

HazMat-ter of Fact

Taking a closer look at EC.02.02.01 and the management of hazardous materials and waste

Guest Columnist: Kathy Tolomeo, CHEM, CHSP, engineer, The Joint Commission

An introduction from George Mills, MBA, FASHE, CEM, CHFM, CHSP, director, Department of Engineering, The Joint Commission: This column clarifies standards expectations and provides strategies for challenging compliance issues, primarily in life safety and the environment of care but also in the vital area of hazardous materials. You may wish to share the ideas and strategies in this column with your organization's leadership. This month, I enlisted Kathy Tolomeo, CHEM, CHSP, engineer in The Joint Commission's Department of Engineering, to further explore aspects and issues related to this topic.

Environment of Care (EC) Standard **EC.02.02.01** is concerned with managing risks related to hazardous materials and waste in health care organizations. This standard is crucial, with many important elements of performance (EPs) that are often misinterpreted and improperly addressed. This standard was among the 10 most frequently cited by surveyors during the first six months of 2015, and 38% of surveyed hospitals were found to be noncompliant with it.

If not carefully inventoried and managed from the moment they enter your facility to the time they are disposed of or shipped out, these hazards can lead to serious injuries, illnesses, and code violations. From harmful vapors to bloodborne pathogens, the related threats are numerous and serious. But with proper preparation and compliance

with applicable laws, regulations, and written procedures, you can better safeguard your patients, staff, visitors, and surrounding community.

This is the first of two columns focused on **EC.02.02.01**. This article explores Elements of Performance (EPs) 1 and 3 through 8.

EP 1 *The hospital maintains a written, current inventory of hazardous materials and waste that it uses, stores, or generates. The only materials that need to be included on the inventory are those whose handling, use, and storage are addressed by law and regulation.*

When dealing with hazardous materials and waste (HazMats), important questions need to be asked, including the following:

- What are they?
- When did they arrive?
- What are the safety requirements?
- Where are they stored?
- What is the quantity?

A HazMat inventory should answer these questions. This inventory only needs to include HazMat items addressed by federal, state, and local regulations and laws, particularly ones specified by agencies like the US Occupational Safety and Health Administration (OSHA), the US Environmental Protection Agency (EPA), the US Drug Enforcement Administration (DEA), the US Nuclear Regulatory Commission (NRC), and

the US Department of Transportation (DOT). Several types of HazMats can be included in your inventory, among them hazardous chemicals, energy sources, medications, and gases and vapors; laboratory samples; infectious/medical waste; and radioactive materials.

Your inventory should be documented consistently, accurately, and completely on a paper form or in a database that lists essential information such as the material's and manufacturer's name; the safety data sheet (SDS) on file; maximum quantity on hand; Chemical Abstracts Service (CAS)/catalog number; estimated weight/volume; storage area locations; any health/safety/fire risks; any personal protective equipment (PPE) required; and any staff training required in order to handle the materials. Per OSHA, which the EPA references for chemical inventory requirements, the minimal chemical inventory should contain the following:

- Chemical name
- CAS number
- Common name
- Synonyms
- Product/mixture name (if applicable)
- Percentage of ingredients in product/mixture (if applicable)

See an example of a hazardous materials inventory form on page 7.

The DOT does not require a chemical inventory, since its focus is on the shipment of hazardous materials (for example, manifests). However, because The Joint Commission requires that hazardous waste be included on the inventory, the

