



Regulatory Consensus on Health Care Issues

Waste/Hazardous Waste #3.35 • November 2009

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Background Health care facilities must address issues related to and manage many kinds of wastes unique to the health care industry.

To assist health care providers and to ensure consistency throughout Minnesota, the Minnesota Pollution Control Agency (MPCA) and the metropolitan county Solid Waste Management Coordinating Board (SWMCB) have agreed on the following interpretations and guidance on regulatory issues that pertain specifically to the health care industry.

Terms and abbreviations

The following terms and abbreviations are used throughout this document:

Bulk chemotherapy waste: This term is not defined in Minnesota rules or regulations; however, the MPCA recognizes this industry-standard term to mean waste materials that are known to contain chemotherapy agents. Examples include spill clean-up materials, contaminated personal protective equipment, and non-empty vials and IVs.

Characteristic: A waste is considered a *characteristic* hazardous waste in Minnesota if it displays one of these traits: ignitable, oxidizer, corrosive, reactive, lethal, or toxic. For more information see MPCA hazardous waste fact sheet #2.04, *Characteristic Wastes*, available at www.pca.state.mn.us/publications/w-hw2-04.pdf.

Empty: A container that held hazardous materials must meet specific criteria to be deemed *empty*. For more information see MPCA hazardous waste fact sheet # 4.16, *Managing Empty Containers*, available at www.pca.state.mn.us/publications/w-hw4-16.pdf.

Listed: A waste is considered a *listed* hazardous waste in Minnesota if it appears on one of four lists. Three of the lists may apply to health-care waste: F-List, P-List, U-List. For more information see MPCA hazardous waste fact sheets #2.00, *F-List of Hazardous Wastes*; #2.02, *P-List of Acute Hazardous Wastes*; and #2.03, *U-List of Hazardous Wastes*, available at www.pca.state.mn.us/waste/pubs/business.html#hazardous.

Metro county: The delegated hazardous waste regulatory programs of any of the seven Minneapolis/St. Paul metropolitan counties – Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, Washington

MPCA: Minnesota Pollution Control Agency

POTW: Publicly Owned Treatment Works – your local sanitary sewer authority

Trace chemotherapy waste: This term is not defined in Minnesota rules or regulations; however, the MPCA recognizes this industry-standard term to mean waste materials that may have come into contact with a chemotherapy agent, but which are not known to contain any agent at the time of disposal. Examples include uncontaminated personal protective equipment, packaging, and empty vials and IVs.

