



REGIONAL WATER QUALITY CONTROL PLANT

OPERATED BY THE CITY OF PALO ALTO FOR THE EAST
PALO ALTO SANITARY DISTRICT, LOS ALTOS, LOS ALTOS
HILLS, STANFORD, MOUNTAIN VIEW, AND PALO ALTO

BEST MANAGEMENT PRACTICES *HOSPITALS, CLINICS, MEDICAL, AND VETERINARY FACILITIES* SANITARY SEWER DISCHARGE

Your City's Sewer Use Ordinance prohibits the discharge of hazardous waste down a sink or drain to the sanitary sewer. This includes wastewater generated from medical facilities. Hazardous chemicals entering the wastewater system may pass through treatment and end up in the San Francisco Bay. Follow these Best Management Practices (BMPs) to reduce pollution and comply with local regulations. Facilities may also be required to obtain an Industrial Waste Discharge Permit. Failure to comply with the Sewer Use Ordinance is subject to enforcement and may result in fines.

Keep Prohibited Wastes Out of the Drain

- ☐ Hazardous waste as defined by local, state, and federal regulations cannot be poured down the drain into the sanitary sewer. Hazardous waste includes heavy metals, chlorinated and organic solvents, alcohols, explosive liquids, and caustic or corrosive cleaning solutions.
- ☐ Metal pollutants of most concern include cadmium, chromium, copper, cyanide, lead, mercury, nickel, selenium, silver, and zinc.
- ☐ Non-metallic pollutants of concern include cyanide, formaldehyde, glutaraldehyde, and phenolic compounds.
- ☐ In addition to hazardous waste, other substances may be prohibited due to pH, temperature, explosivity, radioactivity, or physical properties.
- ☐ Review Safety Data Sheets to identify the contents in the reagents and chemicals you are using. Refer to your city's Sewer Use Ordinance for details on what may be discharged to the sanitary sewer.
- ☐ Questions? Email Pretreatment@PaloAlto.gov.

Proper Waste Management

- ☐ All medical waste shall be managed in accordance with the facility's Medical Waste Management Plan and the California Waste Management Act, California Health and Safety Code Section 117600-118360.
- ☐ Keep hazardous waste and hauling logs/records onsite for at least 3 years.
- ☐ Implement a pollution prevention strategy that encompasses waste minimization, recovery, recycling, waste treatment, and off-site disposal.
- ☐ Plumbing traps can be a source of significant residual mercury from past disposal practices. Before disassembling a trap, place a container below to capture any liquid mercury.
- ☐ All laboratories shall implement the procedures outlined in [Best Management Practices: Laboratories](#) (paloalto.gov/wastewatertreatment-businesses)

In-House Treatment of Glutaraldehyde & OPA Sterilants

- ☐ Spent glutaraldehyde and ortho-phthalaldehyde (OPA) are hazardous wastes; never dispose of glutaraldehyde or OPA down the drain without neutralizing it. Never dilute the solution with water as a substitution for neutralizing it.
- ☐ If you choose to neutralize sterilants in-house (rather than hire a professional hazardous waste contractor), use glycine-based neutralizer products only. Avoid sodium bisulfate as it creates another toxic compound.
- ☐ Pump automated endoscopic reprocessors (AERs) into a separate holding tank where it must mix with neutralizer before disposal. AERs cannot be directly plumbed to the sanitary sewer piping or drains. Avoid pouring neutralizer directly into the AER as residual neutralizer may remain in the reservoir and degrade fresh sterilant.

Formaldehyde & Phenolic Sterilants

- ☐ Minimize or eliminate formaldehyde and phenolic sterilants.
- ☐ Spent formaldehyde and phenolic sterilant solutions must be collected and disposed as hazardous wastes or treated with an approved treatment process (such as Formalex).

Common Fixatives

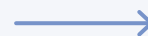
- ☐ Substitute the use of Zenker's solution, B5, and Helly's solution with other fixatives. These are extremely hazardous and contain very high concentrations of mercury.
- ☐ If there is no other alternative, these fixatives should be used in the smallest possible volumes with any excess rinsed in a waste container for hazardous waste disposal. Never rinse in the sink.

