toxic ballasts.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Barometers (No Mercury)</u>	
<p>DigiQuartz® Electronic Barometer Standards</p> <p>Paroscientific, Inc. 4500 148th Ave. N.E. Redmond, WA, 98052 425-883-8700 Fax: (425) 867-5407 http://www.paroscientific.com</p>	<ul style="list-style-type: none"> • Portable unit available. • 2-line digital read-out (inHg and others). • NIST Traceable - ISO 9001 Quality System. • Less toxic than mercury.
<p>Eco-celli Liquid-Filled Barometer®</p> <p>Allivan marketing, LLC P.O. Box 320 Tyngsboro, MA 01879 978-649-8547 Fax: 978-649-8547 E-mail: info@allivanmktg.com or sales@allivanmktg.com http://www.allivanmktg.com/E038501.htm</p> <p>Dingens Barometers Beverlo-Beringen, Belgium +32 (0)11 340550 Fax: +32 (0)11 342814 E-mail: info@barometers.com http://www.barometers.com</p>	<ul style="list-style-type: none"> • Durable acrylic tubing. • Two types: one measures in both millibar (mb) and inches mercury, the other measures in millimeters and inches mercury. • Mercury-free model E038 uses a non-toxic, red silicone fluid and gas. • Contains a blue color methyl-alcohol thermometer. • Room temperature expands or contracts red silicon fluid and sliding scale between tubes compensates for and measures the expansion which translates into an accurate air pressure measurement.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Barometers (No Mercury)</u>	
<p>Model 2400 and Model 2104 Precision Barometers</p> <p>Mensor Corporation 201 Barnes Drive San Marcos, TX 78666 800-984-4200 Fax: 512-396-1820 E-mail: sales@mensor.com http://www.mensor.com</p>	<ul style="list-style-type: none">• Electronic barometers used for healthcare atmospheric pressure monitoring.• Have front panel switch for choice concerning units of pressure including mmHg.• Calibrated with NIST-traceable primary standards.• Temperature range for 2104 is 15°C -45°C and pressure range is 22-34 inHg abs.• Uses material less toxic than mercury.
<u>Batteries: Button Style for Hearing Aids (Reduced Mercury)</u>	
<p>Duracell EasyTab™ Hearing Aid Batteries</p> <p>The Gillette Company Duracell Global OEM Sales Group 14 Research Drive Bethel, CT 06801 800-544-5454 or 203-791-3013 Fax: 203-207-7013 E-mail: Ana_Cardinale@Gillette.com http://www.duracell.com</p>	<ul style="list-style-type: none">• Zinc air batteries with 1.4V nominal voltage.• Temperature range of 0°C -50°C (32°F -122°F).• 0.3 to 1.8g weight range.• 0.06 to 0.5 cm³ volume range.• Models DA10, DA13, DA312 and DA675.• Vendor claims enhanced cell performance resulting from improved airflow and cell efficiency, and increased internal cell volume.• Collect batteries separately according to chemical contents and dispose of as indicated by local state guidelines; batteries should never be incinerated.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
Batteries: Button Style for Hearing Aids (Reduced Mercury)	
<p>GP Hearing Aid Batteries</p> <p>Gold Peak Industries Ltd 97 Pioneer Road. Singapore 639579 E-mail: gpbatteries.com.sg http://www.gpbatteries.com/</p>	<p>Zinc air battery available in 4 sizes at 1.4V.</p> <ul style="list-style-type: none"> • Collect batteries separately according to chemical contents and dispose of as indicated by local state guidelines; batteries should never be incinerated.
<p>Rayovac Cochlear Plus, Loud N' Clear and Ultra Proline Hearing Aid Batteries</p> <p>Rayovac Corporation PO Box 44960 Madison, WI 53744 800-237-7000 or 608-275-3340 Fax: 608-275-4967 E-mail: consumers@rayovac.com http://www.rayovac.com</p>	<ul style="list-style-type: none"> • Zinc air batteries for hearing aids • Cochlear is for cochlear implants and comes in a 60 pack carton of size 675 batteries • Vendor claims Ultra Proline lasts longer than any other hearing aid battery on the market and is for high power battery uses. • Collect batteries separately according to chemical contents and dispose of as indicated by local state guidelines; batteries should never be incinerated.
<p>Renata Hearing Aid Batteries</p> <p>FUTURE ELECTRONICS (Seattle) 12100 Northeast 195th St (Suite 150) Bothell, WA 98011 425-489-3400 Fax: 425-489-3411 E-mail: sales@renata.com http://www.renata.com or http://www.futureelectronics.com/</p>	<ul style="list-style-type: none"> • Zinc air button-style batteries for hearing aids. • Zinc is a hazardous waste in large quantities and must be disposed of properly. • 1.4V and available in 5 capacities. • Collect batteries separately according to chemical contents and dispose of as indicated by local state guidelines; batteries should never be incinerated.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Batteries: Rechargeable for Digital Equipment (No Mercury) Note: These batteries may be found at most grocery and electronics stores. Here are a few examples.</p> <p>GP Rechargeable Batteries</p> <p>Gold Peak Industries Ltd 97 Pioneer Road. Singapore 639579 E-mail: gpbatteries.com.sg http://www.gpbatteries.com/</p>	<p>Lithium ion (3.7V) batteries available.</p> <p>Many sizes available for each type of rechargeable battery.</p> <p>Lithium ion (LiIon) do not contain mercury, lead, nickel or cadmium and LiIon will not suffer memory alterations if recharged after a partial discharge (unlike NiCd batteries).</p> <p>LiIon recharges in 1 to 2 hours and has three times the voltage or energy output of NiMH batteries.</p> <p>Collect batteries separately according to chemical contents and dispose of as indicated by local state guidelines; batteries should never be incinerated.</p>
<p>Renata Rechargeable Lithium Ion Batteries</p> <p>FUTURE ELECTRONICS (Seattle) 12100 Northeast 195th St (Suite 150) Bothell, WA 98011 425-489-3400 Fax: 425-489-3411 E-mail: sales@renata.com http://www.renata.com or http://www.futureelectronics.com/</p>	<p>Used in portable electronic devices including digital cameras.</p> <p>High energy density and low self discharge rate.</p> <p>Operating voltage of 3.7V.</p> <p>3hr recharge time recommended.</p> <p>Operational temperature range from -20°C to 60°C.</p> <p>Aluminum alloy outer casing.</p> <p>Collect batteries separately according to chemical contents and dispose of as indicated by local state guidelines; batteries should never be incinerated.</p>

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Blood Bank Saline (Mercury-Free Preservative)</u>	
Blood Bank Saline NERL Diagnostics Corporation 14 Almeida Avenue East Providence, RI 02914 800-556-7575 or 401-438-0386 Fax: 401-438-2454 E-mail: customerservice@nerl.com http://www.nerl.com	<ul style="list-style-type: none">• Blood bank saline contains no preservatives.• Mercury-free solution with a pH range of 7.0 to 7.2.
<u>Boilers and Accessories (No Mercury)</u>	
Boiler Controllers and Other Accessories McDonnell & Miller 3500 North Spaulding Avenue Chicago, IL60618 773-267-1600 Fax: 773-267-0991 http://www.mcdonnellmiller.com	<ul style="list-style-type: none">• Mercury-free boiler accessories and competitive prices.• Comparable to mercury.
Bryan Steam Water Boilers Proctor Sales, Inc. 20715 50th Avenue West Lynnwood, Washington 98036 425-774-1441 Fax: 425-771-2590 Contact: Richard Newkirk E-mail: dnewkirk@proctorsales.com http://www.bryanboilers.com	<ul style="list-style-type: none">• Water boilers and steam boilers are available mercury-free.• Comparable to mercury.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer

Comments

Boilers and Accessories (No Mercury)

Steam Boilers

ECR International
World Headquarters
2201 Dwyer Avenue
Utica, NY 13501-1101
315-797-1310
Fax: 315-797-3762

E-mail: info@ecrinternational.com

<http://www.ecrinternational.com>

- They provide mercury-free steam boilers.
- Comparable to mercury.

Less Hazardous Products and Waste Management Vendors

Product and Manufacturer

Comments

Sterilizers (Alternatives to Ethylene Oxide (EtO) and Glutaraldehyde)

Cidex OPA

Advanced Sterilization Products: Johnson & Johnson
33 Technology Drive
Irvine, CA 92618
800-755-5900 or (206) 230-0970
Fax: (206) 230-0974
Michael Black (Ext 7868) or Dave Hess (Tri-cities,
Pullman, Clarkston)
E-mail: aspservices@aspus.jnj.com,
mblack4@aspus.jnj.com
<http://www.sterrad.com>

Consists of 0.55% ortho-phthaldehyde.

High level disinfection in 12 minutes and may be reused for 14 days.

Less of an inhalation hazard than glutaraldehyde.

Must purchase Klenzyme (enzymatic precleaner) and Cidex OPA test strips for proper function.

Can be neutralized with glycine; however, neutralized product may be subject to HW and/or WQ requirements.

Never dispose into septic system.

May cost more than EtO and glutaraldehyde mixtures.

Stains protein gray, so do not handle without gloves.

May cause anaphylaxis-type reactions: don't use on urological instruments used on patients with a history of bladder cancer.

Omega Pro Series Industrial Parts Washers

Omegasonics
330 E. Easy Street, Suite A
Simi Valley, CA 93065
800-669-8227
Fax: 805-583-0561
E-mail: omegasonics@omegasonics.com
<http://www.omegasonics.com>

Uses sound waves to excite sterilizing chemicals.

May be used on various instruments depending on their heat and chemical sensitivities.

Available in different sizes.

May use less toxic chemicals to clean instruments other than glutaraldehyde and EtO.

Sterilizers (Alternatives to Ethylene Oxide (EtO) and Glutaraldehyde)

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>SPOROX® II Sterilizing and Disinfecting Solution</p> <p>Sultan Chemists 85 West Forest Avenue Englewood, NJ 07631 800-637-8582 or 201- 871-1232 http://www.sultanchemists.com</p>	<p>It is a mixture of hydrogen peroxide and phosphoric acid that is safe to use on soft metals such as copper and brass.</p> <p>Chemically sterilizes dental equipment at room temperature and completes (high level disinfection in 30 minutes and sterilization in 6 hours).</p> <p>May be reused for up to 21 days and is less toxic than EtO and glutaraldehyde.</p>
<p>Sterilox 2501</p> <p>Sterilox Technology Inc. 320 King of Prussia Road (Suite 200) Radnor, PA 19087 610-341-1899 Fax: 610-341-0503 E-mail: sterilox@steriloxtechnologies.com http://www.sterilox.com</p>	<p>Strong oxidizing agents (hypochlorite and active free chlorine).</p> <p>Completes high level disinfection in 10 minutes at 25C.</p> <p>Basic materials inexpensive and are less toxic to environment and biological tissues.</p> <p>Decreases efficacy in presence of organic matter and is only effective for a single use.</p> <p>Production equipment expensive.</p> <p>Less toxic than EtO and glutaraldehyde.</p>
<p><u>Sterilizers</u> (Alternatives to Ethylene Oxide (EtO) and Glutaraldehyde)</p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Steris 20 Sterilant</p> <p>Steris Corporation 5960 Heisley Road Mentor, OH 44060 440-354-2600 or 800-548-4873 E-mail: Webmaster@STERIS.com http://www.steris.com</p>	<p>0.2% peracetic acid (diluted from 35%) solution.</p> <p>Completes high level disinfection in 12 minutes at 50-55C and is patient ready in less than 30 minutes.</p> <p>Can only use with STERIS System 1 Processor.</p> <p>Only sterile immediately after process is finished and is good for single use only.</p> <p>Quicker processing time and is able to process heat sensitive instruments.</p> <p>Less toxic than EtO and glutaraldehyde.</p>
<p>STERIS System 1 Processor</p> <p>Steris Corporation 5960 Heisley Road Mentor, OH 44060 440-354-2600 or 800-548-4873 E-mail: Webmaster@STERIS.com http://www.steris.com</p>	<p>Uses 0.2% peracetic acid (diluted from 35%) solution.</p> <p>Completes high level disinfection in 12 minutes at 50-55C and is patient ready in less than 30 minutes.</p> <p>Only sterilizes equipment for use immediately after process is finished and is good for single use only.</p> <p>Quicker processing time and is able to process heat sensitive instruments.</p> <p>High initial cost.</p> <p>Less toxic than EtO and glutaraldehyde.</p>

Sterilizers (Alternatives to Ethylene Oxide (EtO) and Glutaraldehyde)

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Sterrad 50, 100, 100S and 200</p> <p>Advanced Sterilization Products: Johnson & Johnson 33 Technology Drive Irvine, CA 92618 800-755-5900 or 206-230-0970 Fax: 206-230-0974 Michael Black (Ext 7868) or Dave Hess (Tri-cities, Pullman, Clarkston) E-mail: aspservices@aspus.jnj.com, mblack4@aspus.jnj.com http://www.sterrad.com</p> <p>Cirm Pharmaceuticals & Medicals (Sterrad 100) 17672 Laurel Park Drive N. Livonia, MI, 48152 734-459-0082 or 734-564-5200 Fax: 734-459-0220 or 203-387-5911 info@cirmcorp.com http://www.cirmcorp.com/cirmpharm/cirmpharm.h tml</p>	<p>Generates H₂O₂ gas plasma from 58% H₂O₂ and sterilizes in 45 minutes (St 50) and 72 min (St 100S).</p> <p>Quicker processing time and leaves no toxic residue.</p> <p>Depending on vendor, may not be approved to sterilize all equipment.</p> <p>Less toxic than EtO and glutaraldehyde.</p> <p>Vendor claims hydrogen peroxide is less damaging to instruments than peracetic acid and steam.</p>

Cleaning Agents: Mold and Mildew (No Tributyl Tin)

<p>ADD-2 PREVENT MILDEW™ Mildewcide Additive</p> <p>Zinsser Co, Inc. 173 Belmont Drive Somerset, NJ 08875 732-469-8100 Fax: 732-563-9774 E-mail: bullseye@zinsser.com http://www.zinsser.com</p>	<p>Used as an additive in paints, stains and wallpaper adhesive films to prevent mildew growth.</p> <p>Hazardous ingredient is 2-(4-Thiazolyl) Benzimidazole.</p> <p>Does not contain tributyl tin and is less toxic.</p> <p>EPA registered pesticide.</p> <p>Toxic and irritating gases released if incinerated.</p>
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Cleaning Agents: Mold and Mildew (No Tributyl Tin)

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Jomax House Cleaner and Mildew Killer</p> <p>Zinsser Co, Inc. 173 Belmont Drive Somerset, NJ 08875 732-469-8100 Fax: 732-563-9774 E-mail: bullseye@zinsser.com http://www.zinsser.com</p>	<p>Contains mildewcide, ChlorRelease® bleach activator and detergents with the active ingredient acetic acid.</p> <p>Should not damage painted surfaces and may be applied close to plants but not on them.</p> <p>Must add bleach such as Clorox® to activate and remains effective for 3 hours after mixing.</p> <p>Use on outside walls and ground only. DO NOT use indoors.</p> <p>This product is toxic to fish but is less toxic than tributyl tin.</p> <p>Does not contain tributyl tin.</p>
<p>MicroBiocide®</p> <p>Healthy Clean Buildings 4 Wilmington Drive Melville, NY 11747 631-643-1882 Fax: 1-631-643-4649 Contact: Stan Halpern E-mail: cleaning@fnol.net http://www.cleaningpro.net</p>	<ul style="list-style-type: none"> • Controls and inhibits the growth of mold, mildew, algae, bacteria and other biofilms. • #440 is the first EPA registered anti-microbial agent for air ducts and HVAC/R systems. • #430 is for floors and walls. • Claims to work for two years on dry surfaces and 6 months on wet surfaces. • Sterilizes microorganisms. • Contains 2-Bromo-2-Nitropropane-1, 3-Diol as active ingredient. • Low toxicity compared to tributyl tin.
<p><u>Cleaning Agents: Mold and Mildew (No Tributyl Tin)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>ONE</p> <p>Healthy Clean Buildings 4 Wilmington Drive Melville, NY 11747 631-643-1882 Fax: 1-631-643-4649 Contact: Stan Halpern E-mail: cleaning@fnol.net http://www.cleaningpro.net</p>	<ul style="list-style-type: none"> • Removes mildew stains and cleans bathrooms (except for glass). • Hydrogen peroxide based cleaner. • Kills some bacteria and viruses. • Contains no tributyl tin, quaternary ammonium compounds, bleach or acids. • Less toxic.
<p>Unsmoke Microban Disinfectant Spray Plus</p> <p>Microban Systems, Inc. 4660 Elizabeth Street Coraopolis, PA 15108 412-264-8340 or 800-332-6037 Fax: 412-262-7150 http://www.unsmoke.com</p> <p>McDowell Supply 4508 8th Avenue NW Seattle, WA 98107 206-784-4370 E-mail: tim.wessels@mcdowellsupply.com http://www.mcdowellsupply.com</p> <p>Cleaning Systems 3810 Auburn Way North, #407 Auburn, WA 98002 800-824-3151 http://www.cleaningsystems.com</p>	<ul style="list-style-type: none"> • 5-10% 2-Propanol and is an EPA registered pesticide. • Skin and eye irritant with a flash point of 102 degrees Fahrenheit. • Suitable for hospital and health care institutions and may be used in operating rooms, labs, morgues, shower stalls, etc. • Decontaminates textiles, mattresses, bedding, etc. • Used to be called Hospital Spray. • Microban is EPA registered for use in clear, gray and black water floods. • Composed of compounds less toxic than tributyl tin.

Cleaning Agents (No Styrene, Sodium Hydroxide, Hydrochloric Acid or Phosphoric Acid)

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>BioKleen Janitorial Products: Spray Magic, BKP 1204 Laundry Detergent, BKP 810 Citrus Kleen and BKP 130 Neutral Cleaner Degreaser</p> <p>Bio-Kleen 810 Lake Street Kalamazoo, MI 49001 800-240-5536 Contact: Tim Kowalski E-mail: sales@bioklee.com http://www.biokleen.com</p>	<ul style="list-style-type: none">• The janitorial products include an all-purpose cleaner, laundry detergent, degreaser, etc.• They are less toxic than traditional products.• The laundry detergent does not contain phosphates and is not compatible with strong acids.• Spray Magic is less toxic than traditional cleaners, but make sure to wear a mask to avoid inhalation of spray mist.• Citrus Kleen is less toxic than traditional cleaners, however d-limonene may be a sensitizing agent.
<p>E-Lek-Tro Floor Cleaning Kit</p> <p>Healthy Clean Buildings 4 Wilmington Drive Melville, NY 11747 631-643-1882 Fax: 1-631-643-4649 Contact: Stan Halpern E-mail: cleaning@fnol.net http://www.cleaningpro.net</p>	<ul style="list-style-type: none">• Includes floor degreaser/stripper, floor neutralizer, floor sealer/finish and floor cleaner/conditioner.• Stripper contains no butoxyethanol and is not caustic.• Floor sealer contains no styrene and is less toxic than most cleaning agents.

Cleaning Agents (No Styrene, Sodium Hydroxide, Hydrochloric Acid or Phosphoric Acid)

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>ECOSAFE Cleaning Products</p> <p>ECOSAFE Products 180 Newport Center Drive, Suite 180 Newport Beach, CA 92660 949-285-6525 Fax: 949-640-8536 E-mail: johnmac@ecosafeproducts.com http://www.ecosafeproducts.com</p>	<ul style="list-style-type: none"> • Less toxic than traditional cleaners/degreasers such as ammonia. • Formulas include glass cleaner, hand cleaner, laundry cleaner, engine cleaner, car interior cleaner and general purpose cleaner. • Utilizes active-colloid properties. • 99% biodegradable. • Do not use around strong oxidizing materials. • Can use on a variety of surfaces such as plastics, fabrics, paints, leather, metals, wood, glass, ivory, and ceramics when used as directed.
<p>Enviro Care All Purpose Cleaner</p> <p>Rochester Midland Corporation 333 Hollenbeck Street Rochester, NY 14621 800-836-1627 http://www.rochestermidland.com</p>	<ul style="list-style-type: none"> • Cleaner/degreaser that is less toxic than conventional cleaning agents at the recommended dilutions. • Contains an alkyl polyglycoside, has a neutral pH and is readily biodegradable.
<p>Foaming Citrus Oven Cleaner</p> <p>Healthy Clean Buildings 4 Wilmington Drive Melville, NY 11747 631-643-1882 Fax: 1-631-643-4649 Contact: Stan Halpern E-mail: cleaning@fnol.net http://www.cleaningpro.net</p>	<ul style="list-style-type: none"> • Cleans ovens, grills, hoods, broilers and rotisseries. • Contains sodium metasilicate, alkanolamide, propane/isobutane prepellant blend and d-limonene. • D-limonene may be a sensitizing agent. • Does not contain sodium hydroxide. • Less toxic than sodium hydroxide.
<p><u>Cleaning Agents</u> (No Styrene, Sodium Hydroxide, Hydrochloric Acid or Phosphoric Acid)</p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Laundry and Other Cleaning Supplies</p> <p>Healthy Clean Buildings 4 Wilmington Drive Melville, NY 11747 631-643-1882 Fax: 1-631-643-4649 Contact: Stan Halpern E-mail: cleaning@fnol.net http://www.cleaningpro.net</p>	<ul style="list-style-type: none"> • Carry products that do not contain acids, bleach or ammonia for doing laundry and are less toxic. • Have soaps that do not release odor that may trigger allergies.
<p>ONE</p> <p>Healthy Clean Buildings 4 Wilmington Drive Melville, NY 11747 631-643-1882 Fax: 1-631-643-4649 Contact: Stan Halpern E-mail: cleaning@fnol.net http://www.cleaningpro.net</p>	<ul style="list-style-type: none"> • Removes mildew stains and cleans bathrooms (except for glass). • Hydrogen peroxide based cleaner. • Kills some bacteria and viruses. • Contains no tin, quaternary ammonium compounds, bleach or acids. • Less toxic.
<p>Simple Green® Cleaner/Degreaser</p> <p>Sunshine Makers, Inc. 15922 Pacific Coast Highway Huntington Harbour, CA 92649 800-228-0709 Fax: 562-592-3034 http://www.simplegreen.com</p>	<ul style="list-style-type: none"> • Less toxic cleaner/degreaser. • Must be diluted 2 parts of water to 1 part Simple Green in order to meet volatile organic compound requirements for solvent cleaning operations. • May be used on any washable surface including laundry. • Vendor claims it removes stains including dirt, grease, oil, pet stains, coffee, juice, lipstick, blood, adhesives, etc.
<p><u>Collodion</u> (No Ether)</p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Collodion II</p> <p>Mavidon Medical Products 1820 2nd Ave N Lake Worth, FL 33461 800-654-0385 Fax: 561-586-6282 E-mail: info@mavidon.com http://www.mavidon.com</p>	<ul style="list-style-type: none"> • Ethyl alcohol replaces ether and is used as an electrode adhesive, lens cleaner, band aid, etc. • Lower health hazard and flammability than Collodion. • No ether odor. • Dries more slowly.
<p>HV Collodion II</p> <p>Mavidon Medical Products 1820 2nd Ave N Lake Worth, FL 33461 800-654-0385 Fax: 561-586-6282 E-mail: info@mavidon.com http://www.mavidon.com</p>	<ul style="list-style-type: none"> • Ethyl alcohol replaces ether and is used as an electrode adhesive, lens cleaner, band aid, etc. • Lower health hazard and flammability than Collodion. • No ether odor. • Dries more slowly, but contains more cellulose than Collodion II increasing bonding strength by approximately 40%.
<p><u>Concentrating Reagents (No Ethyl Acetate or Xylene)</u></p>	
<p>PRO-Clear™</p> <p>Alpha-Tec Systems (Product No. 033-36, 033-29) P.O. Box 5435 Vancouver, WA 98668-5435 360-260-2779 or 800-221-6058 Fax: 360-260-3277 E-mail: info@AlphaTecSystems.com http://www.alphatecsystems.com</p>	<ul style="list-style-type: none"> • A limonene-based reagent used as a non-toxic replacement for ethyl acetate and xylene in tissue concentration procedures. • Citrus odor. • Less toxic and non-mutagenic. • May be a sensitizing agent.
<p><u>Cooling Recirculating Water Systems</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Recirculating Cooling Towers</p> <p>Delta Cooling Towers, Inc. 41 Pine Street Rockaway, NJ 07866 800-289-3358 Fax: 973-586-2243 E-mail: sales@deltacooling.com http://www.deltacooling.com</p>	<ul style="list-style-type: none">• Offers different cooling systems depending on their use including autoclaves, boilers and HVAC units.• Filtration and chemicals to control bacteria growth are necessary to run towers properly.
<p>Quiet Module Cooling Towers</p> <p>Pioneer Air Systems, Inc. 210 Flatfork Rd. Wartburg, TN 37887 800-264-1AIR Fax: 423-346-3865 E-mail: sales@pioneerair.com http://www.pioneerair.com/coolingtowers.htm</p>	<ul style="list-style-type: none">• Uses evaporative cooling and may be expanded to match the amount of water increases.• Filtration and chemicals to control bacteria growth are necessary to run towers properly.• Small design and does not have any belts or pulleys to replace.
<p><u>Coulter Counters</u> (Mercury-Free)</p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Z1™ Series COULTER COUNTER Cell and Particle Counter</p> <p>Beckman Coulter, Inc. 4300 N. Harbor Boulevard P. O. Box 3100 Fullerton CA 92834-3100 800-742-2345 FAX: Support 714-773-8283; Service 714-773-8426 http://www.beckman.com</p>	<p>Single and dual threshold models for absolute cell counts or concentration.</p> <p>No components contain mercury.</p> <p>Single model sets one size threshold and counts tissue cultures and blood cells for rapid total cell count of cells of relatively uniform size.</p> <p>Dual model also counts tissue cultures and blood cells for samples with numerous cell types, containing variable cell sizes, or platelets.</p> <p>Certified to ISO 9001 by NSAI Quality Assurance.</p> <p>Store up to 5 analyses settings.</p> <p>May select size settings manually.</p> <p>Data may be viewed as a count or concentration and has the option of hard copy output.</p>
<p>Z2™ COULTER COUNTER® Cell and Particle Counter</p> <p>Beckman Coulter, Inc. 4300 N. Harbor Boulevard P. O. Box 3100 Fullerton CA 92834-3100 800-742-2345 FAX: Support 714-773-8283; Service 714-773-8426 http://www.beckman.com</p>	<p>In addition to reporting both count and concentration results, it provides size distribution of the cell population.</p> <p>Averages counts and channels data from a series of up to 10 consecutive analyses.</p> <p>User test functions built-in and storage of up to 5 instrument settings for different cell lines.</p> <p>Mercury-free components.</p>
<p><u>Dandruff Shampoo (No Selenium)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Apple Cider Vinegar Recipe</p>	<p>Apple cider vinegar may be purchased at most grocery stores.</p> <p>Mix one half cup of apple cider vinegar in 2 cups of water and rinse hair.</p> <p>Less toxic and less expensive than dandruff shampoos with selenium.</p>
<u>Dental Filling Material (Mercury-Free Alternatives to Amalgam)</u>	
<p>Compomer, Alloy (Gold), Composite and Glass Ionomer Filling Materials</p> <p>NM Supplies 1, Rosedale Court Bishop Caruana Street Msida MSD05 Malta (Europe) (00356) 2131 6070 or (00356) 7942 4721 Fax: (00356) 2131 6070 http://www.nmgroup.biz/nmsupplies/index.php</p>	<ul style="list-style-type: none">• They offer a variety of filling material including compomer, alloy, composite and glass ionomer options.• Contact the company through their website for more information on individual filling material.• Less toxic than amalgam.
<p>Composite Restoratives</p> <p>Bisco, Inc. 1100 W. Irving Park Rd. Schaumburg IL, 60193 800.247.3368 or 847-534-6000 E-mail: sales@bisco.com http://www.bisco.com</p>	<ul style="list-style-type: none">• Made from submicron glass filler and acrylic resin and is available in many shades and mixtures for different classes of decay.• Light-cured• Aesthetically pleasing to the eye and composed of less toxic material than amalgam.
<u>Dental Filling Material (Mercury-Free Alternatives to Amalgam)</u>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Glass Ionomer Restoratives</p> <p>GC America, Inc. 3737 W. 127th Street Alsip, IL 60803 800-323-7063 E-mail: gca_sales@gcamerica.com http://www.gcamerica.com/</p>	<ul style="list-style-type: none"> • Glass particles hardened by 20 second UV light exposure. • It takes fewer steps than compomers and composites to complete and is aesthetically pleasing to the eye. • Continually releases fluoride to reduce tooth decay and may be recharged. • Not meant for molar restoration (wear more easily than other restorative materials). • Less toxic than amalgam.
<p><u>Developer Solutions</u> (No Hydroquinone)</p>	
<p>FX-50 Black & White Film Developer</p> <p>Paterson Photographic Inc 4680-A Industrial Access Road Douglasville, GA 30134 770-947-9796 Fax: 770-949-5917 E-mail: paterphoto@aol.com http://www.patersonphotographic.com</p>	<ul style="list-style-type: none"> • Film developer that uses sodium ascorbate instead of hydroquinone. • Less toxic than formulas containing hydroquinone; however, this product needs to be disposed of as hazardous waste. • Produces fine grain picture comparable to products containing hydroquinone.
<p>Kodak Xtol Developer</p> <p>Eastman Kodak Company 343 State Street Rochester, NY 14650 800-242-2424 http://www.kodak.com</p>	<ul style="list-style-type: none"> • Black and white film developer powder. • Available quantities range from 1 liter to 50 liters. • Does not contain hydroquinones. • Less toxic than developers containing hydroquinones.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Disinfectant/Antiseptic: Intermediate Surface Agents (No Phenols, Quaternary Ammonium, Iodophor and Chlorhexidine Gluconate)</u>	
<p>CIDEHOL[®] 70 Wipes</p> <p>Decon Labs, Inc. 890 County Line Road Bryn Mawr, PA 19010 800-332-6647 Fax: 610-964-0650 http://www.deconlabs.com</p>	<ul style="list-style-type: none"> • Contains 70% isopropanol. • Isopropanol is considered more hazardous than ethanol and must be disposed of as flammable hazardous waste. • Evaporates leaving no residue; however, use in well ventilated area.
<p>EcoTru/Steri-Safe Disinfectant Cleaner</p> <p>ECOSAFE Products 180 Newport Center Drive, Suite 180 Newport Beach, CA 92660 949-285-6525 Fax: 949-640-8536 E-mail: johnmac@ecosafeproducts.com http://www.ecosafeproducts.com</p>	<ul style="list-style-type: none"> • Less toxic effects than phenols, yet still effective at killing many types of microbes. • Contains smaller amount of active ingredient parachlorometaxyleneol (PCMX, 0.20%) than previously formulated solutions. • PCMX is known to cause contact dermatitis. • May release chlorine gas at high temperatures, so use caution and do not store in high temperature area.
<p>Sanihol[®] 70</p> <p>Decon Labs, Inc. 890 County Line Road Bryn Mawr, PA 19010 800-332-6647 Fax: 610-964-0650 http://www.deconlabs.com</p>	<ul style="list-style-type: none"> • Disinfects with 70% denatured ethanol solution. • Evaporates leaving no residue; however, use in well ventilated area. • Must be disposed of as flammable hazardous waste.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Disinfectant/Antiseptic: Intermediate Surface Agents (No Phenols, Quaternary Ammonium, Iodophor and Chlorhexidine Gluconate)</u>	
<p>TRADECON® Solution</p> <p>Decon Labs, Inc. 890 County Line Road Bryn Mawr, PA 19010 800-332-6647 Fax: 610-964-0650 http://www.deconlabs.com</p>	<ul style="list-style-type: none"> • Disinfectant spray contains 0.525% sodium hypochlorite and sodium hydroxide. • Use in well ventilated area. • Meets OSHA blood borne pathogen standards.
<p>Ultra Clorox® Germicidal Bleach</p> <p>The Clorox Company 1221 Broadway Oakland, CA 94612 510-271-7000 http://www.cloroxprofessional.com Available at local retail stores: Call 888-797-7225 for local distributors</p>	<ul style="list-style-type: none"> • Consists of 6-7.35% sodium hypochlorite and less than 0.2% sodium hydroxide. • Claims manufacturing process guarantees no mercury in the final product. • Still needs to be handled as hazardous waste. • Use in a well ventilated area. • Must be diluted to proper concentration. • May damage some materials if not diluted properly.
<u>Displacement Relay (No Mercury)</u>	
<p>E-SAFE® Relay, Solid State Relay and QPAC-SCR</p> <p>Watlow Electric Manufacturing Company 12001 Lackland Road, St. Louis Missouri, USA 63146 800-WATLOW For local sales agent : 800-4WATLOW E-mail: info@watlow.com http://www.watlow.com</p>	<p>Comparable alternative to mercury relays for processing applications.</p> <p>Low cost and long heater life with no wearable moving parts.</p> <p>Vendor states correct air temperature and flow is essential to properly operate a solid state relay.</p>

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Displacement Relay (No Mercury)</u>	
Single Phase Solid State Relay TEMPCO Electric Heater Corporation 607 North Central Avenue Wood Dale, Illinois 60191 630-350-2252 Fax: 630-350-0232 E-mail: info@tempco.com http://www.tempco.com	Comparable alternative to mercury relays in high amperage or harsh environments (10 to 75 Amps). No wearable moving parts. CE or CSA certified. Vendor states correct air temperature and flow is essential to properly operate a solid state relay.
<u>Dry Cleaning Equipment: Non-Solvent</u>	
Aqua Clean Systems J&J Laundry Equipment 877-463-5701 Fax: 989-463-5192 http://www.jjlaundryequipment.com	<ul style="list-style-type: none">• Multi-process wet-cleaning system.• Uses less toxic solvents/detergents (Some may be harmful to aquatic life).• Capacity ranges from 25 to 80lbs.• Uses microprocessors to allow for precise cleaning specifications.• Wet-cleaning systems have difficulty cleaning wools and rayons and may damage dry clean only fabrics if not done right.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Dry Cleaning Equipment: Non-Solvent</u>	
<p>Micare™ System</p> <p>Cool Clean Technologies, Inc. 3505 County Road 42 West Burnsville, MN 55306-3803 888-500-4900 http://www.co2olclean.com</p>	<ul style="list-style-type: none"> • Utilizes liquid carbon dioxide and surfactants to clean clothes. • Detergents available through Caled Chemical and Laidlaw Corporation. • Carbon dioxide will be recycled and may be purchased through AGA/Linde Gas. • Must pre or post-spot clean for dirty motor oil and lipstick stains. • They will provide training. • Carbon dioxide is an inexpensive solvent.
<u>Fixatives: Alternatives For B5 Solution and PVA (No Mercury)</u>	
<p>AZF Fixative</p> <p>Newcomer Supply 2505 Parview Rd. Middleton, WI 53562800-383-7799 Fax: 608-831-0866 E-mail: newly@newcomersupply.com http://www.newcomersupply.com</p>	<ul style="list-style-type: none"> • Contains acetic zinc formalin and is mercury-free. • Less acutely toxic, however it contains regulated hazardous waste (zinc, formaldehyde).
<p>B5 Fixative Modified</p> <p>Newcomer Supply 2505 Parview Rd. Middleton, WI 53562 800-383-7799 Fax: 608-831-0866 E-mail: newly@newcomersupply.com http://www.newcomersupply.com</p>	<ul style="list-style-type: none"> • Zinc Chloride-Stock Solution. Add formalin, acetic acid or nothing depending on desired results. • Mercury-free. • Less toxic (Formalin may also be replaced with less toxic solutions).