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Aerosol inhalers	<p><i>Empty</i> inhalers (those containing no product and no pressure) are exempt from hazardous waste regulation. Recycle, if possible, or manage as an industrial solid waste according to solid waste requirements.</p> <p><i>Non-empty</i> inhalers: Evaluate to determine whether they are hazardous, then manage accordingly; or manage as a hazardous waste without evaluation. Most aerosol inhalers use an ignitable propellant and will therefore be an <i>ignitable</i> hazardous waste if not empty at disposal. For more information, see MPCA hazardous waste fact sheet #4.00, <i>Managing Waste Aerosols</i>, at www.pca.state.mn.us/waste/pubs/4_00.pdf</p>
Alcohol-based hand sanitizers	<p>Many waterless hand sanitizer products are alcohol-based. Using these products in the manner for which they are intended is not considered <i>disposal</i> because the material never becomes a waste. Unused alcohol-based sanitizers destined for disposal may be <i>ignitable</i> hazardous waste and must be managed accordingly.</p>
Ambulance waste	<p>Hospitals in Minnesota are required to accept properly packaged and labeled infectious waste from ambulance service providers. Hospitals are <i>not</i> required to accept infectious waste containers holding hazardous waste that are <i>not</i> properly packaged or labeled as dual waste containers or that do not meet dual waste container requirements. Hospitals that choose to accept hazardous or dual wastes from an ambulance service provider must then accept such wastes from all ambulance service providers that serve their facility. Waste accepted from an ambulance service provider is then considered the hospital's waste. Ambulance service providers are included in the <i>Contractor Policy</i> and may choose to consolidate their own hazardous waste at their central business location and dispose of it from that location. For more information, see MPCA hazardous waste fact sheet #3.11, <i>Transporting hazardous waste generated by construction and service contractors</i>, at www.pca.state.mn.us/publications/w-hw3-11.pdf.</p>
Chemotherapy hood filters	<p>Filters from chemotherapy preparation hoods may be <i>characteristic</i> hazardous wastes if they are contaminated with hazardous constituents of the pharmaceuticals prepared under them. Each health care facility must determine the potential characteristic contaminants of their waste hood filters and evaluate the hoods for those characteristics.</p>
Chemotherapy waste	<p>Bulk chemotherapy waste is assumed to be <i>lethal</i> hazardous waste unless evaluated and determined to be non-hazardous. Dispose of all non-empty containers (including vials, tubing, etc.) as hazardous waste in the <i>bulk chemotherapy</i> waste stream.</p> <p>Trace chemotherapy waste may be assumed to be non-hazardous. Empty containers may be disposed of as non-hazardous waste, including disposal into a <i>trace chemotherapy</i> waste stream. See also the <i>Pharmaceutical Containers</i> section in this fact sheet.</p> <p>Note: Safe work practices dictate that materials (such as syringes, vials, etc.) that are contaminated with chemotherapeutic agents <i>not</i> be handled after use to minimize occupational exposure. MPCA and metro county staff strongly recommend that health care workers dispose of all chemotherapy waste containers holding free liquid as hazardous waste in the <i>bulk chemotherapy</i> waste stream rather than attempting to empty them.</p>
Clinitest™ tablets	<p>Unreacted Clinitest™ tablets are assumed to be <i>reactive</i> and <i>lethal</i> hazardous wastes unless evaluated and determined to be non-hazardous. Reacted Clinitest tablets are assumed to be <i>lethal</i> hazardous wastes unless evaluated and determined to be non-hazardous.</p>

Waste/Issue	Regulatory Agency Consensus
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Contractor policy	By formal policy, the MPCA and metro counties allow certain contractors to transport wastes generated at a remote job site to their place of business for evaluation, collection and proper disposal. Home health care providers, including those using personal vehicles for business purposes, and ambulance service providers are included in this policy. For more information, see MPCA hazardous waste fact sheet # 3.11, <i>Transporting hazardous waste generated by construction and service contractors</i> , at www.pca.state.mn.us/publications/w-hw3-11.pdf .
Dental amalgam	Mercury-containing amalgam in any form may be managed as a universal waste provided it is recycled. For more information about managing universal wastes, see MPCA hazardous waste fact sheet #4.62, <i>Managing Universal Wastes</i> , at www.pca.state.mn.us/publications/w-hw4-62.pdf
Dental wastewater	The MPCA encourages the use of approved amalgam separators. Mercury-containing wastewater pretreated by an approved amalgam separator may be managed as a universal waste. Mercury-containing wastewater not pretreated by an approved amalgam separator is a fully regulated hazardous waste. For more information about managing mercury-containing wastewater, see Minnesota Technical Assistance Program (MnTAP) fact sheet #81, <i>Dental Waste</i> , at http://mntap.umn.edu/health/81-DentalWaste.pdf
Dual waste	The MPCA and metro counties have applied the term <i>dual waste</i> to health care waste which simultaneously meets the definition of both hazardous waste and infectious waste. Manage dual waste in compliance with both hazardous waste and infectious waste regulations.
Dusts and particles	Dusts and particles from a solid pharmaceutical that is a hazardous waste at disposal are considered hazardous wastes. MPCA and metro county staff consider visual inspection of surfaces and materials that have come into contact with solid pharmaceuticals to be adequate to identify whether contamination has occurred. Clean-up materials used to clean up dusts or particles of an acute hazardous waste are considered an acute hazardous waste and must be managed accordingly.
ECG & EKG electrodes	Many electroencephalograph (ECG) and electrocardiogram (EKG) electrodes contain silver in metallic or gel form. Generators of waste electrodes must evaluate the electrodes before disposal to determine whether they are hazardous wastes. At this time, the MPCA has not received information regarding a sufficiently wide variety of waste electrodes to issue blanket guidance applicable to all such electrodes about their hazardous waste status.
Epinephrine	The U.S. Environmental Protection Agency (EPA) has interpreted that epinephrine salts, which comprise the majority of pharmaceutical forms of epinephrine, were not intended to be included in the P042 acute hazardous waste listing. The MPCA and metro counties have adopted this interpretation. Therefore, only waste that contains epinephrine base, Chemical Abstract Service (CAS) Registry number 51-43-4, as its sole active ingredient will be a P042 acute hazardous waste at disposal. Health care providers must determine what form of epinephrine is contained in their pharmaceutical epinephrine solutions. For those generators applying the Alternate Method to Evaluate Pharmaceutical Waste for the Lethality Characteristic , the MPCA considers epinephrine in general to be an endocrine disruptor and therefore a lethal hazardous waste. However, based on calculations of median lethal dose under the Lethality Rule using data provided by regulated parties, the MPCA will allow generators of waste epinephrine less than

