



## DRAFT -

### Missouri Department of Natural Resources Hazardous Waste Program

Guidance intended for the:

Hazardous Waste Enforcement and Compliance Assistance Listserv for Hazardous Waste Generators

For Stakeholder Review and Comment until May 31, 2011. Please send any suggested additions, deletions or other comments to [Mark.Conner@dnr.mo.gov](mailto:Mark.Conner@dnr.mo.gov). The final document will then be posted on the Hazardous Waste Forum Webpage and distributed through a Hazardous Waste Enforcement and Compliance Assistance Listserv

### **Incompatible Hazardous Wastes - Guidance for Identifying and Managing These Wastes**

With the number and variety of chemicals and potential interactions increasing, proper management of incompatible wastes can be a challenge for hazardous waste generators. It is very important for people at the facility who handle hazardous wastes to have adequate training to know if and how the wastes that they come in contact with and store may be incompatible. This knowledge and proper separation of incompatibles will help prevent heat or pressure buildup, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases

The information below is focused on container regulations for hazardous waste generators. It does not address these requirements for tanks or other regulated units, or for interim status or permitted hazardous waste treatment, storage or disposal facilities.

The most common incompatibles seen during hazardous waste inspections are:

- \*Organics (hydrocarbons, alcohols/glycols, ketones, halogenated compounds) with Corrosives
- \*Acids with Bases
- \*Mineral Acids with Organic Acids
- \*Oxidizers with Acids, Alcohols and Flammables and Combustibles
- \*Water Reactives with Most All Other Chemicals

Incompatible waste is defined in 260.10 as *"...a hazardous waste which is unsuitable for: (1) placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls); or (2) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases."*  
 This definition includes a note to *"See part 265, appendix V, of this chapter for examples."*

40 CFR 265.17 outlines general requirements for ignitable, reactive, or incompatible wastes. 40 CFR 265.177 lists special requirements for incompatible wastes. In addition, 40 CFR 265.406 notes special requirements for incompatible wastes in regard to chemical, physical or biological treatment.

Some additional sources of information that might be helpful:

1. 40 CFR 265 Appendix V
2. "A Method for Determining the Compatibility of Hazardous Waste, EPA-600/2.-80-076, April 1980. This document is available online at [dnr.mo.gov/env/hwp/forum/1105EPADetermineCompatib.pdf](http://dnr.mo.gov/env/hwp/forum/1105EPADetermineCompatib.pdf).
3. Material safety data sheets (though these may not list all constituents or contain all information needed)
4. <http://response.restoration.noaa.gov/> - Chemical Reactivity Worksheet (CRW) - This is a free program you can use to find out about the reactivity of substances or mixtures of substances (reactivity being the tendency of substances to undergo chemical change).
5. In addition, you may wish to reference the specific information in the hazardous materials table in 40 CFR 172.101 (hazard class, division, packing group, special provisions, etc) to help make decisions about incompatibles management along with other references noted above.

## **Hazardous Waste Lab Pack Guidance**

Lab packs are defined in 40 CFR 265.316 as *"small containers of hazardous waste in overpacked drums."* The November 18, 1992 Federal Register (54457) also has a definition: *"Lab packs are small containers of liquids (typically of one gallon or less), most commonly used for laboratory wastes, that are placed in a drum and surrounded by sufficient sorbent material to sorb the liquids should the containers fail."*

The proper management of waste in lab packs hinges on the complete identification of the wastes being managed according to 40 CFR 262.11. All constituents and characteristics of the materials should be considered in making decisions about the incompatibility potential.

The regulations in Subpart I- Use and Management of Containers in 40 CFR part 265 apply to lab packs as well. Here are links to our large and small quantity generator checklists that reference these regulations.

<http://www.dnr.mo.gov/forms/780-1525-f.pdf>

<http://www.dnr.mo.gov/forms/780-1602-f.pdf>

See specifically Section B. Pretransport, Containerization and Storage. Please note that because the regulations on the checklists are paraphrased, you should read the full text of the applicable regulation.

40 CFR 265.316 contains hazardous requirements for the lab pack containers, management conditions for some materials (such as reactives), sorbent materials and disposal conditions.

Land disposal restriction regulations for lab packs can be found in 40 CFR 268.7(a) (9), 268.42(c) for incineration of lab packs, and in Part 268 Appendix IV.

U.S. Department of Transportation regulations for lab packs being offered for shipment can be found at 49 CFR 173.12(b). For example: If all wastes in the pack are the same DOT hazard class, the generator can use a generic shipping name and combination packaging is not required. You will also want to look at the combination packaging requirements if you have more than one DOT hazard class packed together, as specific shipping names for inner and outer packaging are required along with listing of those names on the manifest. This information must also be reported specifically on the hazardous waste generator biennial reports. Questions on DOT regulations can be directed to the Missouri Division of the Federal Motor Carrier Safety Administration at Phone: (573) 636-3246 or Fax: (573) 636-8901.