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Fixatives: Alternatives For B5 Solution and PVA (No Mercury)</u>	
<p>B-Plus Fixative™</p> <p>BBC Biochemical 8510 Cedarhome Dr. Stanwood, WA 98292 800-635-4477 or 360-629-4477 Fax: 360-629-4479 E-mail: info_washington@bbcus.com http://www.bbcus.com</p>	<ul style="list-style-type: none"> • Contains formaldehyde and zinc. • Mercury-free fixative for lymphoid and hematopoietic tissues. • Less acutely toxic, however contains regulated hazardous waste (zinc, formaldehyde).
<p>Modified (Cu) PVA Fixative</p> <p>Medical Chemical Corp. 19430 Van Ness Avenue Torrance, CA 90501 800-424-9394 or 800-252-1125 Fax: 310-787-4464 Contact: Andy Rocha E-mail: AndyRocha@med-chem.com http://www.med-chem.com</p>	<ul style="list-style-type: none"> • Mercury-free fixative for parasite permanent staining that contains copper sulfate. • Copper sulfate is less toxic than mercury, but it still needs to be disposed of as hazardous waste.
<p>PROTO-Fix Parasitology Fixative</p> <p>Alpha-Tec Systems P.O. Box 5435 Vancouver, WA 98668-5435 360-260-2779 or 800-221-6058 Fax: 360-260-3277 E-mail: info@AlphaTecSystems.com http://www.alphatecsystems.com</p>	<ul style="list-style-type: none"> • Single vial PVA fixative; permanent stain and concentrator for procedures including EIA, IFA and PCR. Permanent stain in 10 min. • No mercury or other heavy metals. • Less hazardous than mercury fixatives. • Comparable to mercury.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Fixatives: Alternatives For B5 Solution and PVA (No Mercury)</u>	
<p>SAF Fixative</p> <p>Medical Chemical Corp. 19430 Van Ness Avenue Torrance, CA 90501 800-424-9394 or 800-252-1125 Fax: 310-787-4464 Contact: Andy Rocha E-mail: AndyRocha@med-chem.com http://www.med-chem.com</p>	<ul style="list-style-type: none">• Contains sodium acetate, acetic acid and formalin. Parasite fixative used for concentration, permanent staining, EIA and ELISA procedures.• Mercury-free.• Although less toxic than mercury, formalin is still hazardous waste and must be disposed of properly.
<p>UNIFIX</p> <p>Medical Chemical Corp. 19430 Van Ness Avenue Torrance, CA 90501 800-424-9394 or 800-252-1125 Fax: 310-787-4464 Contact: Andy Rocha E-mail: AndyRocha@med-chem.com http://www.med-chem.com</p>	<ul style="list-style-type: none">• Parasite fixative for examination, permanent staining, concentration and DFA procedures and can be used with trichrome and iron hematoxylin stains.• Contains less toxic compounds than mercury and formaldehyde.• May not be compatible with all fecal concentration systems.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Fixatives: Alternatives For B5 Solution and PVA (No Mercury)</u>	
<p>Zinc-PVA</p> <p>Medical Chemical Corp. 19430 Van Ness Avenue Torrance, CA 90501 800-424-9394 or 800-252-1125 Fax: 310-787-4464 Contact: Andy Rocha E-mail: AndyRocha@med-chem.com http://www.med-chem.com</p> <p>Remel 12076 Santa Fe Drive Lenexa, KS 66215 800-255-6730 Fax: 800-621-8251 ISales@remel.com http://www.remel.com</p> <p>Meridian Bioscience, Inc. 3471 River Hills Drive Cincinnati, OH 45244 800-543-1980 or 513-271-3700 Fax: 513-271-3762 http://www.meridianbioscience.com</p>	<ul style="list-style-type: none">• Formaldehyde fixative containing zinc used for permanent staining of parasites available in transport vials.• Mercury-free.• Less toxic, but formaldehyde is a hazardous waste.
<u>Fixatives: Alternatives to Zenker's (No Mercury)</u>	
<p>Zenker's Fixative Modified</p> <p>Newcomer Supply (NSFRC-03K) 2505 Parview Rd. Middleton, WI 53562 800-383-7799 Fax: 608-831-0866 E-mail: newly@newcomersupply.com http://www.newcomersupply.com</p>	<ul style="list-style-type: none">• Mercury-free, zinc chloride fixative as an alternative to Zenker's Fixative.• Although less toxic, zinc chloride needs to be disposed of as hazardous waste.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Fixatives: Alternatives to Zenker's (No Mercury)</u>	
<p>Zinc-Formal Fixx</p> <p>National Diagnostics 305 Patton Drive Atlanta, Georgia 30336 404-699-212 or 800-526-3867 Fax: 404-699-2077 E-mail: info@nationaldiagnostics.com http://www.nationaldiagnostics.com</p>	<ul style="list-style-type: none"> • Mercury-free fixative containing formaldehyde and zinc. • Less toxic. • Zinc and formaldehyde need to be disposed of as hazardous waste.
<u>Fixative/Preservative For Tissues: Alternatives For Formalin and Bouin's Solution (No Formaldehyde)</u>	
<p>Carosafe Concentrate</p> <p>Carolina Biological Supply Company 2700 York Road Burlington, NC 25721 800-227-1150 Fax: 800-222-7112 E-mail: carolina@carolina.com http://www.carolina.com</p>	<ul style="list-style-type: none"> • Formaldehyde-free specimen preservative containing propylene glycol, 95.5% ethylene glycol. • Less toxic and no odor. • Specimen still needs to undergo fixation using formaldehyde first, so there will be trace amounts of formaldehyde within the fixed specimen and must be disposed of according to Washington State regulations.
<p>Glyo-Fixx</p> <p>Shandon, Inc. 171 Industry Dr. Pittsburgh, PA 15275 800-245-6212, 412-788-1133 Fax: 412-788-1138 E-mail: thermoshandon@thermoshandon.com http://www.thermoshandon.com</p>	<ul style="list-style-type: none"> • Formaldehyde-free tissue fixative consisting of glyoxal (dialdehyde) activated in methanol, ethanol and acetic acid. • Works with the following stains: silver procedures, Schmorl's for reducing substances, PAS, Alcian blue, mucicarmine, Verheoff-Van Gieson for elastin, and trichrome. • Low odor and no cross-linking. • Follow proper disposal requirements for Washington State.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Fixative/Preservative For Tissues: Alternatives For Formalin and Bouin's Solution (No Formaldehyde)</u>	
<p>Mirsky's Fixative</p> <p>National Diagnostics 305 Patton Drive Atlanta, Georgia 30336 404-699-212 or 800-526-3867 Fax: 404-699-2077 E-mail: info@nationaldiagnostics.com http://www.nationaldiagnostics.com</p>	<ul style="list-style-type: none"> • Aldehyde tissue fixative that is formaldehyde and glutaraldehyde-free. • Less toxicity and low odor. • Need to purchase specific buffer to combine with fixative. • Follow proper disposal requirements for Washington State.
<p>Prefer</p> <p>Anatech Ltd. 1020 Harts Lake Rd Battle Creek, MI 49015 800-262-8324 or 269-964-6450 Fax: 269-964-8084 Contact: Dee Wolfe or Ada Feldman E-mail: email@anatechltdusa.com, deewolfe@anatechltdusa.com, adafeldman@anatechltdusa.com http://www.anatechltdusa.com</p>	<ul style="list-style-type: none"> • Formalin-free fixative composed of glyoxal (a dialdehyde) in water and ethanol. • Small biopsies fix in 45-60 min and large biopsies in 1-2 hrs. • Hazardous concerns include ethanol and pH. • Follow proper disposal requirements for Washington State.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Fixative/Preservative For Tissues: Alternatives For Formalin and Bouin's Solution (No Formaldehyde)</u>	
<p>S.T.F.</p> <p>Streck Laboratories Inc. 14306 Industrial Road Omaha, NE 68144 800-228-6090 http://www.streck.com</p>	<ul style="list-style-type: none"> • Histopathology tissue fixative consisting of 2-bromo-2-nitro-1,3-propanediol and zinc sulfate. • It is aldehyde and alcohol-free. • Avoid heating and alkaline pH (will produce toxic hydrogen bromide and toxic oxides). • Exempt from EPA disposal regulations according to vendor; however, check to make sure Washington State requirements are met. • Utilizes paraffin imbedded tissue that enhances tissue morphology and nuclear detail (vendor claim).
<p>Uni-Fix™</p> <p>BBC Biochemical 8510 Cedarhome Dr. Stanwood, WA 98292 800-635-4477 or 360-629-4477 Fax: 360-629-4479 E-mail: info_washington@bbcus.com http://www.bbcus.com</p>	<ul style="list-style-type: none"> • Tissue fixative substitute for 10% Neutral Buffered Formalin composed of glyoxal (dialdehyde). • Follow proper disposal requirements for Washington State.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Float Switches</u> (No Mercury)	
<p>Aleph Reed and Opto Sensor Switches</p> <p>Aleph International 1026 Griswold Avenue San Fernando, CA 91340 818-365-9856 or 800-423-5622 Fax: 818-365-7274 Http://www.aleph-usa.com</p> <p>Temco Northwest 19310 North Creek Parkway Building 2 Suite 112 Bothell, WA 98011 425-481-6150 Fax: 425-481-6073 Contact: Tracy Williams E-mail: tracyw@temconorthwest.com http://www.gei-inc.com</p>	<ul style="list-style-type: none">• Mercury-free level sensors in single and twin options.• Dry and vacuum reed switches.• Avoid wetted switches (wetted with mercury).
<p>Dry Reed Switches</p> <p>Coto Technologies 55 DuPont Drive Providence, RI 02907-3105 401-943-2686 Fax: 401-942-0920 E-mail: sales@cotorelay.com http://www.cotorelay.com/index.htm</p>	<ul style="list-style-type: none">• Switch may be actuated by an electromagnet, a permanent magnet or a combination of both.• Device used in sensors, relays, pulse counters, etc.• Mercury-free.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Float Switches</u> (No Mercury)	
<p>Dwyer Float Switches</p> <p>Dwyer Instruments Inc. PO Box 373 102 Indiana Hwy. 212 Michigan City, IN 46361 219-879-8000 Fax: 219-872-9057 E-mail: info@dwyer-inst.com http://www.dwyer-inst.com</p>	<ul style="list-style-type: none"> • Many kinds of mercury-free float switches (e.g. reed switches). • Click on “level” for product search.
<p>FS 90 316 Stainless Steel Float Switch</p> <p>Contegra Inc. 1286 Carriage Hills Dr. Eagan, MN 55123 651-905-0900 Fax: 651-454-4665 E-mail: contegra@Contegra.com http://www.contegra.com/Products.htm</p>	<p>316 Stainless Steel with a 5.5" diameter.</p> <p>Mercury-free form C contact.</p> <p>Fixed level mounting for cable or pipe.</p> <p>Switch ratings are 150 VAC/VDC maximum, 1 Amp. maximum, 25 Watts maximum and non-inductive.</p>
<p>Kari and Kari Mini Float Switches</p> <p>Quality Monitoring Instruments Ltd. 5 Hampstead West, 224 Iverson Road, London. NW6 2HL E-mail: qmi@oilmist.com or tech@oilmist.com http://www.oilmist.com</p>	<p>Control device for filling and discharging pumps, motor and magnetic valves and may be used as an alarm device at certain predetermined surface levels.</p> <p>Kari mini float switch is 80mm in diameter and is capable of fitting into narrow spaces.</p> <p>24V is recommended with flammable liquid, otherwise approved for use at 250V.</p> <p>Mercury- and lead-free.</p>

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p><u>Float Switches</u> (No Mercury)</p> <p>Level Switches and Level Sensors</p> <p>Madison Company 27 Business Park Dr. Branford, CT 06405 800-466-5383 or 203-488-4477 Fax: 203-481-5036 E-mail: info@madisonco.com http://www.madisonco.com</p>	<ul style="list-style-type: none">• All Madison products are mercury-free.• They carry a variety of liquid level switches and sensors including dry reed switches, magnetic, non-contact and conductivity sensors as well as many more.• Have models that are capable of withstanding temperatures up to 300°C, harsh environments and pressures up to 500psi.• Standard floats available in stainless steel, polypropylene, Buna-N and Kynar materials as well as different shapes and sizes.
<p>Liquid Level, Liquid Flow and Air Flow Switches</p> <p>McDonnell & Miller 3500 North Spaulding Avenue Chicago, IL60618 773-267-1600 Fax: 773-267-0991 http://www.mcdonnellmiller.com</p>	<ul style="list-style-type: none">• All three types are offered in mercury-free options.• Competitive pricing.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Float Switches</u> (No Mercury)	
<p>Mighty Mack 1944 series Float Switches</p> <p>Custom Switches, Inc. P.O.Box 111 Manvel, TX 77578 281-489-7844 Fax: 281-489-7521 E-mail: sales@customswitches.com http://www.customswitches.com</p>	<p>Model LS-1944-1 and model LS-1944-2 have been ABS & epoxy pressure tested to 30 PSI (830 inches water).</p> <p>Designed for holding tanks, sumps, lift stations, cooling towers and sewage systems.</p> <p>Used as high level alarms, low level alarms, starting or stopping pumps, motors and heaters.</p> <p>They use a single pole double throw Form "C" switch with a contact rating of 3 amps DC.</p> <p>The LS-1944-1 model is a narrow angle (45 degrees) float switch and the LC-1944-2 is a mechanical latching wide angle (180 degrees) float switch.</p> <p>Multipoint or single point control and not affected by floating material and turbulence.</p>
<p>NKP Level Switch</p> <p>Kobold Instruments, Inc. 1801 Parkway View Drive Pittsburgh, PA 15205 412-788-2830 412-788-4890 E-mail: info@koboldusa.com http://www.koboldmessring.com</p>	<ul style="list-style-type: none"> • Magnet and reed switch set up. • Mercury-free. • Low cost and resists many caustic chemicals. • Works well for tanks with inaccessible tops or bottoms. • Polypropylene or PVDF float.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Float Switches</u> (No Mercury)	
<p>NWS Vibrating Level Switch</p> <p>Kobold Instruments, Inc. 1801 Parkway View Drive Pittsburgh, PA 15205 412-788-2830 412-788-4890 E-mail: info@koboldusa.com http://www.koboldmessring.com</p>	<ul style="list-style-type: none"> • Works with many liquids and unaffected by vibrations. • Tuning fork that triggers alarm when liquid causes the fork to vibrate at a different frequency. • Mercury-free.
<p>PAC™ Series Pressure Activated Control Systems</p> <p>Ballagh Liquid Technologies, Inc 121 North Street W., R R 2, Wingham, Ontario Canada N0G 2W0 877-312-4600 or 519-357-4600 519-357-4630 E-mail: info@bliquidtech.com http://www.bliquidtech.com</p>	<p>All settings and adjustments made outside the container and is mercury-free.</p> <p>CSI Submersible pressure bell.</p> <p>25 feet of heavy duty polyurethane interconnect tubing.</p> <p>Low level and loss of pressure alarms.</p> <p>Not affected by grease, floating debris or turbidity (vendor claim).</p> <p>Works in temperature range of -40°F to 185°F.</p> <p>Manual hand operation via momentary switch for pump run and alarm test.</p> <p>Price is comparable to mercury switches.</p>

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Float Switches</u> (No Mercury)	
Pump Down to Empty Tank Float Switches Dean Bennett Supply 1770 East 69th Ave Denver, CO 80229-7327 800-621-4291 or 303-286-1500 Fax: 303-286-0001 E-mail: pumpsdb@aol.com http://www.deanbennett.com	Product # 10-0032, 10-0033 and 10-0034 are mercury-free. Piggy-back plug for use with up to 13 amps maximum for the junior switches and 15 amps maximum for the super switches. 115V and 230V use options.
Reed Switches Uehling Instrument Company 473 Getty Ave. Paterson, NJ 07503 973-742-8710 Fax: 973-742-1205 E-mail: info@uehling.com http://www.uehling.com	<ul style="list-style-type: none">• Single and multi-point magnetically actuated reed switches.• Unlimited lengths available.• Materials include brass, stainless, teflon, PVC, buna, nylon, kynar and polypropylene.• Top, bottom and side mount options.• Avoid mercury wetted reed switches.
Series FSW Free-Floating Level Switch Dwyer Instruments Inc. PO Box 373 102 Indiana Hwy. 212 Michigan City, IN 46361 219-879-8000 Fax: 219-872-9057 E-mail: info@dwyer-inst.com http://www.dwyer-inst.com	<ul style="list-style-type: none">• Dual level switch designed to control the liquid or slurry levels in filling or draining reservoirs and tanks.• Mercury-free inverter microswitch housed in a polypropylene cover.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Float Switches (No Mercury)</u>	
<p>SJE SIGNALMASTER® and SJE SIGNALMASTER® SPDT Control Switches</p> <p>SJE Rhombus Controls PO Box 1708 Detroit Lakes, MN 56502 888-DIAL-SJE or 218-847-1317 Fax: 218-847-4617 E-mail: sje@sjerhombus.com http://www.sjerhombus.com</p>	<p>Mechanically activated, narrow angle float switch.</p> <p>Activates pump control panels and alarms.</p> <p>Do not use for controlling electric loads less than 100 mAmps or for controlling non-arcing electric loads.</p> <p>Polypropylene float that is capable of withstanding temperatures up to 140°F.</p> <p>Maximum water depth of 30 feet or 13psi.</p> <p>Can measure low levels and high levels.</p> <p>Two mounting options and more than 4 different lengths available.</p> <p>Passed NSF Standard 61 protocol.</p> <p>Not sensitive to rotation.</p>
<p>STI Float Switches</p> <p>Scientific Technologies, Inc. 6550 Dumbarton Circle Fremont, California 94555-3611 510-608-3400 Fax: 510-744-1442 Contact: James Lazzara http://www.safetyonline.com</p>	<ul style="list-style-type: none"> • Many kinds of mercury-free float switches (e.g. ultrasonic).
<p><u>Gloves: Examination Gloves (No Latex)</u> Note: Most medical supply facilities carry latex-free gloves. Here are a few examples.</p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Adenna NPF Nitrile Powder Free Exam Gloves</p> <p>Adenna, Inc. 12216 McCann Drive Santa Fe Springs, CA 90670 888-323-3662 http://www.adenna.com</p>	<ul style="list-style-type: none"> • Powder-free nitrile gloves with textured surface for better grip. • Ambidextrous gloves. • Material is less likely to cause an allergic reaction. • Passed ASTM F1671 viral penetration test (note: vendor reported).
<p>Maxxim SensiCare™ Nitrile and Sensicare NXP Exam Gloves</p> <p>Maxxim Medical One Medline Place Mundelein, Illinois 60060 800-727-7951 Fax: 1-800-351-1512 E-mail: Maxximhelp@medline.com http://www.maxximmedical.com</p>	<ul style="list-style-type: none"> • Nitrile gloves available with or without powder. • Passed ASTM F1671 viral penetration and has been tested for barrier protection against chemicals (contact vendor for details). • Standard nitrile glove is less durable and thinner. • Material is less likely to cause an allergic reaction.
<p>SmartCare NitraPF™</p> <p>SmartCare, Inc. 800-822-8956 http://www.smartcare.com</p>	<ul style="list-style-type: none"> • Nitrile gloves available with or without powder. • Passed ASTM F1671 viral penetration test for resistance to bloodborne pathogens and verified barrier protection against various chemotherapy drugs using ASTM test methods. Contact vendor for specifics. • Latex-free material is less likely to cause an allergic reaction.

Gloves: Examination Gloves (No Latex)

Note: Most medical supply facilities carry latex-free gloves. Here are a few examples.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Tillotson Dual Advantage Exam Gloves</p> <p>Tillotson Healthcare Corporation 10 Glenshaw Street Orangeburg, NY 10962 800-445-6830 or 888-335-7500 Fax: 603-627-8000 E-mail: info@thcnet.com Contact: Debi Moline, John Moulden or Joe Kastner E-mail: moline@thcnet.com, john@dynarex.com, dynatill@aol.com respectively http://thcnet.com</p>	<ul style="list-style-type: none">• Nitrile rubber exterior and a PolyGlide™ latex-free interior to allow for easy pull on and removal.• Passed ASTM F1671 viral penetration test for resistance to bloodborne pathogens and verified barrier protection against glutaraldehyde, formaldehyde and Cidex 7 using ASTM test methods. Contact vendor for specifics.• Latex-free material is less likely to cause an allergic reaction.

Gloves: Surgical Gloves (Latex-Free)

Note: Most medical supply stores carry latex-free gloves. Here are a few examples.

Ansell-Perry Derma Prene® Surgical Glove

Ansell-Perry
Red Bank, NJ 07701
800-321-9752
Contact: Dan Grant (ext 7760)
E-mail: infousa@ansellhealthcare.com or
dgrant@ansell.com
<http://www.ansellhealthcare.com>

- Neoprene gloves that contain chlorine (potential for hazardous incineration byproducts).
- Available with or without powder.
- No report on resistance to bloodborne pathogens or chemicals using ASTM methods.
- Latex-free material is less likely to cause an allergic reaction.

Gloves: Surgical Gloves (Latex-Free)

Note: Most medical supply stores carry latex-free gloves. Here are a few examples.

Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>ECI Elastyfree Surgical Gloves</p> <p>ECI Medical Technologies, Canada 2 Cook Road, Bridgewater Nova Scotia, Canada B4V 3W7 800-668-5289 Fax: 866-668-5289 http://www.ecimedical.com</p>	<ul style="list-style-type: none"> • Synthetic copolymer glove that is powder-, latex-, accelerator-, chlorine- and PVC-free. • Passed the ASTM F1671 viral penetration test for bloodborne pathogens. • Material is less likely to cause an allergic reaction and is less hazardous than other glove materials listed above.
<p>Regent Biogel® Surgical Gloves</p> <p>Regent Hospital Products 800-763-6364 http://www.regentmedical.com</p> <p>SSL Americas 3585 Engineering Drive (Suite 200) Norcross, Georgia 30092-2820 888-566-3662 Fax: 770 582 2233 http://www.regentmedical.com</p>	<p>Powder-free, neoprene gloves that contain chlorine (potential for hazardous incineration byproducts).</p> <p>No report on resistance to bloodborne pathogens or chemicals using ASTM methods.</p> <p>Latex-free material is less likely to cause an allergic reaction.</p>
<p><u>Gloves: Examination Gloves (No Latex)</u> Note: Most medical supply facilities carry latex-free gloves. Here are a few examples.</p>	
<p>Adenna NPF Nitrile Powder Free Exam Gloves</p> <p>Adenna, Inc. 12216 McCann Drive Santa Fe Springs, CA 90670 888-323-3662 http://www.adenna.com</p>	<ul style="list-style-type: none"> • Powder-free nitrile gloves with textured surface for better grip. • Ambidextrous gloves. • Material is less likely to cause an allergic reaction. • Passed ASTM F1671 viral penetration test (note: vendor reported).
<p><u>Gloves: Examination Gloves (No Latex)</u> Note: Most medical supply facilities carry latex-free gloves. Here are a few examples.</p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Allerderm® Nitrile Exam Gloves</p> <p>Allerderm Laboratories, Inc. PO Box 5295 Phoenix, AZ 85010-5295 800-365-6868 Fax: (800) 926-4568 E-mail: info@allerderm.com http://www.allerderm.com</p>	<ul style="list-style-type: none"> • Powder-free nitrile gloves with textured grip. • No report on resistance to bloodborne pathogens or chemicals using ASTM methods. • Material is less likely to cause an allergic reaction.
<p>Ansell-Perry Nitra-Tex™ and Nitra-Touch® Exam Gloves</p> <p>Ansell-Perry Red Bank, NJ 07701 800-321-9752 Contact: Dan Grant (ext 7760) E-mail: infousa@ansellhealthcare.com or dgrant@ansell.com http://www.ansellhealthcare.com</p>	<ul style="list-style-type: none"> • Nitrile gloves available with or without powder. • No report on resistance to bloodborne pathogens or chemicals using ASTM methods. • Nitra-Tex™ has textured wet-grip surface. • Material is less likely to cause an allergic reaction.

Gloves: Examination Gloves (No Latex)

Note: Most medical supply facilities carry latex-free gloves. Here are a few examples.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>ECI Elastyren® Examination Gloves</p> <p>ECI Medical Technologies, Canada 2 Cook Road, Bridgewater Nova Scotia, Canada B4V 3W7 800-668-5289 Fax: 866-668-5289 http://www.ecimedical.com</p> <p>Allerderm Laboratories, Inc. PO Box 2070 Petaluma, CA, 94953-2070 707-765-6868</p> <p>McKesson Medical-Surgical Inc. 8741 Landmark Road Richmond, VA, 23228 804-264-7500</p> <p>Midland Hospital Supply 2011 Great Northern Drive PO Box 2685 Fargo, ND, 58108 701-235-4451</p>	<ul style="list-style-type: none">• Non-sterile procedure glove that passed the ASTM viral penetration test for bloodborne pathogens.• They do not contain powder, accelerator, latex, chlorine or PVC.• Material is less likely to cause an allergic reaction and is less hazardous than other glove materials.

Gloves: Examination Gloves (No Latex)

Note: Most medical supply facilities carry latex-free gloves. Here are a few examples.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Safeskin Blue Nitrile and Purple Nitrile™ Examination Gloves</p> <p>Safeskin Corporation (Division of Kimberly-Clark) 1400 Holcomb Bridge Rd Roswell, GA 30076 800-462-9993 or 800-255-6401 Fax: 800-579-3555 E-mail: safety.cust.support@kcc.com http://www.safeskin.com</p>	<ul style="list-style-type: none"> • Nitrile gloves available with or without powder. • Passed ASTM F1671 viral penetration test for resistance to bloodborne pathogens and verified barrier protection against glutaraldehyde, various chemicals and various chemotherapy drugs using ASTM test methods. Contact vendor for specifics. • Purple nitrile gloves intended to be similar in fit and comfort to latex. • Latex-free material is less likely to cause an allergic reaction.
<p>Tillotson True Advantage Accelerator Free Nitrile Exam Gloves</p> <p>Tillotson Healthcare Corporation 10 Glenshaw Street Orangeburg, NY 10962 800-445-6830 or 888-335-7500 Fax: 603-627-8000 E-mail: info@thcnet.com Contact: Debi Moline, John Moulden or Joe Kastner E-mail: moline@thcnet.com, john@dynarex.com, dynatill@aol.com respectively http://thcnet.com</p>	<ul style="list-style-type: none"> • Purple nitrile gloves available with or without powder. • Accelerator-free and latex-free material is less likely to cause an allergic reaction. • Passed ASTM F1671 viral penetration test for resistance to bloodborne pathogens and passed ASTM F739; 8 hour barrier protection against glutaraldehyde (50%), formaldehyde (37%) and Cidex 7 (glutaraldehyde 2.5%). Contact vendor for specifics.
<p><u>Gloves: Surgical Gloves (Latex-Free)</u> Note: Most medical supply stores carry latex-free gloves. Here are a few examples.</p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Ansell-Perry Elite™ Surgical Glove</p> <p>Ansell-Perry Red Bank, NJ 07701 800-321-9752 Contact: Dan Grant (ext 7760) E-mail: infousa@ansellhealthcare.com or dgrant@ansell.com http://www.ansellhealthcare.com</p>	<p>Polyurethane gloves available with or without powder.</p> <p>No report on resistance to bloodborne pathogens or chemicals using ASTM methods.</p> <p>Latex-free material is less likely to cause an allergic reaction.</p>
<p>ECI Elastyfree Surgical Gloves</p> <p>ECI Medical Technologies, Canada 2 Cook Road, Bridgewater Nova Scotia, Canada B4V 3W7 800-668-5289 Fax: 866-668-5289 http://www.ecimedical.com</p>	<ul style="list-style-type: none"> • Synthetic copolymer glove that is powder-, latex-, accelerator-, chlorine- and PVC-free. • Passed the ASTM F1671 viral penetration test for bloodborne pathogens. • Material is less likely to cause an allergic reaction and is less hazardous than other glove materials listed above.
<p>Maxxim Neolon™ Surgical Glove</p> <p>Maxxim Medical One Medline Place Mundelein, Illinois 60060 800-727-7951 Fax: 1-800-351-1512 E-mail: Maxximhelp@medline.com http://www.maxximmedical.com</p>	<ul style="list-style-type: none"> • Neoprene gloves that contain chlorine (potential for hazardous incineration byproducts). • Available with or without powder. • Passed ASTM F1671 viral penetration test for resistance to bloodborne pathogens and passed barrier protection against various chemicals. • Latex-free material is less likely to cause an allergic reaction.

Gloves: Surgical Gloves (Latex-Free)

Note: Most medical supply stores carry latex-free gloves. Here are a few examples.

Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
Regent Biogel® Surgical Gloves Regent Hospital Products 800-763-6364 http://www.regentmedical.com SSL Americas 3585 Engineering Drive (Suite 200) Norcross, Georgia 30092-2820 888-566-3662 Fax: 770 582 2233 http://www.regentmedical.com	<p>Powder-free, neoprene gloves that contain chlorine (potential for hazardous incineration byproducts).</p> <p>No report on resistance to bloodborne pathogens or chemicals using ASTM methods.</p> <p>Latex-free material is less likely to cause an allergic reaction.</p>

Histological Clearing Agents (No Xylene)

AmeriClear or Citrus Clearing Solvent

Richard Allan Scientific
(Cat No. 8301)
4481 Campus Drive
Kalamazoo, MI 49008
800-522-7270
Fax: 269-372-2809
Contact: Tyna Smith Ext. 634
E-mail: tsmith@rallansci.com
<http://www.rallansci.com>

- Xylene-free D-limonene based solvent that can replace xylene in all applications, but it may require process modification.
- Less toxic than xylene.
- Do not need to place in flammable storage cabinet.
- Limonene may be a sensitizing agent.
- Greasy.

Histological Clearing Agents (No Xylene)

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Clear-Rite™3</p> <p>Richard Allan Scientific (Cat No. 6901, 6905, 6955) 4481 Campus Drive Kalamazoo, MI 49008 800-522-7270 Fax: 269-372-2809 Contact: Tyna Smith Ext. 634 E-mail: tsmith@rallansci.com http://www.rallansci.com</p>	<p>Xylene-free non-citrus based clearing reagent (isoparaffinic aliphatic hydrocarbon) that allows for lipid extraction during tissue processing and renders complete deparaffinization and clearing during staining process.</p> <p>Does not produce hard or brittle specimens and can be used in all tissue processors and automatic stainers.</p> <p>Benzene-free, non-greasy, very low odor.</p> <p>Less toxic than xylene.</p> <p>May require process modification. It is not compatible with all coverslips.</p>
<p>Clearene</p> <p>Surgipath Medical Industries 5205 Route 12 Richmond, IL 60071 800-225-8867 or 815-678-2000 Fax: 815-678-2216 http://www.surgipath.com</p>	<ul style="list-style-type: none"> • Histology clearing reagent substitute for xylene. • Consists of redistilled D-Limonene, which may be a sensitizing agent. • Less toxic than xylene. • Greasy.
<p>Histo-Clear</p> <p>National Diagnostics 305 Patton Drive Atlanta, Georgia 30336 404-699-212 or 800-526-3867 Fax: 404-699-2077 E-mail: info@nationaldiagnostics.com http://www.nationaldiagnostics.com</p>	<ul style="list-style-type: none"> • Less toxic histological clearing reagent made from food oil distillate where no protocol alteration is necessary for slide staining. • Reduced flammability, low odor and biodegradable.
<p><u>Histological Clearing Agents (No Xylene)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Histo-ClearII</p> <p>National Diagnostics 305 Patton Drive Atlanta, Georgia 30336 404-699-2121 or 800-526-3867 Fax: 404-699-2077 E-mail: info@nationaldiagnostics.com http://www.nationaldiagnostics.com</p>	<ul style="list-style-type: none"> • Histological clearing reagent manufactured from petrochemical products (food oil distillate). • Reduced aromatic vapor and biodegradable. • Do not need to place in flammable storage cabinet. • Less toxic than xylene clearing reagents.
<p>Histo-Sol</p> <p>National Diagnostics 305 Patton Drive Atlanta, Georgia 30336 404-699-212 or 800-526-3867 Fax: 404-699-2077 E-mail: info@nationaldiagnostics.com http://www.nationaldiagnostics.com</p>	<ul style="list-style-type: none"> • Xylene-free histological clearing reagent manufactured from petrochemical products (food oil distillate) that can replace xylene in all applications. • Reduced aromatic vapor and less toxic than xylene clearing reagents. • Do not need to place in flammable storage cabinet.
<p>Pro-par Clearant</p> <p>Anatech Ltd. 1020 Harts Lake Rd Battle Creek, MI 49015 800-262-8324 or 269-964-6450 Fax: 269-964-8084 Contact: Dee Wolfe or Ada Feldman E-mail: email@anatechltdusa.com, deewolfe@anatechltdusa.com, adafeldman@anatechltdusa.com http://www.anatechltdusa.com</p>	<p>Uses propylene glycol ether, paraffinic solvent (aliphatic hydrocarbon) in place of xylene.</p> <p>Greaseless, low odor, non-sensitizing, recyclable and combustible.</p> <p>May require process modification.</p> <p>Less toxic than xylene clearing reagents.</p>
<p><u>Histological Clearing Agents (No Xylene)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Shandon Xylene Substitute</p> <p>Shandon, Inc. 171 Industry Dr. Pittsburgh, PA 15275 800-245-6212, 412-788-1133 Fax: 412-788-1138 E-mail: thermoshandon@thermoshandon.com http://www.thermoshandon.com</p>	<ul style="list-style-type: none"> • Aliphatic hydrocarbon used for processing, staining, and coverslipping. • Less toxic than xylene clearing reagents, low odor and non-greasy. • Can be recycled using solvent recyclers.
<p>Sub-X™ Xylene Substitute</p> <p>Surgipath Medical Industries 5205 Route 12 Richmond, IL 60071 800-225-8867 or 815-678-2000 Fax: 815-678-2216 http://www.surgipath.com</p>	<ul style="list-style-type: none"> • Histological clearing reagent made from aliphatic hydrocarbons. • Xylene-free and non-greasy. • Less toxic than xylene-based reagents.
<p><u>Histology Staining Kits (No Mercury, Less Waste)</u></p>	
<p>BBL® Stain Kits</p> <p>Voigt Global Distribution LLC P.O. Box 412762 Kansas City, MO 64141-2762 816-471-9500 Fax: 816-471-9502 E-mail: tech-support@VGDLLC.com, sales@VGDLLC.com http://www.vgdllc.com</p>	<ul style="list-style-type: none"> • Have a variety of stain kits (e.g. gram). • Stain kits produce less waste than larger bottles of stains sold separately.
<p><u>Histology Staining Kits (No Mercury, Less Waste)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Hematology and Histology Stain Kits</p> <p>Sigma-Aldrich 800-325-5832 http://www.sigmaaldrich.com/Area_of_Interest/The_Americas/United_States.html</p>	<ul style="list-style-type: none"> • Have a variety of stain kits (e.g. gram). • Stain kits produce less waste than larger bottles of stains sold separately.
<p>Histology and Microscopy Kits</p> <p>400 Valley Road, Warrington, PA 18976 800)523-2575 fax: (800)343-3291 info@polysciences.com http://www.polysciences.com</p>	<ul style="list-style-type: none"> • Have a variety of stain kits. • Stain kits produce less waste than larger bottles of stains sold separately.
<u>Histology Stains (No Mercury)</u>	
<p>Harris-Hematoxylin</p> <p>Anatech Ltd. 1020 Harts Lake Rd Battle Creek, MI 49015 800-262-8324 or 269-964-6450 Fax: 269-964-8084 Contact: Dee Wolfe or Ada Feldman E-mail: email@anatechltdusa.com, deewolf@anatechltdusa.com, adafeldman@anatechltdusa.com http://www.anatechltdusa.com</p> <p>SurgiPath Medical Industries P.O. Box 528 Richmond IL 60071 800-225-3035 or 815-678-2000 FAX: 815-678-2216 E-mail: kpierce@surgipath.com http://www.surgipath.com</p>	<ul style="list-style-type: none"> • Mercury-free hematoxylin stain containing alcohol, al-ammonium sulfate and sodium iodate. • Less toxic. • Generally used in regressive methods, but may be used in progressive methods in histology and cytology preparations.
<u>Histology Stains (No Mercury)</u>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Histological Stains</p> <p>Richard Allan Scientific 4481 Campus Drive Kalamazoo, MI 49008 800-522-7270 Fax: 269-372-2809 Contact: Tyna Smith Ext. 634 E-mail: tsmith@rallansci.com http://www.rallansci.com</p>	<ul style="list-style-type: none"> • All histological staining reagents are mercury-free and are comparable to those containing mercury. • All stains less toxic than those containing mercury; however, please follow hazardous waste guidelines if necessary.
<p><u>HVAC Heating, Ventilation and Air Conditioning Systems and Components (No Mercury)</u></p>	
<p>Heating, Air Conditioning, Ventilation and Refrigeration Units</p> <p>York International Corp. 631 South Richland Avenue York, PA 17403 717-771-7890 Fax: 717-771-7381 http://www.york.com</p>	<ul style="list-style-type: none"> • All of their components contain material less toxic than mercury. • Systems equivalent to those with mercury components. • No mercury may reduce the disposal cost.
<p>Heating and Air Conditioning Units</p> <p>Lennox® Commercial Comfort Systems 12775 Reservoir Street Chino, CA 91710 909-627-7647, 253-872-3876 or 800-4-LENNOX http://www.lennoxcommercial.com</p>	<ul style="list-style-type: none"> • Mercury-free systems are available upon request. • Systems equivalent to those with mercury components; however, they are less hazardous. • No mercury may reduce the disposal cost.
<p><u>HVAC Heating, Ventilation and Air Conditioning Systems and Components (No Mercury)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Trane Air Conditioning and Heating</p> <p>715 N. Hogan Spokane, WA 99220 509-535-9057 Fax: 509-535-4353 http://www.trane.com/Spokane</p> <p>or</p> <p>2021 152nd Avenue NE Redmond, WA 98052 425-643-4310 Fax: 425-643-4314 http://www.trane.com/Seattle</p>	<ul style="list-style-type: none">• Air Conditioning and Heating Systems are available with mercury-free components when requested.• Systems equivalent to those with mercury components; however, they are less hazardous.• No mercury may reduce the disposal cost.
<u>Intraocular Pressure Reducers (No Mercury)</u>	
<p>Honan Intraocular Pressure Reducer</p> <p>Lebanon Corporation 1700 N. Lebanon St. Lebanon, Indiana 46052 800-428-2310 or 765-482-5284 or 765-482-7273 FAX: 765-482-5660 http://www.honanballoon.com</p>	<ul style="list-style-type: none">• Uses air pressure to soften the eyes instead of mercury.• Applies up to 60 mmHg pressure.• Use before and/or after retrobulbar, peribulbar or subtenons anesthesia.• Contains latex (may cause allergic reaction).
<u>Infectious Waste Bags (No Cadmium)</u>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Bio-Elite™ Red Biohazard Bags</p> <p>Bio-Elite Inc. 562-824-3942 Contact: Rocco Intriere Bioelite1@mac.com</p>	<p>Cadmium-free.</p> <p>Consists of high density polyethylene (HDPE), linear low density polyethylene (LLDPE) and recycled material.</p> <p>Lighter than standard low-density red bags</p> <p>Less cost.</p>
<p>Heritage Biohazard Bags</p> <p>Heritage Bag Company 12320 4th Street Rancho Cucamonga, CA 91730 800-423-1555 or 909-899-5554 Fax: 909-899-5517 Contact: C. Johnson or M. Schmeer or Ross Hall http://www.heritage-bag.com</p>	<ul style="list-style-type: none"> • Bags and ink are heavy metal-free. • Available in low-density and high-density polymers.
<p>Stericycle Red Biohazard Bags and Liners</p> <p>Stericycle 28161 North Keith Drive Lake Forest, Illinois 60045 800-643-0240 or 800-355-8773 Fax: 847-367-9493 E-mail: customercare@stericycle.com http://www.stericycle.com</p>	<p>All bags and liners are cadmium-free.</p>
<p>Tyco Hospi-Tuff Biohazard Bags</p> <p>Tyco Plastics (A Tyco International Ltd. Company) 800-873-3941 or 800-551-5036 http://www.tycoplastics.com</p>	<ul style="list-style-type: none"> • Heavy metal-free. • Available in high-density and low-density can liners with or without printing.