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Epinephrine (continued)	<p>0.24% concentration to assume it is not lethal. The MPCA and metro counties strongly encourage disposal of even nonhazardous epinephrine waste through incineration as a best management practice. Therefore:</p> <ul style="list-style-type: none"> • Unused epinephrine base, CAS #51-43-4, is an acute P042 listed hazardous waste • Waste used epinephrine base and waste epinephrine salts $\geq 0.24\%$ are lethal characteristic hazardous wastes under the alternate method • Waste epinephrine salts $< 0.24\%$ may be assumed to be non-lethal • Evaluate all waste epinephrine not already known or assumed hazardous for all other hazardous waste characteristics.
Excess and residual pharmaceutical in a used dispensing instrument	<p>The EPA has interpreted that excess and residual pharmaceuticals remaining in a used <i>dispensing instrument</i> have been used for their intended purpose and therefore no longer meet the definition of the U-List or P-List. The MPCA and metro counties have adopted this interpretation.</p> <p>The MPCA and metro counties interpret <i>dispensing instruments</i> to include manual injection syringes, injection ‘pens,’ and ready-to-assemble syringes, including CarpuJect, StatDose and similar products. Oral and rectal syringes and intravenous administration sets are not considered dispensing instruments.</p> <p><i>Excess</i> pharmaceutical in a dispensing instrument is material remaining in the barrel of a syringe with the plunger not fully depressed.</p> <p><i>Residual</i> pharmaceutical in a dispensing instrument is material remaining in the needle, hub, and adhering to the walls of the barrel after the plunger has been fully depressed.</p> <p>If a carpule or similar portion of a used dispensing instrument is separated before disposal, the carpule is still considered to be used for its intended purpose. A used dispensing instrument or portion of a dispensing instrument containing <i>excess</i> pharmaceutical is considered <i>non-empty</i> and the excess pharmaceutical must be evaluated for hazardous waste characteristics and managed accordingly.</p> <p>Note: A used syringe containing <i>excess</i> pharmaceutical evaluated and determined to be hazardous may be a dual waste subject to both hazardous and infectious waste regulatory requirements.</p>
Exclusion of some listed wastes under certain conditions	<p>Certain listed chemicals are excluded from regulation as <i>listed</i> hazardous waste provided:</p> <ol style="list-style-type: none"> 1. the waste was originally listed only for the characteristic(s) of ignitability, corrosivity, or reactivity; <i>and</i> 2. the waste does <i>not</i> exhibit the characteristic(s) at the point of generation. <p>For example, nitroglycerin that was originally listed for <i>reactivity</i> but is not reactive in final pharmaceutical form is not a P081 acute hazardous waste when disposed of in that form. These wastes must still be evaluated for all other characteristics. For more information, see MPCA hazardous waste fact sheet #8.01, <i>Exclusion of some characteristic wastes under certain conditions</i>, available at www.pca.state.mn.us/publications/w-hw8-01.pdf</p>
Formaldehyde and formalin solutions	<p>Formalin is a solution of formaldehyde, methanol, and water. Solutions having a concentration of 20% or more formaldehyde are considered to be <i>lethal</i> hazardous wastes whether used or unused. Used solutions having a concentration of less than 20% formaldehyde are not considered hazardous waste. <i>Unused</i> solutions in which formaldehyde is the sole active ingredient are U122 listed hazardous wastes at all concentrations. Health care providers that generate waste formaldehyde or formalin and that intend to sewer it, regardless of its hazardous waste status, must notify their POTW before discharge. Under no circumstances should waste formalin or formaldehyde solutions be discharged to a septic system.</p>

