

P. W. GROSSER  
CONSULTING, Inc.

Summer 2018

**Special points of interest:**

- **Hazardous Waste Electronic Manifests are Coming. Register and learn how it works .....Pg 4**

**Inside this issue:**

- Fuel Storage Tanks: Permits, Tier Two Reports and SPCC Plans **2**
- Confused about the Management of Pharmaceutical Containers? **3**
- Hazardous Waste Electronic Manifests are Coming **4**

# Hospital Waste

## Medical Masks Are Not All The Same

Healthcare employees have a wide variety of masks available to them, but choosing the appropriate mask should only be done after assessing the hazard. To protect yourself from a hazard like a coughing or sneezing patient requires knowledge of aerosol droplet size, a mask’s bacterial filtration efficiency and its fluid resistance.

Not all masks are constructed alike and manufacturers go to a great deal of trouble to alert you to each mask’s capabilities. ASTM Standard F2100-11 addresses medical masks. Briefly, medical masks provide:

- **Minimum Protection**—Ideal as a simple barrier for exams and short procedures that do not produce fluid, spray or aerosols;
- **Level 1**—Ideal for procedures where low amounts of fluid, spray and/or aerosols are produced;
- **Level 2**—Ideal for procedures where low to moderate amounts of fluid, spray and/or aerosols are produced; or
- **Level 3**—Ideal for procedures where moderate to heavy amounts of fluid, spray and/or aerosols are produced.

Perhaps too often employees grab the nearest mask and assume that it will provide enough protection. Worse still, it is virtual-

ly impossible to identify which level of protection is offered by a mask simply by its color or “feel.” You need to read the label on the box to discover which ASTM level mask you have and its level of protection.

If you’re protecting yourself from an ailing patient who’s coughing or sneezing, check the box label for a level of protection commensurate with the amount of fluid you’re willing to inhale.

The best single aspect of mask protection is how it fits you. Take the time to properly fit the mask to your face, pressing the metal nose bridge tab against

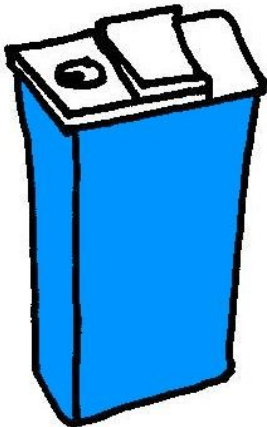
Masks look alike. Don’t rely upon the color or “feel” to choose a mask. Read the label on the box and know the amount of fluid, spray or aerosol droplets to which you’ll be exposed.

your face with both index fingers—don’t just pinch it! Pinching can leave a gap in the middle of your bridge. For the best protection use a mask that’s been fit-tested to you. The best mask in the world does you no good if

there’s a gap along the edge where it meets your face.

When it comes to chemical fumes or evaporating solvents, a medical mask is of little worth to your respiratory health. You must use air purifying cartridges and either a tight-fitting respirator or

(Continued on page 2)



(Continued from page 1)

PAPR to block airborne molecules coming from an evaporating liquid.

PAPRs themselves come in two flavors in healthcare: 1) the PAPR used to protect against airborne aerosol droplets in patient rooms that uses HEPA cartridges and 2) the chemical-resistant PAPR that takes special cartridges to protect against chemicals. All hospitals were issued the latter type of PAPRs from the U.S. Department of Homeland Security in decontamination supplies for MCIs.

It is extremely difficult to distinguish evaporating molecules from aerosol droplets, both of which can come from some spills and releases. All liquid spills emit aerosol droplets into the air. But only liquids with an appreciable vapor pressure will evaporate enough molecules to endanger staff. Another indication of a high evaporation rate is a low boiling point.

Molecular diameters are typically measured in angstroms ( $10^{-10}$  meters) while aerosol droplets are measured in microns ( $10^{-6}$  meters). Some medical masks are excellent at blocking aerosol droplets, but none are good at blocking airborne molecules such as from a formalin spill.