Laboratory Analyses: Colorimetric Chloride and Sequential Multiple Analysis Alternatives (No Mercury)

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>ION450 and ION570 Ion Selective Electrodes (ISE)</p> <p>Hach Company 5600 Lindbergh Drive PO Box 389 Loveland, Colorado 80539 Radiometer Analytical sales 970-669-3050 Fax: 970-669-2932 E-mail: ra@hach.com http://www.hach.com</p>	<ul style="list-style-type: none"> • The ION570 measures pH, conductivity and ISE. • Measurements are taken using standard additions or direct measurements. • Operates ideally for the temperature range 5 to 40°C and the relative humidity range of 20 to 80%. • Measuring ranges include -9 to 23 pH, ±2000 mV, 4 µS to 400 mS and -10°C to +100°C. • Resolutions are 0.001 pH, 0.1 mV, Conductivity: 1/4000 of the scale and 0.1°C. • Less toxic, mercury-free alternative.
<p>Ion Selective Electrodes (ISE)</p> <p>Weiss Research Inc. PO BOX 720109 Houston TX 77272 888-44-WEISS Fax 281-879-9666 E-mail: electrodes@weissresearch.com http://www.weissresearch.com</p>	<ul style="list-style-type: none"> • Electrodes include Cadmium, Chloride, Copper, Cyanide, Fluoride, Iodide, Lead, Silver, Sulfide, Ammonia, Ammonium, Barium, Calcium, Carbonate, Fluroborate, Nitrate, Nitrite, Perchlorate, Potassium, Sodium and water hardness. • Less toxic, mercury-free alternative. • Website contains ranges and chemical interferences.
<p><u>Laboratory Glass and Pipette Cleaner (No Chromic-Sulfuric Acid)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Alconox</p> <p>Alconox 30 Glen St. Suite 309 White Plains, NY 10603 914-948-4040</p>	<ul style="list-style-type: none"> • Anionic detergent for manual and ultrasonic cleaning of contaminants from glassware, metals, plastic, ceramic, porcelain, rubber and fiberglass. • Less toxic; acid and chromium-free. • May contain mercury unless purchased after 1998.
<p>Nitric Acid</p> <p>Fisher Scientific https://www1.fishersci.com/index.jsp</p> <p>Red Bird Services http://www.redbirdservic.com</p> <p>ScienceLab.COM http://www.sciencelab.com</p> <p>Brainerd Chemical Company Inc. http://www.brainerdchemical.com</p>	<ul style="list-style-type: none"> • Less toxic than chromic sulfuric acid. • Will need to neutralize before pouring into sanitary sewer, dispose of as hazardous waste or recover and reuse. Please check with local requirements; may be subject to water quality regulations. • Dilute to 20% and use heavy gloves.
<p>NOCHROMIX® Laboratory Glass Cleaning Reagent</p> <p>GODAX Laboratories, Inc. 720-B Erie Avenue Takoma Park, MD 20912 301-320-6763 Fax: 301-320-6654 E-mail: customerservice@godax.com http://www.godax.com</p>	<ul style="list-style-type: none"> • Chromium-free crystalline inorganic oxidizer. • Avoid inhalation of powder. • Needs to be combined with sulfuric acid to activate and must be neutralized before release, disposed of as hazardous waste or recover and reused. • Classified as hazardous material and must be shipped accordingly. • May be subject to water quality regulations.
<p><u>Lighting</u> (Low Mercury)</p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Sun Wave Super Watt Reducer Full Spectrum Fluorescent Lights</p> <p>Green Home, Inc. 877-282-6400 E-mail: help@greenhome.com http://www.greenhome.com</p>	<ul style="list-style-type: none"> • Full spectrum fluorescent bulb available in a 32 watt with a length of 48 inches. • T-8s contain less mercury than traditional fluorescent bulbs and save 6 - 18% energy over typical T-8s.
<p>ParaLite Full Spectrum Fluorescent Bulbs</p> <p>Full Spectrum Solutions, Inc. PO Box 1087 Jackson, MI 49204 888-574-7014 Fax: 866-366-4029 shannon@fullspectrumsolutions.com http://www.fullspectrumsolutions.com</p>	<ul style="list-style-type: none"> • Offer a variety of low mercury fluorescent bulbs at reasonable prices. • Vendor claims bulbs contain 70% less mercury than traditional fluorescent bulbs.
<p><u>Manometers (No Mercury)</u></p>	
<p>Hand Held Digital Manometers</p> <p>Topac 101 Derby Street Hingham, MA 02043 781-740-8778 Fax: 781-740-8779 http://www.topac.com</p>	<ul style="list-style-type: none"> • Laboratory manometers from basic to advanced models with many different features as options. • Mercury-free.
<p><u>Manometers (No Mercury)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>INFILTEC Digital Manometers</p> <p>108 South Delphine Avenue PO Box 1125 Waynesboro, VA 22980 888-349-7236 or 540-943-2776 Fax: 540-932-3025 E-mail: infiltec@rica.net http://www.infiltec.com</p>	<ul style="list-style-type: none"> • Micro- and regular manometers in single and dual styles. • Mercury-free.
<p>Microtector® Portable Electronic Point Gage: Model 1430</p> <p>Dwyer Instruments Inc. PO Box 373 102 Indiana Hwy. 212 Michigan City, IN 46361 219-879-8000 Fax: 219-872-9057 E-mail: info@dwyer-inst.com http://www.dwyer-inst.com</p>	<ul style="list-style-type: none"> • Measures positive, negative or differential pressures to ± 0.00025" water column over a 0 to 2" w.c. range. • Indicating fluid consists of distilled water and Dwyer A-126 Fluorescein green color concentrate. • Maximum pressure measurement is 100psi.
<p><u>Mercury(II) Oxide Alternatives</u> (No Mercury)</p>	
<p>Copper Catalysts</p> <p>Sciencelab.com, Inc. 1407 North Park Dr. Kingwood, Texas 77339 1.800.901.7247 or 281.354.6400 Fax: 281-354-6789 E-mail: orders@sciencelab.com http://www.sciencelab.com</p>	<ul style="list-style-type: none"> • Have cuprous (I) oxide and cupric (II) oxide reagents that may be used as less toxic alternatives for mercury (II) oxide assay. • Less toxic than mercury.
<p><u>Mops and Cloths</u> (Wet Loop Mop Alternatives)</p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Clean House Microfiber Cleaning Products</p> <p>Clean System US 2301 Kerner Blvd, Suite B San Rafael, CA 94901 415-939-0301 415-454-1740 E-mail: contact@cleansystem.com http://www.cleansystem.com</p>	<ul style="list-style-type: none">• Have microfiber mops and cloths.• Use less chemicals and water than wet loop mops, therefore reduces cleaning time and chances for possible injury.• Light weight and last longer than loop mops.• Need to be laundered after each use and should not be laundered in industrial machines where temperatures raise above 160 degrees Fahrenheit.• Do not use fabric softener or bleach when laundering.• Wet loop mops should be used in areas with large amounts of blood or body fluid instead of microfiber mops.
<p>Edge Tech Industries Microfiber Products</p> <p>Edge Tech Industries 800-250-2440</p>	<ul style="list-style-type: none">• Have microfiber mops and cloths.• Use less chemicals and water than regular mops, therefore reduces cleaning time and chances for possible injury.• Limitations are the same as Clean House Microfiber Cleaning Products.
<p>Ross Products Amazing Cloth Microfiber Products</p> <p>Ross Products 888-440-0480 http://www.amazingcloth.com</p>	<ul style="list-style-type: none">• Have microfiber mops and cloths.• Use less chemicals and water than regular mops, therefore reduces cleaning time and chances for possible injury.• Limitations are the same as Clean House Microfiber Cleaning Products.
<p><u>Mops and Cloths</u> (Wet Loop Mop Alternatives)</p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Swedish Cleaning System MIKROkleen Microfiber Products</p> <p>Redco 16520 Harbor Blvd, Suite F Fountain Valley, CA, 92708 800-794-7047 E-mail: info@dustneversleeps.com http://www.dustneversleeps.com</p>	<ul style="list-style-type: none"> • Have microfiber mops and cloths. • Use less chemicals and water than regular mops, therefore reduces cleaning time and chances for possible injury. • Limitations are the same as Clean House Microfiber Cleaning Products.
<p>Tergo Microfiber Cloths</p> <p>Tergo District Sales 1438 Alderson Rd. Carlisle, Ontario Canada L0R 1H1 905-690-7974 info@ultramicrofibers.com http://www.ultramicrofibers.com</p>	<ul style="list-style-type: none"> • Have microfiber mops and cloths. • Use less chemicals and water than regular mops, therefore reduces cleaning time and chances for possible injury. • Limitations are the same as Clean House Microfiber Cleaning Products.
<p>The Rag Company Microfiber Products</p> <p>The Rag Company 11939 Musket Dr. Boise, ID 83713 866-344-4703 or 208-322-4703 Fax: 208-955-2014 E-mail: theragco@aol.com http://www.theragcompany.com</p>	<ul style="list-style-type: none"> • Have microfiber mops and cloths. • Use less chemicals and water than regular mops, therefore reduces cleaning time and chances for possible injury. • Limitations are the same as Clean House Microfiber Cleaning Products.

Neonatal Products: Feeding Tubes, Catheters and Positioning Aids (No PVC or DEHP)

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Axiom Medical, Inc Neonatal & Pediatric Catheters</p> <p>Axiom Medical, Inc. 310-898-1779 http://www.axiommed.com</p>	<ul style="list-style-type: none"> • Neonatal/Pediatric silicone catheters. • Less toxic than PVC and DEHP. • Comparable to PVC and DEHP.
<p>Bard Pediatric Feeding Tubes</p> <p>Bard Access Systems 5425 West Amelia Earhart Drive Salt Lake City, UT 84116 800-545-0890 or 801-595-0700 E-mail: clinical@bardaccess.com http://www.bardaccess.com</p>	<ul style="list-style-type: none"> • DEHP-free nasogastric feeding tubes. • Made of silicone and comparable to PVC and DEHP. • Less toxic.
<p>CORPAK CORFLO Neonatal and Pediatric Feeding Tubes</p> <p>CORPAK VIASYS Healthcare Medsystems Division 100 Chaddick Dr Wheeling IL 60090 800-323-6305 or 847-537-4601 Fax: 847-541-9526 E-mail: corpak@corpakmedsystems.com http://www.corpakmedsystems.com/home.asp</p>	<ul style="list-style-type: none"> • DEHP-free, polyurethane neonatal and pediatric feeding tubes. • Comparable to PVC and DEHP. • Less toxic than PVC and DEHP.

Neonatal Products: Feeding Tubes, Catheters and Positioning Aids (No PVC or DEHP)

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>ECC Catheter (2184)</p> <p>Vygon 1 Madison Street East Rutherford, NJ (USA) 07073-1605 800-544-4907 or 973-471-5200 Fax: 973-471-5118 E-mail: rsevern@vygonusa.com http://www.vygonusa.com (New website under development)</p>	<ul style="list-style-type: none"> • Non-PVC, silicone 23g neonatal catheter for parenteral nutrition. • Also for mid- to long-term IV therapy. • Comparable to PVC and DEHP. • Less toxic than PVC and DEHP.
<p>Gel-E Donut™, Squishon®, Wedgie™ and Squishon™ Mattress</p> <p>Children’s Medical Ventures 275 Longwater Drive Norwell, MA 02061 800-345-6443 Contact: Gary Richardson http://www.childmed.com</p>	<ul style="list-style-type: none"> • Gel-filled, polyurethane preemie positioning aids. • Comparable to PVC and DEHP. • Less toxic than PVC and DEHP.
<p>Gesco® Umbili-Cath™</p> <p>Colombia Medical, Inc. (Division of Utah Medical Products, Inc.) 1830 S.E. First St. Redmond, OR 97756 800-548-8667 or 800-533-4984 Fax: 541-548-8066 http://utahmed.com</p>	<ul style="list-style-type: none"> • Made of silicone or polyurethane. • PVC-free and less toxic than PVC and DEHP. • Available in single, dual or triple lumen. • Comparable to PVC and DEHP.
<p><u>Neonatal Products: Feeding Tubes, Catheters and Positioning Aids (No PVC or DEHP)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Kendall Argyle® Umbilical Vessel Catheters</p> <p>The Ludlow Company LP (A tyco HEALTHCARE/Kendall LTP company) Two Ludlow Park Drive Chicopee, MA 01022 USA 800-962-9888 http://tycoint.com</p>	<ul style="list-style-type: none"> • Umbilical vessel catheter available in polyurethane and with single, dual or triple lumen. • Comparable to PVC and DEHP. • Less toxic than PVC and DEHP.
<p>NeoCare® Pediatric Catheters</p> <p>Arrow International, Inc. PO Box 12888 Reading, PA 19612 USA 800-640-6428 or 800-523-8446 http://www.neocare.com</p>	<ul style="list-style-type: none"> • Single lumen version available in silicone or polyurethane. • Dual lumen in silicone. • DEHP- and PVC-free. • Comparable to PVC and DEHP, but less toxic than both.
<p>NeoCare® Pediatric Feeding tubes</p> <p>Arrow International, Inc. PO Box 12888 Reading, PA 19612 USA 800-640-6428 or 800-523-8446 http://www.neocare.com</p>	<ul style="list-style-type: none"> • Do not contain DEHP or PVC. • Silicone plastic tube with or without oral dose connector (40cm-90cm). • Comparable to PVC and DEHP but less toxic.
<p><u>Neonatal Products: Feeding Tubes, Catheters and Positioning Aids (No PVC or DEHP)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Nutri-Cath®</p> <p>Colombia Medical, Inc. (Division of Utah Medical Products, Inc.) 1830 S.E. First St. Redmond, OR 97756 800-548-8667 or 800-533-4984 Fax: 541-548-8066 http://utahmed.com</p>	<ul style="list-style-type: none"> • Silicon feeding tube used for nasogastric, nasojejunal and orogastric feeding. • Comparable to PVC and DEHP but less toxic. • Also used for sampling. • Indwell for up to 30 days. • Latex- and PVC-free.
<p>Nutriline Neonatal PICC</p> <p>Vygon 1 Madison Street East Rutherford, NJ (USA) 07073-1605 800-544-4907 or 973-471-5200 Fax: 973-471-5118 E-mail: rsevern@vygonusa.com http://www.vygonusa.com (New website under development)</p>	<ul style="list-style-type: none"> • Non-PVC polyurethane catheter for neonates. • Comparable to PVC and DEHP. • Less toxic.
<p>PICC-Nate®</p> <p>Colombia Medical, Inc. (Division of Utah Medical Products, Inc.) 1830 S.E. First St. Redmond, OR 97756 800-548-8667 or 800-533-4984 Fax: 541-548-8066 http://utahmed.com</p>	<ul style="list-style-type: none"> • Percutaneous Inserted Central Catheter available in silicone. • PVC-free • Comparable to PVC and DEHP. • Less toxic than PVC and DEHP.
<p><u>Neonatal Products: Feeding Tubes, Catheters and Positioning Aids (No PVC or DEHP)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>PremiCath® (1261.2)</p> <p>Vygon 1 Madison Street East Rutherford, NJ (USA) 07073-1605 800-544-4907 or 973-471-5200 Fax: 973-471-5118 E-mail: rsevern@vygonusa.com http://www.vygonusa.com (New website under development)</p>	<ul style="list-style-type: none"> • Non-PVC, 28g neonatal polyurethane catheter for parenteral nutrition. • Also for mid- to long-term IV therapy. • Comparable to PVC and DEHP. • Less toxic than PVC and DEHP.
<p>Specialty Medical Products' Feeding Tubes and Enteral Sets</p> <p>Specialty Medical Products 103 Springfield Center Dr. Suite 101 Woodstock, Georgia 30188 800-633-4360 Fax: 770-517-5853 http://www.gopreemie.com</p>	<ul style="list-style-type: none"> • DEHP-free connection and extension sets used in neonatal and pediatric applications. • Made of silicone and comes in various sizes (40-90cm). • Comparable to PVC and DEHP. • Less toxic than PVC and DEHP.
<p>Thora-Cath®</p> <p>Colombia Medical, Inc. (Division of Utah Medical Products, Inc.) 1830 S.E. First St. Redmond, OR 97756 800-548-8667 or 800-533-4984 Fax: 541-548-8066 http://utahmed.com</p>	<ul style="list-style-type: none"> • Silicone thoracic catheter for chest drainage. • PVC-free. • Silicone reduces clotting and encrustation and infection and serum accumulation are reduced. • Equipped with a universal hub, so it can be adapted to all suction drainage systems. • Comparable to PVC and DEHP but less toxic.
<p><u>Neonatal Products: Feeding Tubes, Catheters and Positioning Aids (No PVC or DEHP)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Umbilical Vessel Catheter Series 1270 and 1272/1274</p> <p>Vygon 1 Madison Street East Rutherford, NJ (USA) 07073-1605 800-544-4907 or 973-471-5200 Fax: 610-630-3835 E-mail: rsevern@vygonusa.com http://www.vygonusa.com</p>	<ul style="list-style-type: none"> • Non-PVC, polyurethane catheter for parenteral nutrition. • Also for mid- to long-term IV therapy. • Series 1270 is single lumen and 1272/1274 are double lumen. • Comparable to PVC and DEHP but less toxic.
<p>Uri-Cath™</p> <p>Colombia Medical, Inc. (Division of Utah Medical Products, Inc.) 1830 S.E. First St. Redmond, OR 97756 800-548-8667 or 800-533-4984 Fax: 541-548-8066 http://utahmed.com</p>	<ul style="list-style-type: none"> • Urinary drainage catheter made of silicone. • PVC- and latex-free. • Silicone minimizes urethral irritation and crustation associated with Latex and PVC material used in other catheters. • Comparable to PVC and DEHP but less toxic.
<p>Vygon DEHP-Free PVC Feeding Tubes</p> <p>Vygon 1 Madison Street East Rutherford, NJ (USA) 07073-1605 800-544-4907 or 973-471-5200 Fax: 973-471-5118 E-mail: rsevern@vygonusa.com http://www.vygonusa.com (New website under development)</p>	<ul style="list-style-type: none"> • DEHP-free TOTM infant feeding tube. • Comparable to PVC. • Sizes include 5, 6 and 8 Fr. • Less toxic.
<p><u>Neonatal Products: Feeding Tubes, Catheters and Positioning Aids (No PVC or DEHP)</u></p>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Vygon DEHP-Free Sump Tube</p> <p>Vygon 1 Madison Street East Rutherford, NJ (USA) 07073-1605 800-544-4907 or 973-471-5200 Fax: 973-471-5118 E-mail: rsevern@vygonusa.com http://www.vygonusa.com (New website under development)</p>	<ul style="list-style-type: none">• DEHP-free PVC sump/replogle tube.• Less toxic.
<u>Neutralizing Products: Aldehyde Neutralizing Solution</u>	
<p>Glute-Out II™</p> <p>PCI Medical PO Box 188 Deep River, CT 06417 800-862-3394 860-526-3081 E-mail: info@pcimedical.com http://www.pcimedical.com/spillkits.php</p>	<ul style="list-style-type: none">• Glycine-based powder that neutralizes OPA and glutaraldehyde.• Deactivates in 5 minutes and comes in three packet sizes.• There are no polymer byproducts to clog drain.• More expensive than glycine.• Neutralized product may be subject to local water quality regulations if poured into the sanitary sewer.• Do not release neutralized product into any septic system.
<u>Neutralizing Products: Aldehyde Neutralizing Solution</u>	

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Glycine, Aminoacetic Acid, Glycocoll</p> <p>City Chemical LLC (Catalog # A392) 139 Allings Crossing Road, West Haven, CT 06516 203-932-2489 or 800-248-2436 Fax : 203-937-8400 E-mail: sales@citychemical.com http://www.citychemical.com</p> <p>Fisher Scientific (Catalog # G48 series) 800-766-7000 Fax: 800-926-1166 http://www.fisherscientific.com</p> <p>Sigma-Aldrich (Catalog # G7126) 800-558-9160 http://www.sigmaaldrich.com</p> <p>Spectrum Chemical and Laboratory Products (Catalog # AM125-13 and AM125-18) 310-516-8000 http://www.spectrumchemical.com</p> <p>VWR (Catalog # IC808822 or IC808831) 800-932-5000 http://www.vwrsp.com</p>	<ul style="list-style-type: none">• Neutralizes CIDEX OPA and other aldehyde solutions with concentrations as low as 25 g of glycine per gallon of aldehyde solution depending on aldehyde concentration and contact period.• Purchasable quantities from 250 g to 12 kg.• Less expensive than other products made specifically for aldehyde neutralization.• Should neutralize aldehyde within one hour if the proper procedure is followed.• Neutralized product may be subject to local water quality regulations if poured into the sanitary sewer.• Do not release neutralized product into any septic system.

Neutralizing Products: Aldehyde Neutralizing Solution

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>NeutraleX Starter Kit (Cat# 7905)</p> <p>BBC Biochemical 8510 Cedarhome Dr. Stanwood, WA 98292 800-635-4477 or 360-629-4477 Fax: 360-629-4479 E-mail: info_washington@bbcus.com http://www.bbcus.com</p>	<ul style="list-style-type: none">• Neutralizes 10% formalin and 2% glutaraldehyde in 15 minutes.• Contains 16 neutralizing packs and 100 test strips.• More expensive than glycine.• Neutralized product may be subject to local water quality regulations if poured into the sanitary sewer.• Do not release neutralized product into any septic system.
<u>Paints: Water-based (No Mercury Preservative)</u>	
<p>Acro and Super Acro Interior Paints</p> <p>Miller Paint Co. http://www.millerpaint.com Find local distributor from website.</p>	<ul style="list-style-type: none">• Water-based latex paint with no toxic VOCs and no mercury preservative.• Green seal certified.• Contains Microban® which inhibits microbial growth.• Less hazardous product but comparable in quality to oil-based paints.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Paints: Water-based (No Mercury Preservative)</u>	
Horizon Series Rodda Paint Rodda Paint Co. http://www.roddapaint.com Find local distributor from website.	<ul style="list-style-type: none">• Green seal interior and exterior paints.• Water-based paints containing low levels of VOCs.• Low odor and dries quickly.• Maintains good scrubbability and hide qualities.
<u>Pest Control</u>	
Perma Guard Diatomaceous Earth Bio-Ag Consultants & Distributors Inc. 1400 Greenwood Hill Rd. P.O. Box 189 Wellesley, Ont. Canada N0B 2T0 800-363-5278 Fax: (519) 656-2534 E-mail: info@bio-ag.com http://www.bio-ag.com/products/feedsupplements/diatomaceous.html	<ul style="list-style-type: none">• Kills insects without the use of toxic chemicals.• Avoid breathing in the dust. It may irritate the lungs and eyes.• Kills most insects, so apply carefully to avoid killing helpful insects.
Weed Prevention Plus Interior Gardens 2727 Lyndale Ave. S. Minneapolis MN, 55408 800-498-4178 or 612-870-9077 Fax: 1-612-870-8901 order@interiorgardens.com http://www.hydroponics-garden.com/weedprevplus.html	<ul style="list-style-type: none">• 5 pound bag of 100% corn gluten for use in weed control.• Helps stop new seed growth from weeds.• One bag covers up to 250 square feet.• Less toxic than traditional weed killers.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Pharmaceutical Management Vendors</u>	
<p>Certified Returns (L.L. Horizon)</p> <p>800-461-1145</p>	<ul style="list-style-type: none"> • Accept unused pharmaceutical returns.
<p>EXP Pharmaceutical Services Corp.</p> <p>North America Headquarters 48021 Warm Springs Boulevard Fremont, California 94539 800-350-0397 or 510-476-0909 Fax: 510-933-1470 E-mail: info@expworld.com www.expworld.com</p>	<ul style="list-style-type: none"> • Provide pharmaceutical and waste disposal services. • Provide on-site DEA form 222 completion and computer-generated inventory list. • Some off-site programs are also available.
<p>PharmEcology Associates, LLC</p> <p>200 S. Executive Dr. Suite 101 Brookfield, WN 53005 262-814-2635 E-mail: info@pharmecology.com http://www.pharmecology.com</p>	<ul style="list-style-type: none"> • Provide information and seminars related to the management of pharmaceutical waste. • Conduct on-site evaluation of pharmaceutical management and provide strategies for improvement.
<u>Photographic Equipment: Digital</u>	
<p>Canon Digital Cameras</p> <p>Canon 850 Greenbrier Circle Chesapeake, VA, 23320 800-OK-CANON http://www.canon.com</p>	<ul style="list-style-type: none"> • Digital cameras from 4.0 megapixels to 16.7 megapixels for landscape pictures. • Many camera options are available to accommodate specific picture resolution needs. • Eliminates the need for a dark room and its related supplies. • Reduces amount of hazardous waste produced.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Photographic Equipment: Digital</u>	
<p>Epson Digital Photo Printers</p> <p>Epson America, Inc. 3840 Kilroy Airport Way Long Beach, CA 90806 562-981-3840 or 800-GOEPSON http://www.epson.com</p>	<ul style="list-style-type: none"> • Digital photo printers capable of printing pictures up to 44in wide. • High quality color and black and white photo options with picture enhancement capabilities. • No toxic developers and fixers needed reducing the amount of cost associated with hazardous waste disposal.
<p>HP Photo Printers</p> <p>Hewlett-Packard Company 3000 Hanover Street Palo Alto, CA 94304-1185 888-999-4747 or 800-752-0900 Fax: 650-857-5518 http://www.hp.com</p>	<ul style="list-style-type: none"> • Digital camera printers with the option of a portable printer. • High resolution color and black and white pictures with digital enhancement capabilities. • Does not use toxic developers or fixers.
<p>Nikon Digital Cameras</p> <p>Nikon USA 1300 Walt Whitman Road Melville, NY 11747\ Fax: 631-547-4025 http://www.nikonusa.com</p>	<ul style="list-style-type: none"> • Digital cameras capable of high resolution of up to 8.0 megapixels with 10x zoom possibilities. • Reduces the amount of hazardous waste produced from film processing and eliminates the need for a darkroom.
<p>Olympus Digital Cameras</p> <p>Olympus America, Inc. 2 Corporate Center Drive PO Box 9058 Melville, NY 11747 888-553-4448 http://www.olympusamerica.com</p>	<ul style="list-style-type: none"> • Digital cameras capable of high resolution of up to 8.0 megapixels with 15x zoom options. • Reduces the amount of hazardous waste produced from film processing and eliminates the need for a darkroom.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Photographic Equipment: Digital</u>	
<p>PAXcam Digital Microscope Equipment</p> <p>MIS/Birkey.com 10740 West Grand Avenue Franklin Park, IL 60131 847-455-0450 E-mail: sales@paxcam.com http://www.paxit.com http://www.paxcam.com</p>	<ul style="list-style-type: none"> • Digital camera/video that attaches directly to microscope. • Comes with digital software. • No hazardous fixers, developers or other photographic chemicals needed. • Supports time-lapse image capture. • Micron scale bar in images. • Used for brightfield microscopy, polarized light, reflected or transmitted light, video, Nomarski DIC and macro applications.
<u>Photographic Tank Cleaners (No Chromate)</u>	
<p>Kodak Developer System Cleaner and Neutralizer (#1012079)</p> <p>Eastman Kodak Company 343 State Street Rochester, NY 14650 800-242-2424 http://www.kodak.com</p>	<ul style="list-style-type: none"> • Three part cleaning system that does not contain chromium. • Less toxic than chromium formulations. • Part A and B consist of potassium permanganate and sulfuric acid. • Part C contains sodium bisulfite and sodium sulfite. • The waste may contain silver and is designated as a D002 and D011 waste.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Photographic Equipment: Digital</u>	
Universal Processor Cleaner (Cat. #720-77 and Cat. #720-90) Solutek Corporation 94 Shirley Street Boston, MA 02119 800-403-0770 E-mail: info@solutekcorporation.com http://www.solutekcorporation.com	<ul style="list-style-type: none">• Removes sludge including silver from developers.• Made of less toxic chemicals than chromate.
Plastic Equipment For Plastic Tubing, Blood Bags, Electrodes and Other Plastic Equipment (No DEHP and PVC)	
B. Braun Peritoneal Dialysis Solution Containers B. Braun McGaw, Inc. Dialysis Products 824 Twelfth Avenue Bethlehem, PA 18018 800-621-0445 or 610-691-5400 http://www.bbraunusa.com	<ul style="list-style-type: none">• Dialyte® solution available in plastic containers that are PVC-free and DEHP-free.
B. Braun TPN Solution B. Braun McGaw, Inc. IV Products 824 Twelfth Avenue Bethlehem, PA 18018 800-227-2862 or 610-691-5400 http://www.bbraunusa.com	<ul style="list-style-type: none">• Available in glass bottles.• No DEHP or PVC.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
Plastic Equipment For Plastic Tubing, Blood Bags, Electrodes and Other Plastic Equipment (No DEHP and PVC)	
<p>Baxter All-In-One TPN Containers</p> <p>Baxter Healthcare Corporation One Baxter Parkway Deerfield, IL 60015 800-422-9837 http://www.baxter.com</p>	<ul style="list-style-type: none"> • Made of ethyl vinyl acetate (EVA) with PVC spike ports. • PVC is plasticized with trisooctyl trimellitate (TOTM) instead of DEHP.
<p>Baxter Blood Bags</p> <p>Baxter Healthcare Corporation Fenwall Division One Baxter Parkway Deerfield, IL 60015 800-766-1077 http://www.baxter.com</p>	<ul style="list-style-type: none"> • DEHP-free packed red blood cell bags made of PVC, but there is no substitute for the PVC bag from this company yet. • Bags for platelet rich plasma, platelets and fresh frozen plasma and are made from polyolefin. • Those bags with the label PL 732, PL 1240, PL 209 or PL 2410 DO NOT contain DEHP. • Those bags labeled PL 146 or PL 1813 DO contain DEHP.
<p>BioTac® Ultra Series</p> <p>The Ludlow Company LP (Kendall-LTP) Two Ludlow Park Drive Chicopee, MA 01022 USA 800-962-9888 http://www.kendall-ltp.com</p>	<ul style="list-style-type: none"> • PVC- and latex-free foam and tape adult conductive adhesive gel ECG electrodes. • Two year shelf life. • Less toxic than DEHP and PVC.
<p>Care® Resting ECG Tab Series</p> <p>The Ludlow Company LP (Kendall-LTP) Two Ludlow Park Drive Chicopee, MA 01022 USA 800-962-9888 http://www.kendall-ltp.com</p>	<ul style="list-style-type: none"> • Description CA 610 and reorder # 41447793. • Latex- and PVC-free material that is less toxic. • Comes in four shapes.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
Plastic Equipment For Plastic Tubing, Blood Bags, Electrodes and Other Plastic Equipment (No DEHP and PVC)	
<p>CORPAK Farrell Gastric Relief System</p> <p>CORPAK MedSystems VIASYS Healthcare Medsystems Division 100 Chaddick Dr Wheeling IL 60090 800-323-6305 or 847-537-4601 Fax: 847-541-9526 E-mail: corpak@corpakmedsystems.com http://www.corpakmedsystems.com/home.asp</p>	<ul style="list-style-type: none"> • DEHP-free system made from EVA.
<p>CORPAK Polar Feeding Bag & Pump Set</p> <p>CORPAK MedSystems VIASYS Healthcare Medsystems Division 100 Chaddick Dr Wheeling IL 60090 800-323-6305 or 847-537-4601 Fax: 847-541-9526 E-mail: corpak@corpakmedsystems.com http://www.corpakmedsystems.com/home.asp</p>	<ul style="list-style-type: none"> • DEHP-free system made from EVA.
<p>DEHP-Free Plastic Products</p> <p>Medex, Inc. 2231 Rutherford Road Carlsbad, CA 92008 800-848-1757 ext. 5150 E-mail: support@medex.com http://www.medex.com</p>	<ul style="list-style-type: none"> • DEHP-free plastic medical supplies including their disposable infusion systems (extension sets, delivery sets, etc.).

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
Plastic Equipment For Plastic Tubing, Blood Bags, Electrodes and Other Plastic Equipment (No DEHP and PVC)	
<p>Dow MDF 7200 Metallocene Polyethylene Film</p> <p>UCAR Emulsion Systems International (Division of Dow Medical Device Film) 19206 Hawthorne Boulevard Torrance, California 90503 800-441-4369 or 310 214 5300 Fax: 310 542 3898 http://www.dow.com/medfilm/</p>	<ul style="list-style-type: none"> • This may be used for a variety of medical applications (e.g. bags). • Made with Affinity ethylene polymer resins (metallocene polyethylene). • Combustion products mainly carbon dioxide and water.
<p>DUPLEX® Drug Delivery System</p> <p>B. Braun McGaw, Inc. Dialysis Products 824 Twelfth Avenue Bethlehem, PA 18018 800-621-0445 or 610-691-5400 http://www.bbraunusa.com</p>	<ul style="list-style-type: none"> • Two-compartment IV solution bag that stores premeasured amount of drug powder and diluent separately until needed. • Flexible closed system bag that is DEHP-free, latex-free and PVC-free.
<p>Excel® and PAB® IV Solution Containers</p> <p>B. Braun McGaw, Inc. Dialysis Products 824 Twelfth Avenue Bethlehem, PA 18018 800-621-0445 or 610-691-5400 http://www.bbraunusa.com</p>	<ul style="list-style-type: none"> • Biologically inert, non-toxic plastic that is PVC-free and DEHP-free. • Excel container's incineration byproducts are carbon dioxide and water. • Features rigid ports.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
Plastic Equipment For Plastic Tubing, Blood Bags, Electrodes and Other Plastic Equipment (No DEHP and PVC)	
<p>FusionSeal Process</p> <p>FusionSeal Corporation 508-785-8158 Contact: Sam Fader</p>	<ul style="list-style-type: none"> • Undergoes process in 1 second and is more versatile and faster than RF welding. • Reduces unit cost for production of medical bags such as enteral feeding, IV and blood bags. • Replaces PVC films with less toxic materials. • Retrofits current equipment or designs and installs new equipment.
<p>GLS Thermoplastic Elastomers</p> <p>GLS Corporation 800-457-8777 http://www.glscorp.com</p>	<ul style="list-style-type: none"> • PVC-free and latex-free alternative for medical applications.
<p>Kendall Argyle® Indwell Feeding Tubes</p> <p>Kendall-LTP The Ludlow Company LP Two Ludlow Park Drive Chicopee, MA 01022 800-962-9888 or 800-669-1009 Fax: 800-637-9775 http://www.kendall-ltp.com</p>	<ul style="list-style-type: none"> • DEHP-free polyurethane feeding tubes. • Flexibility maintained for prolonged use.
<p>Kendall Kangaroo DEHP-Free Pump Set</p> <p>Kendall-LTP The Ludlow Company LP Two Ludlow Park Drive Chicopee, MA 01022 800-962-9888 or 800-669-1009 Fax: 800-637-9775 http://www.kendall-ltp.com</p>	<ul style="list-style-type: none"> • DEHP-free PVC pump set made for all Kangaroo 224, 324, PET and CONTROL enteral feeding pumps. • Internal Anti-Free Flow (AFF) Device to eliminate a free flow accident.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
Plastic Equipment For Plastic Tubing, Blood Bags, Electrodes and Other Plastic Equipment (No DEHP and PVC)	
<p>M312 Film and IV Style Bags</p> <p>Cryovac Division, Sealed Air Corporation 864-433-2922 Contact: Ralph Sizemore E-mail: ralph.sizemore@sealedair.com http://www.sealedair.com</p>	<ul style="list-style-type: none"> • Polyester modified polypropylene film and tubing. • PVC-free material is compatible with various pharmaceutical solutions including a variety of lipids and amino acids. • Takes less time to sterilize in an autoclave than in thicker plasticized PVC and is less than half the mass of PVC possibly reducing the amount of waste generated. • Works well under cold conditions.
<p>Medi-Trace® SF450 Series</p> <p>The Ludlow Company LP (Kendall-LTP) Two Ludlow Park Drive Chicopee, MA 01022 USA 800-962-9888 http://www.kendall-ltp.com</p>	<ul style="list-style-type: none"> • Foam adult conductive adhesive gel ECG electrodes that do not contain PVC or latex. • Material is less toxic than PVC or latex.
<p>Metrix TPN Bags</p> <p>Metrix Company 4400 Chavenelle Road Dubuque, Iowa, 52002 563-556-8800 Fax: (563) 556-470 http://www.metrixco.com</p>	<ul style="list-style-type: none"> • The DEHP-free vinyl containers use TOTM as a plasticizer and are available to those facilities mixing their own. • The EVA bags contain no plasticizers and are also available to those facilities mixing their own solutions. • Both materials are less toxic than the material they replaced.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
Plastic Equipment For Plastic Tubing, Blood Bags, Electrodes and Other Plastic Equipment (No DEHP and PVC)	
<p>Natvar Biopath Medical Tubings</p> <p>Natvar 800-395-6288 Contact: Bob Donohue http://www.natvar.com</p>	<ul style="list-style-type: none"> • PVC-free multilayered flexible tubing. • USP class VI. • Polyurethane inner layer and Ecdel outer layer. • Combustion products are carbon dioxide and water and it is ethylene oxide and gamma stable.
<p>Non-PVC Bags for TPN</p> <p>Stedim, Inc. 1910 Mark Court (Suite 110) Concord, CA 94520 925-689-6650 or 800-914-6644 Fax: 925-689-6988 Contact: Bill Krause E-mail: bkrause@stedim.com http://www.stedim.com</p>	<ul style="list-style-type: none"> • Drug delivery and IV nutrition PVC-free bags. • Designs, develops and manufactures.
<p>Pactiv Propyflex® Products</p> <p>Pactiv Corporation 1900 West Field Court Lake Forest, IL 60045 847-482-2000 or 888-828-2850 http://www.pactiv.com</p>	<ul style="list-style-type: none"> • PVC-free material for medical fluid packaging that can be used in soft or hard plastic and glass applications. • Consists of elastomer modified polypropylene. • Do not release dioxins or hydrogen chloride during combustion.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
Plastic Equipment For Plastic Tubing, Blood Bags, Electrodes and Other Plastic Equipment (No DEHP and PVC)	
<p>Polyurethane Film, Sheet, Tubing and Custom Profiles</p> <p>Steven Urethane Nine Sullivan Road Holyoke, MA 01040-2800 877-878-3456 Contact: Tim Falcetti E-mail: tafalcetti@stvure.com http://www.stevensurethane.com</p>	<ul style="list-style-type: none"> • Supplies the PVC alternative, thermoplastic polyurethane to OEM's and end product converters.
<p>RadioTrace™ RT600 Series and Excel® Radiolucent Series</p> <p>The Ludlow Company LP (Kendall-LTP) Two Ludlow Park Drive Chicopee, MA 01022 USA 800-962-9888 http://www.kendall-ltp.com</p>	<ul style="list-style-type: none"> • RadioTrace™ radiolucent ECG electrodes used for x-ray procedures and all monitoring applications and do not contain any toxic heavy metals. • Excel® foam and cloth radiolucent adult conductive adhesive gel diagnostic ECG electrodes used for all applications. • Excel® foam reorder # 31452389 and Excel® cloth reorder #ES40025. • Two year shelf life. • Latex- and PVC-free material that is less toxic.
<p>Saint-Gobain Tygon® Plasticizer-Free Medical Tubing</p> <p>Saint-Gobain Performance Plastics Contact: Tony Pagillaro 908-218-8888 http://www.medical.saint-gobain.com</p>	<ul style="list-style-type: none"> • USP Class VI and ISO 10993. • DEHP-free and PVC-free tubing for medical applications.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
Plastic Equipment For Plastic Tubing, Blood Bags, Electrodes and Other Plastic Equipment (No DEHP and PVC)	
<p>Stedim 100</p> <p>Stedim, Inc. 1910 Mark Court (Suite 110) Concord, CA 94520 925-689-6650 or 800-914-6644 Fax: 925-689-6988 Contact: Bill Krause E-mail: bkrause@stedim.com http://www.stedim.com</p>	<ul style="list-style-type: none"> • IV nutrition PVC-free bag made of polypropylene. • Autoclavable. • No plasticizers. • Vendor reported fully qualified and validated.
<p>Stedim TPN Bags</p> <p>Stedim, Inc. 1910 Mark Court (Suite 110) Concord, CA 94520 800-914-6644 or 925-689-6650 Fax: 925-689-6988 http://www.stedim.com</p>	<ul style="list-style-type: none"> • Made of plasticizer-free EVA. • A Neonatal Bag Filling Kit is also available. • Less toxic than DEHP and PVC.
<p>Tekni-Plex SurePath Medical Tubing</p> <p>Natvar 800-395-6288 Contact: Bob Donohue http://www.natvar.com</p>	<ul style="list-style-type: none"> • For anesthesia monitoring lines and it does not contain PVC or phthalate. • Consists of Ecdel outer layer, proprietary middle layer and polyethylene inner layer. • Can withstand PVC solvent or adhesive binding and is ethylene oxide and gamma stable. • Combustion products are carbon dioxide and water. • Ethylene oxide and gamma stable.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
Plastic Equipment For Plastic Tubing, Blood Bags, Electrodes and Other Plastic Equipment (No DEHP and PVC)	
<p>ZEVEX DEHP-Free Delivery Set</p> <p>ZEVEX International, Inc. 4314 ZEVEX Park Lane Salt Lake City, Utah 84123 801-264-1001 or 800-970-2337 Fax: 801-264-1051 http://www.zevex.com</p>	<ul style="list-style-type: none"> • DEHP-free enteral feeding pump delivery set. • Compatible with EnteraLite® Ambulatory Enteral Feeding Pump.
<u>Preservative For Chemicals and Pharmaceuticals (No Mercury)</u>	
<p>Methyl Paraben</p> <p>Anatech Ltd. 1020 Harts Lake Rd Battle Creek, MI 49015 800-262-8324 or 269-964-6450 Fax: 269-964-8084 Contact: Dee Wolfe or Ada Feldman E-mail: email@anatechltdusa.com, deewolfe@anatechltdusa.com, adafeldman@anatechltdusa.com http://www.anatechltdusa.com</p>	<p>Not a direct substitute.</p> <p>Need to match properties of solution containing thimerisol (aka thimerosal) with properties of substitute preservative.</p> <p>Less toxic than mercury-based preservative.</p> <ul style="list-style-type: none"> • May produce mild estrogenic effects.
<p>Propyl Paraben</p> <p>Anatech Ltd. 1020 Harts Lake Rd Battle Creek, MI 49015 800-262-8324 or 269-964-6450 Fax: 269-964-8084 Contact: Dee Wolfe or Ada Feldman E-mail: email@anatechltdusa.com, deewolfe@anatechltdusa.com, adafeldman@anatechltdusa.com http://www.anatechltdusa.com</p>	<ul style="list-style-type: none"> • Not a direct substitute. • Need to match properties of solution containing thimerisol (aka thimerosal) with properties of substitute preservative. • Less toxic than mercury-based preservatives. • May produce a slight estrogenic effect.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Preservative For Chemicals and Pharmaceuticals (No Mercury)</u>	
<p>Thymol</p> <p>Anatech Ltd. 1020 Harts Lake Rd Battle Creek, MI 49015 800-262-8324 or 269-964-6450 Fax: 269-964-8084 Contact: Dee Wolfe or Ada Feldman E-mail: email@anatechltdusa.com, deewolfe@anatechltdusa.com, adafeldman@anatechltdusa.com http://www.anatechltdusa.com</p>	<ul style="list-style-type: none">• Not a direct substitute.• Need to match properties of solution containing thimerisol (aka thimerosal) with properties of substitute preservative.• Less toxic than mercury-based preservatives.
<u>Pressure Gauges and Regulators: Gas Line (No Mercury)</u>	
<p>Gas Line Pressure Regulators</p> <p>Scientific Instrument Systems Inc. 1027 Old York Rd. Ringoos, NJ 08551 908-788-5550 Fax: 908-806-6631 E-mail: us@sisweb.com http://www.sisweb.com</p>	<ul style="list-style-type: none">• Regulators made of stainless steel or brass.• Used as station pressure controls, blanketing operations, carrier gas controls and other high purity critical laboratory uses.• Comparable to mercury containing devices, but material is less hazardous.
<p>Pressure Gauges</p> <p>Kobold Instruments Inc. 1801 Parkway View Drive Pittsburgh, PA 15205-1422 412-788-2830 or 800-998-1020 Fax: 412-788-4890 E-mail: info@koboldusa.com http://www.koboldusa.com</p>	<ul style="list-style-type: none">• Digital, stainless steel and brass gauges available.• Mercury-free options that are used in pumps, compressed gas, pneumatic and hydraulic systems as well as others.• Comparable to mercury containing devices, but material is less hazardous.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer

Comments

Pressure Gauges and Regulators: Gas Line (No Mercury)

Welding & Compressed Gas Regulator Gauges

AMETEK U.S. Gauge
820 Pennsylvania Boulevard
Feasterville, PA 19053
215-355-6900
Fax: 215-354-1802
E-mail: usg@ametek.com
<http://www.ametekusg.com>

- Mercury-free gauges made of brass or stainless steel used for oxy-fuel gas welding, compressed gas or medical gas regulators.
- Available for high pressure and low pressure uses.
- Comparable to mercury containing devices, but material is less hazardous.

