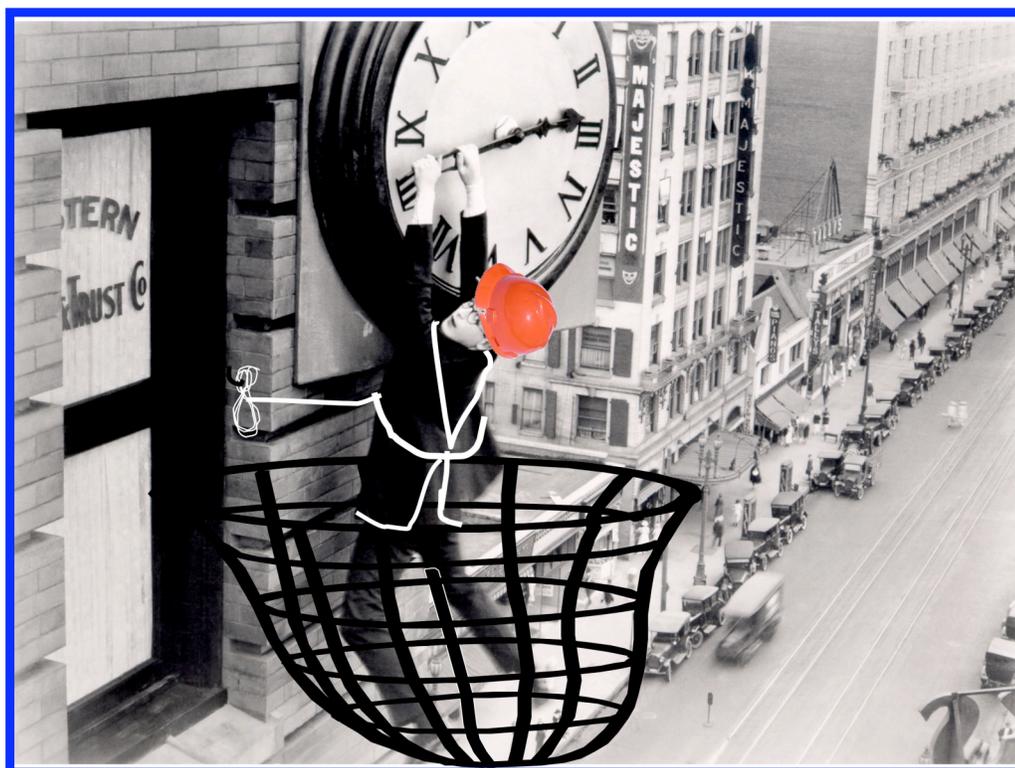


The MSD Staff and Student Guide to Environmental Health and Safety

Eight Steps to a Safe Lab



All MSD Buildings

**I have read and thought about the materials in this
guide:**

Name/Signature

Date Signed

Safety is your #1 priority.

Two components of the MSD Safety program are a calendar of periodic activities* and a schedule of fines for failure to follow procedures.

Activity	January	February	March	April	May	June	July	August	September	October	November	December
Group safety meeting, see page 3			X			X			X			X
Inspect Labs, note and fix problems, see page 4		X					X				X	
Update JHQ, see page 8			X					X				
Confirm training of staff/students, see page 8				X						X		
Update AHDs and other authorizations, see page 9	Annually, when due											
Inspect SAAs, see page 10	X			X			X			X		
Empty SAAs, see page 10		X							X			
Review chemical inventory, see page 11		X						X				
Test peroxidizable solvents**, see page 11											X	

*This calendar is an example of activities for [buildings 67 and 72](#).