Learn what masks are available at your facility and then choose one that fits the hazard that you're facing.



## Fuel Storage Tanks: Permits, Tier Two Reports & Spill Prevention, Control & Countermeasure Plans

Washington's Department of Ecology proposes to repeal the existing the current Underground Storage Tank Rule (WAC 173-360) and replace it with a new WAC 173-360A. The new chapter follows adoption of federal UST rule revisions in October 2015 (40 CFR §280). States, including Washington, must incorporate the federal revisions within 3 years.

Generally, underground fuel storage tanks larger than 110 gallons at healthcare facilities that are used for backup power generators must be registered. Above ground fuel storage tanks that can be visually inspected for leaks are exempt from UST regulations.

Businesses that store 10,000 pounds or more of a hazardous chemical [1,412 gallons of diesel #2] or 500 pounds or less, depending on the chemical, of an extremely hazardous chemical on site at any one time must report annually. Tier Two Reports are sent to the State Emergency Response Commission (represented by Washington Ecology) Local Emergency Planning Committees (LEPCs), and local fire departments for

emergency planning. Oxygen tanks at healthcare facilities are exempt from Tier Two reporting when used for medical purposes and managed by trained personnel.

Spill Prevention, Control & Countermeasure (SPCC) Plans are required when a facility's underground petroleum storage tank capacity is greater than 42,000 gallons or when a facility has any above ground storage tank larger than 1,320 gallons and where there exists the potential of contaminating nearby surface waters in the event of a spill or leak. (40 CFR §112) This includes creeks, storm drains and wetlands. SPCC Plan requirements are detailed and must be signed by a professional engineer.

Operators of fuel storage tanks must receive training in the management of filling, testing, checking and responding to leaks and spills. This includes completing the checklists required for maintaining a fuel storage system.

If these rules apply to your facility and you're not sure if you're in compliance, contact us at P. W. Grosser Consulting. We'll be happy to review your program, advise you on any deficiencies, and assist you in filling holes in your program.

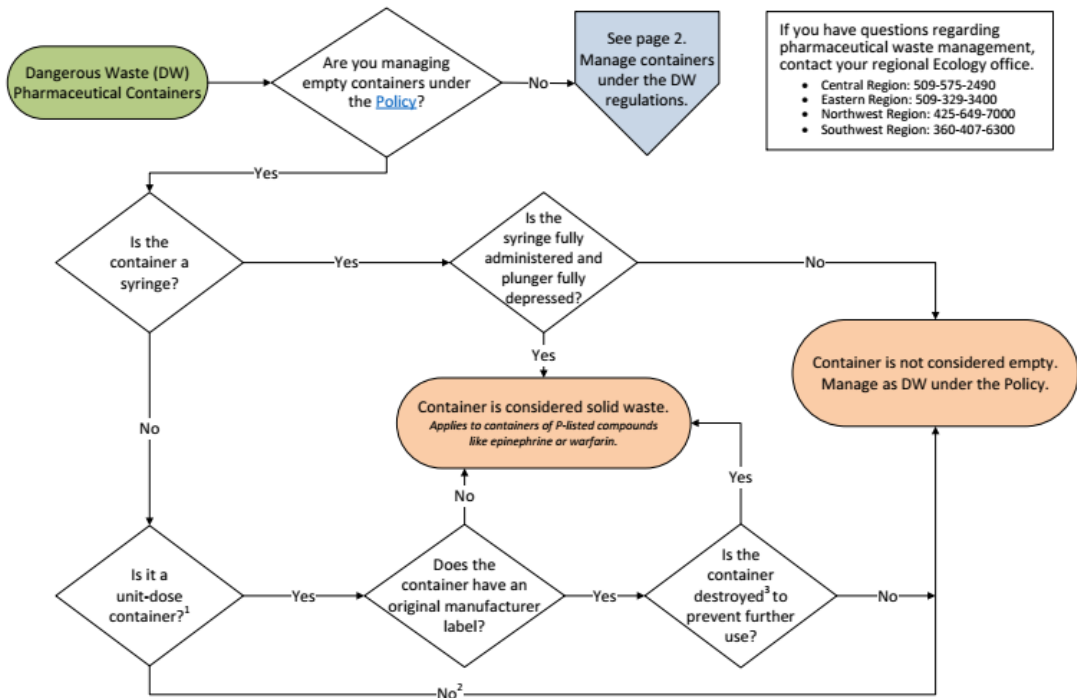
## Confused about the Management of Pharmaceutical Containers?