Pretreatment For Laboratory and Surgical Equipment

PRE-Klenz™

Steris Corporation
5960 Heisley Road
Mentor, OH 44060-1834
800-548-4873
<http://www.steris.com>

- Gel transport media that reduces spillage compared to liquid versions.
- Keeps soils moist and controls odor.
- Non-hazardous according to EPA guidelines; however, check with local state guidelines before non-hazardous disposal and follow requirements.
- Compatible with most cleaning agents.
- No rinsing necessary.

Radiation Shielding and Material (No Lead)

Demron™ Aprons, Collars and Vests

Radiation Shield Technologies
1825 Ponce De Leon Blvd #456
Coral Gables, Florida 33134
866-733-6766
Fax: 866-533-6766
E-mail: info@radshield.com
<http://www.radshield.com>

- Lead-free shielding products.
- PVC-free fabric options available.
- Less hazardous than materials containing lead.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Radiation Shielding and Material (No Lead)</u>	
<p>EarthSafe™ and EarthSafe Plus Lead Free Aprons</p> <p>Bar-Ray Products P.O. Box 36 95 Monarch Street Littlestown, PA 17340 888-442-7729 Fax: 800-359-6977 E-mail: info@bar-ray.com http://www.bar-ray.com/ppfg.html</p>	<ul style="list-style-type: none"> • Comes with a vinyl and non-vinyl coating (non-vinyl is less toxic). • Equivalent to 0.5mm Pb at 100 kVp. • EarthSafe Plus is of traditional weight and EarthSafe is 10-15% lighter. • Both materials are less hazardous than lead.
<p>Enviro-Safe Lite and Xenolite Products</p> <p>Pulse Medical Inc. 4131 S.W. 47th Avenue, Suite 1404 Davie, Florida 33314 800-342-5973 or 954-587-8867 Fax: 800-429-8884 http://www.rci-pulsemed.com</p>	<ul style="list-style-type: none"> • Non-lead shielding material. • PVC-free fabric options available. • Less hazardous material than lead and PVC.
<p>Infab Radiation Protective Aprons</p> <p>Infab Corporation 3651 Via Pescador Camarillo, CA 93012 805-987-5255 Fax 805-482-8424 http://www.infab.org</p>	<ul style="list-style-type: none"> • Aprons tailored to males and females. • Lightweight, lead-free material called Green Lite that is less toxic. • Equivalent to 0.5mm Pb radiation protective aprons.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Radiation Shielding and Material (No Lead)</u>	
<p>MarShield™ Lead-Free Aprons</p> <p>MarShield™ Products 4130 Morris Drive Burlington, Ontario L7L 5 L6, Canada 800-381-5335 Fax: 905-637-8841 E-mail: sales@marsmetal.com http://www.marshield.com</p>	<ul style="list-style-type: none"> • Comes with a vinyl and non-vinyl coating (non-vinyl is less toxic). • Lightweight lead-free option available for all aprons. • Both materials are less toxic than lead.
<p>NL-Ply Apron</p> <p>Shielding International PO Box Z 182 NW Earl St. Madras, Or 97741 800-292-2247 or 541-475-7211 Fax: 541-475-6628 E-mail: sales@shieldingintl.com http://www.shieldingintl.com</p>	<ul style="list-style-type: none"> • Lead-free and lighter than standard lead 0.5mm at 100KVP as well as less toxic. • May request a non-vinyl apron coating. • Free recycling service for their lead aprons and will recycle other manufacturers' for a fee (Need to get a return authorization number from Shielding International).
<p>Protech NL-Ply Non-Lead Apron</p> <p>Protech 4087 Burns Road Palm Beach Gardens, FL 33410 561-627-9769 or 888-672-9769 Fax: 561-627-0923 E-mail: info@proteheyewear.com http://www.proteheyewear.com</p>	<ul style="list-style-type: none"> • Lead-free and lighter than standard lead 0.5mm at 100KVP. • Less toxic than material containing lead.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p><u>Radiography: Digital Equipment</u></p> <p>Canon Medical Imaging Systems</p> <p>Canon 850 Greenbrier Circle Chesapeake, VA, 23320 800-OK-CANON http://www.canon.com</p>	<ul style="list-style-type: none">• The medical systems create digital x-rays eliminating the need to purchase and dispose of toxic chemical fixers and other photographic solutions.• Uses an amorphous silicon flat panel sensor.• Reduces radiation exposure.• Portable units allow images to be taken without moving bedridden patients.
<p>Kodak Dental and Laboratory Digital Systems</p> <p>Eastman Kodak Company 343 State Street Rochester, NY 14650 800-242-2424 http://www.kodak.com</p>	<ul style="list-style-type: none">• The dental systems create digital x-rays eliminating the need to purchase and dispose of toxic chemical fixers and other photographic solutions.• Dental systems produce extraoral and intraoral digital images.• Scientific Imaging Systems lets you enhance and quantify electrophoresis gels and western blots as well as other assays digitally.• Reduces radiation exposure.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Radiography: Digital Equipment</u>	
Kodak Directview DR 9000 Series Eastman Kodak Company 343 State Street Rochester, NY 14650 800-242-2424 http://www.kodak.com	<ul style="list-style-type: none">• Converts x-rays into electronic signals.• No light is used during image conversion; therefore, image quality is not compromised.
Aerosolv® Aerosol Can Recycling System Katec Incorporated 800-843-6808 http://www.aerosolv.com	<ul style="list-style-type: none">• Safely empties aerosol cans and allows cans to be recycled as scrap steel.• Collects liquid and filters out volatile organic compounds.
<u>Recovery Systems/Products: Mercury and Other Heavy Metals</u>	
ACCU-FIX & ACCU-FIX WM Closed-Loop Fixer Recirculation Systems CPAC Imaging 6455 East Johns Crossing Duluth, GA 30097 800-262-9333 Fax: 770-448-0257 E-mail: imaginginfo@cpac.com http://www.cpacimaging.com/about.asp	<ul style="list-style-type: none">• Fully automatic electrolytic silver recovery system for photographic fixer.• Fixer may be reused to a limited extent after silver removal.• Vendor claims system reduces fixer consumption by 50-70%.• Uses a disposable cathode for silver harvesting.• Processes up to 8 gallons per day.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Recovery Systems/Products: Mercury and Other Heavy Metals</u>	
Silver Recovery Systems Commodity Resource & Environmental, Inc. 493 Reynolds Circle San Jose, CA 95112 800-949-2811 E-mail: info@creweb.com http://www.creweb.com/index.html	<ul style="list-style-type: none">• Offer different silver recovery systems depending on your needs including electrolytic systems, metallic replacement cartridges, closed-loop recirculation systems and zero discharge distillation units.• The electrolytic systems allow reuse of photographic fixers to a limited extent after silver removal.• Units are available at different capacity levels.
SolmeteX® Reagent Management System SolmeteX™ 800-216-5505	Made for clinical, research, pathology and histology labs. Resins remove mercury and other heavy metals.
<u>Recovery Systems/Products: Solvents (Xylene, Formalin, etc)</u>	
B/R Solvent Recyclers B/R Instrument Corporation 9119 Centerville Rd Easton, MD 21601 800-922-9206 or 410-820-8800 Fax: 410-820-8141 E-mail: brsales@brinstrument.com http://www.brinstrument.com	<ul style="list-style-type: none">• Recycles solvent waste including formalin, xylene, xylene substitute and alcohol from histology and pathology labs.• Produces high purity products.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Recovery Systems/Products: Solvents (Xylene, Formalin, etc)</u>	
<p>CBG Biotech Solvent Recycler</p> <p>CBG Biotech 2211 Lake Club Drive (Suite 205) Columbus, OH 43232 800-941-9484 Fax: 614-863-1676 E-mail: info@cbgbiotech.com http://www.cbgbiotech.com</p>	<ul style="list-style-type: none"> • Processes (separates, purifies and recovers for reuse) xylene, xylene substitutes, alcohols, formalin, acetone and other solvents. • Offer a range of sizes down to a compact capacity for 2 gallons per day producers. • About 95% recovery and high purity. • Recycles many types of solvents in one machine.
<p>CMT Solvent Distillation Systems</p> <p>CMT Environmental Services, Inc. 3035 Bravo Ct. Orange Park, FL 32065 800-749-1008 E-mail: cmt@cmtchemmaster.com http://www.epa.state.oh.us/opp/solvents/fact9.html#vend</p>	<ul style="list-style-type: none"> • Made for hospital labs and recycles xylene, alcohol and formalin.
<p>Creative Waste Solutions Solvent Filters</p> <p>Creative Waste Solutions, Inc. 2595 Remington Drive West Linn, OR 97068 888-795-8300 or 503-963-8037 Fax: 503-963-8047 E-mail: info@cwsincorp.com http://www.cwsincorp.com</p>	<ul style="list-style-type: none"> • Recycles alcohol, xylene and formalin. • Removes stains, dyes and cellular debris from alcohol and formalin using gravity filtration. Pads remove alcohol and water from xylene. • Recycles the formalin without removing the buffered salts or altering the formalin concentration. • Systems only recycle either xylene and its substitutes or formalin and alcoholic formalin.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Recovery Systems/Products: Solvents (Xylene, Formalin, etc)</u>	
<p>S&G Enterprises, Inc. Vyleater Vial Crusher</p> <p>S&G Enterprises, Inc. 888-726-3528</p>	<ul style="list-style-type: none"> • Removes methanol from vials, crushes the vials and destroys the labels. • It will process one quarter to two inch vials made of plastic or glass with plastic coating (can have metal tops or ornamental closures).
<p>Suncycle Technologies Inc. Alcohol Recycling Cartridges</p> <p>Suncycle Technologies Inc. 866-786-2925</p>	<ul style="list-style-type: none"> • Gravity filters alcohol. Processes one gallon within 45-75 minutes and 100 to 150 gallons per cartridge.
<p>Triangle Biomedical Sciences Solvent Recyclers</p> <p>Triangle Biomedical Sciences 919-384-9393</p>	<ul style="list-style-type: none"> • Recovers xylene, alcohol and formalin.
<u>Recycling/Waste Disposal Vendors</u>	
<p>Computer Recycling</p> <p>Northwest Division 111 Queen Anne Avenue N. Seattle, WA 98109 206-281-4600 Fax: 206-286-0182 http://nwarmy.org</p>	<ul style="list-style-type: none"> • Receive donations of old computers and equipment and redistribute to the public. • Call 800-95-TRUCK for delivery options.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Recycling/Waste Disposal Vendors</u>	
<p>Computer Recycling</p> <p>PC Salvage, LLC 8966 Gravelly Lake Drive SW Lakewood, WA 98499 253-460-8322 Fax: 253-830-8789 E-mail: pcsalvage@qwest.net http://www.allaboutsavlage.com</p>	<ul style="list-style-type: none"> • Service the Puget Sound area. • Recycle outdated electronic equipment for small and large companies. • Perform full equipment removal and data scrubbing. • Drop off or have them pick up equipment.
<p>Computer Recycling</p> <p>Re-PC 1565 6th Avenue S. Seattle, WA 98134 206-623-9151</p> <p>510 Andover Park W. Tukwila, WA 9818 206-575-8737 E-mail: repc@repc.com http://www.repc.com</p>	<ul style="list-style-type: none"> • Re-use computers, peripherals and related products after refurbishing and may be sold through their retail outlets and online. • If no longer usable, computers and peripherals are recycled.
<p>Computer Recycling</p> <p>Re Store 600 W. Hooly Street Bellingham, WA 98225 360-647-5921 Fax: 360-647-2948 E-mail: restore@re-sources.org http://www.re-source.org</p>	<ul style="list-style-type: none"> • Take computer donations if less than 5 years old. • Will recycle remaining computers.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Recycling/Waste Disposal Vendors</u>	
<p>Inkjet and Laser Cartridge Recycler</p> <p>Ecco Recycles 1621 Central Ave S #32 Kent WA, 98032 800-368-5881 Fax: 253-813-9783 E-mail: info@eccorecycles.com</p>	<ul style="list-style-type: none"> • Purchase empty inkjet and laser cartridges. • Distribute cartridges to re-manufacturers. • Provide all necessary equipment for collection and transport.
<p>Medical Waste Disposal</p> <p>Stericycle Nashville, TN 37210 866-783-7422 http://www.stericycle.com/collection.html</p>	<p>Sterilization methods include autoclaving, incineration and Electro-Thermal-Deactivation (ETD).</p> <p>The program includes the handling, transportation and disposal of regulated medical waste.</p> <p>Medical sharps disposal and medical waste disposal (no sharps).</p>
<p>Mercury Recyclers</p> <p>Adrow Chemical Co. 3 Lines Avenue Wanaque, NJ 07465 201-839-2372 Fax: 201-244-9448 Contact: Bill Delany or Frank Bindhammer</p> <p>Bethlehem Apparatus Co., Inc. 890 Front Street Hellertown, PA 18055 201-838-7034 Fax: 610-838-6333 Contact: John Boyle</p>	<p>Recycle and reuse mercury.</p> <ul style="list-style-type: none"> • Adrow may recycle other waste as well on a case by case basis. • Adrow charges a fee for less than 25 lbs. of waste. • Bethlehem Apparatus recycles mercury lamps, mercury-containing thermometers, switches, batteries and dental amalgam.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Recycling/Waste Disposal Vendors</u>	
<p>Waste Oil Re-Refiners</p> <p>Evergreen Oil, Inc. 2355 Main Street, Suite 230 Irvine, CA 92614 949-757-7770 or 800-972-5284 Fax: 949-474-9149 http://www.evergreenoil.com/enviro.html</p>	<ul style="list-style-type: none"> • Provides oil re-refining services including collection, transport and recycling. • Re-refine motor oil and recycle used oil filters and antifreeze.
<p>Waste Oil Re-Refiners</p> <p>Yakima County Public Works Solid Waste Division 105 East "A" St. Yakima, WA 98901 509-574-2450</p>	<ul style="list-style-type: none"> • Provides oil re-refining services as well as many other recycling services for residents and small businesses within Yakima County.
<p>Waste Recovery and Recycling</p> <p>Total Reclaim PO Box 24996 Seattle, WA 98124-0996 206-343-7443 Fax: 206-343-7445 E-mail: pkeller@totalreclaim.com</p>	<ul style="list-style-type: none"> • Recover and recycle: refrigeration and HVAC equipment, CFC, HCFC, and HFC refrigerant gases, refrigerant, compressors and compressor oils, computer monitors and other computer equipment, batteries, fluorescent light bulbs and lighting ballasts.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Relay Switches (No Mercury)</u>	
<p>Aleph Reed Relays</p> <p>Aleph International 1026 Griswold Avenue San Fernando, CA 91340 818-365-9856 or 800-423-5622 Fax: 818-365-7274 http://www.aleph-usa.com</p> <p>Temco Northwest 19310 North Creek Parkway Building 2 Suite 112 Bothell, WA 98011 425-481-6150 Fax: 425-481-6073 Contact: Tracy Williams E-mail: tracyw@temconorthwest.com http://www.gei-inc.com</p>	<ul style="list-style-type: none">• Form “A”, “B” and “C” contacts.• High speed, voltage and insulation resistance.• Senses current.• Single and multiple pole options.
<p>Reed and Electromechanical Relays and Reed Switches</p> <p>Hasco 906 Jaricho Turnpike New Hyde Park, NY 11040 516 328 9292 E-mail: info@hascorelays.com http://www.hascorelays.com</p>	<ul style="list-style-type: none">• 200 styles of relays and reed switches.• Mercury-free.• Avoid mercury wetted reed switches.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Relay Switches (No Mercury)</u>	
<p>Reed Relays</p> <p>American Relays Incorporated 10306 Norwalk Blvd. Santa Fe Springs, CA 90670 562-944-0447 Fax: 562-944-0590 E-mail: info@americanrelays.com http://www.americanrelays.com</p>	<ul style="list-style-type: none"> • Offer standard and unique relays for special applications. • Mercury-free. • Cost competitive because they make their own tooling in-house.
<p>Reed Relays and Dry-Reed Switches</p> <p>Coto Technologies 55 DuPont Drive Providence, RI 02907-3105 401-943-2686 Fax: 401-942-0920 E-mail: sales@cotorelay.com http://www.cotorelay.com/index.htm</p>	<ul style="list-style-type: none"> • Device used in sensors, relays, pulse counters, etc. • Mercury-free switch may be actuated by an electromagnet, a permanent magnet or a combination of both. • Relays used in IC testers, in-line relay testers, memory testers, mixed signal testers and high bandpass applications.
<u>Scoliometers (No Mercury)</u>	
<p>Kom Kare Scoliometer</p> <p>Kom Kare Company 1002 North University Blvd., Middletown, Ohio 45042 800-273-1768 or 513-727-8299 Fax: 513-727-8408 E-mail: komkare@sbcglobal.net</p>	<ul style="list-style-type: none"> • Mercury-free. • Caliper style. • Dial gauge reads in cm, mm, and degrees. • Accurately measure six areas to detect scoliosis and three measurements to detect abnormal antero-postero curves.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Selective Enrichment Broth for Salmonella spp.: Alternatives to Sodium Selenite Cysteine Broth</u>	
<p>BioPro Premium Rappaport-Vassilidias (BP-0288-500)</p> <p>Biotrace International 21312 30th Dr SE #110 Bothell WA 98021 PO Box 0746 Bothell, WA 98041-0746 800.729.7611 or 425.398.7993 Fax: 425-487-6574 E-mail: customerservice@intlbioproducts.com http://www.intlbioproducts.com</p>	<ul style="list-style-type: none">• Replaces sodium selenite cysteine broth for selective enrichment of Salmonella spp. in food except for guar gum.• Less toxic than sodium selenite, however, it is irritating to eyes, respiratory system and skin.• If overheated, magnesium chloride may decompose and emit toxic hydrochloric acid vapors and chlorine gas fumes.
<p>Rappaport-Vassiliadis Broth (R-V Broth)</p> <p>Remel 12076 Santa Fe Drive PO Box 14428 Lenexa, KS 66215 800-255-6730 or 913-888-0939 Fax: 800-621-8251 E-mail: remel@remel.com http://www.remel.com</p>	<ul style="list-style-type: none">• Replaces sodium selenite cysteine broth for selective enrichment of Salmonella spp. in food except for guar gum.• It is not intended for IVD use.• Less toxic than sodium selenite, however, it is irritating to eyes, respiratory system and skin.• If overheated, magnesium chloride may decompose and emit toxic hydrochloric acid vapors and chlorine gas fumes.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Selective Enrichment Broth for Salmonella spp.: Alternatives to Sodium Selenite Cysteine Broth</u>	
<p>Rappaport-Vassiliadis R10 Broth (7512)</p> <p>Neogen Corporation Food Safety Division, Acumedia 620 Lesher Place Lansing, MI 48912 USA 800-234-5333 or 517-372-9200 Fax: 517-372-1086 E-mail: foodsafety@neogen.com http://www.neogen.com</p>	<ul style="list-style-type: none">• Used for selective enrichment of Salmonella spp. from food and is recommended to replace sodium selenite cysteine broth for analysis of all foods except guar gum.• Consists of sodium chloride, magnesium chloride, potassium dihydrogen phosphate, malachite green oxalate and an enzymatic digest of casein.• Less toxic than sodium selenite, however, it is irritating to eyes, respiratory system and skin.• If overheated, magnesium chloride may decompose and emit toxic hydrochloric acid vapors and chlorine gas fumes.
<u>Sphygmomanometers (No Mercury)</u>	
<p>ADC® DIAGNOSTIX™ series 700, 703, 720 and 760 Sphygmomanometers</p> <p>ADC 55 Commerce Drive Hauppauge, NY 11788 800-ADC-2670 or 631-273-9600 Fax: 631-273-9659 E-mail: info@adctoday.com http://adctoday.com</p>	<ul style="list-style-type: none">• Palm/pocket style aneroid sphygmomanometers.• Mercury-free with 300mmHg no-pin stop manometer.• Latex-free options for bulbs and bladder.• Made for heavy use.• Comparable to mercury sphygmomanometers.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Sphygmomanometers (No Mercury)</u>	
<p>ADC® DIAGNOSTIX™ series 750, 750W and 752M Sphygmomanometers</p> <p>ADC 55 Commerce Drive Hauppauge, NY 11788 800-ADC-2670 or 631-273-9600 Fax: 631-273-9659 E-mail: info@adctoday.com http://adctoday.com</p>	<ul style="list-style-type: none"> • Wall and mobile units. • Mercury-free aneroid sphygmomanometer. • Large luminescent dial for easy-viewing under low light conditions. • Mobile unit adjusts from 40 to 54in. • Wall unit has 110 degrees swivel capabilities. • Cuffs available in all sizes. • Comparable to mercury sphygmomanometers.
<p>ADC® PHOSPHYG™ series 770 and 775 Sphygmomanometers</p> <p>ADC 55 Commerce Drive Hauppauge, NY 11788 800-ADC-2670 or 631-273-9600 Fax: 631-273-9659 E-mail: info@adctoday.com http://adctoday.com</p>	<ul style="list-style-type: none"> • Mercury-free aneroid sphygmomanometers with 300mmHg no-pin stop manometer. • Economical sets. • Inflation bladder and bulb made of latex which may be an allergen. • Comparable to mercury sphygmomanometers.
<p>Caliber Series Aneroid Sphygmomanometers</p> <p>Mabis Healthcare 1931 Norman Drive Waukegan, IL 60085 800-728-6811 Fax: 800-747-9646 http://www.mabis.net</p>	<ul style="list-style-type: none"> • Designed for hospital, nursing and EMT use with a 20-year calibration warranty. • Available in a nylon or cotton cuff although nylon comes in more sizes. • Comparable to mercury sphygmomanometers.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p><u>Sphygmomanometers (No Mercury)</u></p>	
<p>DynaPulse® Electronic Blood Pressure Monitors</p> <p>Pulse Metric, Inc. 11526 Sorrento Valley Road, Suite C San Diego, CA 92121 858-480-1177 Fax: 858-480-1147 E-mail: PMIinfo@pulsemetric.com or sale@pulsemetric.com http://www.pulsemetric.com</p>	<ul style="list-style-type: none"> • Versions available for ambulances and clinics. • Clinical version can track an unlimited amount of patients and their data. • All DynaPulse monitors can transmit blood pressure and arterial pressure waveform data to the DynaPulse Analysis Center that analyzes up to 16 hemodynamic parameters. • Comparable to mercury sphygmomanometers, but composed of less toxic material.
<p>Hader™ and Bainbridge® Pocket Aneroid Sphygmomanometers</p> <p>Trimline Medical Products 34 Columbia Road Branchburg, NJ 08876 or P.O. Box 40 Raritan, NJ 08869-0040 800-526-3538 or 908-429-0590 Fax: 908-429-0536 E-mail: info@trimline.us http://www.trimlinemed.com</p>	<ul style="list-style-type: none"> • Mercury- and latex-free. • For portable healthcare applications such as crash carts, home health, physician bags and nursing stations. • Hader™ aneroid model has a 10 year guarantee on gauges and lifetime recalibration warranty. • Hader™ Palm Model designed for use with one hand and has a lifetime recalibration warranty. • Bainbridge® model only has a 20 year recalibration warranty and is less expensive than it's counterparts. • Many cuff sizes to choose from. • Comparable to mercury sphygmomanometers.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Sphygmomanometers (No Mercury)</u>	
<p>Large Face Aneroid Sphygmomanometers</p> <p>Trimline Medical Products 34 Columbia Road Branchburg, NJ 08876 or P.O. Box 40 Raritan, NJ 08869-0040 800-526-3538 or 908-429-0590 Fax: 908-429-0536 E-mail: info@trimline.us http://www.trimlinemed.com</p>	<ul style="list-style-type: none"> • Offered in wall, mobile and desk models with copper beryllium diaphragm. • Less toxic than mercury but need to recycle copper. • “Shadowbox” frame added to help resist damage if dropped. • Mercury- and latex-free. • Comparable to mercury sphygmomanometers.
<p>Mabis® Legacy™ and Signature™ Series Aneroid Sphygmomanometers</p> <p>Kom Kare Company Products For Physical Medicine 1002 North University Blvd., Middletown, Ohio 45042 USA 800-273-1768 or 513-727-8299 Fax: 513-727-8408 E-mail: komkare@sbcglobal.net http://www.komkare.com</p>	<ul style="list-style-type: none"> • Signature™ Series available palm style as well. • Lifetime warranty. • 3-year parts warranty. • Legacy™ offers adult size only. • Signature™ available in all sized and is latex-free. • Comparable to mercury sphygmomanometers.
<p>Omron® MARSHALL™ Professional Aneroid Sphygmomanometers</p> <p>Southwest Medical 513 W. Thomas Road Phoenix, AZ 85013 800-236-4215 Fax: 602-230-9497 http://www.southwestmedical.com</p>	<ul style="list-style-type: none"> • Adult cotton cuff and a one-year warranty on parts. • Lifetime calibration warranty. • Comparable to mercury sphygmomanometers.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Sphygmomanometers (No Mercury)</u>	
Vital Check® Vital Signs Monitor	<ul style="list-style-type: none"> • (See Section/Subsection: Thermometers/ Mercury-Free Professional Digital Thermometer Alternatives)
Welch Allyn® DuraShock Aneroid Sphygmomanometers Welch Allyn Medical Products Thermometry Products 8500 S.W. Creekside Place Beaverton, OR 97008 800-854-2904/503-530-7500 Fax: 503-526-4200 http://www.welchallyn.com	<ul style="list-style-type: none"> • Gear-free. • Lighter and thinner than traditional gauges. • Vendor claims it meets or exceeds AAMI SP9 specifications for shock resistance: can be dropped 30 inches onto a hard surface without losing calibration. • Gauge snaps directly into cuff. • Latex-free cuff designed for accurate measurement from brachial artery of either arm. • Accurate to ± 3mm Hg and conforms to applicable sections of the following standards for aneroid sphygmomanometers: American National Standard ANSI/AAMI SP9-1994, European Standard EN 1060-1: 1996, European Standard EN 1061-2: 1996, Part 2, and INMETRO Technical Metrological Regulation Number 24 of February 26, 1996. • Comparable to mercury sphygmomanometers.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Sphygmomanometers (No Mercury)</u>	
<p>Welch Allyn® Tycos® 509-Series Aneroid Sphygmomanometers</p> <p>Welch Allyn Medical Products Thermometry Products 8500 S.W. Creekside Place Beaverton, OR 97008 800-854-2904/503-530-7500 Fax: 503-526-4200 http://www.welchallyn.com</p>	<ul style="list-style-type: none"> • Available as mobile and wall units. • Certified accurate to ± 3mmHg. • Most are latex-free and all are mercury-free. • Comparable to mercury sphygmomanometers.
<p>Welch Allyn® Tycos® 767-Series Sphygmomanometers</p> <p>Welch Allyn Medical Products Thermometry Products 8500 S.W. Creekside Place Beaverton, OR 97008 800-854-2904/503-530-7500 Fax: 503-526-4200 http://www.welchallyn.com</p>	<ul style="list-style-type: none"> • Available as mobile and wall units. • Certified accurate to ± 3mmHg. • Latex-free. • Wall unit swivels 40 degrees and mobile unit swivels 360 degrees. • Comparable to mercury sphygmomanometers.
<u>Sterilizing Equipment (Chemiclave Alternatives)</u>	
<p>Autoclaves</p> <p>Med-Electronics Inc. 9723 Baltimore Ave College Park, MD 20740 888-321-1300 or 301-345-8826 Fax: 301-345-5686 http://www.med-electronics.com</p>	<ul style="list-style-type: none"> • Offers different steam autoclaves including automatic and manual autoclaves. • Comparable to chemiclaves but without the chemical hazards. • Must dispose of wastewater according to state guidelines.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Sterilizing Equipment (Chemiclave Alternatives)</u>	
<p>Autoclaves and Dry Heat Sterilizers</p> <p>Alfa Medical 59 Madison Ave Hempstead, NY 11550 800-801-9934 Fax: 516-489-9364 eMail@sterilizers.com http://www.sterilizers.com</p>	<ul style="list-style-type: none"> • Offers steam autoclaves and dry heat sterilizers. • As effective as chemiclaves but without the chemical hazards. • Must dispose of autoclave wastewater according to state guidelines. • Do not place heat sensitive materials such as plastics into the dry heat sterilizer.
<p>Autoclaves/Steam Sterilizer</p> <p>Steris Corporation 5960 Heisley Road Mentor, OH 44060 440-354-2600 or 800-548-4873 E-mail: Webmaster@STERIS.com http://www.steris.com</p>	<ul style="list-style-type: none"> • Offers different steam autoclaves. • Comparable to chemiclaves but without the chemical hazards. • Must dispose of wastewater according to state guidelines.
<u>Thermometers: Basal (No Mercury)</u> Note: May be found at most medical supply stores.	
<p>Geratherm Basal Thermometer</p> <p>R.G. Medical Diagnostics (#20061) Manufacturer's Distributor 21130 Bridge Street Southfield, MI 48034 888-596-9498 Fax: 248-750-0187 http://www.rgmd.com</p> <p>Distributors include Burrows, Gulf South, McKesson, Medline, Owens & Minor, PSS, CVS, Rite Aid, and Walgreen</p>	<ul style="list-style-type: none"> • Mercury-free and less toxic. • Liquid-in-glass thermometer containing non-toxic silver colored galinstan fluid. • Optional custom probe covers. • No batteries necessary. • Comparable to mercury.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Thermometers: Basal (No Mercury) Note: May be found at most medical supply stores.</p>	
<p>LifeAid® Basal, Dual Scale Thermometer</p> <p>Faichney Medical Company 11611 Fairgrove Industry Blvd. Maryland Heights, MO 63043 800-548-0817 or 314-567-5251 Fax: 314-567-5230 E-mail: sales@faichneymedical.com http://www.faichneymedical.com</p>	<ul style="list-style-type: none"> • Fast response time. • Recalls last measured temperature. • Accurate throughout full temperature range. • As accurate as mercury thermometers, but composed of less toxic material.
<p>Mabis Digital Basal Thermometer</p> <p>Mabis Healthcare 1931 Norman Drive Waukegan, IL 60085 800-728-6811 Fax: 800-747-9646 http://www.mabis.net</p>	<p>Approximately 60 second temperature recording is faster than glass basal thermometers.</p> <p>Stores and recalls last reading.</p> <p>Peak temperature indicator.</p> <p>As accurate as mercury thermometers, but composed of less toxic material.</p>
<p>Omron Basal Thermometer (Model MC-3L)</p> <p>Omron Healthcare, Inc. 1200 Lakeside Drive Bannockburn, Illinois 60015 877-216-1333 or 800-216-1333 Fax: 847-918-6707 http://www.omronhealthcare.com</p>	<p>Compact digital thermometer with accuracy of +/- 0.1°F.</p> <p>Approximately 60 second temperature recording is faster than glass basal thermometers.</p> <p>Peak temperature indicated by beeping noise.</p> <p>Recalls last temperature reading.</p> <p>As accurate as mercury thermometers, but composed of less toxic material.</p>

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Thermometers: Compact Digital (No Mercury) Note: May be found at most medical supply stores.</p>	
<p>B-D Digital Fever Thermometer</p> <p>Becton Dickinson 1 Becton Drive Franklin Lakes, NJ 07417-1880 201-847-4200 or 800.511.9223 http://www.bd.com</p>	<ul style="list-style-type: none"> • Disposable probe covers. • Approximately 300 hour battery life and has an automatic shut off feature. • Approximately 60 second temperature recording with peak temperature indicated by beeping noise. • Indicates when thermometer is placed properly. • As accurate as mercury thermometers, but composed of less toxic material.
<p>Geratherm Solartherm™</p> <p>R.G. Medical Diagnostics Manufacturer's Distributor 21130 Bridge Street Southfield, MI 48034 888-596-9498 Fax: 248-750-0187 http://www.rgmd.com</p> <p>Distributors include Burrows, Gulf South, McKesson, Medline, Owens & Minor, PSS, CVS, Rite Aid, and Walgreen</p>	<ul style="list-style-type: none"> • Mercury- and battery-free. • Solar powered with a 72 hour standby in the dark. • Approximately 60 second for reading and beeps when finished. • Automatic shut off feature. • Custom probe cover and wall attachment storage case available. • Meets ASTM E1112 accuracy requirements. • As accurate as mercury thermometers, but composed of less toxic material.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer

Comments

Thermometers: Compact Digital (No Mercury)

Note: May be found at most medical supply stores.

Mabis Digital Thermometer

Mabis Healthcare
1931 Norman Drive
Waukegan, IL 60085
800-728-6811
Fax: 800-747-9646
<http://www.mabis.net>

- Compact digital thermometer.
- Talking digital model available in English and Spanish.
- Approximately 60 second for reading and beeps when finished.
- Digital Pacified thermometer for children age 5 and under available.
- As accurate as mercury thermometers, but composed of less toxic material.

Omron Digital Thermometer

Omron Healthcare, Inc.
1200 Lakeside Drive
Bannockburn, Illinois 60015
877-216-1333 or 800-216-1333
Fax: 847-918-6707
<http://www.omronhealthcare.com>

- Compact digital thermometer.
- Fever thermometers Models MC-101 and MC-104 are accurate to +/- 0.2°F.
- Approximately 60 second for reading.
- Beeps when finished except MC-104.
- Approximately 300 hour battery life.
- As accurate as mercury thermometers, but composed of less toxic material.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer

Comments

Thermometers: Compact Digital (No Mercury)

Note: May be found at most medical supply stores.

PolyMedica Digital Thermometer

PolyMedica Corporation
11 State Street
Woburn, MA 01801
800-521-4503 or 781-933-2020
Fax: 781-938-6950
<http://www.polymedica.com>

- +/-0.2F accuracy from 98.0-102.0°F. All other ranges' accuracies are +/- 0.3 °F.
- Approximately 60 second for reading and beeps when finished.
- Disposal probe covers and automatic shut off feature.
- Approximately 300 hour battery life.
- As accurate as mercury thermometers, but composed of less toxic material.