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Glutaraldehyde solutions	<p>Many health care facilities use and dispose of glutaraldehyde-containing cold sterilants. Solutions that have a concentration of 27% or more glutaraldehyde are considered to be <i>lethal</i> hazardous wastes. Glutaraldehyde is an aquatic toxicant; facilities are encouraged to neutralize waste glutaraldehyde with glycine before discharge to a POTW. Health care providers that generate glutaraldehyde-containing wastes and intend to discharge them to a POTW must notify the POTW before discharge, whether or not they are neutralized.</p>
Hazardous waste codes	<p>Health care providers and other generators of hazardous waste must report their hazardous waste generation using specific <i>hazardous waste codes</i> in several different situations. The appropriate codes a generator must use are specific for each situation:</p> <ul style="list-style-type: none"> • Manifesting – Generators must enter the six four-character <i>hazardous waste codes</i> that are most representative of the properties of the waste. If the waste includes any Minnesota-specific hazardous wastes, such as MN01, MN02, or MN03, these must be included in the six entered <i>codes</i>. For more information on manifesting, see MPCA hazardous waste fact sheet #1.07, <i>Step 7: Manifest shipments of hazardous waste</i>, at www.pca.state.mn.us/publications/w-hw1-07.pdf • Land Disposal Restrictions – Generators required to provide a Land Disposal Restrictions form must enter all of the four-character <i>hazardous waste codes</i> represented in the waste. For more information on Land Disposal Restrictions, see EPA training module #EPA-530-K-05-013, <i>Introduction to Land Disposal Restrictions</i>, at www.epa.gov/epaoswer/hotline/training/ldr05.pdf • Annual reporting – Generators in metro counties must follow the annual reporting process for their county. Large Quantity Generators (LQGs) and Small Quantity Generators (SQGs) in greater Minnesota must enter all of the four-character <i>hazardous waste codes</i> represented in their generated waste. Very Small Quantity Generators (VSQGs) in greater Minnesota must enter all of the two-digit <i>hazardous waste types</i> represented in their generated waste. For more information on annual reporting in greater Minnesota, see MPCA fact sheet #7.01, <i>Hazardous waste license application</i>, www.pca.state.mn.us/publications/w-hw7-01.pdf
HemoCue™ cuvettes	<p>HemoCue™ cuvettes are assumed to be <i>lethal</i> hazardous waste unless evaluated and determined to be non-hazardous.</p> <p>Note: HemoCue cuvettes contaminated with blood may be <i>dual waste</i> subject to both hazardous and infectious regulatory requirements.</p>
Household versus commercial pharmaceutical waste in health care facilities	<p>Pharmaceutical hazardous waste generated from commercial activities is regulated hazardous waste in Minnesota regardless of where it is generated. Pharmaceutical waste generated from non-commercial household activities is unregulated household hazardous waste in Minnesota, unless and until collected by a household hazardous waste collection program. Health care providers that generate pharmaceutical hazardous wastes from commercial activities are regulated hazardous waste generators. The MPCA considers that the degree of centralized control and storage of pharmaceuticals in a facility is the most significant indicator of generation from commercial activities. Applying this indicator:</p> <ul style="list-style-type: none"> • Pharmaceuticals stored in a centralized, employee-controlled location separate from resident living areas, such as is required at hospitals, nursing homes, and boarding-care homes, will be considered generated from commercial activities and therefore regulated when discarded. • Pharmaceuticals stored in resident rooms or other non-central and unrestricted-access location, such as at home-care client houses, may be considered generated from non-commercial household activities and therefore unregulated when discarded.