Ecology has created a flow chart to assist you with the management of your empty pharmaceutical containers. [https://ecology.wa.gov/DOE/files/2d/2d8b9630-a35b-4e67-af8f-658b5cc45195.pdf]

You have a choice to make: you can manage syringes, unit dose containers and other containers according to either (1) the *Interim Pharmaceutical Waste Policy* or (2) the Dan-

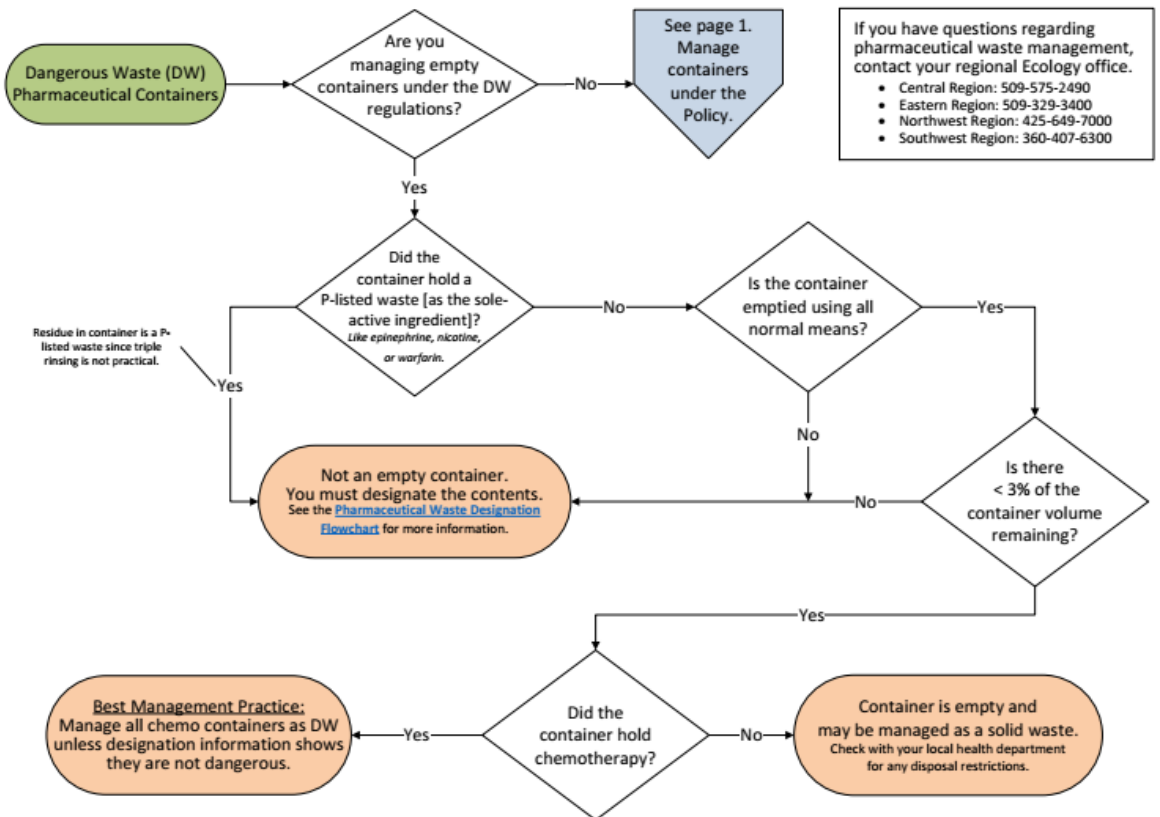
gerous Waste Regulations. For example, it is easier to manage syringes under the Policy because the Policy allows you to dispose of syringes in solid waste when the plunger has been fully depressed. However, it is easier to manage pill and solution containers under the DW regulations because you don't have to crush or cut up the original manufacturer's container before disposing in solid waste.