**A very few materials require quarterly testing

Fines for Significant Deviations from Policy

Category	Issue	3 Pts	5 Pts	10 Pts	20 Pts
Waste	Waste/SAA violation: labeling, log errors, storage > 6 mos		X		
	Waste stored >9 months			X	
	Waste stored >12 months				X
Formal Authorizations	Required AHD not completed			X	
	AHD Violation	X*	X*	X*	
Chemicals	Improper storage or use	X			
Administrative	No group representative at Safety Committee Meeting	X			
Electrical	Intentionally bypassed grounds, interlocks, enclosures, etc.			X	
Training	Conduct of hazardous work without training or supervision		X		
General	Repeated infractions		X*	X*	X*

- A \$1000 fine is levied against a research group that accumulates 10 points in any six month period.
- A new six month period begins after each fine. Points in excess of 10 are carried over.
- Fines levied by DOE or any outside agency will be charged to the relevant research group.

*Fine depends on severity of problem.

To all MSD staff and students:

Good EH&S practice in the laboratory takes two things:

- 1) the right culture
- 2) attention to 8 basic steps

The Right Culture

The EH&S program in your lab will be a success only if you and the other members of your group believe it is important and regard it as an integral part of all your research activities.

The 8 Basic Steps

1. Show your commitment to safety and fulfill your responsibilities.
2. Inspect your lab work-space – and follow-through with fixes.
3. Identify and mitigate potential hazards in your planned research before starting work.
4. Get properly trained and help train your co-workers.
5. Complete and maintain formal authorization documents where required.
6. Manage waste.
7. Manage chemical use and storage.
8. React correctly if something goes wrong.

EIGHT STEPS TO A SAFE LAB

	page
1. Discuss Safety in Your Group	3
<ul style="list-style-type: none">• Discuss safety with your co-workers and at every group meeting. Show that you care and regard this as important. Fulfill your EH&S responsibilities.	
2. Laboratory Inspections	4
<ul style="list-style-type: none">• Identify problems each time you walk through the Lab.• Fix those problems.	
3. Identification of Hazards	6
<ul style="list-style-type: none">• Review each experimental set-up with your PI using the Project Hazard Guide before starting and identify and mitigate potential hazards.	
4. Training	8
<ul style="list-style-type: none">• Fill out the on-line Job Hazard Questionnaire annually.<ul style="list-style-type: none">– Review it with your PI.• Confirm that classes and/or “on-the-job” training identified as required are completed before experiments begin.	
5. Formal Authorization Documents	9
<ul style="list-style-type: none">• Work annually with your PI to complete required official authorization documents before research begins:<ul style="list-style-type: none">• High hazard work • Toxic/Pyrophoric gases• Biohazards • Radioactive Materials• X-rays • Animal Use• Human Subjects • Lasers (Class 3b and 4)	
6. Manage Waste	10
<ul style="list-style-type: none">• Your lab must have a Satellite Accumulation Area (SAA) if you have waste chemicals.<ul style="list-style-type: none">– Follow guidelines for packaging and storage.• Inspect your SAA’s quarterly.• Requisition all waste for pick-up semi-annually.	
7. Manage Chemical Use and Storage	11
<ul style="list-style-type: none">• Evaluate your chemical inventory to verify that it is complete and accurate.• Test peroxidizable chemicals.	
8. Oops: When Accidents Happen	12
<ul style="list-style-type: none">• Know what to do and what not do• Know whom to call• Inform the members of your group	

Step 1. Talk About Safety With Your Research Group

The EH&S program will succeed only if you and the members of your group believe it is important and regard it as an integral part of all research activities.

At every step in the experimental process, think about the EH&S implications and take the appropriate steps to minimize risk and prepare for the unexpected. The Lab calls this ISM: Integrated Safety Management. It is not a chore to be gotten out of the way; it is part of the discovery process.

Be part of a culture in your group that values safety. Discuss safety with each new group member when s/he arrives. Routinely discuss safety issues as a group, including visitors. Review with your safety representative topics raised at Division Safety Committee meetings.

At least once a year Rick Kelly, the MSD EH&S Manager, will meet with each research group to review safety issues and describe safety initiatives in the Division and lab.