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Ictotest™ tablets	<p>Unreacted Ictotest™ tablets are assumed to be <i>reactive</i> hazardous waste. Since reacted Ictotest™ tablets are a solid material, they do not meet the definition of a <i>corrosive</i> hazardous waste; however, attempting to dispose of reacted tablets by dissolving them in water may create a liquid <i>corrosive</i> hazardous waste. Corrosive hazardous wastes may be neutralized on site and discharged to a POTW. Health care providers that generate <i>corrosive</i> hazardous wastes and intend to discharge to a POTW must notify the POTW before discharge, whether or not the waste is neutralized.</p>
Inspection of pipe to POTW	<p>All hazardous waste generators, including health care providers, that discharge hazardous waste to a POTW, must ensure that the generator-owned piping system carrying waste to the publicly owned sewer system will not release any hazardous waste to the environment. MPCA and metro county staff strongly recommend that health care facilities periodically inspect their complete piping system, including underground pipes, to ensure integrity.</p>
Intravenous (IV) bags and sealed tubing	<p>An IV bag and its attached tubing, commonly referred to as an <i>administration set</i>, are together considered a <i>container</i> – not a dispensing instrument. When assessing whether an administration set is empty, you must include any excess and residual liquids in the set, including the attached tubing. If the container is not empty, you must evaluate the contents to determine whether it is hazardous waste. If tubing is designed to be removed from an administration set, it may be assessed separately from the IV bag once it is removed.</p> <p>Tubing flushed with saline at three times the volume of the tubing is considered to have met both the empty container requirement for all hazardous wastes and the triple-rinsing requirements for acute hazardous wastes. This interpretation applies only to that segment of tubing actually triple-rinsed and not to upstream tubing, attached IV bags, or other equipment.</p> <p>Note: Administration sets commonly leak so consider them to be <i>free liquids</i> when determining proper container requirements.</p>
Laboratory analyzer wastes	<p>Laboratory analyzers commonly generate wastes consisting of patient samples mixed with chemical reagents, calibrators and cleaners. These wastes can be either piped directly to a drain for discharge to a POTW, or contained in cuvettes, cartridges, bubble tapes, or removable containers. Health care providers must evaluate each individual waste generated by the analyzer at the point of generation before mingling or combining with other wastes. Each discharge pipe or container is considered a separate and distinct waste stream; evaluate each separately. Cuvettes, bubble tapes, and similar waste expelled from an analyzer at a common point may be considered a single waste stream for evaluation.</p> <p>Evaluate expired reagents or calibrators to determine whether they are <i>listed</i> or <i>characteristic</i> hazardous waste. Evaluate discharged or expelled wastes to determine whether they display one of the six hazardous characteristics. Evaluations may include:</p> <ul style="list-style-type: none"> • documentation from the analyzer manufacturer certifying the reagents, calibrators and cleaners are not <i>listed</i> and do not display any of the <i>characteristics</i>; OR • documented test results from a <i>representative sample(s)</i> of the waste. <p>A complete and compliant evaluation may require elements of both manufacturer certifications and sampling. Contact MPCA or metro county hazardous waste staff for guidance on collecting a <i>representative sample</i> from your analyzer. When determining the representative sample, you must take into account calibrations, cleanings and number and types of tests specific to your analyzer and its use in your facility.</p> <p>Note: Lab analyzer wastes determined to be hazardous may be <i>dual wastes</i> subject to both hazardous and infectious waste regulatory requirements.</p>

