

E-1 Chemical Management Corrective Action Plan
LBNL Integrated ES&H Management Inspection
April 24, 2009

Finding Statement E-1:

LBNL has not implemented an effective process to ensure that: all hazardous chemicals are captured in the **CMS**; all secondary containers, except for immediate use, are appropriately **labeled** with the identity of the hazardous chemical and appropriate warnings; and chemicals are properly **stored**, as required by 29 CFR 1910.1200, *Hazard Communication*; 29 CFR 1910.1450, *Occupational Exposure to Hazardous Chemicals in Laboratories*; or the LBNL CHSP.

Causal analysis: Root causes were identified for this finding as follows:

1. The CHSP and CMS program managers did not know that components were being removed from kits and therefore were not aware that CMS tracking guidance was needed.
2. There is a lack of effective communication between CHSP and CMS program managers and users.
3. Tracking consumables such as welding rods and grinding wheels was not considered by the CHSP and the CMS program managers and therefore was not addressed in the CMS procedures.
4. The CMS and CHSP program managers believed that tracking primary containers obviated the need to track secondary containers, and therefore did not address tracking secondary containers of hazardous chemicals in the CMS.
5. The CMS tracking process guidelines are not clearly defined.
6. LBNL does not have an effective process for developing and reviewing guidelines.*
7. Line management does not enforce CMS tracking and hazardous materials. labeling and storage requirements.*
8. The CHSP combines the OSHA HazCom and the Lab Standards into one program. The Lab Standard doesn't have secondary container labeling requirements. Therefore the HazCom Standard's labeling rules were used. It is not clear to users how to apply these rules in lab settings.
9. The OSHA HazCom standard allows using abbreviations, provided that personnel understand what they mean. But the CHSP doesn't describe how to properly use and communicate the meaning of abbreviations.
10. It is difficult for users to determine if a hazard warning should be applied to a secondary container because the section describing hazard determination is separate from the labeling section of the CHSP and the two are not connected by a hyperlink.
11. The CHSP Manager oversimplified the labeling process to make it easier to implement in laboratory and non-laboratory environments.
12. The CHSP combines requirements and recommendations in the Storage Section but does not always distinguish one from the other.
13. It may be difficult for staff to locate the hazard determination guidelines in the CHSP. The definition of hazardous chemical is in the CHSP but it is located in a different section than the one on drip trays and there is no link between the two.

* Root causes 6 and 7 will be addressed by senior Laboratory management.

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Actions to Prevent Recurrence:

Corrective Action #1: Define the proper regulatory framework for laboratory and non-laboratory occupational settings. **(RC-8)**

Corrective Action #2: Improve the CHSP and CMS TAAP process. **(RC-2)**

Corrective Action #3: The CMS Program Manager will:

1. Review the OSHA Hazard Communication and Laboratory Standards to identify the requirements for tracking the following in the CMS:
 - a. Individual components of prepackaged chemical kits. **(RC-1)**
 - b. Consumables such as welding rods, solder & grinding wheels. **(RC-3)**
 - c. Contents of secondary containers. **(RC-4)**
2. Develop, vet, issue and communicate changes to clarify these requirements in the CMS program. This will be carried out in accordance with LBNL policy - see Corrective Action # 2. **(RC-1, 2 & 5)**

Corrective Action #4: The CHSP Program Manager will:

1. Review the OSHA Hazard Communication and Laboratory Standards to identify the requirements for:
 - a. Labeling secondary containers with hazard warnings **(RC-8 & 11)**
 - b. Using and communicating abbreviations to identify chemical contents of secondary containers **(RC-9)**
2. Develop, vet, issue and communicate changes to clarify these requirements in the CHSP. This will be carried out in accordance with LBNL policy - see Corrective Action # 2. Also, add hyperlinks connecting the sections pertaining to labeling and hazard identification to facilitate ease of use. **(RC-2 & 10)**

Corrective Action #5: The CHSP Program Manager will:

1. Review the CHSP storage guidelines and clearly differentiate between what is required and what is recommended. **(RC-12)**
2. Clarify when drip trays are required. **(RC-13)**
3. Develop, vet, issue and communicate changes to clarify these requirements in the CHSP. This will be carried out in accordance with LBNL policy - see Corrective Action # 2. Also, hyperlinks connecting the sections pertaining to hazard identification and storage requirements will be added to facilitate ease of use. **(RC- 13)**