Maintain Key EH&S Assignments

Safety related tasks in the Lab are assigned by the PI to staff, senior students or postdocs. Each is to be assisted by a junior colleague who will step in when the senior member leaves. Key assignments may include: SAA manager, chemical inventory coordinator, safety committee member, group safety coordinator, crane manager.

Safety Minute:

Each student or postdoc who presents a talk at a group meeting should begin with a one-minute discussion of a safety-related item of interest, for example a personal experience.

2 - Inspection

Date: _____

Three times a year, your lab will be inspected for the following items (they should be maintained at all times, however)

copies at: http://www.lbl.gov/msd/msd_safety/resources.html

Category	Issue	Y/N/ NA	Entered CATS	Closed
Chemicals	Liquids stored in secondary containment tray, properly segregated			
	Manufacturer's containers/squeeze bottles labeled with name/hazard			
	All containers have proper identification (no unlabeled containers)			
	Commercial chemicals inventoried, including, gas cylinders			
	Eyewash/shower available where corrosives/irritants used			
	Calcium gluconate available for HF first aid, if used			
	Chemicals used in hood if vapors exposed, dust possible			
	Refrigerators used correctly for chemicals (flammables only in designated refrigerators, secondary containment, segregation)			
	Legacy chemicals not accumulating in lab			
	Gas cylinders secured, capped (if not in use), inventoried, labeled			
	Peroxidizable chemicals labeled, tested within 12 months, prop. stored			
	Waste	A manager and backup assigned to each SAA		
SAA posted, sign is filled out and current				
All containers of waste have waste labels completely filled out				
All waste containers are located in SAA, not elsewhere in lab				
No non-waste containers are present in the SAA				
Halogenated waste collected in separate container				
Waste in SAA not more than 6 months				
Formal Authorization	For combined waste, accumulation log kept accurately			
	AHD signed and current for 1) Use of hazardous compressed gases 2) Use of >400 cubic feet of flammable gas 3) Class 3b or 4 lasers 4) Oxygen deficiency potential 5) Unusually hazardous operations			
	Other authorizations (biological, human subject, radiation, vertebrate animal) in place and current			
	Comply with all conditions of formal authorization			
Housekeeping	Aisles and walkways clear, no tripping hazards			
	Minimum 28" clearance to exits			
	Benches, shelves, floor and hoods tidy, unused items stored safely			
Electrical	Sufficient electrical outlets to minimize use of extension cords			
	Cords, plugs in good condition			
	Energized electrical equipment closed or guarded			
Safety Equipment	Fume hoods working properly (100-120 fpm), sash operable, not overly cluttered, not in alarm mode			
	Hood is inspected within past 24 months			
	Eyewash/shower labeled as inspected within 90 days, not blocked			
	Large/heavy equipment seismically secured (refrigerators, shelves, storage cabinets, laser tables, 160 L Dewar's, electrical racks, etc)			
	Alarms and interlocks are calibrated/tested within 6 months			
Protective Equipment	Appropriate gloves are available where chemicals are in use			
	Safety glasses or goggles used where there may be eye hazards			
	Eye protection and cryogen gloves available, good shape for use of LN			
	PPE in good condition, stored to prevent damage/contamination			
Ergonomics	Significant lifting, twisting, bolt turning, computer use or other ergonomic hazards evaluated			

2 - Inspection

Category	Issue	Y/N/ NA	Entered CATS	Closed
Mechanical	Rotating parts, robots, mechanical equipment guarded			
Signs	Required sign(s) present, accurate and visible (exit, eyewash, chemical storage, hazard communication)			
New Work	New work has been evaluated by PI and authorized			
Eye Washes	Inspected ≤90 days			
Lead Sensors				