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Laboratory waste	Health care providers must evaluate all laboratory waste before disposal to determine whether it is hazardous. Discharging or rinsing laboratory stains, reagents, and fixatives to a POTW is disposal. Document all evaluations; they must be available for inspection. For more information about evaluation, see MPCA hazardous waste fact sheet #1.01, <i>Step 1: Evaluate waste; determine generator size</i> , at http://www.pca.state.mn.us/publications/w-hw1-01.pdf
Nicotine patches & gum	MPCA and metro county staff consider unused nicotine patches and gum destined for disposal to be <i>commercial chemical products</i> , not manufactured articles, and therefore P075 acute hazardous wastes. Manage packaging materials for nicotine patches and gum as acute hazardous waste according to the ‘Packaging’ section below.
Nitroglycerin	See the <i>Exclusion of some listed wastes under certain conditions</i> section of this fact sheet.
OPA solutions	Many health care facilities are switching from glutaraldehyde-containing to ortho-phthalaldehyde (OPA)-containing cold sterilants. OPA is an aquatic toxicant; facilities are encouraged to neutralize waste OPA with glycine before discharge to a POTW. Health care providers who generate OPA-containing wastes and intend to discharge it to a sanitary sewer must notify their POTW .
Packaging	Packaging, such as wrappers, adhesive backing, and foil that immediately enclosed pharmaceuticals which are acute hazardous wastes when disposed of are considered segments of a <i>container</i> that held the pharmaceutical; therefore, they are considered acute hazardous waste themselves unless triple-rinsed. Packaging which immediately enclosed non-acute hazardous wastes may be considered empty and exempt from further hazardous waste regulation if the packaging meets the definition of <i>empty</i> . For more information, see MPCA hazardous waste fact sheet #4.16, <i>Managing empty containers</i> , at www.pca.state.mn.us/publications/w-hw4-16.pdf
Pharmaceutical containers	<p>Unless it held a chemical which is an acute hazardous waste, a container may only be considered <i>empty</i> when:</p> <ul style="list-style-type: none"> • All waste that can be removed has been removed using the practices commonly employed for that type of container; AND • No more than 3% by weight of the total capacity of the container remains in the container. <p>Containers which held acute hazardous wastes are subject to the additional requirement of triple-rinsing the container before it is considered empty.</p> <p>Note: A generator of pharmaceutical containers may have difficulty ensuring they are <i>empty</i> before disposal. So, health care facilities may choose to manage pharmaceutical containers that held hazardous wastes as hazardous waste rather than attempt to empty them. For more information about acute hazardous wastes, see MPCA hazardous waste fact sheet #2.02, <i>P List of Acute Hazardous Wastes</i>, at www.pca.state.mn.us/publications/w-hw2-02.pdf</p> <p>For more information about empty containers, see MPCA hazardous waste fact sheet #4.16, <i>Managing empty containers</i>, at www.pca.state.mn.us/publications/w-hw4-16.pdf</p>
Pharmaceutical waste	Health care providers must evaluate all pharmaceutical waste before disposal to determine whether it is hazardous. Squirted or poured pharmaceuticals into a sanitary sewer or absorbent material, commonly referred to as <i>wasting</i> , is a form of disposal. Document all evaluations; ensure they are available for inspection. For more information about evaluating pharmaceuticals, see MPCA hazardous waste fact sheet #4.45a, <i>Evaluating pharmaceutical wastes</i> , at www.pca.state.mn.us/publications/w-hw4-45a.pdf . For more information about discharging pharmaceuticals to a sanitary sewer for disposal, see the <i>Wastes discharged to a POTW</i> section of this fact sheet.

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Radiological contrast media	Barium-containing radiological contrast medias may be <i>toxic</i> hazardous waste. Each facility must individually evaluate each of its waste barium-containing contrast medias in the form in which they are disposed of to determine whether they are hazardous. Or, facilities may choose to manage such wastes as hazardous waste without evaluating them. For more information about evaluation, see MPCA hazardous waste fact sheet #1.01, <i>Step 1: Evaluate Waste; Determine Generator Size</i> , at www.pca.state.mn.us/publications/w-hw1-01.pdf
Reverse distribution of pharmaceuticals	Some pharmaceuticals that are no longer usable by a health care provider may be products and eligible for return to manufacturers or consolidators for beneficial use. This process is defined by EPA and recognized by the MPCA and metro counties as <i>reverse distribution</i> . It potentially applies to all pharmaceuticals, hazardous and non-hazardous. To be eligible for shipment as a product to a reverse distributor, pharmaceuticals must not be apparently or reasonably wastes at the health care facility. The MPCA and metro counties have compiled examples of situations when pharmaceuticals must be managed as waste by the health care facility. For more information, see MPCA hazardous waste fact sheet #3.36b, <i>Reverse Distribution of Non-controlled Substance Pharmaceuticals</i> at www.pca.state.mn.us/publications/w-hw3-36b.pdf
Stains, fixatives, and reagents	Evaluate each waste produced during the staining process at the point of generation, before mingling or combining it with other waste, to determine whether it is hazardous. When solutions are rinsed off of slides or equipment and discharged into the sewer, the action is considered <i>disposal</i> ; the solutions must be evaluated before they are diluted by the rinsing process. Generators of stains who intend to discharge the waste to a sanitary sewer must notify their POTW before discharge.
Sterilization indicators	Many steam sterilization indicator products, such as tapes and cards, contain sufficient lead or barium to render them <i>toxic</i> hazardous wastes when discarded. Generators wishing to manage sterilization indicators and items to which the indicators are attached, such as sterilization wrap, commonly known as ‘blue wrap’, as non-hazardous must evaluate each indicator/wrap combination separately. Analytical results may be extrapolated between identical products using the following calculation: Length of tape allowed = (Area of wrap to be used) x (Tested tape length ÷ Tested wrap area) x (Hazardous waste threshold concentration ÷ Test concentration result). Non-hazardous steam sterilization indicator products are also available.
Surgical/wound prep applicators	Many health care providers use combination reservoir/sponge applicators for surgical preparation and wound cleaning. These applicators consist of a reservoir, typically cylindrical, containing a liquid disinfection agent attached to an absorbent material. Many of the liquid disinfection agents used in these applicators are alcohol-based and <i>ignitable</i> hazardous wastes at disposal. If the agent is <i>ignitable</i> , manage the entire applicator as a hazardous waste, unless the applicator meets the definitions of both <i>empty</i> and <i>dry</i> . For regulatory purposes, MPCA and metro county hazardous waste staff interpret <i>dry</i> to mean that no fluid drips from an absorbent when it is wrung with reasonable mechanical pressure.