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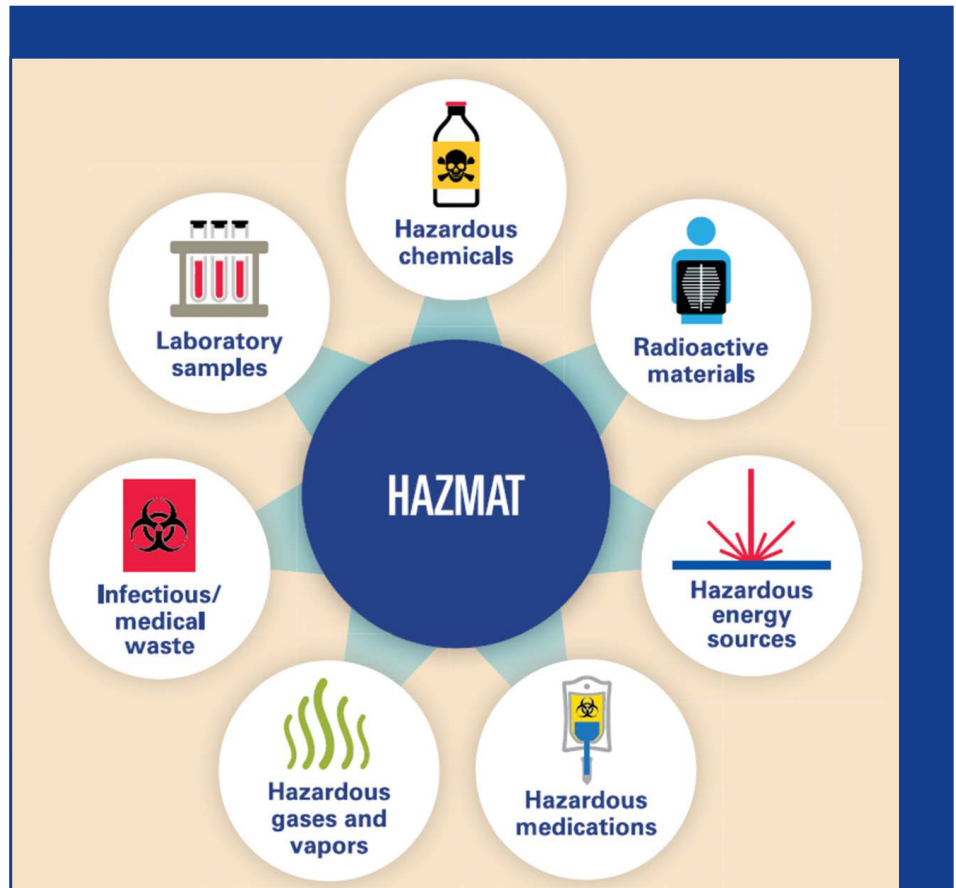
SDS requirements) and adequately ventilated, and staff working with them must be properly monitored and supplied with appropriate PPE, per OSHA.

- Radioactive materials must be stored in a locked, secure area and supervised (as mandated by the NRC), affected staff need to be routinely monitored for exposure using a dosimeter, and all radiation-producing equipment has to be carefully inventoried and tracked for service and maintenance.
- Appropriate use of, training for, and upkeep of hazardous energy sources like lasers and radiation are vital.
- Chemotherapeutic agents must be treated with special care, for example: Tubing and port connections must be properly secured, drug containers have to be transported safely to avoid leakage or spills, and staff must be carefully trained in disposing of these substances.

To more effectively minimize risks pertaining to these four types of HazMats, consider the following tips:

- Refer to the respective SDS and the regulations indicated therein.
- Implement appropriate engineering controls.
- Examine other specific regulations closely, including any issued by the EPA, NRC, OSHA, DOT, and/or DEA.
- Conduct risk assessments to identify any environment of care HazMat risks that could affect patients, staff, or other people entering the facility. When evaluating risks, consider factors such as vapors, flammability, corrosiveness, environmental impact, and security and special equipment required.

The value of conducting a risk assessment is demonstrated in this example: A staff member is concerned that the cleaning solution used by custodial workers could splatter or spill, causing eye injury.



The substances and materials identified in this graphic represent categories of hazardous materials.

A proper risk assessment could determine whether the chemical in question is caustic and corrosive (defined by OSHA as having a pH level less than 2.5 or greater than 11.0), which should be indicated on the chemical's SDS. If a risk for exposure is determined, installation of an eye wash station and/or emergency shower is required by OSHA federal regulation 29 CFR 1910.151(c).

Be aware that EPs 5 and 7, pertaining to hazardous chemicals and hazardous energy sources, respectively, are currently hot topics and among the elements of performance that surveyors cite as being most problematic. To curtail risks associated with EP 5, performing additional risk assessments can ensure a higher level of compliance. And to decrease the risk of staff exposure to hazardous energy sources in EP7, organizations should maintain a complete and accurate inventory of policies, procedures, and PPE, all of which are likely to be meticulously

scrutinized during surveys.

Speaking of PPE, remember that OSHA requires your organization to provide a written "certification of hazard assessment." This certification documents that you've conducted an assessment involving three steps: (1) Identify dangers related to specific hazardous materials; (2) determine specific staff job functions related to those materials; and (3) assign the appropriate PPE to mitigate hazards for those materials. OSHA mandates that your organization must (1) educate staff on how to correctly use PPE and (2) prove that staff have been properly trained prior to having contact with any HazMat sources.

Safety requires constant vigilance

Protecting occupants of your facility from hazardous materials and waste takes a dedicated, consistent, and unified effort

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from staff. This crucial process starts with detailed documentation, continues with the creation and implementation of written procedures (including the use of PPE) to immediately address a HazMat disposer or accident, and carries on with

the identification and abatement of risks related to HazMat sources.

Next month, we will round out this topic by taking a closer look at minimizing risks associated with selecting, handling, storing, transporting, using, and disposing of hazardous gases and vapors and their proper monitoring;

complying with applicable laws and regulations pertaining to HazMat threats; properly labeling HazMats; periodically checking of radiation workers to gauge exposure; and creating and following procedures for routine storage and disposal of trash. 