Additional Questions Used Where Applicable		Y/N/ NA	Entered CATS	Closed
Lasers (3b and 4)	All entrance doors posted with laser sign identifying wavelengths			
	Protective laser eyewear is available before entering the NHZ			
	All users are listed on the laser AHD and understand how to use laser			
	Interlocks (class 4) are present, operational and tested within 6 months			
	Bypass barrier is present and effective			
	Required (or usual) beam enclosures are present and installed			
	Tabletop housekeeping is good			
	Vertical beams are labeled			
	All lasers are in inventory and listed in the AHD			
X-Ray Machines	X-ray use authorization is current, in x-ray log book			
	All users are listed on authorized user list posted on the machine			
	X-ray monitor (where applicable) is working			
	Card key access system is in use and functioning normally			
	X-ray indicator lights are working properly			
Biosafety	All work is described in a biological use registration			
	Biohazardous work is approved in a biological use authorization			
	Door is posted to indicate presence of biohazardous materials			
	Biosafety cabinet (if present) has been certified within 12 months			
	Biohazardous waste is properly stored and labeled			
	All containers with biohazardous materials are labeled			
Glove box	Glove box has been approved by EH&S within 24 months			
	Gloves are in good condition. Connectors to box are in good condition.			
	Box pressure is appropriate (negative or positive) and controlled			
	Chemical storage is limited to amount needed, properly stored			
	Box is seismically secured			
	If reactive/pyrophoric chemicals used, an EH&S assessment has been conducted			
Fire Extinguishers				
Other Lab Specific				

3 – Hazard Guide

Be aware of the hazards of your project. All hazards should be controlled before you start work. Some require formal authorization before work can begin. See Step 5.

Step 3. MSD Project Hazard Guide Part 1*

Check “Yes” or “No” to indicate if a hazard is present in your labs at LBNL.

	Topic	Hazard	Is this hazard present in your lab? (Answer Yes or No)	
			Yes	No
1	Lasers (Class 3b and 4)	Eye/skin damage, fire	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
2	“Health hazard” gases (toxic gases, corrosive gases)	Toxicity, corrosively	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
3	Flammable compressed or liquefied gas	Fire, explosion	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
4	Pyrophoric gas (compressed or liquefied)	Fire, explosion	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
5	Pressure systems (Other than DOT gas cylinders)	Pressure explosion	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
6	Energized Electrical R&D Work >50 volts (shock potential)	Shock, burn, arch flash	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
7	Highly reactive chemicals, air reactive chemicals	Fire, explosion, burns	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
8	Glovebox Work (other than purely for product protection)	Toxicity, reaction, fire	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
9	Confined Space entry (e.g., tanks, pits, vaults, vessels)	Oxygen deficiency, unsafe atmosphere, physical hazards	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
10	Potentially oxygen deficient space (other than confined spaces)	Oxygen deficiency	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
11	Potentially biohazardous materials (Risk group/biosafety level 2 or higher)	Infection	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
12	Liquid cryogen (LN, LHe)	Oxygen displacement, cold burns, pressure explosions	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
13	Human samples or information	Human subject protection	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
14	Vertebrate animal samples (not commercially available)	Protection of animal research subjects	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

*Part 2 (see Appendix) must be filled out only for items checked “Yes” in Part 1.

3 – Hazard Guide

15	X-rays Machine (capable of creating x-rays in air, intentionally or incidentally)	Irradiation		Yes
				No
16	Radionuclide work	Radiation exposure		Yes
				No
17	Sealed radioactive sources	Radiation exposure		Yes
				No
18	Welding, torch soldering, brazing other torch work (not lab use of Bunsen Burners or similar)	Fire, burns		Yes
				No
19	Lifting devices (cranes, hoists and equipment used with them)	Lifting device failure resulting in injury		Yes
				No
20	Loud noise (> 85 dBA)	Hearing damage		Yes
				No
21	Respirator Use	Toxicity due to respirator misuse		Yes
				No
22	Explosives	Explosion		Yes
				No
				No
23	Flammable solvents	Fire, explosion		Yes
				No
24	Particularly hazardous substances (Potent carcinogens, reproductive toxins, highly acutely toxic materials)	Cancer, adverse reproductive outcomes, toxicity		Yes
				No
25	Beryllium and compounds	Chronic beryllium disease		Yes
				No
26	Strong magnetic fields (> 5 gauss in open area)	Interference with medical implants, accelerated metal items		Yes
				No
27	Radiofrequency or microwave source >200 watts	Shock, heating and burns		Yes
				No
28	Home Made or non-listed electrical equipment >50 volts	Shock		Yes
				No
29	Hazardous, biological or radioactive waste generation	Improper waste disposal, exposure, infection		Yes
				No