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Surgical/wound prep gauze pads

Many health care providers use pre-moistened gauze pads for small surgical and wound preparation. The pads are commonly found individually packaged in approximately 2-inch-square foil and are usually pre-moistened with an *ignitable* alcohol-based disinfection agent. Pads and other absorbents containing only an *ignitable* liquid and disposed of *dry* after use are non-hazardous. Each generator must evaluate each of its patient prep solutions. For more information see MPCA hazardous waste fact sheet #4.61, *Managing Towels, Wipes and Sorbents*, at www.pca.state.mn.us/publications/w-hw4-61.pdf

Treatment in a container

Hazardous waste generators may use products such as Chemgon™ and similar products to treat hazardous waste in a container at their location; however all such treatment must be performed in a closed container. The generator of such waste must also still report all waste treated on site as generated hazardous waste and is responsible for ensuring that the treated waste is actually non-hazardous.

Infectious waste generators may use products such as Isolyser/SMS™ and similar products to treat infectious waste in a container at their location without MPCA approval; however the generator of such waste is responsible for ensuring that the decontaminated waste is non-infectious. Infectious waste sharps treated in a container on site may not be managed as non-infectious unless the treatment method has received specific approval from the MPCA.

Unsorted pharmaceuticals

Health care facilities may find it convenient to collect and co-mingle pharmaceuticals in a common container for later sorting. If any pharmaceuticals are apparently, reasonably, or known to be a *waste* at the time they are placed in a common container, the contents of the entire container are also considered *wastes* until such time as they are sorted. Assume wastes which have not been evaluated to be hazardous; any collection container in which they are collected must meet all hazardous waste container requirements.

Mixing listed hazardous waste with non-listed waste may result in the entire mixture becoming a listed hazardous waste. To ensure mixture does not occur before sorting, containers or plastic bags can be used. Pharmaceutical containers of solid tablets or similar materials may be assumed to be fully contained if the container is intact and fully closed. Placing any free liquid or otherwise uncontained apparently, reasonably, or known hazardous wastes into a container will render the entire contents of the container hazardous waste, regardless of sorting. Do not assume *spiked* IV bags or vials with pierced diaphragms containing free liquids to be inherently fully contained. Snapped ampoules are considered inherently *uncontained*. For more information on hazardous waste container requirements, see MPCA hazardous waste fact sheet #1.04/1.05, *Steps 4 & 5: Mark and store waste correctly*, at www.pca.state.mn.us/publications/w-hw1-04-05.pdf

Wastes discharged to a POTW

Evaluate at the point of generation before mingling or combining with other waste, each waste discharged to a POTW to determine whether it is hazardous. Generators who intend to discharge waste to a sanitary sewer system for disposal must notify their POTW before discharge. Notification must include the following three items:

1. the identity of the waste
2. the hazardous waste status of the waste
3. the volume intended to be discharged to the POTW

Generators may not delegate waste evaluation to the POTW.

