



Safe Operating Procedure (SOP)

SAFE CHEMICAL CONTAINER LABELING

- With few exceptions, chemical containers used and stored at ALS must be labeled to identify their contents. Labeling is important to prevent accidental misuse and inadvertent mixing of incompatible chemicals. Proper labeling facilitates quick decision-making and action in an emergency (i.e., spill, exposure, fire, etc.), avoiding the expense of handling, management, and disposal of unknown chemicals.
- This SOP is primarily focused on container labeling for chemicals that are not spent, used, or otherwise intended for collection as waste by EH&S. Only a brief summary for hazardous material collection containers is provided below; refer to HAZARDOUS WASTE FMI Morenci/Miami for more specific guidance.

Labeling Requirements by Type of Container

- Specific labeling requirements vary with the type of container. Any media can be used to label containers as long as it is resistant to smearing and fading. Old labels must be completely defaced or removed when reusing containers, unless the old label accurately describes the new contents.
 - Permanent containers - those containers as received from the manufacturer. Permanent containers must be labeled with the following information: chemical name¹ physical hazards²; health hazards³; target organ; manufacturer name and address; and date of receipt. Most of this information will already be provided on the manufacturer's label. Generally, the only information that needs to be added by the user is the date of receipt.
 - Durable containers - containers that are not provided by the manufacturer but which hold chemicals that will be used only in one work area⁴, usually for longer than one day and by more than one person. Examples include stock solutions and dilutions of

chemical products. Durable containers must be labeled with the following information: chemical name and concentration; date of preparation and preparer's initials; physical hazards; and health hazards. It may also be helpful to add the following information: method or procedure reference, storage location, recordkeeping information, and target organ(s). If these containers are taken to another work area, they must be labeled as a permanent container.

- Transient containers - containers that will be used to hold chemicals for one work shift or less and that will be under the direct control of the person filling the container. No labeling is required for these containers until they are no longer under the control of the person who prepared the material. Examples include solutions that will be used immediately in an experiment, cleaning solutions or paint that will be used by the end of a shift.
 - Transient containers can easily be inadvertently left unlabeled at the end of the day, so consideration should be given to labeling them in accordance with the requirements for durable containers whenever possible. If a transient container is left unattended in an unsecured area, it must be labeled as for durable containers.
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- 1 Chemical name can mean an acronym or shorthand abbreviation if a cross-reference between the full chemical name and its associated shorthand name is clearly posted in the work area. Shorthand or abbreviated chemical names are never allowed on hazardous material collection containers.
 - 2 One or more of the following words, or their associated symbols can describe physical hazards: flammable, organic peroxide, pyrophoric, oxidizer, explosive and water reactive.
 - 3 One or more of the following words, or their associated symbols can describe health hazards: biohazardous, infectious, corrosive, poison, toxic, radioactive, carcinogen, irritant, and sensitizer.
 - 4 Work area does not necessarily mean a single room. A work area can consist of multiple rooms that are used similar processes (e.g., suite of labs)



under the control of a single Principal Investigator). Distinct processes, staff, and persons responsible for the area generally define different work areas.

- Hazardous material collection containers - containers used to collect chemicals for pickup by EH&S.
- These containers are subject to hazardous waste regulations, and the following minimum information must be recorded on the label: USED/EXCESS FULL CHEMICAL NAME
- (not chemical formula); and PERCENT COMPOSITION FOR MIXTURES

Exceptions

Exceptions to the labeling requirements include the following items:

- Consumer products (e.g., hair spray)
- Food and food products labeled in accordance with the Food, Drug and Cosmetic Act
- Samples and specimens received in a lab for testing when the exact composition is not known
- Pesticides labeled in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act
- Non-toxic and harmless chemicals are also exempt from other labeling requirements so long as they are labeled with the chemical name. If you have a labeling question please refer to EH&S.

Special Circumstances

- Small containers, such as vials and test tubes, can be labeled as a group by labeling the outer container (i.e. rack or box). Alternatively, a placard can be used to label the storage location for small containers (i.e. shelf, refrigerator, etc.)



- Used means that the material has been used in a process and it is no longer useful for the intended application. Excess means that the chemical has not been used in a process, but it is no longer needed for the intended application. Do not label containers with the words "Waste" or "Spent."
- The label must list the fully written, proper chemical names of all constituents in the container. Unlike worksite containers that hold chemicals which not intended for collection by EH&S, abbreviations are not acceptable, even when cross-referenced elsewhere.
- If the hazardous material collection container holds a mixture of chemicals, include the approximate percent composition of each constituent on the label.