### Management of Dangerous Waste Pharmaceutical Containers



<sup>1</sup> Unit-dose containers include vials, ampoules, patches, packets, cups, blister packs, or bottles holding ≤ 1.0 L or ≤ 1,000 pills.  
<sup>2</sup> Other containers include IV bags and tubing, nebulizers, inhalers, aerosols, tubes of ointments, gels, and creams, or bottles holding > 1.0 L or > 1,000 pills.  
<sup>3</sup> Destroyed means unable to hold a similar pharmaceutical again (e.g. broken blister pack or crushed vial). Defacing the label is not sufficient.

### Management of Dangerous Waste Pharmaceutical Containers



# PWGC



## P.W. Grosser Consulting

17629 NE 138th Street  
Redmond,  
Washington 98052-1226

Phone: 425-883-0405  
Fax: 425-895-0067  
E-mail: [ajones@pwgrosser.com](mailto:ajones@pwgrosser.com)

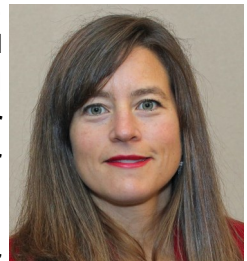
<https://pwgrosser.com>

**H**ospital Waste is published quarterly for hospital, clinical and medical laboratory waste and hazardous material managers to assist them in managing these materials.

You can download .pdf copies of past issues of *Hospital Waste* from our website at <https://pwgrosser.com/newsletters>. Click on the Healthcare ▼ (Seattle/WA) arrow. Issues from the past five years are downloadable as portable document format (.pdf) files.



If you wish to receive this free quarterly newsletter, please notify us by telephone, fax or e-mail (contact information is shown adjacent). You will receive the newsletter as an e-mail on your smartphone with a hyperlink to a .pdf file on our website that you can download.



This newsletter is copyrighted by P. W. Grosser Consulting, but reprints are encouraged with acknowledgement to Alan B. Jones, PhD. Feel free to forward this newsletter to colleagues who may find the information useful.

While every effort was made during the development of this newsletter to insure accuracy, we make no warranties or certifications. We encourage you to contact P. W. Grosser Consulting or Alan B. Jones for further information about any topic mentioned in the newsletter. If you wish to no longer receive this newsletter, please let us know and we'll remove your name from the subscriber list. Subscriber names and e-mail addresses

## Hazardous Waste Electronic Manifests are Coming

**T**he U.S. Environmental Protection Agency (EPA) plans to roll out its e-Manifest System on June 30, 2018. This system will be effective across the U.S., including Washington State. The new system is expected to save \$75-\$90 million nationwide in form preparation costs. Soon it may also facilitate the preparation of annual dangerous waste reports. The system will cover both federal hazardous wastes and state-only dangerous wastes.

A hybrid electronic/paper approach will allow the waste transporter to print and sign a paper copy for the waste generator but use an electronic copy for waste transport. Further, the transporter can sign "on behalf" of the generator, relieving the generator of some responsibility for waste documentation. The new system also allows generators to electronically submit corrections to manifests.

To learn about and register for the e-manifest system, go to the RCRAinfo

web page at <https://www.epa.gov/e-manifest/how-participate-testing-hazardous-waste-electronic-manifest-system-system-e-manifest>. Scroll down to "Accessing the Test Environment" and follow the directions.

The EPA expects to phase out all paper in the system after 5 years.

More information on the e-Manifest System can be found at <https://www.epa.gov/e-manifest>.