Thermometers: Hypothermia (No Mercury)

Geratherm Hypothermic Thermometer (#20020)

R.G. Medical Diagnostics
Manufacturer's Distributor
21130 Bridge Street
Southfield, MI 48034
888-596-9498
Fax: 248-750-0187
<http://www.rgmd.com>

Distributors include Burrows, Gulf South, McKesson, Medline, Owens & Minor, PSS, CVS, Rite Aid, and Walgreen

- Liquid-in-glass thermometer filled with non-toxic silver colored Galinstan fluid.
- Hypothermia thermometer with a range of 82°F - 106°F.
- Optional custom probe covers.
- Mercury-free, battery-free thermometer composed of less toxic material.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Thermometers: Infrared (No Mercury)</u>	
<p>Diatek 9000 Insta-Temp</p> <p>Welch Allyn Medical Products Thermometry Products 8500 S.W. Creekside Place Beaverton, OR 97008 800-854-2904/503-530-7500 Fax: 503-526-4200 http://www.welchallyn.com</p>	<ul style="list-style-type: none"> • Aural (ear) thermometer. • Meets ASTM standard for accuracy. • Approximately 20,000 measurements using 4 AAA batteries. • Readout modes: oral, core and rectal equivalents. • Fahrenheit or Celsius option. • Available with anti-theft device. • More expensive than mercury, but just as accurate and less hazardous. • Need training for proper use.
<p>Exergen Infrared Thermometers</p> <p>Exergen 51 Water Street Watertown, MA 02472 800-422-3006 or 617-923-9900 E-mail: medical@exergen.com http://www.exergen.com</p>	<ul style="list-style-type: none"> • Three kinds: Temporal Scanner™ LXTA/TAT-5000 (temporal artery measurement), LighTouch LTN (axillary measurement) and LighTouch LTX (tympanic or ear measurement). • Temporal Scanner™ may be used on all ages and is the least invasive of all thermometer types. • Not as accurate as mercury thermometers, but they are good for quick screenings and are less hazardous.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Thermometers: Infrared (No Mercury)</u>	
<p>IVAC Core Check®</p> <p>Alaris Medical Systems PO Box 85335 San Diego, CA 92186-5335 800-482-4822 or 858-458-7000 Fax: 858-458-7760 E-mail: internetebusiness@alarismed.com http://www.alarismed.com</p>	<ul style="list-style-type: none">• Ear thermometer.• Meets ASTM standards for accuracy.• Approximately 8000 measurements per 9 volt battery.• Shows ear temperature and has an anti-theft option.• More expensive than mercury, but just as accurate and composed of less toxic material.• Need training for proper use.• IR calibration unit is available.
<p>Thermoscan IRT 4520, 4020</p> <p>Braun 1 Gillette Park 4K-16 Boston, MA 02127-1096 800-327-7226 or 800-272-8611 Fax: 800-796-4565 http://www.braun.com</p>	<ul style="list-style-type: none">• 60 second temperature measurement.• Model 4020 has 1 memory recall and model 4520 has 8 memory recalls.• ExacTemp technology.• Meets ASTM standard for accuracy, but composed of less toxic material than mercury.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Thermometers: Infrared (No Mercury)</u>	
Thermoscan Pro 1 and Pro LT Braun 1 Gillette Park 4K-16 Boston, MA 02127-1096 800-327-7226 or 800-272-8611 Fax: 800-796-4565 http://www.braun.com	<ul style="list-style-type: none">• Meets ASTM standard for accuracy.• Tympanic, oral and rectal readouts in Fahrenheit or Celsius.• Pro 1 does approximately 10,000 measurements per 3 AAA batteries and is designed for heavy use (50-100 measurements/day).• Pro LT does approximately 1500 measurements per 9 volt battery and is designed for normal use (25-50 measurements per day).• Tympanic reading is good for quick readouts, but it is not as accurate as mercury thermometers.• Composed of less toxic material than mercury.
<u>Thermometers: Kitchen (No Mercury)</u> Note: May be found at most electronic and home supply stores.	
Classic Series Oven Thermometer Calico Industries, Inc. P.O. Box 2005 Annapolis Junction, MD 20701-2005 800-638-0828 Fax: 301-498-2056 http://calicoindustries.com	Oven thermometer with a two-way hanger/stand. Temperature range of 200°F to 500°F. Composed of less toxic material than mercury.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Thermometers: Kitchen (No Mercury) Note: May be found at most electronic and home supply stores.</p>	
<p>Classic Series Refrigerator/Freezer Thermometers <i>by Taylor Environmental Instruments</i></p> <p>Calico Industries, Inc. P.O. Box 2005 Annapolis Junction, MD 20701-2005 800-638-0828 Fax: 301-498-2056 http://calicoindustries.com</p>	<p>Temperature range of -40°F to 60°F.</p> <p>Mercury-free freezer thermometer.</p> <p>Composed of less toxic material than mercury.</p>
<p>FlashCheck Pocket Probe Digital Thermometers Model No. 11025</p> <p>DeltaTRAK, Inc. P.O. Box 398 Pleasanton, CA 94566 (925) 249-2250 or (800) 962-6776 Fax (925) 249-2251 E-mail: salesinfo@deltatrak.com http://www.deltatrak.com</p>	<p>Made to check core food temperatures and is in compliance with FDA, and US Public Health Services Food Code section 4-203-11.</p> <p>Composed of less toxic material than mercury.</p>
<p>Horizontal Refrigerator/Freezer Thermometer</p> <p>Calico Industries, Inc. P.O. Box 2005 Annapolis Junction, MD 20701-2005 800-638-0828 Fax: 301-498-2056 http://calicoindustries.com</p>	<p>Mercury-free freezer thermometer.</p> <p>Temperature range of -40°F to 80°F (-40°C to 27°C).</p> <p>Composed of less toxic material than mercury.</p>

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p><u>Thermometers: Kitchen (No Mercury)</u> Note: May be found at most electronic and home supply stores.</p>	
<p>K-Type Thermocouple <i>by Comark Instruments, Inc.</i></p> <p>Calico Industries, Inc. P.O. Box 2005 Annapolis Junction, MD 20701-2005 800-638-0828 Fax: 301-498-2056 http://calicoindustries.com</p>	<p>Meets the U.S. Food Code specifications.</p> <p>Accepts a wide range of K-Type probes</p> <p>Temperature range of -40°F to 1,000°F (-40°C to 500°C).</p> <p>Composed of less toxic material than mercury.</p>
<p>Pocket Digital Thermometer #9878</p> <p>Taylor Precision Products LP Customer Service 2220 Entrada del Sol Las Cruces, NM 88001 Telephone - 866-843-3905 Fax - 505-526-4347 Email: info@taylorusa.com www.taylorusa.com</p>	<p>It has a max/min memory and a two-stage off button with timer.</p> <p>Temperature range is -58° to 500°F (-50° to 260°C).</p> <p>Measures the core temperatures of food.</p> <p>Composed of less toxic material than mercury.</p>
<p><u>Thermometers: Laboratory (No Mercury)</u></p>	
<p>FlashCheck Digital Veterinary & Laboratory Model No. 11026</p> <p>DeltaTRAK, Inc. P.O. Box 398 Pleasanton, CA 94566 (925) 249-2250 or (800) 962-6776 Fax (925) 249-2251 E-mail: salesinfo@deltatrak.com http://www.deltatrak.com</p>	<ul style="list-style-type: none"> • Temperature range of -40°C to 150°C (-40°F to 302°F). • Suggested for use in laboratories and as an alarm check thermometer for blood banks. • Composed of less toxic material than mercury.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p><u>Thermometers: Medical Non-Electronic (No Mercury)</u></p> <p>Geratherm Fever Thermometer Oral model #20010 Rectal model# 20051</p> <p>R.G. Medical Diagnostics Manufacturer's Distributor 21130 Bridge Street Southfield, MI 48034 888-596-9498 Fax: 248-750-0187 http://www.rgmd.com</p> <p>Distributors include Burrows, Gulf South, McKesson, Medline, Owens & Minor, PSS, CVS, Rite Aid, and Walgreen</p>	<ul style="list-style-type: none">• Mercury-free, liquid-in-glass thermometer contains non-toxic silver colored Galinstan fluid.• For oral, rectal and axillary use.• Fahrenheit and Celsius readings and no batteries required.• Optional custom probes.• Composed of less toxic material than mercury.
<p>NexTemp™ and Traxit™</p> <p>Medical Indicators, Inc. 1589 Reed Road Pennington, NJ 08534 888-930-4599 or 609-737-1600 Fax: 609-737-0588 E-mail: customerservice@medicalindicators.com http://www.medicalindicators.com</p>	<ul style="list-style-type: none">• Dot matrix thermometer that have a grid of dots used to indicate temperature.• Non-toxic dots turn black with the last darkened dot as the final temperature.• Meets ASTM E1299 standard for accuracy.• Traxit: heart-shaped sticker placed under the arm with adhesive for axillary temperature measurements.• NexTemp: Latex-free PETG flexible plastic strip containing the dot matrix thermometer for oral measurements and is available in a reusable and disposable model.• As accurate as mercury thermometers for temperatures above 95 degrees Fahrenheit, but composed of less toxic material than mercury.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer

Comments

Thermometers: Medical Non-Electronic (No Mercury)

Tempa-Dot™ (website only partially working)

3M Health Care
Lincoln Executive Center
Building 111, Suite 200
Bellevue, WA 98007-5817
888-364-3577 or 206-562-7355 or 7356
Fax: 206-562-7635

19125 N. Creek Pkwy.
Bothell, WA 98011-8035
425-488-5002
Fax: 425-483-1058

22525 S.E. 64th Pl.
Issaquah, WA 98027-5383
425-557-5938
Fax: 425-557-5838

<http://3m.com/healthcare>

- Meets ASTM standard for accuracy.
- Single use with a 2 year shelf life.
- As accurate as mercury thermometers for temperatures above 95 degrees Fahrenheit.
- Composed of less toxic material than mercury.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Thermometers: Medical Specialty (No Mercury)</u> Note: May be found at most medical supply stores.	
Derma Temp Exergen 51 Water Street Watertown, MA 02472 800-422-3006 or 617-923-9900 E-mail: medical@exergen.com http://www.exergen.com	<ul style="list-style-type: none">• Hand-held infrared thermographic scanner able to detect skin temperature variations.• Measures temperature of skin anywhere on human body.• Can be used in plastic and vascular surgery, pain management, rheumatology, neurology including diabetic neuropathy, anesthesiology, oncology and wound management.• Four models to compensate for different uses (probe type).• Composed of less toxic material than mercury.
<u>Thermometers: Professional Digital (No Mercury)</u> Note: May be found at most medical supply stores.	
IVAC Temp Plus® II and TURBO*TEMP™ Alaris Medical Systems PO Box 85335 San Diego, CA 92186-5335 800-482-4822 or 858-458-7000 Fax: 858-458-7760 E-mail: internetebusiness@alarismed.com http://www.alarismed.com	<ul style="list-style-type: none">• Professional electronic thermometer.• +/- 0.2°F accuracy• Comparable to mercury thermometers, but composed of less toxic material than mercury.• Needs 3 AA batteries.• Optional anti-theft addition.• Both oral and rectal probes on single device.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<p>Thermometers: Professional Digital (No Mercury) Note: May be found at most medical supply stores.</p>	
<p>IVAC Vital-Check®</p> <p>Alaris Medical Systems PO Box 85335 San Diego, CA 92186-5335 800-482-4822 or 858-458-7000 Fax: 858-458-7760 E-mail: internetebusiness@alarismed.com http://www.alarismed.com</p>	<ul style="list-style-type: none"> • Professional vital signs monitor for temperature and blood pressure in one system (4200 and 440 series Vital Signs Monitor). • 4400 series offers pulse oximetry monitoring. • May be used for all ages from neonates to geriatrics. • Composed of less toxic material than mercury.
<p>R.G. Medical DataTherm™ Continuous Temperature Monitor</p> <p>R.G. Medical Diagnostics Manufacturer's Distributor 21130 Bridge Street Southfield, MI 48034 888-596-9498 Fax: 248-750-0187 http://www.rgmd.com</p> <p>Distributors include Burrows, Gulf South, McKesson, Medline, Owens & Minor, PSS, CVS, Rite Aid, and Walgreen</p>	<ul style="list-style-type: none"> • Continuous temperature thermometer with +/- 0.2°F accuracy for a range of 62.6°F -113°F. • 4 second readings with alarms for high and low temperatures. • Stores up to 70 day/time/temperature readings for recall purposes at your specified interval. • Designed for burn, hypothermia, hyperthermia and febrile seizure patients. • Converts Fahrenheit to Celsius. • Composed of less toxic material than mercury.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer

Comments

Thermometers: Professional Digital (No Mercury)

Note: May be found at most medical supply stores.

Sure Temp®

Welch Allyn Medical Products
Thermometry Products
8500 S.W. Creekside Place
Beaverton, OR 97008
800-854-2904/503-530-7500
Fax: 503-526-4200
<http://www.welchallyn.com>

- Professional electronic thermometer with +/- 0.2°F accuracy.
- Comparable to mercury thermometers, but composed of less toxic material than mercury.
- Portable or wall mounted options.
- Approximately 6000 readings per every 3 AA batteries.
- Oral/axillary or rectal probes available.
- Calibration key available and reads in either Fahrenheit or Celsius.
- Option of 4 or 9 ft cord.

Thermometers: Weather (No Mercury)

Ever Safe Thermometers

Ertco
Ever Ready Thermometer Company, Inc.
2555 Kerper Blvd.
Dubuque, IA 52001
800-553-0039
Fax: 563-589-0516
E-mail: rddatria@barnstead.com,
rcasario@barnstead.com, pwstinson@barnstead.com
<http://www.ertco.com>

- Mercury-free device that is available with a teflon coating for added strength.
- Many different options.
- Filled with easily visible blue liquid.
- Composed of less toxic material than mercury.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Thermometers: Weather (No Mercury)</u>	
Temp-Chex Enviro-Safe® and Red Spirit Thermometers Streck Laboratories, Inc. 7002 S. 109th St. La Vista, NE 68128 800-843-0912 Fax: 402-691-7511 http://www.streck.com	<ul style="list-style-type: none">• Refrigerator, incubator, freezer, room temperature and ultra-low freezer options for Red Spirit model.• Vendor claims Enviro-Safe® uses biodegradable, nontoxic and nonflammable materials only but is not capable of measuring the extreme temperature environments (e.g. ultra-low freezer).• Both are mercury-free and composed of less toxic material.
<u>Thermostat Probes (No Mercury)</u>	
Precision Thermostat Probe Packages Texas Instruments Precision Products 34 Forest Street, MS 1-38 Attleboro, MA 02703 508-236-3287 Fax: 508-236-1598 E-mail: klixon@ti.com http://www.ti.com/snc	<ul style="list-style-type: none">• Thermostat probes that contain metals less hazardous than mercury.• Offer different packages including hermetic and non-hermetic probes.• Have probes for HVAC units, small appliances and other applications.• Comparable to mercury probes.
<u>Thermostats (No Mercury)</u>	
Mechanical and Digital Honeywell Thermostats 16520 Harbor Blvd. #B Fountain Valley, CA 92708 800-734-0405 Fax: 714-200-0665 http://www.honeywell-thermostat.com	<ul style="list-style-type: none">• Comparable to mercury thermostats, but composed of less toxic material than mercury.• Many options available.• Choice of programmable digital thermostats as well.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Thermostats (No Mercury)</u>	
Robert Shaw Digital and Mechanical Thermostats Robert Shaw Division of Invensys Climate Controls 100 W. Victoria Street Long Beach, CA 90805 800-232-9389 http://www.robertshaw.com	<ul style="list-style-type: none">• Thermostats for heat pump, electric, gas and oil.• Comparable to mercury thermostats, but composed of less toxic material than mercury.• Choice of programmable digital thermostats as well.
<u>Tissue Adhesive Slides (No Chromium)</u>	
Pre-charged Adhesive Slides Labscientific, Inc. 114 West Mt. Pleasant Avenue Livingston, New Jersey 07039 800-886-4507 or 973-992-0850 Fax: (973) 992-0827 E-mail: info@labscientific.com http://www.labscientific.com	<ul style="list-style-type: none">• Slides coated with silane, gelatin or Poly-L-Lysine are available and are chromium-free.• Less toxic than chromium containing slide adhesives.• Silane or 3-Aminopropyltriethoxysilane, is a positively charged compound that forms covalent bonds with tissue and cytology preparations. Do not heat with flame (explosive).• Resists temperatures up to 92°C as well as bleaching and enzymatic predigestion.• Poly-L-Lysine is used with frozen sections, immunohistochemistry and in situ hybridization to minimize tissue loss and the positive charge allows for binding to many types of biological matter.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Tissue Adhesive Slides (No Chromium)</u>	
<p>Tissue Section Adhesive</p> <p>Richard Allan Scientific (Cat No. 6901, 6905, 6955) 4481 Campus Drive Kalamazoo, MI 49008 800-522-7270 Fax: 269-372-2809 Contact: Tyna Smith Ext. 634 E-mail: tsmith@rallansci.com http://www.rallansci.com</p>	<ul style="list-style-type: none"> • Tissue section adhesive made of gelatin and ethylene glycol. • Less toxic than chromium. • Avoid contact with strong oxidizing agents and do not handle without gloves. • It does not interfere with staining reactions and will not create a background residue.
<p>Ultrastick™ /UltraFrost™ Adhesion Slides</p> <p>Ted Pella, Inc. P.O. Box 492477 Redding, CA 96049-2477 530-243-2200 or 800-237-3526 Fax: 530-243-3761 E-mail: sales@tedpella.com http://www.tedpella.com</p>	<ul style="list-style-type: none"> • Slide coated with silane or 3-Aminopropyltriethoxysilane. • Chromium-free compound is less toxic than chromium containing slide adhesives. • Silane is a positively charged compound that covalently bonds with tissue and cytology preparations. Do not heat with flame (explosive). • Resists temperatures up to 92°C as well as bleaching and enzymatic pre-digestion.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Topical Antimicrobial Ointment: Burn Wound Care (No Silver Nitrate or Gentamycin)</u>	
<p>Silvadene</p> <p>King Pharmaceuticals[®], Inc. 501 Fifth Street Bristol, Tennessee 37620 888-840-5370 Fax: 866-990-0545 http://www.kingpharm.com</p>	<ul style="list-style-type: none">• Contains silver sulfadiazine.• Typically used for 2nd or 3rd degree burn victims.• Less toxic than silver nitrate, however care needs to be taken when applying to large areas of burned skin. Silver may be cytotoxic increasing the healing time. Aloe vera (moist wound) may prevent the healing time from increasing.• Some people may be allergic to sulfadiazine.• Not appropriate for people with renal or liver problems.
<p>Sulfamylon[®] Cream</p> <p>Bertek Pharmaceuticals, Inc. 781 Chestnut Ridge Road Morgantown, WV 26505 888-823-7835 304-285-6420 http://www.bertek.com</p>	<ul style="list-style-type: none">• Displays bacteriostatic properties on <i>Pseudomonas aeruginosa</i> and certain strains of anaerobes.• Typically used for 2nd or 3rd degree burn victims.• Consists of 5% mafenide acetate which is less toxic than silver nitrate and gentamycin.• Some people may be allergic to sulfa drugs.• Inhibits carbonic anhydrase, which may result in metabolic acidosis. There are reports of fatal hemolytic anemia with disseminated intravascular coagulation after treatment.• Not appropriate for people with renal or liver problems.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Totes: Reusable, Industrial Grade</u>	
<p>Nest and Stack Totes</p> <p>Akro-Mils/Myer Industries market@po.akro-mils.com http://www.akro-mils.com</p>	<ul style="list-style-type: none">• Industrial-grade, reusable totes made of polyethylene for shipping, transfer and storage.• Produces less waste than disposable totes and protects surrounding area from leaks.• Vendor claims it will not rust, corrode or lose its shape.• Gray tote uses FDA-approved materials.• Offers 3 colors and 9 sizes with lid.
<p>HPDE Tote Boxes</p> <p>Cole-Parmer Instrument Company 625 East Bunker Court Vernon Hills, IL 60061 800-323-4340 Fax: 847-247-2929 http://www.coleparmer.com</p>	<ul style="list-style-type: none">• High-density polyethylene tote boxes for shipping, transfer and storage.• Produces less waste than disposable containers and protects surrounding area from leaks.• All totes are USDA and FDA-approved.• Lids are not air or watertight.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer

Comments

Vacuum Systems and Pumps (No Mercury)

Vacuum Pumps and Systems

Tuthill Vacuum and Blower Systems
4840 West Kearney Street
Springfield, MO 65803-8702
800-825-6937
Fax: 417-865-2950
or
31805 Hwy 79 South, Suite 160
Temecula, CA 92653
Contact: Dick Mathey
951-308-1754
Fax: 951-506-9437
E-mail: vacuum@tuthill.com
<http://vacuum.tuthill.com>

- Pumps use water to generate vacuum.
- No mercury is present within vacuum systems and pumps.

Washer and Dryers: Energy Star Rated/Water Conservation

Bosch 6.2 Cu Ft. Premium Nexxt™ Gas Dryer

Lowe's Companies, Inc.
Customer Care (CON8)
Lowe's Companies, Inc.
P.O. Box 1111
North Wilkesboro, NC 28656
800-445-6937
Check site for store nearest you.
<http://www.lowes.com/energy>

- Electronically controlled.
- Has a stainless steel drum.
- Retail cost = \$847.00 (may vary).
- ENERGY STAR® qualified.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Washer and Dryers: Energy Star Rated/Water Conservation</u>	
<p>Fisher & Paykel 3.7 Cu. Ft. EcoSmart Clothes Washer</p> <p>Lowe's Companies, Inc. Customer Care (CON8) Lowe's Companies, Inc. P.O. Box 1111 North Wilkesboro, NC 28656 800-445-6937 Check site for store nearest you. http://www.lowes.com/energy</p>	<ul style="list-style-type: none"> • ENERGY STAR® qualified. • Has a stainless steel drum. • 5 temperatures, 3 spin speeds and 5 wash cycles. • Largest energy efficient washer available at Lowe's at the lowest price. • Must use approximately 1/3 the electricity and the water of a regular washing machine to qualify as ENERGY STAR®. • Agitator washer.
<p>GE® 3.5 Cu. Ft. Capacity King-size Washer with Stainless Steel Basket Model WHRE5260EWW</p> <p>Home Depot 800-430-3376 http://www.homedepot.com/ Search: Save energy</p>	<ul style="list-style-type: none"> • Electronically controlled. • Has a stainless steel basket. • Least expensive washer from home depot with the largest capacity possessing an ENERGY STAR® rating. • Agitator washer.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Washer and Dryers: Energy Star Rated/Water Conservation</u>	
<p>Staber Washing Machines</p> <p>Staber Industries, Inc. 4800 Homer Ohio Lane Groveport, OH 43125 800-848-6200 or 614-836-5995 Fax: 614-836-9524 E-mail: info@staber.com http://www.staber.com</p>	<ul style="list-style-type: none">• ENERGY STAR® rated washer uses approximately 12 to 22 gallons of water per load compared to the average of 40 gallons.• Uses only 1 ounce of detergent per load.• Initial cost is high (\$1,199/washer).• Stainless steel tub.• Vendor claims it will wash a queen size quilt.• Not an agitator-style washer.
<u>Waste Disinfection Systems</u>	
<p>PrecisionScan™ 500</p> <p>Titan Scan Technologies 9020 Activity Road, Suite D San Diego, CA 92126 800-438-1423 Fax: 858-547-5937 E-mail: scan.marketing@titan.com http://www.titanscan.com/media/pdf/PrecScan500.pdf</p>	<ul style="list-style-type: none">• Used for sterilization of single use plastic and other equipment materials and does not produce toxic byproducts.• Less toxic than EtO.• Most useful for companies processing up to 500,000 cubic feet of waste a year.• Process time takes less than one hour per cycle.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Waste Water Treatment Systems: Boilers and Dialysis Chemical Disinfection (No Mercury)</u>	
<p>Air and Waste Ozone Water Disinfection Systems</p> <p>BIOzone Corporation 11026 East Crestline Circle Englewood, Colorado 80111 303-770-2095 Fax: 303-689-0065 E-mail: ozone@biozone.com http://www.biozone.com/index.html</p>	<ul style="list-style-type: none">• Air and wastewater treatment systems with no hazardous byproducts.• May use large amounts of energy depending on necessary application.• Creates ozone from oxygen which breaks open cell wall of microorganisms creating cell death.• Ozone is hazardous so monitor for leaks carefully.• Destroys bio-film, bacteria, endotoxins, viruses and algae.
<p>MED-RO™ Reverse Osmosis (RO) Medical Systems RX Series</p> <p>US Filter Corporation 800.466.7873 E-mail to: information@usfilter.com http://www.usfilter.com/water/</p>	<ul style="list-style-type: none">• Reverse osmosis water treatment system for hemodialysis equipment.• Occupies a small space.• May reduce the need to clean dialysis with formaldehyde and ROs may be cleaned with hydrogen peroxide.• Systems process between 1.4 and 15 gpm.• Flow indicators made of PVC. Proper disposal regulations must be followed.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Waste Water Treatment Systems: Boilers and Dialysis Chemical Disinfection (No Mercury)</u>	
<p>Ozone Disinfection Systems</p> <p>Ozone Solutions, Inc. 789 7th St NW Sioux Center, IA 51250 712-722-0337 Fax: 712-722-1787 E-mail: info@ozoneapplications.com, sales@ozoneapplications.com, engineering@ozoneapplications.com http://www.ozoneapplications.com</p>	<ul style="list-style-type: none"> • Can customize ozone system. • Destroys bio-film, bacteria, endotoxins, viruses and algae. • Eliminates need to use disinfectants. • Waste water treatment system with no hazardous byproducts. • May use large amounts of energy depending on necessary application. • Creates ozone from oxygen which breaks open cell wall of microorganisms creating cell death. • Ozone is hazardous so monitor for leaks carefully.
<p>Ozone Disinfection Systems</p> <p>Ozonia North America 491 Edward H. Ross Drive Elmwood Park, New Jersey 07407 201-794 3100 Fax: 201-794 3358 E-mail: info@ozonia.com http://www.ozonia.com</p>	<ul style="list-style-type: none"> • Wastewater treatment system with no hazardous byproducts. • More energy efficient than other ozone systems. • Destroys bio-film, bacteria, endotoxins, viruses and algae. • Eliminates need to use disinfectants. • Creates ozone from oxygen which breaks open cell wall of microorganisms creating cell death. • Ozone is hazardous so monitor for leaks carefully.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Waste Water Treatment Systems: Boilers and Dialysis Chemical Disinfection (No Mercury)</u>	
<p>Ozone Systems</p> <p>CATEC Custom Water Recovery Systems 2361 Whitfield Park Av. Sarasota, Florida 34243 941-751-5656888-536-7100 Fax: 941-758-0815 Contact: Dean Taylor E-mail: CatecCWR@aol.com http://www.catec.com</p>	<ul style="list-style-type: none">• Waste water treatment systems with no hazardous byproducts.• May use large amounts of energy depending on necessary application.• Creates ozone from oxygen which breaks open cell wall of microorganisms creating cell death.• Ozone is hazardous so monitor for leaks carefully.• Small, compact systems.• Destroys bio-film, bacteria, endotoxins, viruses and algae.
<p>Portable Dialysis Ozone Disinfection System</p> <p>AmeriWater® 1303 Stanley Avenue Dayton, Ohio 45404 937-461-8833 or 800-535-5585 Fax: 937-461-1988 E-mail: watertech@ameriwater.com http://www.dayton.net/~watertech/ozone.html</p>	<ul style="list-style-type: none">• Destroys bio-film, bacteria, endotoxins, viruses and algae.• Eliminates need to use disinfectants.• Waste water treatment system with no hazardous byproducts.• May use large amounts of energy depending on necessary application.• Creates ozone from oxygen which breaks open cell wall of microorganisms creating cell death.• Ozone is hazardous so monitor for leaks carefully.• Small, compact, mobile system.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer

Comments

Waste Water Treatment Systems: Boilers and Dialysis Chemical Disinfection (No Mercury)

Waste Water Treatment Systems

Norwalk Wastewater Equipment Company, Inc.
220 Republic Street
Norwalk, Ohio 44857-1196
419-668-4471
Fax: 419-663-5440
<http://www.norweco.com>

- Water treatment systems are available mercury-free per request.
- Systems equivalent to those with mercury components.

Weighted Surgical/Internal Tubing (No Mercury)

AN20 Andersen Long Weighted Sump Tube

H.W. Andersen Products of California
Health Science Park
3151 Caroline Dr.
Haw River, NC 27258-9575
800-524-3455 or 336-376-0157
Fax: 336-376-3088
E-mail: kathy@andcal.com
<http://www.andcal.com>
<http://www.anpro.com>

- For intestinal intubation and vacuum aspiration of patients with ileus (intestinal blockage) and hypoactive bowel sounds.
- Weighted with ten, less toxic tungsten pellets instead of mercury and is latex-free.
- Considered as effective as mercury.
- Alternative to Rhexus and Einhorn tubes (passed transnasally) for diagnostic duodenal aspirations.
- Consists of anti-reflux filter.
- Outer tubing made of PVC (DO NOT INCINERATE).

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Weighted Surgical/Internal Tubing (No Mercury)</u>	
<p>AN21 Andersen Miller-Abbot Type Intestinal Tube</p> <p>H.W. Andersen Products of California Health Science Park 3151 Caroline Dr. Haw River, NC 27258-9575 800-524-3455 or 336-376-0157 Fax: 336-376-3088 E-mail: kathy@andcal.com http://www.andcal.com http://www.anpro.com</p>	<ul style="list-style-type: none"> • Unweighted gastrointestinal tract aspirating tube. • Mercury-free and is less toxic. • Considered as effective as mercury. • Outer tubing made of PVC (DO NOT INCINERATE). • Bulb made of latex (May be an allergen).
<p>AN22 Pre-Weighted Andersen Miller-Abbot Type Intestinal Tube</p> <p>H.W. Andersen Products of California Health Science Park 3151 Caroline Dr. Haw River, NC 27258-9575 800-524-3455 or 336-376-0157 Fax: 336-376-3088 E-mail: kathy@andcal.com http://www.andcal.com http://www.anpro.com</p>	<ul style="list-style-type: none"> • Weighted with less toxic tungsten instead of mercury. • Considered as effective as mercury. • Single use tube for temporary management of early mechanical obstruction in small and large intestine. • Radio-opaque with 24 aspiration ports. • Outer tubing made of PVC (DO NOT INCINERATE). • Bulb made of latex (May be an allergen). • Requires irrigation with saline frequently.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Weighted Surgical/Internal Tubing (No Mercury)</u>	
<p>Andersen Nasogastric Tubes: AN 10, AN11, AN13, AN14 and AN18</p> <p>H.W. Andersen Products of California Health Science Park 3151 Caroline Dr. Haw River, NC 27258-9575 800-524-3455 or 336-376-0157 Fax: 336-376-3088 E-mail: kathy@andcal.com http://www.andcal.com http://www.anpro.com</p>	<ul style="list-style-type: none"> • Vented biluminal gastric tube that keeps the stomach continuously empty. • Tubes weighted with less toxic tungsten instead of mercury. • Considered as effective as mercury. • Made of vinyl (may not be DEHP-free). • Has placement marks at 40, 50, 60 and 70cm above the most proximal aspirating port. • Hydrophobic filter covers vent tube which is radio opaque. • If it bubbles then it works. • 10 and 16 Fr tubes have stylets to aid in positioning inside unconscious or uncooperative patients.
<p>Bard Surgical Tubing</p> <p>Bard Medical Division C. R. Bard, Inc. 8195 Industrial Blvd. Covington, Georgia 30014 800 526-4455 E-mail: medical.services@crbard.com http://www.bardmedical.com</p>	<ul style="list-style-type: none"> • All of Bard’s surgical tubing is no longer weighted. • Mercury-free and is less toxic.

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Less Hazardous Products and Waste Management Vendors

Product and Manufacturer	Comments
<u>Weighted Surgical/Internal Tubing (No Mercury)</u>	
<p>Medovations WEIGHTRIGHT™ Mercury-Free Bougie</p> <p>Medovations, Inc. 102 E. Keefe Ave. Milwaukee, WI 53212 414-265-7620 or 800-558-6408 Fax: 414-265-7628 E-mail: medo@medovations.com http://www.medovations.com</p>	<ul style="list-style-type: none"> • Maloney and Hurst style bougie tubes weighted with less toxic tungsten instead of mercury. • Comparable in weight to mercury tubes. • Medovations will recycle bougie tubes filled with mercury free of charge.
<p>Rusch Bougie Tubes</p> <p>TFX-Rusch Inc. 800-553-5214 Fax: 770-623-1829 E-mail: csrusch@teleflexmedical.com http://www.rusch.com</p>	<ul style="list-style-type: none"> • Maloney and Hurst-style weighted with tungsten. • Comparable to mercury weighted tubes. • Less toxic than mercury. • Made of silicone (Silkomed™) instead of PVC.

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Sources of Information About Air Pollution in Washington State

- 1. Olympic Region Clean Air Agency**
(Clallam, Grays Harbor, Jefferson, Mason, Pacific, Thurston Counties)
2940 B Limited Lane NW
Olympia WA 98502
Richard Stedman, Executive Director
Telephone: (360) 586-1044 or (800) 422-5623
Fax: (360) 491-6308 E-mail: info@orcaa.org
Internet: <http://222.orcaa.org>
- 2. Department of Ecology - NW Regional Office**
(San Juan County)
3190 160th Ave SE
Bellevue WA 98008-5452
Telephone: (425) 649-7000
Fax: (425) 649-7098 TTY: (800) 833-6388
- 3. Northwest Clean Air Agency**
(Island, Skagit, Whatcom Counties)
1600 South Second Street
Mount Vernon WA 98273-5202
James Randles, Air Pollution Control Officer
Telephone: (360) 428-1617
Telephone: (800) 622-4627 (Island & Whatcom)
Fax: (360) 428-1620 E-mail: info@nwair.org
Internet: <http://www.nwair.org>
- 4. Puget Sound Clean Air Agency**
(King, Kitsap, Pierce, Snohomish Counties)
110 Union Street, #500
Seattle WA 98101-2038
Dennis McLerran, Air Pollution Control Officer
Telephone: (206) 343-8800 or (800) 552-3565
Burn Ban Recording: (800) 595-4341
Fax: (206) 343-7522 E-mail: info@pscleanair.org
Internet: <http://www.pscleanair.org>
- 5. Southwest Clean Air Agency**
(Clark, Cowlitz, Lewis, Skamania, Wahkiakum Counties)
11815 NE 99th Street #1294
Vancouver WA 98682-2394
Robert Elliott, Executive Director
Telephone: (360) 574-3058 or (800) 633-0709
Fax: (360) 943-2060
E-mail: webmaster@swcleanair.org
Internet: <http://www.swcleanair.org>
- 6. Department of Ecology - Central Regional Office**
(Chelan, Douglas, Kittitas, Klickitat, Okanogan Counties)
15 West Yakima AVE #200
Yakima WA 98902-3401
Telephone: (509) 575-2490
Fax: (509) 575-2809 TTY: (800) 833-6388
- 7. Yakima Regional Clean Air Authority**
6 S Second Street #1016
Yakima WA 98901
Les Ornelas, Director
Telephone: (509) 834-2050 or (800) 540-6950
Fax: (509) 574-1411 E-mail: info@yrcaa.org
Internet: <http://www.co.yakima.wa.us/cleanair>
- 8. Department of Ecology - Eastern Regional Office**
(Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Stevens, Walla Walla, Whitman Counties)
4601 N Monroe Street
Spokane WA 99205-1295
Telephone: (509) 329-3400
Fax: (509) 329-3529 TTY: (800) 833-6388
- 9. Spokane County Air Pollution Control Authority**
1101 W College Ave #403
Spokane WA 99201
Telephone: (509) 477-4727
Fax: (509) 477-6828
E-mail: publicinfo@scapca.org
Internet: <http://www.scapca.org>
- 10. Benton Clean Air Authority**
114 Columbia Point Dr #C
Richland WA 99352-4387
Dave Lauer, Director
Telephone: (509) 943-2232
Burn Ban Recording: (509) 945-4489
Fax: (509) 943-0505 E-mail: email@bcaa.net
Internet: <http://www.bcaa.net>

Department of Ecology – Air Quality Program

PO Box 47600, Olympia WA 98504-7600
Telephone: (360) 407-6800
Fax: (360) 407-7534, TTY (800) 833-6388
Internet:

<http://www.ecy.wa.gov/programs/air/airhome.html>

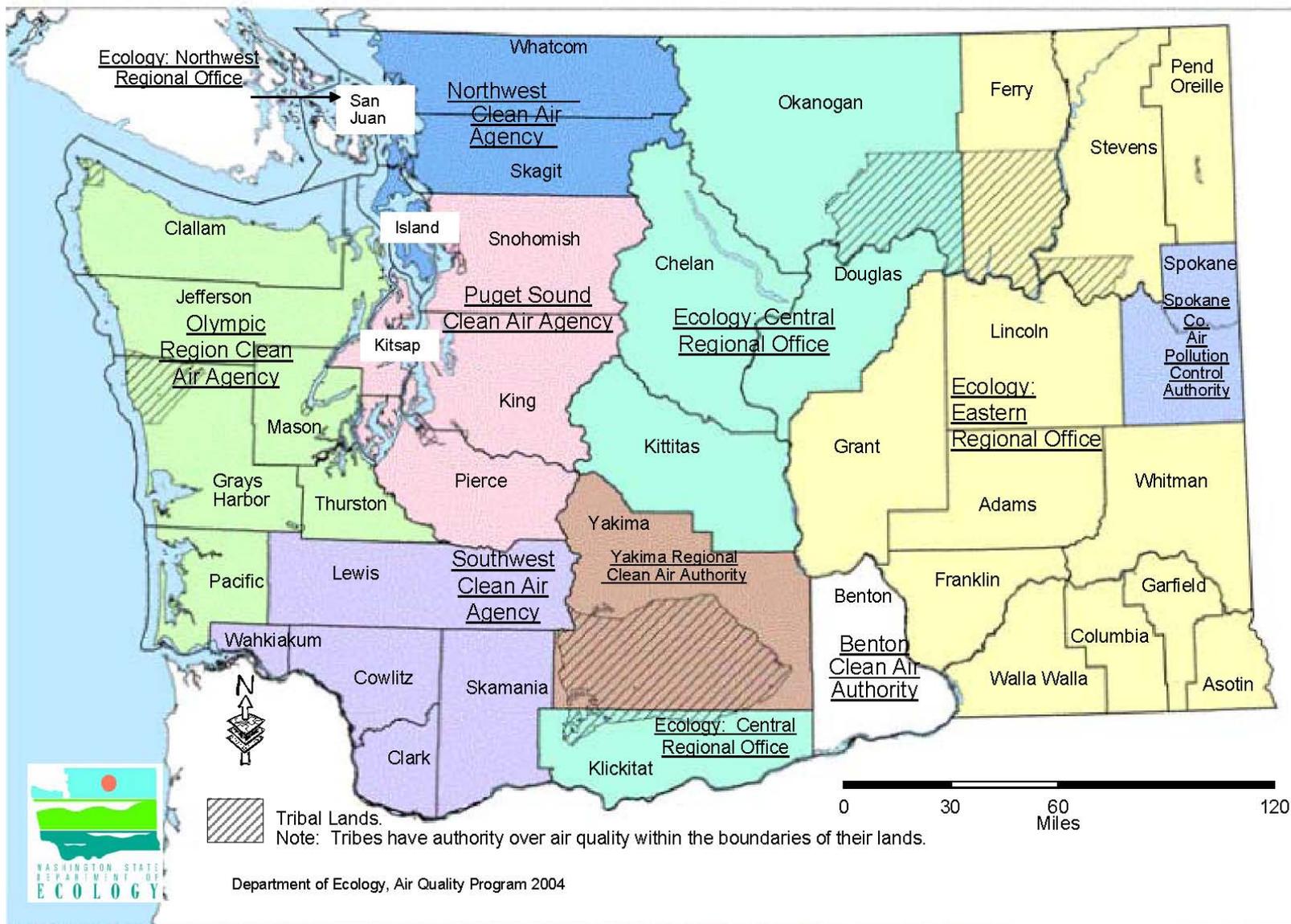
Pulp Mills, Aluminum Smelters

Department of Ecology – Industries Section

PO Box 47600, Olympia WA 98504-7600
Telephone: (360) 407-6916
Fax: (360) 407-6902 TTY: (800) 833-6388