Note 1: It is the generator's responsibility to ensure the POTW has been notified; regulatory agencies will not forward notification documents to the appropriate POTW.

Evaluating a waste to determine whether it is hazardous waste and determining

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(continued)

whether a waste may be discharged to a sewer are separate and different processes: some hazardous wastes may be discharged to a sewer; some non-hazardous wastes may be prohibited from discharge. In all cases, the POTW's decision of whether a waste may be discharged to the sewer system is final and binding on the health care facility. The kind and amount of hazardous wastes that are discharged to a sewer system must still be reported to the MPCA or appropriate metro county.

Notify your local sewer authority of all wastes you intend to discharge; report to your hazardous waste regulatory authority all hazardous wastes that are discharged.

Note 2: A patient's body is not considered to be a *point of generation*; wastes expelled or excreted from a patient's body are not considered *generated* by the health care facility. Therefore, those wastes are not subject to evaluation or hazardous waste management requirements. Current Best Management Practices are to discharge these wastes to a POTW for disposal.

For more information, see MPCA hazardous waste fact sheet #7.11, *Sewered Waste Notification*, available at www.pca.state.mn.us/publications/w-hw7-11.pdf

X-ray film

Based on data provided by manufacturers and other environmental regulatory agencies, the MPCA will allow generators of waste X-ray film manufactured since 1976 to assume the film is non-hazardous, unless there is a specific reason to believe specific film is hazardous. The MPCA strongly recommends reclamation of the silver content of all waste X-ray film.

Individual metro county ordinances may dictate specific management and reporting requirements for waste X-ray film. For more information, see MPCA hazardous waste fact sheet #4.46, *Managing Photographic and X-ray Waste*, at www.pca.state.mn.us/publications/w-hw4-46.pdf

Issues under review

All of the consensus items discussed in this fact sheet were raised by members of the regulated health care community. In addition, the MPCA and metro counties are currently reviewing and researching the following items to reach regulatory consensus:

- Representative sampling for manifest profiles
- Representative sampling of laboratory analyzers
- Status of pharmaceuticals at long term care facilities
- Consolidation of satellite accumulation
- Feedstock eligibility of lead-containing wastes
- Controlled substance hazardous waste management

The MPCA and metro counties intend to continue to address regulatory interpretation questions encountered by the health care community. If you have an environmental regulatory interpretation question raised by a situation at your facility, please contact your MPCA or metro county hazardous waste staff. If the question has state-wide relevance and cannot be addressed by existing regulation or interpretation, MPCA and metro county staffs will discuss it for addition to this fact sheet. Remember that waste evaluation is the sole responsibility of the waste generator; MPCA and metro county staff cannot provide binding determination that any waste is non-hazardous.

More information

The MPCA, in cooperation with metropolitan county hazardous waste staff, Minnesota Technical Assistance Program (MnTAP) staff and other partners have developed guidance and assembled information specific to the healthcare industry. See this information on the MPCA Web site at

www.pca.state.mn.us/industry/healthcare.html

The MPCA and Metropolitan County hazardous waste offices listed below have staff who can help you. For more information, contact your Metropolitan County hazardous waste office or the MPCA office closest to your county.

The Minnesota Technical Assistance Program (MnTAP) has staff who are able to help you find ways to improve efficiency and reduce waste.

Metro County Hazardous Waste Offices

Anoka	763-422-7093
Carver	952-361-1800
Dakota	952-891-7557
Hennepin	612-348-3777
Ramsey	651-266-1199
Scott County	952-496-8475
Washington County	651-430-6655
Web sites	www.co.[county].mn.us

Minnesota Pollution Control Agency

Toll free (all offices)	1-800-657-3864
Brainerd	218-828-2492
Detroit Lakes	218-847-1519
Duluth	218-723-4660
Mankato	507-389-5977
Marshall	507-537-7146
Rochester	507-285-7343
St. Paul	651-296-6300
Willmar	320-214-3786
Web site	www.pca.state.mn.us

Minnesota Technical Assistance Program

Toll-free	1-800-247-0015
Metro area	612-624-1300
Web site	www.mntap.umn.edu