Other Metal- and Cyanide-Containing Reagents

- ☐ Use chromium-free glassware cleaning products (such as No-Chromix) rather than chromic acid solutions.
- ☐ The manual Iron Cyanide test yields a concentrated cyanide waste that should be collected, stored in secondary containment, and disposed of as a hazardous waste.
- ☐ Use alternatives to the following reagents that contain pollutants of concern when possible:
 - ☐ Buffers and other solutions that use mercury-containing thimerosal preservative
 - ☐ Slide preparation solutions that use copper sulfate
 - ☐ Stool preservatives containing copper or mercury
 - ☐ Formaldehyde-containing Bouin's solution, used for washing bone marrow cells and as a preservative
 - ☐ Cyanide-containing cell lysing solution

Spent X-Ray Fixer

- ☐ Spent X-ray fixer has a very high silver concentration and cannot be disposed of down a sink or drain.
- ☐ Collect the spent fixer and dispose as hazardous waste.
- ☐ Alternatively, if you use a silver recovery unit that captures silver, contact the Pretreatment Program to determine whether the unit is capable of meeting the discharge limit of 0.25 ppm.
- ☐ Avoid spent fixer waste by converting to digital x-rays.





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Mercury-Containing Devices

- ☐ Historically mercury was included in many medical devices including sphygmomanometers, Bougie tubes, feeding tubes, respiratory barometers, thermometers, and intraocular pressure devices. Review your facility, with the objective of finding and replacing any remaining mercury-containing devices.
- ☐ If a significant number of mercury-containing devices remain at the facility, obtain a mercury spill cleanup kit from a lab safety supplier.
- ☐ For more information, see [Hospital Pollution Prevention Strategies](#), California Department of Health Services, Dec. 2002, Reviewed April 2017.

Gross Pathology and Necropsy

- ☐ All formaldehyde solutions and specimens stored in free solutions should be stored in secured secondary containment and away from sinks.
- ☐ Spent formaldehyde solutions shall be collected and disposed of as hazardous wastes or treated with an approved treatment process (such as Formalex).

Pharmacy

The following medications used in-clinic or dispensed to a patient can pollute wastewater when patients bathe or launder clothing/bedding. For each example below, prescribe alternatives when feasible:

- ☐ Selenium-based shampoos, foams or lotions
- ☐ Zinc-based skin ointments
- ☐ Malathion- or ivermectin-based lice treatments
- ☐ Concentrated silver nitrate solutions for wound management or burn treatment
- ☐ *Veterinarians:* fipronil and imidacloprid, topical ectoparasiticides used for flea/tick control. For more information about alternatives, go to baywise.org.

Patient Decontamination Operations within Available Onsite Storage Capacity

- ☐ Install a lock on the outlet valve of the decontamination waste storage tank to avoid unintended discharge.
- ☐ Keep a thorough log of contaminants washed off patients.
- ☐ When ready to empty the tank, submit a log to the Pretreatment Program staff for review. If approved, a designated person may remove the lock and discharge to the sanitary sewer. If not approved, seek a certified waste hauler to empty the tank and haul away the waste for disposal.

Patient Decontamination Operations That Exceed Available Onsite Storage Capacity

- ☐ Develop a contingency water containment plan with City of Palo Alto Pretreatment and Stormwater Programs for mass decontamination events that exceed onsite tank capacity. The plan should include detailed response procedures.
- ☐ Keep equipment readily available (e.g., berms) to quickly contain wastewater runoff.
- ☐ Establish contracts and procedures with waste haulers for the removal and disposal of the contained wastewater.
- ☐ If wastewater cannot be contained, divert it to a sanitary sewer rather than a storm drain. Immediately notify your city's emergency hotline and any regulatory authorities in accordance with the California Health and Safety Code, Chapter 6.95, Section 25500.
 - ☐ East Palo Alto: (650) 321-1112
 - ☐ Los Altos: (650) 947-2770
 - ☐ Los Altos Hills: (408) 299-2311
 - ☐ Mountain View: (650) 903-6344
 - ☐ Palo Alto and Stanford: (650) 329-2413
- ☐ For more information, see [Patient Decontamination Recommendations for Hospitals](#), California Emergency Medical Services Authority, July 2005.