Department of Ecology Southwest Regional Office, PO Box 47775, Olympia, WA 98504-7775
Telephone: (360) 407-6300 – Fax: (360) 407-6305, TTY: (800) 833-6388

Clean Air Agencies of Washington



Resource List

LESS TOXIC CLEANING SUPPLIES

Bio-Kleen

810 Lake Street
Kalamazoo MI 49001
(800) 240-5536
sales@bioklee.com (Tim Kowalski)
<http://www.biokleen.com>

Healthy Clean Buildings

4 Wilmington Drive
Melville NY 11747
(631) 643-1882
Fax: (631) 643-4649
cleaning@fnol.net (Stan Halpern)
<http://www.cleaningpro.com>

COMPOSTING AND COMPOSTING SYSTEMS INFORMATION

Augspurger Engineering Inc

15455 N Greenway-Hayden Loop #C14
Scottsdale AZ 85260-1609
(602) 438-5966

Clean Washington Center

<http://www.cwc.org/organics/org976rpt.pdf>

Green Mountain Technologies

3822 Latona Avenue NE
Seattle WA 98105
(206) 634-1308

Naturtech Composting Systems Inc

4218 SW Donovan
Seattle WA 98136
(206) 932-4621

DIGITAL PHOTOGRAPHY EQUIPMENT

Canon USA Inc

1 Canon Plaza
Lake Success NY 11042-1198
www.usa.canon.com

National Ultrasound

6160 Peachtree Dunwoody Road #B201
Atlanta GA 30328
(800) 797-4546
Fax: (770) 551-8598
info@nationalultrasound.com

PAX System

<http://www.paxit.com>

DISINFECTANTS/ANTISEPTICS

Clorox Company

1221 Broadway
Oakland CA 94612
(510) 271-7000
(888) 797-7225
<http://www.cloroxprofessional.com>

Decon Labs Inc (See vendor list)

890 County Line Road
Bryn Mawr PA 19010
(800) 332-6647
Fax: (610) 964-0650
<http://www.deconlabs.com>

DISTILLATION EQUIPMENT

Pope Scientific Inc

PO Box 495

Menomonee Falls WI 53051

(414) 251-9300

Fax: (414) 251-7387

FORMALDEHYDE-FREE AND GLUTARALDEHYDE-FREE STERILANTS

Johnson & Johnson

www.jnj.com

Minntech Corporation

www.ne-water.com

Radiation Shield Technologies

1825 Ponce de Leon Blvd #456

Coral Gables FL 33134

(866) 733-6766

Fax: (866) 533-6766

info@radshield.com

<http://www.radshield.com>

Sultan Chemists

www.sultanintl.com

GENERAL INFORMATION ABOUT VARIOUS POLLUTION PREVENTION/WASTE REDUCTION TOPICS

Energy Star

www.energystar.gov

Environmental Health and Nursing

<http://envirn.umaryland.edu>

Healthcare Without Harm

1755 South Street NW #6B

Washington DC 20009

(202) 234-0091

info@hcwh.org

<http://www.noharm.org/>

Hospitals for a Healthy Environment

www.h2e-online.org

Sustainable Hospitals

Kitson 200 One University Avenue

Lowell MA 01854

(978) 934-3386

shp@uml.edu

www.sustainablehospitals.org

US Environmental Protection Agency

RCRA Online Website

<http://www.epa.gov/rcraonline>

US Environmental Protection Agency

Pollution Prevention

<http://www.epa.gov/region2/p2/health.htm>

US Environmental Protection Agency

Vendor Information

<http://es.epa.gov/vendors/>

US Environmental Protection Agency

Region 10

1200 Sixth Avenue

Seattle WA 98101

(206) 442-5810

GREEN BUILDING

Better Bricks
(888) 216-5357
www.betterbricks.com

Building Design & Construction
<http://www.bdcmag.com/>

Green Guide for Health Care
www.gghc.org/

HAZARDOUS WASTE MANAGEMENT

Clean Harbors Environmental Services Inc
(800) 462-4678
www.cleanharbors.com

Diversified Scientific Services Inc
(865) 376-0084
www.permafix.com/dssi/

Envirotech Systems
(800) 922-9395

Kleen Environmental Technologies
(206) 285-8010

LWD Inc
(800) 995-5813
www.lwd-inc.com

Onyx Environmental Services
(800) 334-2387
www.onyxes.com

Pacific Industrial Resources
(253) 437-0785
www.pacific-industrial-resources.com

Pollution Control Industries
(800) 388-7242
www.pollutioncontrol.com

Phillip Services
(800) 228-7872
www.philipnow.com

Prime Environmental Services
(206) 768-6162

Safety Kleen
(800) 669-5948
www.safety-kleen.com/

Teris/ENSCO
(870) 864-3674
www.enscoinc.com

Von Roll WTI
(877) 201-3301
www.vonrollwti.com

HEALTH AND SAFETY

Labor and Industries (WISHA)
<http://www.lni.wa.gov/safety/default.asp>

Occupational Safety & Health Administration (OSHA)
www.osha.gov

Laboratory Safety Stickers
J.T. Baker
(908) 859-2151

MERCURY REFINERIES

Adrow Chemical Company

2 Lines Avenue
Wanaque NJ 07465
(201) 839-2372
Fax: (201) 244-9448

Bethlehem Apparatus Company

890 Front Street
Hellerstown PA 18055
(201) 838-7034
Fax: (610) 838-6333
Info@bethlehemapparatus.com
www.bethlehemapparatus.com

D.F. Goldsmith Chemical & Metal Corp

909 Pitner Avenue
Evanston IL 60602
(312) 869-7800
Fax: (847) 869-2531

Mercury Distributers Inc

13814 Alameda Road
Houston TX 77053
(713) 433-2418

Mercury Recovery Services (MRS)

700 Fifth Avenue
New Brighton PA 12205
(412) 843-5000
Fax: (412) 843-5353

Mercury Refining Co

1218 Central Avenue
Albany NY 12205
(518) 459-0820
Fax: (518) 459-2334

Mercury Waste Solutions Inc

21211 Durand Avenue
Union Grove WI 53182
(800) 741-3343 or (816) 554-8080
Fax: (816) 554-8787

Medovations

<http://www.medovations.com>

Pilling Teleflex Medical

www.teleflex.com

Rusch Inc

www.rusch.com

NEONATAL TUBING (PBC AND DEHP FREE)

Arrow International

PO Box 12888
Reading PA 19612
(800) 640-6428 or (800) 523-8446
<http://www.neocare.com>

Colombia Medical Inc

1830 SE First Street
Redmond OR 97756
(800) 548-8667 or (800)533-4984
Fax: (541) 548-8066
<http://utahmed.com>

PESTICIDES

Beyond Pesticides

701 E Street SE #200
Washington DC 20003
(202) 543-5450
info@beyondpesticides.org
www.beyondpesticides.org

Integrated Pest Management Institute of North America

1914 Rowley Avenue
Madison WI 53705
(608) 232-1528
www.ipminstitute.org

PESTICIDES

Northwest Coalition for Alternatives to Pesticides

PO Box 1393
Eugene OR 97440-1393
info@pesticide.org
www.pesticide.org

NorthWest Ag Plastics
www.nwagplastics.com

Washington State Department of Health & Office of Superintendent of Public Instruction

www.k12.wa.us

PHARMACEUTICALS MANAGEMENT

Capital Returns Inc

(800) 950-5479
www.capitalreturns.com

Certified Returns (L.L. Horizon)

(800) 461-1145

Envirotech Systems

(800) 922-9395

EXP Pharmaceutical Services

(800) 350-0397
www.expworld.com

Guaranteed Returns (Devos Ltd)

(800) 473-2138
www.guaranteedreturns.com

Kellcor USA Ltd

PO Box 5884
High Point NC 27262
(800) 239-9677
www.kellcor.com

Maximum RX Credit Inc

(800) 923-6724
www.max-rx-credit.com/

Med-Turn Inc

(800) 488-5735
www.medturn.com

National Pharmaceutical Returns Inc

(800) 470-7725
www.npreturns.com

One Source Returns

(800) 835-9440
www.onesourcereturns.com

Pharmaceutical Credit Corp

(800) 487-4308
www.pcccredit.com

Pharmaceutical Returns Service Inc

(800) 215-5878

Pharmacy Software Solutions Inc

(847) 549-1171
www.directreturn.com

Professional Returns

(480) 216-9676

PHARMACEUTICALS MANAGEMENT

PharmEcology

200 S Executive Drive #101
Brookfield WI 53005
(262) 814-2635
info@pharmecology.com
www.pharmecology.com

Phillip Services

(800) 228-7872
www.philipnow.com

P.S. Industries

(206) 749-0739

Reliable RX Return Inc

(800) 215-0727
www.reliablereturns.com

Return Logistics International Corp

(912) 748-5100
www.returnlogistics.com

Return Solutions Inc

(800) 579-4804
www.drugreturn.com

Returns Industry Association

1821 Michael Faraday Drive #400
Reston VA 20190
(703) 847-3696
info@returnsindustry.com or
riawash@aol.com

Romic Environmental Technologies

4500 15th Street E #A
Tacoma WA 98424
(800) 819-5912
www.romic.com

RX Automation Inc

3800 S Congress Avenue #8
Boynton Beach FL 33436
(800) 474-9090
www.rxautomation.com

SAI Transport

(863) 858-7110
www.saitrans.com

Stericycle Inc

(847) 964-2250
www.directreturn.com

Strong Environmental Inc

(770) 409-1500
www.strongenvironmental.com

Teris

(360) 793-8606
www.terisna.com

Universal Solutions

465 Shepherd Street
Winston-Salem NC 27103
(800) 228-8369
(800) 777-6565
www.usiinc.net

USF Processors

(800) 967-5952
www.usfc.com/usfprocessors/

RADIONUCLIDES

Medical Isotope Applications List at <http://www.cbvcp.com/nmrc/mia.html> is a list of short-life radio isotopes used in nuclear medicine for the diagnosis and treatment of cancer including their specific application.

RECYCLING

Batteries

Allied Battery Co
(206) 762-5522

Batteries Plus
7704 N Division #3
Spokane WA 99203

Budget Batteries
(253) 922-3737

City of Spokane
Solid Waste Management
1225 E Marieta Avenue
Spokane WA 99207

Toby's Battery & Auto Electric LLC
3003 N Crestline Street
Spokane WA 99218

Fluorescent Lamps

Earth Protection Services
7272 SW Durham Road #100
Tigard OR 97224
(800) 414 0443
www.earthpro.com

Ecolights Northwest
4400 4th Avenue S
PO Box 94291
Seattle WA 98124
(206) 343-1247

Emerald Services
9010 E Marginal Way S
Seattle WA 98108
(206) 832-3000
www.emeraldnw.com

General

Environment, Health and Safety Online
www.ehso.com

Advanced Environmental Recycling
Corp
(800) 554-2372

Thermometers (mercury)

See Mercury

SPILL KITS AND EQUIPMENT

Spill 911 (Spill Kits 911)

PO Box 784
Westfield IN 46074
(800) 467-5911
info@spills911.com
www.spill911.com or www.spillkits911.com

US Biotex

www.usbiotex.com

USED EQUIPMENT

A To Z Medical LLC
2802 NE 65th Avenue
Vancouver WA 98661
(360) 576-1792

ICS Medical Services
6060 N Central Expressway #560
Dallas TX 75206
(972) 935-0851
www.icsmedical.net/

Medical Equipment Finders
www.medicalequipmentfinders.com/

MedMatrix
www.medmatrix.com/

PeMed
www.pemed.com/

Recyclers World
www.recycle.net/used-equip/medical-equip/

XYLENE ALTERNATIVES

Anatech Ltd
1020 Harts Lake Road
Battle Creek MI 49015
(800) 262-8324
email@anatechltdusa.com
www.anatechltdusa.com

Richard—Allen Scientific
www.rallensci.com

Thermo Electron Corporation
171 Industry Drive
Pittsburgh PA
(800) 547-7429
Fax: (412) 788-1138
www.thermo.com/

MATERIAL EXCHANGES

2 Good 2 Toss
PO Box 47775
Olympia WA 98504-7775
(360) 407-6398
Fax: (360) 407-6305
www.2good2toss.com

Industrial Materials Exchange (IMEX)
First Interstate Center
999 Third Avenue #700
Seattle WA 98104-4039
(888) 879-4639
www.metrokc.gov/hazwaste/imex

NW Materials Mart
(503) 229-5479
nwexchange@deq.stat.or.us
www.nwmaterialsmart.org/

Pacific Recycling Exchange
<http://pacific.recycle.net>

Appendix 4

Waste and Air Pollutants Found in Hospitals

Dangerous Waste in Hospitals 1

Toxic Air Pollutants 35

A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
12 Hour Decongestant Pump Nasal Spray (Company: CVS Revco DS Inc.)—Contains Mercury	Y	D009		
12 Hour Nasal Decongestant Spray (Company: Family Independent Pharmacy)	U			
12 Hour Nasal Solution (Company: American Pharmacy)	U			
12 Hour Nasal Spray (Company: Fleming Companies, Leader, Republic Drug Co. and Rexall Generic)	Y	D009		
12 Hour Nasal Spray (Company: Prime Natural Health, RDS Acquisition Corp. and Thames Pharmacal Co.)	U			
12 Hour Nasal Spray Pump (Company: Fays Drug Services)	U			
2-Chloroethyl Vinyl Ether	N	U042		
3-Benzyl Chloride	N	P028		
3-Methylchloranthrene	N	U157		
Acel-Imune (Company: Allscrips, Physicians TC and Wyeth-Ayerst)	U			
Acetone	N	U002		
Acetyl Chloride	N	U006		
Acrylamide / Bis Solution	N		WT02	D, A58, B219
Acrylonitrile	N	U009		
Acthib/DTP (Company: Pasteur Merieux)	Y	D009		
Activated Carbon (Charcoal)	N	D001		D, A58, B409
Acyclovir	N		WT02	D, A58, B409
Adalat Capsules (Nifedipine)	N		WT02	D, A58, B409
Adrenal Cortex Injection (Company: Laboratori Derivati)	Y	D009		
Adsorbonac (Company: Alcon (P.R.))	Y	D009		
Adsorbonac (Company: Alcon (P.R.))	Y	D009		
Afrin (Company: Schering-Plough)	Y	D009		
Afrin Nasal Saline Mist (Company: Schering-Plough)	Y	D009		
Afrin with Menthol (Company: Schering-Plough)	Y	D009		
AK-Chlor (Company: Akorn Inc.)	Y	D009		
AK-Spore (Company: Akorn Inc. and Allscrips)	Y	D009		

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
AK-Spore HC Ophthalmic Combo Drops (Company: Akorn Inc.)	U			
AK-Spore HC Otic Suspension (Company Akorn Inc.)	U			
AK-Spore HC with Bacitracin (Company: Akorn Inc. and Allscrips)	Y	D009		
AK-Spore HC with Polymyxin (Company: Akorn Inc. and Allscrips)	Y	D009		
AK-Spore Ophthalmic Solution (Company: Akorn Inc.)	Y	D009		
Albuterol	N		WT02	D, A58, B219
Alkeran	N	U150		
Allergan Hydrocare (Company: Allergan Inc.)	Y	D009		
Allergan Hydrocare Saline (Company: Allergan Inc.)	Y	D009		
Allergen Patch Test (Company: Pharmacia & Upjohn)	Y	D009		
Allergy Homeopathic Remedy (Company: BHI)	Y	D009		
Allopurinol	N		WT02	D, A58, B409
Alprostadil (Powder) Separated from Caverject Kit	N		WT02	D, A58, B219
Alum Hematoxylin	Y	D009		D
Amino Acid Analysis	N		WT02	D, A58, B219
Aminophylline	N		WT02	D, A58, B102
Ammonia Inhalant Solution (Ethyl Alcohol)	N	D001	WT02	D, A58, B203
Ammonium Molybdate Solution	N	D002	WT02	D, A58, B105
A-Naphthyl Butrate Solution (Methanol)	N	D001	WT02	D, A58, B102
Aniline	N	U012		
Antibiotic Ear Suspension (Company: Rugby and United Research)	Y	D009		
Antibiotic HC Otic Suspension (Company: Qualitest)	U			
Antidote Kit for Nerve Agent (Atropine and Pralidoxime Chloride Injection)	N		WT02	D, A58, B219
Antifungal foot powder (Undecylenic Acid, Zinc Undecylenate)	N		WT02	D, A58, B319
Antihemophilic Factor, Human (Brand Name: Hemofil-M; Company: Hyland Labs)	Y	D009		
Antilirium Injection (Physostigimine Salicylate)	N		WT02	D, A58, B219
Antivenin (Crotalidae) Polyvalent (Company: Wyeth Lab.)	Y	D009		

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Antivenin (Lactrodectus Mactans) (Company: Merck & Co. and Organon Pharm.)	Y	D009		
Antivenin (Micrurus Fulvius) (Company: Wyeth Lab.)	Y	D009		
Aqueous Germicidal Detergent (T.B.Q)	N	D001, D002	WT02	D, A58, B219
Arsenic	N	P012		
Arsenic Trioxide	N	P012		
Aspirin	N		WT02	D, A58, B409
Atenolol	N		WT02	D, A58, B409
Atropine Auto-Injector	N		WT02	D, A58, B219
AYR Saline (Company: Ascher, B.F.& Co.)	Y	D009		
Azathioprine	N		WT02	D, A58, B409
Azaserine	N	U015		
Azmacort (Aerosol) Triamcinolone Acetonide	N		WP01	E, A58, B801
B-5 Solution	Y	D009		D
Bal in Oil (Company: Akorn Inc. and Taylor Pharm.)	U			
Barium Sulfate Solution	N	D005		D, A58, B119
Baxter-Soft Cide Soap	Y	D009		D
Bayrab (Company: Bayer Biologic)	Y	D009		
Baytet (Company: Bayer Biologic)	Y	D009		
BCG Vaccine (Brand Name: Tice BCG; Company: Organon Pharm.)	Y	D009		
Benzalkonium Chloride [80%] and Ethanol [20%]	N	D001	WT02	D, A58, B219
Benzoin Spray Tincture (Benzoin, Propane, Isopropanol)	N	D001	WT02	D, A58, B219
Benzoin Tincture Compound (Ethanol)	N	D001	WT02	D, A58, B219
3-Benzyl Chloride	N	P028		
B-Estradiol	N		WT02	D, A58, B409
Bio-Cot Otic Suspension (Company: C.O. Truxton Inc.)	Y	D009		
Bisacodyl (4,4-(2-Pyridinylmethyl) Bisphenol Diacetate Ester)	N		WT02	D, A58, B409
Bleomycin Sulfate	N	D002	WT01	E, A58, B219
Bleph (Company: Southwood Pharm.)	Y	D009		
Bleph 10 Ophthalmic Solution 10% (Company: Pharmedix)	Y	D009		

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Bleph-10 (Company: Allergan Inc., Pharma PAC and Southwood Pharm.)	Y	P092, D009		
Blephamide Ophthalmic Ointment (Company: DRX Pharmaceutical and Pharmedix)	U			
Blephamide SOP Ophthalmic Ointment (Company: Allergan Inc.)	Y	D009		
Boric Acid (Brand Name/Company: Collyrium Fresh Eyes/Amed_Linx Eye Wash/Akorn Inc.)	Y	D009		
Bougie Tube Weighted with Mercury	Y	D009		D
Bretylum Tosylate Injection	N		WP01	E, A58, B207
Brite Life 12 Hour Nasal Spray (Company: Brite Life)	Y	D009		
Bromoform	N	U225		
Burn Ointment (Company: Clay-Park Labs.)	Y	P092, D009		
Button Batteries	Y	D009		D
N-Butyl Alcohol	N	U031		
Cacodylic Acid	N	U136		
Cajal's Stain	Y	D009		D
Calomel (Company: Amend)	Y	U151, D009		
Camco	Y	D009		D
Cantor Tube Weighted with Mercury	Y	D009		D
Carbol-Gentian Violet Stain	Y	D009		D
Carbon Tetrachloride	N	U211		
Carboplatin Injection	N		WT02	D, A58, B207
Carnoy-Lebrun	Y	D009		D
Cerubidine	N	D059		
Castellani Paint Modified	N	D001	WT02	D, A58, B201
Cesium Internal Std.	Y	D009		D
Cetacaine Topical Anesthetic Spray [Trichlorofluoromethane]	N		WP01	E, A58, B801
Channing's Solution	Y	D009		D
Cheracol Nasal (Company: Robert's Pharm.)	Y	D009		
Chloral Hydrate	N	U034		

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Chlorambucil	N	U035		
Chloramphenicol (Brand Name: Ak-Chlor; Company: Akorn Inc.)	Y	D009	WT02, WP01	E, A58, B407
Chlornaphazin	N	U026		
2-Chloroethyl Vinyl Ether	N	U042		
Chloroform	N	U044		
P-Chloro-M-Cresol	N	U039		
Chloropropionitrile	N	P027		
Chlorothiazide Sodium (Brand Name: Diuril Sodium; Company: Merck & Co.)	Y	D009		
Chlorpheniramine Maleate	N		WT02, WP02	D, A58, B407
Chlorpromazine Hydrochloride Injection	N		WT02, WP02	D, A58, B202
Cidex Activated Dialdehyde Solution (2.4% Alkaline Glutaraldehyde) (Company: Advanced Sterilization Processes)	N		WT02	D, A58, B207
Cidex OPA Solution (0.55% Ortho-Phthalaldehyde) (Company: Advanced Sterilization Processes)	N		WT02	D, A58, B207
Cidex Plus 28 Day Solution (3.4% Alkaline Glutaraldehyde) (Company: Advanced Sterilization Processes)	N		WT02	D, A58, B207
Cipro Floxacin HCL (Cipro Tablets)	N		WT02, WP02	E, A58, B407
Clarithromycin Tablet (Antibacterial)	N		WT02	D, A58, B409
Clean-N-Soak (Company: Allergan Inc.)	Y	D009		
Clindamycin Phosphate (Ointment Tube)	N		WP02	D, A58, B409
Clonidine Hydrochloride Tablets	N		WT02, WP02	D, A58, B409
Coal Tar Bath Preparation (2.5% Coal Tar)	N		WT02	D, A58, B219
Cola Tar Ointment [Ethyl Alcohol, Coal Tar]	N	D001		D, A58, B219
Coccidioidin Vaccine (Company: ALK Laboratories Pharmacia)	Y	D009		
Collodion, Flexible, USP (Nitrated Cellulose in Ether and Alcohol)	N	D001	WT02	D, A58, B219
Collyrium Fresh Eyes (Company: Amend)	Y	D009		
Coly-Mycin S (Company: Monarch Pharm.)	Y	D009		
Colymycin S Otic Solution (Company: Pharmedix)	Y	D009		

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Colymycin S Otic Suspension (Company: DRX Pharmaceutical and Parkedale Pharmaceuticals)	Y	D009		
Contraceptive Foam (Nonoxynol)	N		WT02	D, A58, B219
Copper Sulfate Solution (>1%)	N		WT02	D, A58, B119
Cortane B (Company: Blansett Pharm.)	Y	D009		
Cortatrigen (Company: Goldline Drug)	Y	D009		
Corticosterone	N		WT02	D, A58, B409
Cortisporin Ophthalmic Suspension (Company: DRX Pharm., King Pharm., and Physicians Total Care Inc.)	Y	D009		
Cortisporin Otic Suspension (Company: King Pharmaceuticals)	Y	D009		
Cortisporin-TC (Company: Monarch Pharm.)	Y	D009		
Cortomycin (Company: Major Pharm.)	Y	D009		
Cortomycin Ophthalmic Suspension (Company: Major Pharm.)	U			
Cortomycin Otic Suspension (Company: Major Pharm.)	Y	D009		
Creosote	N	U051		
Cresol Solution	N	D026, U052	WT02	D, A58, B119
CTX	N	U058		
Cyanide Salts	N	P030		
Cyanide Test Reagent Solution	N	D001, D038	WT02, WP01	E, A58, B219
Cyanocobalamin Injection, USP	N		WT02	D, A58, B219
Cyclophosphamide	N	U058		
Cytology, Gynecology Slide Stainer, Automatic Alcohol & Stains	N	D001	WT02	D, A94, B219
Cytosan (Cyclophosphamide) Injection	N	U058	WT02, WP01	E, A58, B407
Dacarbazine	N	D002	WT01	E, A58, B219
Daunomycin	N	U059		
Daunorubicin	N	U059		
Daunoxome	N	U059		
Decongestant Nasal Spray (Company: C.O. Truxton Inc. and Pay N Save Corp.)	U			
Decongestant Nasal Spray Pump (Company: Thrifty Payless Inc.)	U			

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Dental Amalgam Alloy, Unused (Silver, Mercury)	Y	U151, D009, D011		D, A58, B316
Deproteinizing Cleaning Solution [Hydrochloric Acid]	N	D002		D, A58, B105
Derma Scrub	Y	D009		D
Dexamethasone	N		WP01	E, A58, B219
Dexbrompheniramine and Pseudoephedrine	N		WT02, WP02	D, A58, B407
Dichlorobenzenes	N	U070, U071, U072		
Diethylstilbestrol	N	U089		
Dimaphen Time Tabs (Brompheniramine, Phenylpropanolamine)	N		WT02, WP01	E, A58, B407
Dimenhydrinate Tablet	N		WT02, WP01	E, A58, B407
Dimercaprol (Brand Name: Bal in Oil; Company: Akorn Inc. and Taylor Pharm.)	Y			
Dimetapp (Bromotapp Solid)	N		WT02, WP02	D, A58, B407
Dip and Tet Tox Adsorbed (Company: Bioport Corp., Connaught Lab. And Massachusetts Public Health Biologic Labs)	Y	D009		
Dip and Tex Tox and Pert (Acell) Vacc Adsorbed (Brand Name/ Company: Tripedia/Pasteur Merieux_Dip and Tet Tox and Pert (Acell) Vacc Adsorbed/Adventis and Connaught Labs_Certiva/North American Vacc.)	Y	D009		
Dip, Pert (Acell) and Tet Vacc (Brand Name: Acel-Imune; Company: Allscrips, Physicians TC and Wyeth-Ayerst_Tripedia/Pasteur Merieux)	Y	D009		
Dip, Tet Tox and Pert Vacc Adsorbed (Brand Name/Company: Dip, Tet Tox and Pert Vacc Adsorbed/Bioport Corporation, Connaught Lab. And North American Vaccine_Tri-Immunol 15 Dose/Wyeth-Ayerst)	Y	D009		
Dip, Pert, Tet and HIB Vacc (Brand Name/Company: Tetramune 10 Dose/Wyeth-Ayerst_Tetramune/Physicians TC)	Y	U151, D009		
Dip/Tet/Pert Vacc (Company: Allscrips, SK Beecham Pharm., Pasteur Merieux and Physicians TC)—Contains Mercury	U			
Diphenhydramine HCl	N		WT02	D, A58, B409
Disinfecting Solution –Soft Lens (Company: Bausch & Lomb)	Y	D009		

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Displacement Mercury Relay	Y	D009		D
Diuril Sodium (Company: Merck & Co.)	Y	D009		
Doxycycline Hyclate (A Tetracycline Derivative)	N		WT02	D, A58, B409
Dristan (Company: Whitehall Lab. And Whitehall-Robins)	Y	D009		
Duomycin-HC Otic Suspensi3n (Company: Hurst Pharm.)	Y	D009		
Duration (Company: Schering-Plough)	Y	D009		
Duration Nasal (Company: Schering-Plough)	Y	D009		
Edecrin Sodium (Company: Merck & Co.)	Y	D009		
EGTA Solution	N	D002		D, A58, B110
Elaste-Chloromycetin Topical Ointment (Company: Parke Davis)	U			
Elimite Termal Cream 5% (Permethrin)	N		WT02, WP01	E, A58, B409
Emersal (Company: Medco Labs)	Y	D009		
Engerix-B (Company: Allscrips, Beecham Pharm. and Physicians TC.)	U			
Epinephrine Injection, USP [<1% Epinephrine]	N	P042		D, A58, B119
Erythromycin Tablets	N		WT02	D, A58, B409
Esterase Procedure Solution	N	D022	WT02	D, A58, B219
Ethacrynate Sodium (Brand Name: Edecrin Sodium; Company: Merck & Co.)	Y	D009		
Ethyl Acetate	N	U112		
Ethyl Carbamate	N	U238		
1-Ethyl -3-(3-Dimethylaminopropyl) Carbodiimide Hydrochloride	N		WT02	D, A58, B409
Ethyl Ether	N	U117		
Ethylene Glycol (Clemiclave Scrubbers: EtO + Sulfuric Acid Byproduct)	N		WT02	D
Ethylene Oxide	N	U115		
Ethyl Alcohol	N	D001		D, A94, B203
Etopside (Vepesid Injection)	N		WT02	D, A58, B207
Exotic-HC (Company: Marin Pharm.)	Y	D009		
Factor IX (Brand Name: Mononine; Company: Centeon)	Y	D009		

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Fecal Parasite Concentration [Formalin, Ethyl Acetate, Triton]	N	D001	WT02	D, A94, B219
Feeding Tube Weighted with Mercury	Y	D009		D
Flame Sensor with Mercury	Y	D009		D
Flammable Liquids	N	D001	WT02	D, A58, B219
Float Switch with Mercury	Y	D009		D
Flo-Scint II and Flo-Scint III	N	D001	WT02	D, A58, B219
Flo-Scint IV-Clinical Investigation (1,2,4-Trimethylbenzene)	N	D001	WT02	D, A58, B219
Flo-Scint V	N		WT02	D, A58, B219
Fluorescent Lamp	Y	D009		D
Fluogen (Company: Allscrips, Park-Davis Co., Parkedale Pharm. and Physicians TC)	Y	D009		
Fluorescein Sodium (Company: Alcon Labs and Alcon Surgical)	Y	D009		
Fluorescein Sodium Ophthalmic Solution (Company: US Ophthalmics)	U			
Fluorocaine (Company: Akorn Inc.)	Y	D009		
Fluorocaine Ophthalmic Solution (Company: Akorn Inc.)	U			
Fluorometholone (Brand Name: FML S.O.P.; Company: Allergan Inc.)	Y	P092, D009		
Fluorouracil Injections	N		WT02, WP02	E, A58, B102
Flurbiprofen Sodium (Brand Name/Company: Flurbiprofen sodium/Pacific Pharm._Flurbiprofen sodium ophthalmic solution/Bausch & Lomb_Ocufen Ophthalmic Solution/Allergan America_Ocufen/Allscrips and Southwood Pharm.)	Y	D009		
Fluress (Sodium Fluorescein, Benoxinate Hydrochloride)	N		WP02	D, A58, B219
Flushield (Company: Allscrips and Physicians TC.)	U			
Flushield '95-'99 and Non-returnable (Company: Wyeth-Ayerst)	U			
Fluvirin (Company: Evans Medical and Medeva Pharm.)	Y	D009		
Fluvirin '98-'99 (Company: Medeval Pharm.)	Y	D009		
Fluvirin Trivalent-Surf-Pure (Company: Medeva Pharm.)	N			

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Fluzone (Company: Allscrips, Connaught, Pasteur Merieux and Physicians TC.)	Y	D009		
Fluzone '98-'99 (Company: Pasteur Merieux)	Y	D009		
Fluzone Virus Tri-Whole (Company: Connaught and Pasteur Merieux)	Y	D009		
FML S.O.P. (Company: Allergan Inc.)	Y	P092, D009		
Food Service Kit Disinfectant [Pouch A & B] [Sodium Dodecylbenzenesulf]	N		WT02, WP01	E, A58, B319
Forane	N		WT02, WP01	E, A58, B119
Formaldehyde Solution [Methanol]	N	U122	WT02	D, A58, B207
Formaldehyde Solution, S/P, Buffered, 10%	N	U122	WT02	D, A58, B102
Formalin, Used (10% Buffered)	N		WT02	D, A94, B219
Formic Acid and its Salts	N	U123		
Formol-Zenker's Stain	Y	D009		D
Formulation-R (Company: G&W Labs)	U			
Full Value Nasal Spray (Company: Foxmeyer)	Y	D009		
Fungizone Cream (Company: Bristol-Myers Squibb)	Y	D009		
Fungizone Lotion (Company: Bristol-Myers Squibb)	Y	D009		
FX-50 Black & White Developer	N		WT02	
Gamastan (Company: Bayer Biologic)	Y	D009		
Gammar (Company: Centeon)	Y	D009		
Gamulin RH (Company: Centeon)	Y	D009		
Genaphed – Sudafed (Pseudoephedrine HCL)	N		WT02	D, A58, B409
Genasal LA (Company: Goldline Drug)	Y	D009		
Gene Assembler Process Waste	N	D001	WT02	D, A94, B203
Germicidal Detergent, Coverage 256	N		WT02	D, A58, B219
Glutaraldehyde 2.4% (Brand Name: Cidex Activated Dialdehyde Solution; Company: Advanced Sterilization Processes)	N		WT02	D, A58, B207
Glutaraldehyde 3.4% (Brand Name: Cidex Plus 28 Day Solution; Company: Advanced Sterilization Processes)	N		WT02	D, A58, B207
Glutaraldehyde Fixative	N	D004	WT02	D, A94, B219

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Glycopyrrolate Injection (Robinol, Pyrrolidinium)	N		WT02	D, A58, B219
GNP 12 Hour Nasal Spray (Company: Good Neighbor)	Y	D009		
Golgi's Stain	Y	D009		D
Good Sense Nasal Spray (Company: Perrigo Co.)	Y	D009		
Gram Stain, Microbiology [Iodine]	N		WT02	D, A94, B119
Gram Staining Kit, Gram Safranin 3332	N	D001		D, A58, B219
Griseofulvin Tablets	N		WP01	E, A58, B407
Guaifenesin Cough Syrup	N		WT02	D, A58, B207
Guaifenesin (Guaianesin)	N		WT02	D, A58, B409
Guaifenesin 100	N		WT02	D, A58, B219
Halothane, U.S.P. (2-Bromo-2-Chloro-1,1,1-Trifluoroethane)	N		WP01	E, A58, B219
Harleco Stain, Used	N		WT02	D, A58, B219
H-Big (Company: Allscripts and North American)	Y	D009		
HC/Pramoxine HCL/Chloroxylenol (Brand Name/Company: Cortane B/Blansett Pharm._ Exotic-HC/Marin Pharm._ Oti-Med/Hyrex Co._ Otomar HC/Marnel Pharm._ Otozone/R.A. MC Neil Co.)	Y	D009		
Health Mart Nasal Spray Puma (Company: Health Mart)	Y	D009		
Nelly	Y	D009		D
Hematoxylin with Mercury (II) Chloride Oxidizer	Y	D009		D
Hemofil-M (Company: Hyland Labs)	Y	D009		
Hemorrhoid (Company: Leader)	U			
Hemorrhoid Preparation – Discontinued (Company: Rugby)	U			
Hemorrhoid Relief Ointment (Company: Farm Fresh Inc., Mays Drug Stores and Scrivner Inc.)	Y	D009		
Hemorrhoidal (Company: Bergen Brunswick, Bio-Pharm Inc., Brite Life, Lay-Park Labs, Foxmeyer, Full Value, Goldline Drug, Good Neighbor, HL Moore, Longs Drug Store, McKesson Drug, Medalist, Medicine Shop, Perrigo Co., Qualitest, The Hudson Corp., Thrifty Drug, TopCo, Valu-Rite Pharm.)	U			
Hemorrhoidal Ointment (Company: Waldbaum Inc.)	U			

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Hemorrhoidal Prep (Company: Global Source)	U			
Hemorrhoidal Suppositories (Company: Walsh Distrib.)	U			
Hemorrhoidal- mercury free in 2005 (Company: Rite Aid Corp.)	U			
HEP B Immune Globulin (Brand Name/Company: H-Big/Allscrips and North American_Hep-B-Gammagee/Merck & Co._HyperHep/ Bayer Biologic)	Y	D009		
HEP B Vir Vacc Recomb (Brand Name/Company: Engerix-B/Allscrips, Becham Pharm. and Physicians TC_ Recombivax HB/ Allscrips, Merck & Co. and Physicians TC_ Recombivax HB Adult/ Merck & Co.)	U			
HEP-B-Gammagee (Company: Merck & Co.)	Y	D009		
Hexachloroethane	N	U131		
Hexachlorophene	N	U132		
HIB Conj (Company: Connaught Lab.)	Y	D009		
HIB Conj Vacc Reconstituted with Dip, Tet Tox and Pert (Acell) (Brand Name: Acthib/DTP; Company: Pasteur Merieux)	Y	D009		
HIB Conj Vacc Reconstituted with Dip, Tet Tox and Pert (Acell) (Brand Name: Trihibit; Company: Pasteur Merieux)	Y	D009		
HIB Conj, Dip, Tet and Pert (Acell) Adsorbed (Company: Connaught Lab.)	Y	D009		
HIB Oligo Conj-Dip CRM Protein Conj (Brand Name: Hibtiter; Company: Allscrips and Wyeth-Ayerst)	Y	D009		
HIB Polysacc Conj-Dip Tox (Brand Name: Prohibit; Company: Pasteur Merieux)	Y	D009		
HIBISTAT Liquid Cleansing Solution Germicidal Rinse [Isopropyl Alcohol]	N	D001	WT02	D, A58, B219
HIBTITER (Company: Allscrips and Wyeth-Ayerst)	Y	D009		
HID Lamps	Y	D009		D
HISTO-Clear (d-limonene)	N		WT02	D
HISTOSOL (Light Aromatic Naphtha Solvent)	N	D001	WT02	D

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
HM Hemorrhoidal (Company: Generamed Inc.)	U			
12 Hour Decongestant Pump Nasal Spray (Company: CVS Revco DS Inc.)—Contains Mercury	Y	D009		
12 Hour Nasal Decongestant Spray (Company: Family Independent Pharmacy)	U			
12 Hour Nasal Solution (Company: American Pharm.)	U			
12 Hour Nasal Spray (Company: Fleming Companies, Leader, Republic Drug Co. and Rexall Generic)	Y	D009		
12 Hour Nasal Spray (Company: Prime Natural Health, RDS Acquisition Corp. and Thames Pharmacal Co.)	U			
12 Hour Nasal Spray Pump (Company: Fays Drug Services)	U			
Humphrey's "30" Irrigant for Bladder (Company: Humphrey's Lab)	Y	U151, D009		
HVAC Heating, Ventilation and Air Conditioning Components Containing Mercury	Y	D009		
Hydralazine Hydrochloride	N		WT02	D, A58, B117
Hydrochlorothiazide	N		WT02, WP01	E, A58, B409
Hydroquinone (>or Equal to 1%)	N		WT02	
Hydroxyethylcellulose/Povidone (Brand Name: Adsorbotear; Company: Alcon (P.R.))	Y	D009		
Hydroxyzine HCL Injection	N		WP01	E, A58, B219
Hyperab (Company: Bayer Biologic)	Y	D009		
Hyperhep (Company: Bayer Biologic)	Y	D009		
Hyper-Tet (Company: Bayer Biologic)	Y	D009		
Hypnomidate	N		WT02	D, A58, B219
Hyprho-D (Company: Bayer Biologic)	Y	D009		
Ibuprofen	N		WT02	D, A58, B409
Idarubicin Hydrochloride	N		WT01	E, A58, B207
Immune Globulin Vaccine (Company: Baxter Healthcare Corp and Bioport Corporation)	Y	D009		

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Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Immune Globulin, Gamma (IGG) (Brand Name/Company: Gamastan /Bayer Biologic_ Gammar/Centeon	Y	D009		
Immu-Sal	Y	D009		D
Imovax Rabies I.D. (Company: Allscrips)	U			
Indomethacin Capsule	N		WT02, WP01	E, A58, B407
Influenza Virus Tri-Split (Brand Name/Company: Fluogen/Allscrips, Park Davis Co., Parkedale Pharm. and Physicians TC_ Flushield/ Allscrips and Physicians TC_ Flushield '94-'99/ Wyeth-Ayerst_ Fluzone/ Allscrips, Connaught, Pasteur Merieux and Physicians TC_ Fluzone '98-'99/Medeva Pharm.)	U			
Influenza Virus Tri-Surf (Brand Name/Company: Fluvirin/Evans Medical and Medeva Pharm._ Fluvirin '98-'99/Medeva Pharm.)	Y	D009		
Influenza Virus Trivalent (Brand Name/Company: Flushield/Allscrips and Wyeth Ayerst_ Flushield '94-'95/Wyeth-Ayerst_ Fluzone/ Connaught)	Y	D009		
Influenza Virus Trivalent-Surf-Pure (Brand Name: Fluvirin; Company: Medeva Pharm.)	U			
Influenza Virus Tri-Whole (Brand Name: Fluzone; Company: Connaught and Pasteur Merieux)	Y	D009		
Influenza Virus Vaccine (Company: Adventis)	U			
Influenza Virus Vaccine (Company: Medeva Pharm.)	Y	D009		
Influenza Virus Vaccine, Trivalent Types A&B (Company: Parkedale Pharm.)	Y	D009		
Intraocular Pressure Reducer with Mercury	Y	D009		
Iodophor	N			
Iso-Acetazone	N		WT02, WP01	E, A58, B407
Isobutyl Alcohol (Requires 3 Hazard Class Labels: 3, 6.1, 8)	N	D001, D002	WT02	D, A58, B219
Japanese Encephalitis Virus Vaccine (Company: Connaught Lab.)	N	D009		
Kinevac (Sincalide)	N		WT02	D, A58, B316
Lanoxin/Digoxin	N	D001		D, A58, B219

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
LC-65 Daily Contact Lens Cleaner (Company: Allergan Inc.)	Y	D009		
Lead Atomic Absorption Standard Solution	N	D002, D008	WT02	D, A58, B103
Lens Lubricant-Soft Lenses (Company: Bausch & Lomb)	Y	D009		
Leukeran	N	U035		
Lidocaine Hydrochloride Injection	N		WT02	D, A58, B219
Lindane	N	U129		
Linx Eye Wash (Company: Akorn Inc.)	Y	D009		
Liposomal	N	U059		
Liquid Mercury Thermometer	Y	D009		
L-Pam	N	U150		
Long Acting Decongestant Nasal Spray (Company: Publix Supermarket)	U			
Long Acting Nasal Spray (Company: Bergen Brunswig, Dorex International Corp., Federated Foods, Hi Tech Pharmacal Co., Meyers Supply Inc. and Weeks and Leo Co. Inc.)	Y	D009		
Long Acting Nasal Spray (Company: Family Independent Pharmacy, Navresso, Publix Inc. and Super Lab.)	U			
Long Acting Nasal Spray Koler LA (Company: Drug Guild Distributors)	Y	D009		
Long Lasting Nasal Spray (Company: Appletree Markets)	U			
Long Lasting Nasal Spray Pump (Company: Medalist Lab.)	U	D009		
Loperamide HCL Tablets	N		WP02	D, A58, B407
Lubrasedic- Discontinued (Company: Guardian Chem.)	Y	D009		
Lysostaphin (From Staphylococcus Staphylolyticus)	N		WT02	D, A58, B409
Maleic Acid, Diethyl Ester (Diethyl Maleate)	N		WT02	D, A58, B219
Maleic Anhydride	N	U147		
Manometer with Mercury	Y	D009		D
Mechlorethamine HCL	N		WT02, WP01	E, A58, B407
Meclizine Hydrochloride	N		WP01	D, A58, B409
Melphalan	N	U150		

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Meningococcal Polysacc Vacc Groups A, C, Y, W-135 Combined (Company: Adventis)	U			
Meningococcal Vacc A, C, Y, W-135 (Brand Name: Menomune-A/C/Y/W/135; Company: Allscrips and Pasteur Merieux)	Y	D009		
Meningococcal Vaccine Groups (Diluent) (Company: Connaught Lab.)	Y	D009		
Menthol	N		WT02	D, A58, B409
Meomune-A/C/Y/W 135 (Company: Allscrips and Pasteur Merieux)	Y	D009		
Merbromin (Brand Name/Company: Merbromin/A-A Spectrum, Amend, Gallipot, Medisca Inc., Meridian Chem. and Spectrum Quality Products_ Mercurochrome/Bindly Western, Brite Life, Cumberland Mfg., Eckerd, Humco Lab, Longs Drug Store, McKesson Drug, Medalist, Medis Biligual, Rite Aid Corp. and Sav-On.	Y	U151, D009		
Mercaptopurine (Brand Name: Purenithol; Company: Burroughs Well and Glaxo Pharm.)	U			
Mercuric Bichloride (Company: Amend)	Y	U151, D009		
Mercuric Chloride (Company: A-A Spectrum and JT Baker)	Y	U151, D009		
Mercuric Chloride Ammoniated (Company: A-A Spectrum)	Y	U151, D009		
Mercuric Oxide (Mercury Zinc) Battery	Y	D009		
Mercuric Oxide, Yellow (Company: A-A Spectrum, Amend, JT Baker and Spectrum Quality Products)	Y	U151, D009		
Mercurochrome	Y	D009, U151		D
Mercurochrome (Company: Bindly Western, Brite Life, Cumberland Mfg., Eckerd, Humco Lab, Longs Drug Store, McKesson Drug, Medalist, Medis Biligual, Rite Aid Corp., Sav-On	Y	U151, D009		
Mercurochrome Aqueous Solution (Company: Harco Drug and K and B Distributors)	Y	D009		
Mercurochrome NF 12 100% (Company: LS Raw Materials Ltd.)	Y	D009, U151		
Mercurous Chloride (Company: A-A Spectrum)	Y	U151, D009		
Mercury (Company: Amend, JT Baker and M' Ckrodt Spec	Y	U151, D009		

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Mercury (II) Chloride	Y	D009		D
Mercury Battery	Y	D009		D
Mercury Bichloride (Brand Name/Company: Humphrey's "30" Irrigant for Bladder/Humphrey's Labs_ Mercuric Bichloride/ Amend_ Mercuric Chloride/ A-A Sepctrum and JT Baker_ Mercuric Chloride Ammoniated/ A-A Spectrum_ Mercurous Chloride/ A-A Spectrum)	Y	D009		
Mercury Chloride	Y	D009, U151		D
Mercury Iodide	Y	D009, U151		D
Mercury Nitrate	Y	D009		D
Mercury Salts (Brand Name/Company: Mercury, Triple Distilled/ A-A Spectrum and JT Baker_ Mercury/Amend, JT Baker and M'CKrodt Spec)	Y	U151, D009		
Mercury (II) Sulfate	Y	D009, U151		D
Mercury, Triple Distilled (Company: A-A Spectrum and JT Baker)	Y	U151, D009		
Mercury, Ammoniated (Company: A-A Spectrum, Amend, JT Baker and M'CKrodt Spec)	Y	U151, D009		
Mercury-Filled Pressure Gauge	Y	D009		D
Mercury-Filled Regulator	Y	D009		D
Mercury-Wetted Reed Relay Switch	Y	D009		D
Mersol (Company: Century Pharm.)	Y	U151, D009		
Merthiolate (Company: Dolder LTD. and James Alexander)	Y	U151, D009		
Methanol	N	U154		
Methen SFS/C-T/Ammoniated Mercury (Brand Name: Unguentum Bossi; Company: Doak Derm.)	Y	D009		
Methotrexate Sodium Injection	N		WT02	D, A58, B219
3-Methylchloranthrene	N	U157		
Methylpyrilene	N	U155		
Methylthiouracil	N	U164		
Metoclopramide	N		WP01	E, A58, B409
Metriguard Disinfectant/Decontaminant Cleaner (DIIIsobutylphenoxy Ethoz)	N	D001		D, A58, B201

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Metronidazole Injection, USP	N		WT02	D, A58, B219
Metronidazole Tablets	N		WT02	D, A58, B409
Micatin Spray Powder	N	D001	WP01	E, A58, B801
Microhogam (Company: Ortho Diag.)	Y	D009		
Miller Abbott Tube Weighted with Mercury	Y	D009		D
Millon's Reagent	Y	D009		D
Mini-Gamulin RH (Company: Centeon)	Y	D009		
Mitomycin (Chemo Drug)	N	U010	WT02	D, A58, B219
Mitomycin C (Chemo Drug)	N	U010		
Mononine (Company: Centeon)	Y	D009		
MSTA (Company: Allscrips, Connaught Lab and Pasteur Merieux)	Y	D009		
Mucicarmine Stock Solution	N	D001		D, A58, B207
Mucolexx	Y	D009		D
Mumps Skin Test Antigen (Brand Name: MST A; Company: Allscrips, Connaught Lab and Pasteur Merieux)	Y	D009		
Mutamycin	N	U010		
Mycelex (Clotrimazole)	N		WT02, WP02	D, A58, B219
Myeloperoxidase Stain, Incubation Mixture	N		WT02	A, A58, B207
N,N – Methylene Bisacrylamide, 2551	N		WT02	D, A58, B409
Nalidixic Acid	N		WT02	D, A58, B409
Naphthalene	N	U165		
Nasal Moisturizer (Company: Bayer, Inc.)	Y	P092, D009		
Nasal Pump Spray (Company: Leader)	U			
Nasal Relief 12 Hour Spray (Company: Altaire Pharm.)	Y	D009		
Nasal Spray (Company: Clay-Park Labs, Family Pharmacy, Full Value, Kroger Co., Perrigo Co., Reese Pharm. Co. and Rexall Managed)	Y	D009		
Nasal Spray Extended Relief (Company: Hudson Corp.)	U			
Nasal Spray Pump (Company: CVS)—Contains Mercury	Y	D009		
Nasal Spray Pump (Company: Foxmeyer Drug Co. and Longs Drug Store)	U			

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Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Nasal Spray Pump Formula (Company: Thrifty Payless Inc.)	U			
Nasal Spray Solution (Company: Qualitest Pharmaceuticals)	U			
Nasin Long Acting Nasal Spray (Company: Global Source)	U			
Navelbine Injection (Vinorelbine Ttrate)	N		WT02	D, A58, B102
N-Butyl Alcohol	N	U031		
Neo Poly with HC Otic Suspension (Company: Pharmedix)	Y	D009		
Neocidin (Company: Major Pharm.)	Y	D009		
Neomy and Poly B Sulfates and HC Otic Suspension	Y	D009	WT02	D, A58, B219
Neomy Poly B Sulfates Gramacidin Ophthalmic Solution (Company: United Research Labs)	Y	D009		
Neomy Sulfate/Bacitracin ZN/Poly/HC (Brand Name: AK-Spore HC; Company: Akorn Inc. and Allscrips)	Y	D009		
Neomy Sulfate/Colistin Sulfate/HC (Brand Name: Coly-Mycin S; Company: Monarch Pharm.)	Y	D009		
Neomy Sulfate/Gramicidin D/Poly (Brand Name/Company: AK-Spore/Akorn Inc. and Allscrips_ Neocidin/Major Pharm._ Neomycin-Polymyxin-Gramicidin/Aligen, E. Fougera & Co., Rugby, Schein, Steris and United Research_ Neoptic/Qualitest_ Neosporin/Burroughs Well and Monarch Pharm.)_ Ocutricin/Bausch and Lomb_ P.N./ Geneva Pharm._ Triple Antibiotic/HL Moore)	Y	D009		
Neomy Sulfate/Poly B Sulfate (Brand Name: Neosporin G.U. Irrigant; Company: Burroughs Well)	Y	D009		
Neomy Sulfate/Poly B Sulfate/HC (Brand Name/Company: AK-Spore HC/Akorn Inc._ Antibiotic Ear Suspension/Rugby and United Research_ Antibiotic HC/Qualitest_ Bio-Cot Otic Suspension/C.O. Truxton Inc._ Cortatrigen/Goldline Drug_ Cortomycin/Major Pharm._ Neomycin-Polymyxin-HC/E. Fougera & Co., HL Moore, Schein, Steris and United Research_ Octicair/Bausch & Lomb_ Otocort/Teva USA)	Y	D009		
Neomy Sulfate/Polymyx B Sulfate/Pred (Brand Name: Poly-Pred; Company: Allergan America and Allergan Inc.)	Y	D009		

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Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Neomy/Poly B Gramacidin Ophthalmic Solution (Company: DRX Pharmaceutical)	Y	D009		
Neomy/Poly B Hydrocortisone Otic Suspension (Company: DRX Pharmaceutical)	Y	D009		
Neomy/Poly B Sulfate Hydrocortisone Ophthalmic Suspension (Company: DRX Pharmaceutical, King Pharmaceuticals and Physicians Total Care Inc.)	U			
Neomy/Poly B Sulfate Hydrocortisone Otic Suspension (Company: Sight Pharmaceuticals)	U			
Neomycin/Polymyxin/HC (Company: E. Fougera & Co., HL Moore, Schein, Steris and United Research)	Y	D009		
Neomycin-Polymyxin-Gramacidin (Company: Aligen, E. Fougera & Co., Rugby, Schein, Steris and United Research)	Y	D009		
Neoptic (Company: Qualitest)	Y	D009		
Neosar	N	U058		
Neosporin (Company: Burroughs Well and Monarch Pharm.)	Y	D009		
Neosporin G.U. Irrigant (Company: Burroughs Well)	Y	D009		
Neosporin Ophthalmic Suspension (Company: King Pharm.)	Y	D009		
Neo-Synephrine (Company: Bayer Inc. and Winthrop Cons.)	Y	P092, D009		
Neo-Synephrine 12 Hour (Company: Bayer Inc.)	Y	D009		
Neo-Synephrine Mild Formula (Company: Bayer Inc.)	Y	P092, D009		
Neo-Synephrine Pediatric (Company: Bayer Inc.)	Y	P092, D009		
Nessler's Solution	Y	D009		D
N-Ethylmaleimide	N		WT02, WSC2	D, A58, B409
Nicotine	N	P075		
Nitroglycerin Capsules	N	P081	WT02	D, A58, B409
Nitroglycerin Injection	N	D001, P081		D, A58, B219
Nitroglycerin Ligual Aerosol (0.07%)	N	P081	WP01	E, A58, B801
Norinyl Tablets (Norethindrone)	N		WT02	D, A58, B409
Normal Horse Serum (1:10 Dilution) (Company: Wyeth Lab.)	Y	D009		

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NTZ Long Acting (Company: Bayer Inc.)	Y	D009		
Nystatin and Triamcindone Cream	N		WP02	D, A58, B219
Oticair (Company: Bausch & Lomb)	Y	D009		
Ocufen (Company: Allscrips and Southwood Pharm.)	Y	D009		
Ocufen Ophthalmic Solution (Company: Allergan America and Physicians Total Care Inc.)	Y	D009		
Ocutricin (Company: Bausch & Lomb)	Y	D009		
Ocutricin Ophthalmic Solution (Company: Cheshire Pharm.)	Y	D009		
Ohlamacher	Y	D009		
Optical Lense Cleaning Compound (Ethyl Alcohol, methyl alcohol)	N	D001		
Opti-Clean Daily Cleaner (Company: Alcon Vision)	Y	D009		
Optiray 160	N		WP01	E, A58, B219
Ortho-Phthalaldehyde 0.55% (Brand Name: Cidex OPA; Company: Advanced Sterilization Processes)	N		WT02	D, A58, B207
Oticin HC Otic Suspension (Company: Teral Lab.)	Y	D009		
Oti-Med (Company: Hyrex Co.)	Y	D009		
Otocort (Company: Teva USA)	Y	D009		
Otocort Otic Suspension (Company: Cheshire Pharmaceuticals)	Y	D009		
Otomar HC (Company: Marnel Pharm.)	Y	D009		
Otozone (Company: R.A. MC Neil Co.)	Y	D009		
Oxilan (Ioxilan Injections)	N		WP01	E, A58, B219
Oxymeta-12 (Company: Schein)	Y	D009		

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Oxymetazoline HCL (Brand Name/Company: 12 Hour Nasal Spray/ American Pharm. and Rexall Generic_ Afrin/Schering-Plough_ Brite Life 12 Hour Nasal Spray/Brite Life_ Cheracol Nasal/Robert's Pharm._ Dristan/Whitehall-ROB_ Duration/Schering Plough_ Duration Nasal/Schering-Plough_ Full Value Nasal Spray/Foxmeyer_ Genasal LA/Goldline Drug_ GNP 12 Hour Nasal Spray/Good Neighbor_ Good Sense Nasal Spray/Perrigo Co._ Health Mart Nasal Spray Pump/Health Mart_ Long Acting Nasal Spray/Bergen Bruswig_ Nasal Spray/ClayPark Labs, Family Pharmacy, Full Value, Kroger Co., Perrigo Co., Reese Pharm. Co. and Rexall Managed_ Nasal Spray Pump/CVS_ Neo- Synephrine 12 Hour/Bayer Inc._NTZ Long Acting/ Bayer Inc. and Sterling Health_ Oxymeta-12/Schein_ Oxymetazoline HCL/Barre Drug Co., HL Moore, Taro Pharm. USA and UDL_ Oxymetazoline Nasal Spray/ American Assn. Retired Persons and Harris-Teeter_ Twice-A-Day Nasal Spray/Major Pharm.)	Y	D009		
Oxymetazoline HCL/Menthol (Brand Name: Afrin with Menthol; Company: Schering Plough)	Y	D009		
Oxymetazoline Nasal Spray (Company: American Assn. Retired Persons, Harris-Teeter, Kinray and Parade Grocer's Supply)	Y	D009		
P.N. (Company: Geneva Pharm.)	Y	D009		
Papaverine with Phentolamine	N		WT02	D, A58, B219
Paraldehyde	N	U182		
P-Chloro-M-Cresol	N	U039		
Pediotic Otic Suspension (Company: DRX Pharm.)	Y	D009		
Pediotic Suspension (Company: King Pharmaceuticals)	Y	D009		
Penicillin G, Procaine Suspension for Injection	N		WT02	D, A58, B219
Perc (Tetrachloroethylene)	N	D039, U210		D
Pert Vaccine Adsorbed (Company: Bioport Corporation)	Y	D009		
Phenacetin	N	U187		
Phenazopyridine HCL	N		WT02	D, A58, B119
Phenobarbital (Belladonna)	N		WT02	D, A58, B219

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Phenol	N	U188		
Phenol Liquid/P-Mercury Nitrate- Discontinued (Brand Name: Lubraseptic; Company: Guardian Chem.)	Y	D009		
Phenol Red (Phenolsulfonphthalein)	N		WT02	D, A58, B409
Phentermine	N	P046		
Phenyl Isothiocyanate (Protein Sequencing)	N	D002		D, A58, B219
Phenylephrine HCl Ophthalmic Solution 10%	U			
Phenylephrine HCL	N		WT02	D, A58, B409
Phenylephrine HCL (Brand Name/Company: Neo-Synephrine Mild Formula/Bayer Inc._ Neo-Synephrine Pediatric/Bayer Inc._ Neo-Synephrine/Bayer Inc. and Winthrop Cons.)	Y	P092, D009		
Phenylephrine HCL/Benzocaine/Bismuth Subgel/Zinc Oxide (Brand Name: Rectagene; manufactured and/or distributed by Pfeiffer Co.)	Y	P092, D009		
Phenylephrine HCL/Phenir MAL M (Brand Name: Dristan; Manufactured and/or Distributed by Whitehall Lab.)	Y	D009		
Phenylephrine HCL/Shark Liver (Brand Name: Preparation H; Manufactured and/or Distributed by Whitehall-Rob)	Y	P092, D009		
Phenylmercuric Acetate	Y	P092, D009		D
Phenytoin Sodium, Injection, USP	N		WT02	D, A58, B207
Phisohex Disinfectant [Hexachlorophene]	N	U132	WT02, WP01	E, A58, B219
Phosphodiesterase I Type IV (Rattlesnake Venom)	N		WT01	E, A58, B409
Physotigmine	N	P204		
Physotigmine Salicylate				
Ping on Topical Ointment (Company: Ping On Ointment Co. Ltd.)	U			
Piroxicam Capsules (20mg)	N		WT02	D, A58, B409
Plantinol (Diaminedichloroplatinum .1%, Mannitol 1.5%)	N		WT01	E, A58, B319
Pneumococcal 23-Valent Poly-Sacc Vacc (Brand Name: PNU-Imune 23; Company: Wyeth-Ayerst)	Y	D009		
Pneumococcal 7-Valent Conj-Dip CRM (Brand Name: Prevnar; Company: Allscrips)	U			

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
PNU-Immune 23 (Company: Wyeth-Ayerst)	Y	D009		
Poliomyelitis Vacc, Killed (Brand Name: Poliovax; Company: Pasteur Merieux)	U			
Poliovax (Company: Pasteur Merieux)	U			
Polymyxin B Sulfate (Brand Name: Otocort Otic Suspension; Company: Cheshire Pharmaceuticals)	Y	D009		
Poly-Pred (Company: Allergan America and Allergan Inc.)	Y	D009		
Potassium Chloride Solution (10%)	N		WT02	D, A58, B114
Potassium Oxalate Test Tube	N		WT02	D, A58, B409
Potassium Silver Cyanide	N	P099		
Potassium Sorbate	N		WT02	D, A58, B409
Prep Hem (Company: HL Moore)	U			
Preparation H (Company: Qualitest)	U			
Preparation H (Company: Whitehall-Rob)	Y	P092, D009		
Prep-Hem (Company: Clay-Parks Labs)	U			
Pretz (Company: Parnell Pharm.)	Y	P092, D009		
Prevnar (Company: Allscrips)	U			
Probenecid Tablets	N		WT02	D, A58, B409
Procainamide HCL (Injection) 100 mg/ml	N		WT02	D, A58, B219
Prochlorperazine (Edisylate Injectable)	N		WT02	D, A58, B219
Procofen Ophthalmic Solution (Company: USCO Logistics)	Y	D009		
Proctocain (Company: Great Southern)	U			
Procytox	N	U058		
Profenal (Company: Alcon Surgical and USCO Logistics)	Y	D009		
Prohibit (Company: Pasteur Merieux)	Y	D009		
Prompt Relief (Company: Goldline Drug and Ivax-Goldline)	U			
Proparacaine HCL/Fluorescein (Brand Name: Fluorocaine; Company: Akorn Inc.)	Y	D009		
Propodium Iodide	N		WP01	E, A58, B409
Proventil Inhaler	N		WT02, WP01	E, A58, B219

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Pseudourea, (2-Aminoethyl) -2-Thio-, Dihydrobromide	N		WT02	D, A58, B409
Purinethol (Company: Burroughs Well and Glaxo Pharm.)	U			
Pyridostigmine Bromide	N		WT01	E, A58, B409
R P R Card Antigen Suspension (Syphilis Card Test)	N		WT02	D, A58, B219
Rabavert (Company: Chiron Thera)—Contains Mercury	U			
Rabies Immune Globulin/Thimer (Brand Name/Company: Bayrab/ Bayer Biologic_ Hyperab/Bayer Biologic_ Ingoman Rabies/ Pasteur Merieux)	Y	D009		
Rabies Vacc Adsorbed (Company: Bioport Corporation)	Y	D009		
Rabies Vacc, Human Diploid (Brand Name: Imovax Rabies I.D.; Company: Allscrips)	U			
Rabies Vacc, PF Chick-Embryo Cell (Brand Name: RABAVert; Company: Chiron Thera)	U			
Ranitidine HCL Tablets	N		WT02	D, A58, B409
Rattlesnake Venom (Phosphodiesterase I Type IV)	N		WT01	E, A58, B409
Recombivax HB (Company: Allscrips, Merck & Co. and Physicians TC)	U			
Recombivax HB Adult (Company: Merck & Co.)	Y	D009		
Rectagene (Company: Pfeiffer Co.)	Y	P092, D009		
Rector X (Company: Rose Labs)	U			
Red Cell Fixing Solution	N	D001		D, A58, B219
Reserpine	N	U200		
Resorcinol	N	U201		
RHO (D) Immune Globulin (Brand Name/Company: Gamulin RH/ Ceneon_ Hyprho-D/Bayer Biologic_ Microhogam/Ortho Diag._ Mini- Gamulin RH/Centeon_Rho (D) Immune Globulin/Ortho-Clinical Diagnostics_ Rhogam/Ortho Diag.)	Y	D009		
Rhogam (Company: Ortho diag.)	Y	D009		
RNA-DNA Extractions	N	D022	WT02, WP01	E, A94, B219
Rocall II Sanitizing Agent/Germicide (Mixture Alkyl Ammonium Chloride)	N		WT02	D, A58, B114

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Rubidomycin	N	U059		
Saccharin	N	U202		
Salicylic Acid	N	D001	WT02	D, A58, B219
Salicylic Acid, Solid	N		WT02	D, A58, B409
Salicylic Acid/Ammoniated Mercury (Brand Name Emersal; Company: Medco Labs)	Y	D009		
SB Hemorrhoid (Company: Select Brand)	U			
Schiffs Reagent for Aldehydes (Pararosaniline Chloride, Hydrochloric Acid)	N	D002	WT02	D, A58, B105
Selenium Sulfide	N	U205		
Senekot Tablets (Arthrocin, 1H-Indene-3-Acetic Acid)	N		WT02	D, A58, B409
Sevoflurane	N		WP01	E, A58, B219
Shardin	Y	D009		DW
Shark Liver/Diper/Mercury Salts- Discontinued (Brand Name: Hemorrhoid Preparation; Company: Rugby)	Y	P092, D009		
Silver Nitrate Applicators [Potassium Nitrate]	N	D001, D011	WT02	D, A58, B319
Silver Nitrate Solution – 1%	N	D011		D, A58, B114
Skin Refrigerant (Dichlorotetrafluoroethane)	N		WP01	E, A58, B801
Slide Stainer, Non-Gyn, Hema 3 Fixative	N		WT02	D, A94, B207
Soaclens (Company: Alcon Vision)	Y	D009		
Sodium Azide	N	P105		
Sodium Cephazolin	N		WT02	D, A58, B409
Sodium Chloride (Brand Name/Company: Adsorbonac/Alcon (P.R.)_ Afrin Nasal Saline Mist/Schering-Plough_ AYR Saline/Ascher, B.F. & Co._ Nasal Moisturizer/Bayer Inc.)	Y	D009		
Sodium Chloride/Yerba Santa/Glycerin (Brand Name: Pretz; Manufactured and/or Distributed by Parnell Pharm.)	Y	P092, D009		
Sodium Nitroprusside Injection (3%)	N	D003	WT02	D, A58, B119
Soft Mate Consept-1 (Company: Allergan Inc.)	Y	D009		
Somatostatin (Solid)	N		WT02	A, A58, B409

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Sphygmomanometer with Mercury	Y	D009		D
Spray-Cyte (Isopropanol Aerosol)	N	D001	WT02	D, A58, B203
SRF/Shark Liver Oil (Brand Name: Preparation H; Company: Whitehall Lab.)	Y	P092, D009		
SRF/Shark Liver Oil/Merc Salts (Brand Name/Company: Formulation-R/G&W Labs_ Hemorrhoid/Leader_ Hemorrhoidal/ Bergen Brunswick, Bio-Pharm Inc., Brite Life, Clay-Park Labs, Foxmeyer, Full Value, Goldline Drug, Good Neighbor, HL Moore, Longs Drug Store, McKesson Drug, Medalist, Medicine Shop, Perrigo Co., Qualitest, The Hudson Corp., Thrifty Drug, TopCo, Valu-Rite Pharm._ Hemorrhoidal Prep/Global Source_ Hemorrhoidal Suppositories/ Walsh Distrib_ HM Hemorrhoidal/ Generamed Inc._ Prep Hem/HL Moore_ Preparation H/Qualitest_ Prep-Hem/Clay-Parks Labs_ Proctocain/Great Southern_ Prompt Relief/Goldline Drug and Ivax-Goldline_ Rector X/Rose Labs_ SB Hemorrhoid/Select Brand)	U			
SRF/Shark Liver Oil/Merc Salts- Discontinued (Brand Name: Hemorrhoid Preparation; Company: Rugby)	U			
SRF/Shark Liver Oil/Merc Salts- Mercury Free in 2005 (Brand Name: Hemorrhoidal; Company: Rite Aid Corp.)	U			
Stabilur Tube	Y	D009		D
Stain, Bone Marrow, Automatic Process [Methanol]	N	D001, F003	WT02	D, A94, B219
Stainer, Non-gyn Papslide, Alcohols and Stains	N	D001	WT02	D, A94, B203
Stainer, Non-gyn Papslide, Manual, Clearite and Stains	N	D001		D, A94, B203
Stainer, Slide Processing, Automatic [Xylene and Stains]	N	D001, F003	WT02	D, A94, B219
Still Bottoms From Ethyl Alcohol Waste	N	D001		D, A73, B602
Still Bottoms From Xylene Still	N	D001, F003	WT02	D, A73, B602
Streptozocin	N	U206		
Streptozotocin	N	U206		
Strychnine	N	P108		
Stye (Company: Del Pharm.)—Contains Mercury	U			
Sulf-10 (Company: Ciba Vision OPH and Novartic Ophthal)	Y	D009		

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Sulf-10 Ophthalmic Solution (US Ophthalmics)	U			
Sulfacetamide Sodium (Brand Name/Company: Blephamide SOP Ophthalmic Ointment/Allergan Inc._ Blephamide Ophthalmic Ointment/DRX Pharmaceutical_Bleph/Southwood Pharm._Bleph-10/Allergan Inc., Pharma PAC and Southwood Pharm._ Sulf-10/Ciba Vision OPH/Novartis Ophthal)	Y	D009		
Sulfacetimide with Prednisolone (Brand/Company: Sulfacetamide with Prednisolone/Aligen, Bausch & Lomb, E. Fougere & Co., HL Moore, Major Pharm., Rugby, Schein, Sight Pharm. and Steris_Sulster/Akorn_ Supred/Ocusoft_ Vasocidin/Ciba Vision OPH and DRX Pharmaceuticals)	Y	D009		
Sulfamethoxazole and Trimethoprim	N		WT02	D, A58, B409
Sulfapred Ophthalmic Solution (Company: Cheshire Pharm.)	Y	D009		
Sulster (Company: Akorn Inc.)	Y	D009		
Sunscreen Lotion [Ethyl Alcohol, P-Amino Benzoic Acid, P-Octyl Diemthy	N	D001		D, A58, B219
Supred (Company: Ocusoft)	Y	D009		
Suprofen (Brand Name: Profenal; Company: Alcon Surgical)	Y	D009		
Takata's Reagent	Y	D009		D
Taro Nasal Decongestant Spray (Company: Taro Pharm.)	Y	D009		
Taxol Injection	N	D001		D, A58, B219
TE Anatoxal Berna (Company: Berna Products)	Y	D009		
Test Kit, Occult, Blood Determination	N	D001		D, A58, B203
Testosterone Injection Suspension 100mg (Company: Martin Surgical Supply)	U			
Testosterone Injection Suspension 50mg (Company: Martin Surgical Supply and Primedics Laboratories)	Y	D009		
Tet, Dip Toxoid Adsorbed for Adult Use (Company: Massachusetts Public Health Biologic Labs)	Y	D009		
Tetanus Immune Globulin (Brand Name/Company: Baytet/Allscrips_Hyper-Tet/Bayer Biologic)	Y	D009		

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A List of Dangerous Waste in Hospitals

Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Tetanus Toxoid, For Booster Use Only (Company Connaught Lab.)	Y	D009		
Tetanus Toxoid, Adsorbed (Company: Allscrips, Bioport Corp., Connaught Lab., Medeval Pharm., Pasteur Merieux, Physicians TC, Sclavo Inc. and Wyeth-Ayerst)	Y	D009		
Tetanus Toxoid, Fluid (Company: Allscrips, Medeva Pharm., Pasteur Merieux and Physicians TC)	Y	D009		
Tetanus, Diphtheria Toxoid (Company: Advent, Allscrips, Compumed Inc., Connaught Labs, Medeva Pharm., Pasteur Merieux, Physicians TC, Sclavo and Wyeth-Ayerst)	Y	D009		
Tetanus, Diphtheria Toxoid Pediatric (Company: Allscrips)	U			
Tetanus, Diphtheria Toxoid Pediatric (Company: Medeva Pharm. and Sclavo Inc.)	Y	D009		
Tetanus, Diphtheria Toxoid Pediatric Through June 2003 (Company: Pasteur Merieux)	U			
Tetracaine Hydrochloride (0.5%)	N		WT02	D, A58, B409
Tetracaine/Menth/Znox/Ichtham (Brand Name: Burn Ointment; Company: Clay-Park Labs.)	Y	P092, D009		
Tetrachloroethylene (Perc)	N	D039, U210		D
Tetramune (Company: Physicians TC)	U			
Tetramune 10 Dose (Company: Wyeth-Ayerst)	Y	U151, D009		
Thalidomide (2-Phthalimidoglutaramide)	N		WT02	D, A58, B409
Theophylline Anhydrous	N		WT02	D, A58, B409
Thermostat Mercury Probe	Y	D009		D
Thermostat with Mercury Tilt Switches	Y	D009		D
Thimerisol (aka Thimerosal) (Brand Name/Company: Mersol/Century Pharm._ Merthiolate/Dolder LTD and James Alexander_ Thimerosal/ A-A Spectrum, Amend American International Chemical, Dysers Sal, Gallipot, Medisca Inc. and Spectrum Quality Products)	Y	U151, D009		
Thimerosal USP 97% (Company: American International Chemical and Omicron Quimica SA)	Y	U151, D009		

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Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Thin Prep 2000 Stain, Used	N	D001		D, A94, B219
Thioguanine Tablets	N		WT02	D, A58, B409
Thiram	N	U244		
Thyrosine – Sodium Salt	N		WT02	D, A58, B409
Tice BCG Vaccine (Company: Organon Pharm.)	Y	D009		
Tissue Marking Dye	N	D001	WT02	D, A58, B219
Tissue Processor, Automatic, Alcohol Wastes	N	D001, F003	WT02	D, A94, B219
Tissue Processor, Automatic, Xylene Waste	N	D001, F003	WT02	D, A94, B219
TOR II Germicidal Disinfectant	N		WT02	D, A58, B219
Triamcinolone Acetonide Cream	N		WT02, WP02	D, A58, B407
Tribiotic Ophthalmic Solution (Company: Vedco Inc.)	U			
Trichloroethylene	N	U228		
Trichrome Stain & Examination [Ethyl Alcohol]	N	D001	WT02	D, A94, B219
Trichrome Stain & Examination [Xylene Step]	N	D001	WT02	D, A94, B219
Trifluridine (Brand Name/Company: Trifuridine/Schein_Vioptic/Burroughs Well and Monarch Pharmacy)	Y	D009		
Trihibit (Company: Pasteur Merieux)	Y	D009		
TRI-Immunol 15 Dose (Company: Wyeth-Ayerst)	Y	D009		
Tripedia (Company: Pasteur Merieux)	Y	D009		
Triple Antibiotic (Company: HL Moore)	Y	D009		
Triple Antibiotic Ophthalmic Solution (Company: Pharmedix)	Y	D009		
Trisenox	N	P012		
Triton X-100 – Mild Nonionic Detergent & Solubilizes Protein	N		WT02	D, A58, B219
Twice-A-Day Nasal Spray (Company: Major Pharm.)	Y	D009		
Typhoid Vacc, Liver, Attenuated (Brand Name: Vivotif Berna; Company: Berna Products)	U			
Unguentum Bossi (Company: Doak Derm.)	Y	D009		
Uracil Mustard	N	U237		
Urine Dipstick Control (Human Urine)	N		WT02	D, A58, B119

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Description	Contains Mercury?	EPA Waste Code(s)	WA Code(s)	Designated Waste Code(s)
Vancenase AQ Nasal Spray – Pocket Inhaler (Beclomethasone Dipropionate)	N		WT02, WP01	E, A58, B219
Vancomycin Hydrochloride (Injection)	N		WP01	E, A58, B409
Vasocidin Ophthalmic Solution (Company: Ciba Vision OPH, DRX Pharmaceuticals, Physicians Total Care Inc. and US Ophthalmics)	U			
Vecuronium Bromide	N		WT02	D, A58, B409
Verapamil HCL (Injection)	N		WT02	D, A58, B219
VI-Drape Surgical Film Adhesive, Aerosol (Solvent Propellant)	N	D001	WT02	D, A58, B210
Viroptic (Company: Burroughs Well and Monarch Pharm.)	Y	D009		
Viroptic Ophthalmic Solution (Company: King Pharm. and Physicians Total Care Inc.)	Y	D009		
Vivotif Berna (Company: Berna Products)	U			
Warfarin <0.3%	N	U248		
Warfarin >0.3%	N	P001		
Westcodyne	N	D002	WT02	A, A58, B105
Wright's Staining Solution	N	D001	WT02	D, A58, B203
Zanosar	N	U206		
Zenker's Solution	Y	D009		D
Zinc Sulfate/Mercury Oxide, Yellow/Boric Acid (Brand Name: Stye; Company: Del Pharm.)	U			

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Toxic Air Pollutants

CAS #	Substance	Class	Average Concentration Allowed ($\mu\text{g}/\text{m}^3$)	Time Period
71-55-6	1,1,1-Trichloroethane	B	6400	24 hour
79-00-5	1,1,2-Trichloroethane	B	180	24 hour
120-82-1	1,2,4-Trichlorobenzene	B	120	24 hour
95-50-1	1,2-Dichlorobenzene	B	1000	24 hour
107-06-2	1,2-Dichloroethane (ethylene chloride)	A		
106-46-7	1,4-Dichlorobenzene	A	1.50	1 year
95-95-4	2,4,5-Trichlorophenol	B		24 hour
111-76-2	2-Butoxyethanol	B	400	24 hour
75-07-0	Acetaldehyde	A	0.45	1 year
60-35-5	Acetamide	B		24 hour
64-19-7	Acetic acid	B	83.0	24 hour
108-24-7	Acetic Anhydride	B	67.0	24 hour
67-64-1	Acetone	B	5900	24 hour
79-06-1	Acrylamide	A	0.00077	1 year
309-00-2	Aldrin	A	0.0002	1 year
7429-90-5	Aluminum, as AL metal dust	B	33.0	24 hour
7664-41-7	Ammonia	B	100	24 hour
628-63-7	n-Amyl acetate	B	1800	24 hour
626-38-0	Sec-Amyl acetate	B	2200	24 hour
62-53-3	Aniline	A	6.30	1 year
62-53-3	Aniline & homologues	B	1.00	24 hour
C7440-36-0	Antimony & compounds as Sb	B	1.70	24 hour
1309-64-4	Antimony trioxide, as Sb	B	1.70	24 hour
C7440-38-2	Arsenic and inorganic arsenic compounds	A	0.00023	1 year
1332-21-4	Asbestos	A	0.0000044 (fibers/mL)	1 year
C7440-39-3	Barium, soluble compounds Ba	B	1.70	24 hour
71-43-2	Benzene	A	.012	1 year
50-32-8	Benzo(a)pyrene	A	0.00048	1 year
205-99-2	Benzo(b)fluoranthene	A		
205-82-3	Benzo(j)fluoranthene	A		
94-36-0	Benzoyl Peroxide	B	17.0	24 hour
C1303-96-4	Borates, anhydrous	B	3.30	24 hour
7726-95-6	Bromine	B	2.20	24 hour
7440-43-9	Cadmium and compounds	A	0.00056	1 year
1305-62-0	Calcium hydroxide	B	17.0	24 hour
1305-78-8	Calcium oxide	B	6.70	24 hour
1333-86-4	Carbon black	B	12.0	24 hour
75-15-0	Carbon disulfide	B	100	24 hour
56-23-5	Carbon tetrachloride	A	0.067	1 year
120-80-9	Catechol	B	77.0	24 hour
7782-50-5	Chlorine	B	5.00	24 hour
107-20-0	Chloroacetaldehyde	B	11.0	24 hour
75-45-6	Chlorodifluoromethane	B	12000	24 hour
67-66-3	Chloroform	A	0.043	1 year
108-43-0	Chlorophenols	A		
C7440-47-3	Chromium (II) compounds as Cr	B	1.70	24 hour
C7440-47-3	Chromium (III) compounds, Cr	B	1.70	24 hour

CAS #	Substance	Class	Average Concentration Allowed (µg/m3)	Time Period
7440-47-3	Chromium (metal)	B	1.70	24 hour
C7440-47-3	Chromium, hexavalent metal and compounds	A	0.000083	1 year
C7440-50-8	Copper, Dusts and mists, as Cu	B	3.30	24 hour
7440-50-8	Copper, Fume	B	0.67	24 hour
51-12-5	Cyanides, as CN	B	17.0	24 hour
110-82-7	Cyclohexane	B	3400	24 hour
106-93-4	Dibromethane	A	0.0045	1 year
95-50-1	o-Dichlorobenzene (1,2-Dichlorobenzene)	B	1000	24 hour
106-46-7	1,4-Dichlorobenzene	A	1.50	1 year
107-06-2	1,2-Dichloroethane (ethylene chloride)	A		
75-09-2	Dichloromethane (methylene chloride)	A		
109-89-7	Diethylamine	B	100	24 hour
528-29-0	Dinitrobenzene, all isomers	B	3.30	24 hour
64-17-5	Ethyl alcohol	B	6300	24 hour
74-96-4	Ethyl bromide	B	3000	24 hour
60-29-7	Ethyl ether	B	4000	24 hour
107-06-2	Ethylene chloride	A		
106-93-4	Ethylene dibromide (dibromethane)	A	0.0045	1 year
75-21-8	Ethylene oxide	A	0.01	1 year
50-00-0	Formaldehyde	A	0.077	1 year
64-18-6	Formic acid	B	31.0	24 hour
111-30-8	Glutaraldehyde	B	2.50	24 hour
58-89-9	Hexacyclohexane (Lindane) gamma BHC	A	0.0026	1 year
100-54-3	Hexane (n-Hexane)	B	200	24 hour
	Hexane, other isomers	B	5900	24 hour
7647-01-0	Hydrogen chloride	B	7.00	24 hour
74-90-8	Hydrogen cyanide	B	37.0	24 hour
7664-39-3	Hydrogen fluoride, as F	B	8.70	24 hour
7722-84-1	Hydrogen peroxide	B	4.70	24 hour
123-31-9	Hydroquinone	B	6.70	24 hour
7553-56-2	Iodine	B	3.30	24 hour
75-47-8	Iodoform	B	33.0	24 hour
123-92-2	Isoamyl acetate	B	1700	24 hour
123-51-3	Isoamyl alcohol	B	1200	24 hour
110-19-0	Isobutyl acetate	B	2400	24 hour
67-63-0	Isopropyl alcohol	B	3300	24 hour
	Lead compounds	A	0.50	24 hour
58-89-9	Lindane	A	0.0026	1 year
C7439-97-6	Mercury, as Hg Alkyl compounds	B	0.33	24 hour
C7439-97-6	Mercury, vapors except alkyl	B	0.17	24 hour
67-56-1	Methyl alcohol	B	870	24 hour
74-87-3	Methyl chloride	B	340	24 hour

CAS #	Substance	Class	Average Concentration Allowed (µg/m3)	Time Period
71-55-6	Methyl chloroform (1,1,1-Trichloroethane)	B	6400	24 hour
78-93-3	Methyl ethyl ketone (MEK)	B	1000	24 hour
75-09-2	Methylene chloride	A		
628-63-7	n-Amyl acetate	B	1800	24 hour
8032-32-4	Naphtha (VM & P)	B	4600	24 hour
91-20-3	Napthalene	B	170	24 hour
C7440-02-0	Nickel and compounds (as nickel subsulfide or nickel)	A		
54-11-5	Nicotine	B	1.70	24 hour
7697-37-2	Nitric acid	B	17.0	24 hour
10102-43-9	Nitric oxide	B	100	24 hour
98-95-3	Nitrobenzene	B	1.70	24 hour
95-50-1	o-Dichlorobenzene (1,2-Dichlorobenzene)	B	1000	24 hour
95-53-4	o-Toluidine	A	0.14	1 year
56-38-2	Parathion	B	0.33	24 hour
82-68-8	Pentachloronitrobenzene (quintobenzene)	B	1.70	24 hour
87-86-5	Pentachlorophenol	A	0.33	1 year
127-18-4	Perchloroethylene (tetrachloroethylene)	A	1.10	1 year
108-95-2	Phenol	B	63.0	24 hour
7664-38-2	Phosphoric acid	B	3.30	24 hour
7723-14-0	Phosphorus	B	0.33	24 hour
88-89-1	Picric acid	B	0.33	24 hour
	Polyaromatic hydrocarbons (PAH)	A	0.00048	1 year
1336-36-3	Polychlorinated biphenyls (PCBs)	A		
79-09-4	Propionic acid	B	100	24 hour
106-51-4	Quinone	B	1.50	24 hour
82-68-8	Quintobenzene	B	1.70	24 hour
626-38-0	Sec-Amyl acetate	B	2200	24 hour
C7782-49-2	Selenium compounds, as Se	B	0.67	24 hour
7803-62-5	Silicon tetrahydride	B	22.0	24 hour
7440-22-4	Silver, Metal	B	0.33	24 hour
C7440-22-4	Silver, soluble compounds as Ag	B	0.033	24 hour
26628-22-8	Sodium azide	B	1.00	24 hour
1310-73-2	Sodium hydroxide	B	6.70	24 hour
7664-93-9	Sulfuric acid	B	3.30	24 hour
127-18-4	Tetrachloroethylene	A	1.10	1 year
7440-31-5	Tin, Metal	B	6.70	24 hour
C7440-31-5	Tin, Organic compounds, as Sn	B	0.33	24 hour
7440-31-5	Tin, oxide & inorganic except SnH4	B	6.70	24 hour
108-88-3	Toluene	B	400	24 hour
95-53-4	o-Toluidine	A	0.14	1 year
76-03-9	Trichloroacetic acid	B	22.0	24 hour

CAS #	Substance	Class	Average Concentration Allowed ($\mu\text{g}/\text{m}^3$)	Time Period
120-82-1	1,2,4-Trichlorobenzene	B	120	24 hour
71-55-6	1,1,1-Trichloroethane	B	6400	24 hour
79-00-5	1,1,2-Trichloroethane	B	180	24 hour
79-01-6	Trichloroethylene	A	0.59	1 year
75-69-4	Trichlorofluoromethane	B	19000	24 hour
2551-13-7	Trimethyl benzene	B	420	24 hour
C7440-33-7	Tungsten, Insoluble compounds	B	17.0	24 hour
C7440-33-7	Tungsten, Soluble compounds	B	3.30	24 hour
8006-64-2	Turpentine	B	1900	24 hour
8032-32-4	VM &P Naphtha	B	4600	24 hour
1330-20-7	Xylenes (m-,o-,p-isomers)	B	1500	24 hour

Biomedical Regulations

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SUMMARY OF BIOMEDICAL WASTE MANAGEMENT REQUIREMENTS IN WASHINGTON STATE

Prepared by the Washington State Department of Health
Last Update: October 2000

CHAPTER 70.95K RCW [BIOMEDICAL WASTE]

Summary: Chapter 70.95K RCW establishes a uniform statewide definition for biomedical waste. However, the statute does not prescribe a statewide program for biomedical waste management. (Please be aware that biomedical waste management programs are often instituted by local health departments under their solid waste rule writing authorities). This chapter also prescribes requirements for disposal of residential sharps.

- Contact: Wayne Turnberg, Washington State Department of Health - (206) 522-0132, [wayne.turnberg@doh.wa.gov]

CHAPTER 175, LAWS OF 1994 - ESHB 2401 [RESIDENTIAL SHARPS DISPOSAL]

Summary: Chapter 175 of the Washington Laws of 1994 (Engrossed Substitute House Bill 2401), restricts the disposal of residentially generated sharps into recycling containers at any time, or into the trash in those parts of the State that provide sharps collection services. The Department of Ecology must maintain a list of pharmacies that will accept home generated sharps for disposal. (ESHB 2401 sections 1,2,3,4, and 6 have been codified in the Revised Code of Washington at RCW 70.95K.010; 70.95K.030; 70.95K.040. ESHE3 2401 section 5 has been codified at RCW 70.95.715.)

- Policy Contact: Wayne Turnberg, Washington State Department of Health - (206) 522-0132
- List of Pharmacies Contact: Randy Martin, Washington Department of Ecology - (360) 407-6136

LOCAL INFECTIOUS WASTE MANAGEMENT PROGRAMS

Several local environmental health jurisdictions have incorporated biomedical waste management requirements/policies of varying levels of comprehensiveness and stringency. Local health jurisdictions with biomedical waste management regulations or policies include, but may not be limited to:

Bremerton-Kitsap County Health Department
Contact: Scott Daniels, (360) 692-3611

Skagit County Health District
Contact: Britt Pfaff, (360) 336-9380

Island County Health Department
Contact: Darlene Meyer, (360) 679-7350

Snohomish County Health Department
Contact: Solid Waste Specialist, (425) 339-5250

Lewis County Health District
Contact: Chris Cooper, (360) 740- 14 17

Spokane County Health Department
Contact: Steven Holderby, (509) 324-1560

San Juan County Health Department
Contact: Kay Kohler, (360) 378-4474

Tacoma-Pierce County Health Department
Contact: Solid Waste Specialist, (253) 798-6047

Seattle-King County Health Department
Contact: Eileen Hennessey, (206) 296-4831

Whatcom County Health Department
Contact: Regina Delahunt (360) 676-6724

Local Programs: Please note that in addition to this listing, other local health departments may have adopted locally initiated biomedical waste management requirements. To be certain, check with the environmental health office of the applicable local health jurisdiction to ensure the latest update on requirements. Phone numbers of the state's local health jurisdictions are included at the end of this summary document.

BLOODBORNE PATHOGEN SAFETY STANDARDS IN THE WORKPLACE

Washington State Department of Labor and Industries (L&I)

Reference: Occupational Exposure to Bloodborne Pathogens. Chapter 296-62 Part J WAC, WAC 296-62-08001 through WAC 296-62-08050.

Policy Issues Contact: Mary Miller, (L&I), (360) 902-5666

Compliance/Consultation Information: Contact your regional Department of Labor and Industries Service Center. Check the blue pages of your phonebook for local listings.

Summary: The standards, which incorporate those published by Federal OSHA at 29 CFR Part 1910.1030, prescribe occupational handling, packaging and labeling requirements for regulated waste.

BIOMEDICAL WASTE TRANSPORTATION

Washington Utilities and Transportation Commission (WUTC)

Biohazardous or Biomedical Waste Transportation:

Reference: Rules relating to the safe transportation of biohazardous or biomedical waste. (WAC 480-70-050, -500, -510, -530, -540, -550, -560, and -570).

Summary: The standard prescribes operational, training, packaging and containment, shipping paper, insurance, and accident reporting requirements for commercial transporters of biomedical waste under WUTC regulatory authority.

Contact: Cathy Anderson, (360) 664-1254 (WUTC).

Hazardous Materials (Regulated Medical Waste) Transportation:

Reference: WAC 480-14-390, incorporates federal transportation rules published at Title 49, Code of Federal Regulations, Parts 170-189 into State rule by reference

Summary: Enforced by the WUTC, the Washington State Patrol, and the US Department of Transportation (USDOT), the USDOT rules relate to the safe transportation of hazardous materials, including regulated medical waste, over the highways. The rules establish packaging, hazard communication, and tracking requirements.

Contact: Cathy Anderson, (360) 664-1254 (WUTC).

INCINERATOR OPERATOR CERTIFICATION

Washington Department of Ecology

Reference: Chapter 70.95D RCW [Solid Waste Incinerator and Landfill Operators]; Chapter 173-300 WAC [Certification of Operators of Solid Waste Incinerator and Landfill Facilities]

Summary: Chapter 70.95D RCW requires that all owners or operators of a solid waste incineration facility employ an operator that has been certified by the Department of Ecology. Chapter 173-300 WAC implements the statute.

Contact: Randy Martin, Washington State Department of Ecology, (360) 407-6136.

INCINERATOR BURN REQUIREMENTS

Reference: RCW 70.95.710, Incineration of Medical Waste

Summary: RCW 70.95.710 requires that medical waste incineration be conducted so that no portion of the combustible material is visible in its uncombusted state.

Contact: Randy Martin, Washington State Department of Ecology, (360) 407-6136.

MEDICAL WASTE INCINERATOR STANDARDS

Reference: 40 CFR Part 60 [Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Hospital/Medical/Infectious Waste Incinerators]

Summary: This USEPA standard promulgates new source performance standards and emission guidelines to reduce air emissions from hospital/medical/infectious waste incinerator(s) (HMIWI) by adding subpart Ec, standards of performance for new HMIWI, and subpart Ce, emission guidelines for existing HMIWI, to 40 CFR part 60.

Contact: Bernard Brady, Washington State Department of Ecology, (360) 407-6803

STATE OF OREGON REQUIREMENTS

Statute Reference: Oregon Laws of 1989, Chapter 763 - Codified at Oregon Revised Statutes, Chapter 459.

Rule Reference: Oregon Administrative Rules, Chapter 333, Division 18; Chapter 340, Division 61; and Chapter 860, Division 66.

Summary: The Oregon biomedical waste requirements must be observed by Washington State communities exporting waste to Oregon landfills, such as the City of Seattle. Oregon requirements apply to biomedical waste generated from medical facilities and from homes (e.g. insulin syringes).

Contacts:

Oregon Department of Health Infectious Waste Website: <http://www.oshd.org/acd/docs/infectw.htm>

General Issues - Oregon Health Division

- Contact: Dr. Fred Hoesley (503) 731-4024
frederick.c.hoesly@state.or.us

Transportation Issues - Oregon Department of Transportation, Motor Carrier Division

- Contact: Jess E. Brown (503) 378-3667
jess.e.brown@state.or.us

Disposal Issues - Oregon Department of Environmental Quality

- Contact: Julie Schmitt, Infectious/Medical Waste Coordinator (503) 229-6922
schmitt.julie@deq.state.or.us

UNITED STATES POSTAL SERVICE

Reference: 30 CFR Part 111 [Mailability of Sharps and Other Medical Devices]

Summary: The federal rule prescribes packaging and mailing requirements for used sharps and other used medical devices when mailed via the U.S. Postal Service.

Contact: Wayne Turnberg, (206) 522-0132

Chapter 70.95K of the Revised Code of Washington

Biomedical Waste

RCW 70.95K.005 Findings. The legislature finds and declares that:

- (1) It is a matter of state-wide concern that biomedical waste be handled in a manner that protects the health, safety, and welfare of the public, the environment, and the workers who handle the waste.
- (2) Infectious disease transmission has not been identified from improperly disposed biomedical waste, but the potential for such transmission may be present.
- (3) A uniform, state-wide definition of biomedical waste will simplify compliance with local regulations while preserving local control of biomedical waste management. [1992 c 14 § 1.]

RCW 70.95K.010 Definitions. Unless the context clearly requires otherwise, the definitions in this section apply throughout this chapter.

- (1) "Biomedical waste" means, and is limited to, the following types of waste:
 - (a) "Animal waste" is waste animal carcasses, body parts, and bedding of animals that are known to be infected with, or that have been inoculated with, human pathogenic microorganisms infectious to humans.
 - (b) "Biosafety level 4 disease waste" is waste contaminated with blood, excretions, exudates, or secretions from humans or animals who are isolated to protect others from highly communicable infectious diseases that are identified as pathogenic organisms assigned to biosafety level 4 by the centers for disease control, national institute of health, biosafety in microbiological and biomedical laboratories, current edition.
 - (c) "Cultures and stocks" are wastes infectious to humans and includes specimen cultures, cultures and stocks of etiologic agents, wastes from production of biologicals and serums, discarded live and attenuated vaccines, and laboratory waste that has come into contact with cultures and stocks of etiologic agents or blood specimens. Such waste includes but is not limited to culture dishes, blood specimen tubes, and devices used to transfer, inoculate, and mix cultures.
 - (d) "Human blood and blood products" is discarded waste human blood and blood components, and materials containing free-flowing blood and blood products.
 - (e) "Pathological waste" is waste human source biopsy materials, tissues, and anatomical parts that emanate from surgery, obstetrical procedures, and autopsy. "Pathological waste" does not include teeth, human corpses, remains, and anatomical parts that are intended for interment or cremation.
 - (f) "Sharps waste" is all hypodermic needles, syringes with needles attached, IV tubing with needles attached, scalpel blades, and lancets that have been removed from the original sterile package.
- (2) "Local government" means city, town, or county.
- (3) "Local health department" means the city, county, city-county, or district public health department.
- (4) "Person" means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, state government agency, or local government.
- (5) "Treatment" means incineration, sterilization, or other method, technique, or process that changes the character or composition of a biomedical waste so as to minimize the risk of transmitting an infectious disease.
- (6) "Residential sharps waste" has the same meaning as "sharps waste" in subsection (1) of this section except that the sharps waste is generated and prepared for disposal at a residence, apartment, dwelling, or other noncommercial habitat.
- (7) "Sharps waste container" means a leak-proof, rigid, puncture-resistant red container that is taped closed or tightly lidded to prevent the loss of the residential sharps waste.
- (8) "Mail programs" means those programs that provide sharps users with a multiple barrier protection kit for the placement of a sharps container and subsequent mailing of the wastes to an approved disposal facility.

- (9) "Pharmacy return programs" means those programs where sharps containers are returned by the user to designated return sites located at a pharmacy to be transported by a biomedical or solid waste collection company approved by the utilities and transportation commission.
- (10) "Drop-off programs" means those program sites designated by the solid waste planning jurisdiction where sharps users may dispose of their sharps containers.
- (11) "Source separation" has the same meaning as in RCW 70.95.030.
- (12) "Unprotected sharps" means residential sharps waste that are not disposed of in a sharps waste container. [1994 c 165 § 2; 1992 c 14 § 2.]

NOTES: Findings--Purpose--Intent--1994 c 165: "The legislature finds that the improper disposal and labeling of sharps waste from residences poses a potential health risk and perceived threat to the waste generators, public, and workers in the waste and recycling industry. The legislature further finds that a uniform method for handling sharps waste generated at residences will reduce confusion and injuries, and enhance public and waste worker confidence.

It is the purpose and intent of this act that residential generated sharps waste be contained in easily identified containers and separated from the regular solid waste stream to ensure worker safety and promote proper disposal of these wastes in a manner that is environmentally safe and economically sound." [1994 c 165 § 1.]

RCW 70.95K.011 State definition preempts local definitions.

The definition of biomedical waste set forth in RCW 70.95K.010 shall be the sole state definition for biomedical waste within the state, and shall preempt biomedical waste definitions established by a local health department or local government. [1992 c 14 § 3.]

RCW 70.95K.020 Waste treatment technologies.

- (1) At the request of an applicant, the department of health, in consultation with the department of ecology and local health departments, may evaluate the environmental and public health impacts of biomedical waste treatment technologies. The department shall make available the results of any evaluation to local health departments.
- (2) All direct costs associated with the evaluation shall be paid by the applicant to the department of health or to a state or local entity designated by the department of health.
- (3) For the purposes of this section, "applicant" means any person representing a biomedical waste treatment technology that seeks an evaluation under subsection (1) of this section.
- (4) The department of health may adopt rules to implement this section. [1992 c 14 § 4.]

RCW 70.95K.030 Residential sharps--Disposal--Violation.

- (1) A person shall not intentionally place unprotected sharps or a sharps waste container into: (a) Recycling containers provided by a city, county, or solid waste collection company, or any other recycling collection site unless that site is specifically designated by a local health department as a drop-off site for sharps waste containers; or (b) cans, carts, drop boxes, or other containers in which refuse, trash, or solid waste has been placed for collection if a source separated collection service is provided for residential sharps waste.
- (2) Local health departments shall enforce this section, primarily through an educational approach regarding proper disposal of residential sharps. On the first and second violation, the health department shall provide a warning to the person that includes information on proper disposal of residential sharps. A subsequent violation shall be a class 3 infraction under chapter 7.80 RCW.
- (3) It is not a violation of this section to place a sharps waste container into a household refuse receptacle if the utilities and transportation commission determines that such placement is necessary to reduce the potential for theft of the sharps waste container. [1994 c 165 § 3.]

NOTES: Effective date--1994 c 165 § 3: "Section 3 of this act shall take effect July 1, 1995." [1994 c 165 § 6.] Findings--Purpose--Intent--1994 c 165: See note following RCW 70.95K.010.

RCW 70.95K.040 Residential sharps waste collection.

- (1) A public or private provider of solid waste collection service may provide a program to collect source separated residential sharps waste containers in conjunction with regular collection services.
- (2) A company collecting source separated residential sharps waste containers shall notify the public, in writing, on the availability of this service. Notice shall occur at least forty-five days prior to the provision of this service and shall include the following information: (a) How to properly dispose of residential sharps waste; (b) how to obtain sharps waste containers; (c) the cost of the program; (d) options to home collection of sharps waste; and (e) the legal requirements of residential sharps waste disposal.
- (3) A company under the jurisdiction of the utilities and transportation commission may provide the service authorized under subsection (1) of this section only under tariff. The commission may require companies collecting sharps waste containers to implement practices that will protect the containers from theft. [1994 c 165 § 4.]

NOTES: Findings--Purpose--Intent--1994 c 165: See note following RCW 70.95K.010.

RCW 70.95K.900 Section headings. Section headings as used in this chapter do not constitute any part of the law. [1992 c 14 § 5.]

RCW 70.95K.910 Severability-1992 c 14. If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected. [1992 c 14 § 6.]

RCW 70.95K.920 Effective date--1992 c 14.

- (1) Sections 2 and 3 of this act are necessary for the immediate preservation of the public peace, health, or safety, or support of the state government and its existing public institutions, and shall take effect immediately [March 20, 1992].
- (2) Section 4 of this act shall take effect October 1, 1992. [1992 c 14 § 7.]

RCW 70.95.710 Incineration of medical waste. Incineration of medical waste shall be conducted under sufficient burning conditions to reduce all combustible material to a form such that no portion of the combustible material is visible in its uncombusted state. [1989 c 431 § 77.]

RCW 70.95.715 Sharps waste--Drop-off sites--Pharmacy return program.

- (1) A solid waste planning jurisdiction may designate sharps waste container drop-off sites.
- (2) A pharmacy return program shall not be considered a solid waste handling facility and shall not be required to obtain a solid waste permit. A pharmacy return program is required to register, at no cost, with the department. To facilitate designation of sharps waste drop-off sites, the department shall share the name and location of registered pharmacy return programs with jurisdictional health departments and local solid waste management officials.
- (3) A public or private provider of solid waste collection service may provide a program to collect source separated residential sharps waste containers as provided in chapter 70.95K RCW.
- (4) For the purpose of this section, "sharps waste," "sharps waste container," and "pharmacy return program" shall have the same meanings as provided in RCW 70.95K.010. [1994 c 165 § 5.]

NOTES: Findings--Purposes--Intent--1994 c 165: See note following RCW 70.95K.010.

Jurisdictional Environmental Health Offices in Washington State

Adams County Health District 103 West Main Ritzville WA 99169 (509) 659-0090 Ext 262	Grays Harbor Health Department 2109 Sumner Avenue Aberdeen WA 98520 (360) 249-4413
Asotin County Health District 431 Elm Clarkston WA 99403 (509) 758-3344	Island County Health Department PO Box 5000 Courthouse Annex Coupeville WA 98239-5000 (360) 679-7345
Benton-Franklin Health District 506 McKenzie Richland WA 99352 (509) 582-7761	Jefferson County Health and Human Services Castle Hill Center 615 Sheridan Port Townsend WA 98368 (360) 385-9444
Bremerton-Kitsap County Health District 109 Austin Drive Bremerton WA 98312 (360) 478-5237	Kittitas County Health Department 507 Nanaum Ellensburg WA 98926-2848 (509) 962-7698
Chelan-Douglas Health District Environmental Health 411 Washington Street Wenatchee WA 98801 (509) 664-5310	Lewis County Health Department Health Services Building 360 NW North Street MS: HSD03 Chehalis WA 98532 (360) 740-1238
Clallam County Health and Human Services Department Department of Community Development 223 East Fourth Street Port Angeles WA 98362 (360) 417-2415	Lincoln County Health Department 507 7 th Street PO kBox 215 Davenport WA 99122 (509) 725-2501
Columbia County Health District 221 East Washington, Suite 101PH Dayton WA 99328 (509) 382-3048	Mason County Department of Health Services 303 North Fourth Shelton WA 98584 (360) 427-9670 Ext 260
Cowlitz County Health Department 1516 Hudson PO Box 458 Longview WA 98632-7296	Northeast Tri-County Health District 240 East Dominion PO Box 270 Colville WA 99114 (509) 684-2262
Garfield County Health District 10 th and Columbia PO Box 130 Pomeroy WA 99347 (509) 843-3412	Okanogan County Health District PO Box 231 Okanogan WA 98840 (509) 422-7143
Grant County Health District County Courthouse (First and C Street NW) PO Box 37 Ephrata WA 98823 (509) 754-2011 Ext 395	Pacific County Health Department Department of Community Development 1216 West Robert Bush Drive PO Box 26 South Bend WA 98586 (360) 875-9356

San Juan County Health and Community Services 145 Rhone Street PO Box 607 Friday Harbor WA 98250-0607 (360) 378-4474	Tacoma-Pierce County Health Department 3629 South D Street Tacoma WA 98408 (253) 596-2857
Seattle-King County Department of Public Health Environmental Health Division 201 Smith Tower Seattle WA 98104-2311 (206) 296-4806	Thurston County Health Department 529 West Fourth Avenue Olympia WA 98501 (360) 786-5455
Skagit County Health Department Courthouse Administration Bldg – Room 301 700 South Second Street Mount Vernon WA 98273-3864 (360) 336-9380	Wahkiakum County Health Department 64 Main Street Cathlamet WA 98612 (360) 795-6207
Snohomish Health District 3020 Rucker Avenue Suite 102 Everett WA 98201-3971 (425) 339-5270	Walla Walla County-City Health Department 310 West Poplar PO Box 1753 Walla Walla WA 99362-0346 (509) 527-3290
Southwest Washington Health District 2000 Fort Vancouver Way PO Box 1870 Vancouver WA 98663 (360) 696-8428	Whatcom County Health Department 509 Girard Street PO Box 935 Bellingham WA 98227 (360) 676-6724
Spokane County Health District West 1101 College Avenue Spokane WA 99201-2095 (509) 324-1590	Whitman County Health Department Public Service Building North 310 Main Street Colfax WA 99111 (509) 397-6282
	Yakima Health District 104 North First Street Yakima WA 98901 (509) 576-7412

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Glossary

Acronyms

DEHP	Di(2-ethylhexyl) phthalate (CAS No [117-81-7], also known as di-octyl phthalate (DOP)
DW	Dangerous waste (hazardous waste)
EtO	Ethylene oxide, a sterilizer
FOG	Fats, Oils and Greases
Hg	Chemical symbol for mercury
JCAHO	Joint Commission on Accreditation of Healthcare Organizations
PBR	Permit-by-Rule
POTW	Publicly owned treatment works
RCRA	Resource Conservation and Recovery Act
SPCC	Spill Prevention, Control, and Countermeasures
TBG	Treatment by Generator
TSD	Treatment Storage and Disposal
TTO	Total Toxic Organics

Definitions

Accumulate	To temporarily store hazardous waste at your place of business for a limited amount of time (180 days if you typically generate between 220 and 2200 pounds of waste per month, 90 days if you generate more).
Acute hazardous waste	Certain listed hazardous wastes or discarded chemical products that are very dangerous and strictly regulated in quantities of more than 2.2 pounds.
Annual report	A yearly summary of your hazardous waste activities submitted to Ecology by March 1 of each year. Required of businesses with RCRA Site Identification Numbers.
Batch	An amount of waste which is generated less frequently than once a month.
Biomedical waste	A Washington State term that includes biohazardous and infectious wastes.
Biohazardous waste	Medical wastes that can include blood, bodily fluid, and/or tissue, as well as materials saturated with blood or bodily fluids.
Characteristics of hazardous wastes	There are four characteristics that can cause a waste to be hazardous: ignitability, corrosivity, reactivity, and toxicity.
Community right-to-know	Title III of the Superfund Amendments and Reauthorization Act (SARA) establishes requirements for government and industry regarding emergency response planning and everyone's right to know about hazardous chemicals in their community. Many hazardous waste generators have requirements under community right-to-know.

Corrosive	A solid or liquid that is a strong acid (pH less than 2), such as battery acid, or a strong caustic (pH greater than 12.5), like drain cleaner (see characteristics).
Criteria waste	Wastes that are hazardous in Washington State because they are toxic or persistent in the environment.
Dangerous waste	Same thing as the federal term “hazardous waste” but with additional “Washington only” wastes, such as criteria wastes. Generators typically become regulated under the <i>Dangerous Waste Regulations</i> when more than 220 pounds are generated per month OR they accumulate more than 2200 pounds on-site at any one time.
Dangerous waste pharmaceuticals	Waste pharmaceuticals that designate as dangerous waste.
<i>Dangerous Waste Regulations</i>	Chapter 173-303 WAC; regulations that implement the state’s Hazardous Waste Management Act and parts of the federal Resource Conservation and Recovery Act.
Dangerous waste sources	Specific and generic operations that create dangerous wastes that are “listed” in the <i>Dangerous Waste Regulations</i> , Chapter 173-303-9904.
Designate	The act of determining whether your wastes are hazardous and if so, why (i.e., are they “listed” waste, characteristic wastes, etc?)
Discarded chemical products	Pure unused products that you intend to dispose of that are regulated as hazardous waste (many pesticides for example). See the list in the <i>Dangerous Waste Regulations</i> , Chapter 173-303-9903.
Empty	Containers are legally empty when less than one inch of waste remains on the bottom or the volume of waste remaining is less than three percent of the container’s total capacity.
Extremely hazardous waste	EHWs are those dangerous wastes that are especially dangerous to the environment and require greater control. Many solvents are EHWs. EHWs cannot be land disposed.
Fully regulated generator	See <i>regulated generator</i> .
Generator	The person, business, or institution that actually produces a hazardous waste. Liability for proper management follows generators from “cradle to grave” from point of generation to final destination.
Hazardous waste (dangerous waste)	The term used by the Environmental Protection Agency to identify those solid wastes with properties that could pose dangers to human health and the environment (i.e., spent solvents, ink sludges, cyanide wastes, etc.).

Ignitable	Liquid wastes with a flashpoint of less than 140° F, such as paint thinner or waste easily capable of causing a fire, such as dirty shop rags (see <i>characteristics</i>).
Land disposal restriction	Federal land disposal restrictions (LDR) restrict wastes from being land disposed unless certain treatment standards or limits have been met. State land disposal restrictions restrict extremely hazardous waste (EHW), such as dry cleaner PERC from land disposal to encourage more favorable management options such as waste reduction, recycling, or treatment.
Legend drugs	Prescription drugs. Drugs that are prescribed for you by your physician and filled at a pharmacy.
Listed wastes	These are regulated hazardous wastes that are listed in the <i>Dangerous Waste Regulations</i> , Chapter 173-303-9903 and -9904. Checking the lists is the first step in designating your waste.
Manifest	A shipping document that accompanies your hazardous waste from point of generation to the final destination. Required of all but small quantity generators and universal waste handlers.
Moderate risk waste	Hazardous waste that is exempt from most state and federal regulations because it is generated in households, or by businesses in quantities typically less than 220 pounds per month. Such businesses are known as small quantity generators.
MSDS	Material Safety Data Sheet, provides health risk information, and what to do in case of exposure or spill. Information can also be helpful in determining if a waste is hazardous. Manufacturers are required by law to provide MSDSs on all products they manufacture and sell.
Notify	State and federal regulations require you to notify Ecology if the amount of hazardous waste you generate per month or batch is more than 220 pounds OR if you accumulate more than 2200 pounds on-site at any one time. 220 pounds is roughly one half of a 55-gallon drum. You can satisfy this requirement by requesting a Site Identification Form, completing it and returning it to Ecology.
Permit-by-rule	Businesses that want to treat wastes on-site to make them less hazardous and/or discharge the treated wastes to the sewer, must notify Ecology by filling out a Site Identification Form and get permission from their sewer authority.
Persistent	Containing greater than the allowable concentrations of certain hydrocarbons. Persistent wastes tend to remain in the environment over long periods of time. For example: metal cutting oil, oil with Freon (see criteria wastes).

QEL	Quantity Exclusion Limits are used to distinguish whether a hazardous waste is subject only to the small quantity generator requirements or the more stringent fully regulated generator requirements. The most common QEL is 220 pounds per month or batch (about one half of a 55-gallon drum). The QEL for some wastes is 2.2 pounds (about a quart).
RCRA	The Resource Conservation and Recovery Act is federal legislation passed in 1976 that initiated regulation of hazardous wastes. Washington State implements parts of RCRA through its <i>Dangerous Waste Regulations</i> .
RCRA Site Identification Number	A unique, 12 character number assigned to generators, transporters, transfer facilities and treatment, storage and disposal facilities. Required for regulated generators and recommended for small quantity generators.
Reactive	A substance that is very unstable, such as metallic sodium, or capable of detonation, such as explosives or picric acid crystals (see characteristics).
Red bag waste	Medical wastes that are saturated with blood or other bodily fluids. Biohazardous waste.
Regulated generator	Or fully regulated generator is typically a business that generates more than 220 pounds per month or accumulates more than 2200 pounds of hazardous waste at any one time. Generators of more than 2200 pounds per month have more requirements than generators of between 220 and 2200 pounds.
Reverse distribution	Unused, outdated or discarded pharmaceuticals are sent back through pharmaceutical redistributors to numerous pharmaceutical manufacturers.
Small quantity generator	Typically, a business (auto repair, printing, etc.) or institution (park, school, etc.) that always generates less than 220 pounds of hazardous waste per month and accumulates less than 2200 pounds of hazardous waste at any one time. Small quantity generators are subject to fewer requirements.
Solid waste	Any material that you no longer use which you either throw away, recycle, or store temporarily until you have accumulated enough to recycle or dispose of it economically.
Special wastes	State-only dangerous wastes in solid form that are corrosive, slightly toxic, and/or persistent but not extremely hazardous, or have polychlorinated biphenyl components (PBCs). These wastes may be disposed of in solid waste landfills if certain requirements are met.
State only dangerous wastes	Dangerous wastes characterized as persistent criteria waste – persistent in the environment (halogenated or polycyclicaromatic hydrocarbons) and/or toxics criteria waste - animal bioassay information and concentration of the toxic components determine the toxic categories (X, A, B, C or D).

Toxic characteristic waste	A substance is toxic if it is poisonous or harmful to plant or animal life. Examples include used antifreeze, paint booth washwater (see criteria waste).
TCLP	A test used to determine if a waste is hazardous under the characteristic of toxicity. The Toxicity Characteristic Leaching Procedure checks for high concentrations of certain heavy metals, organic chemicals and pesticides (see characteristics).
TSD	Treatment, storage and disposal facilities are the final destination of hazardous waste. All TSDs must be permitted and have RCRA Identification Numbers.
Transfer facility	Any transportation related facility including loading docks, parking areas, storage areas, buildings, piers, and other similar areas where shipments of dangerous waste are held, consolidated, or transferred within a period of ten days or less during the normal course of transportation.
Transporter	A person engaged in the off-site transportation of dangerous waste.
Triple rinse	Rinsing a container three times to ensure that it is legally empty. Applies to pesticides and acutely hazardous wastes. Rinse water should be reused in a manner consistent with the original intended purpose.
Worker right-to-know	The Department of Labor and Industries administers worker right-to-know. The rules require all Washington State employers to inform and train employees about hazardous chemicals in the workplace.
Universal waste	Batteries, mercury-containing thermostats and lamps can be managed according to special requirements that are less burdensome than those normally required for fully regulated generators.
Xeriscaping	Landscaping with drought-resistant, native species of plants.