4 – Training

Step 4. Training

You are responsible for completing required EH&S training. Those who have not completed training can work only under the direct supervision of trained personnel and only for up to 30 days (7 days for the Foundry).

a) JHQ

Your required EH&S training is identified through completion of the on-line “Job Hazards Questionnaire” (JHQ) <https://ehswprod.lbl.gov/EHSTraining/Jhq/EHSLogin.asp>. The JHQ must be completed at least annually, or updated when you start new work that involves new or different hazards.

b) NOTIFICATION OF REQUIRED TRAINING. The electronic JHQ will notify you and your supervisor when new or refresher training is required. At least twice a year the MSD EH&S Office will send a list of staff whose training is incomplete to each MSD supervisor. Also, training status for any individual can be determined on-line at <https://ehswprod.lbl.gov/EHSTraining/Jhq/EHSLogin.asp> or by contacting EH&S Administrator or Rick Kelly at x4088. Required training must be completed as soon as possible.

1) TRAINING – ON-LINE AND CLASSES

Many required EH&S classes can be taken on-line at http://www.lbl.gov/ehs/training/courses_online/index.shtml.

On-line training can be completed before an individual arrives at the Lab.

Some EH&S class requirements can only be met by attending a scheduled class, see: <http://www.lbl.gov/ehs/training/index.shtml>.

Special offerings of classes may be arranged for short-term visitors and other special cases. Contact the Division EH&S Manager.

Lab-Specific Training: The PI or a senior group member can provide equipment or laboratory specific EH&S training, such as the safe alignment of a laser system or use of an x-ray diffractometer. This training must be documented in the laboratory records.

2) USE OF INSTRUMENTS IN ANOTHER INVESTIGATOR’S LAB

User’s supervisor and investigator supervising equipment are both responsible for insuring that appropriate training has been completed.

3) CAMPUS LABS. Policy will be announced.

Step 5. Formal Authorization Documents

Work requiring formal authorization must be identified. You should help identify hazardous activities.

- ***Contact the Division EH&S Manager before performing any work that you feel might require a formal authorization.***

Certain hazardous work requires a “formal authorization” document. Work must be performed within the parameters of the formal authorization document, which must be updated annually or when the work changes or new staff is authorized to do it.

- 1) **Activity Hazard Document:** An Activity Hazard Document (AHD) may be required for use of:
- Class 3b or 4 lasers
 - Toxic, corrosive or pyrophoric compressed or liquefied gas (any quantity, with the exception of < 27 cubic feet of CO at ambient pressure)
 - Use of > 400 cubic feet (at ambient pressure) of compressed or liquefied flammable gas
 - Use of highly reactive chemicals, such as MOCVD precursors, or chemicals that require a glove box to be handled safely
 - Equipment that may expose users to high voltage electricity
 - Accelerators or other equipment with unique hazards

AHDs are created in the on-line system at: <https://ehswprod.lbl.gov/AHD/login.aspx>.

AHDs must be updated annually.

- 2) **X-Ray Authorization (XA):** Required for x-ray diffractometers or other equipment that is designed to or capable of creating x-rays in open air. It is usually not necessary for equipment that incidentally may create x-rays, such as TEMs or very low power equipment such as XPS systems. X-ray authorizations must be updated annually.

- 3) **Biological Use Registration/Authorization (BUA):** All research activities using potentially hazardous biological materials (infectious agents, tissue culture cells, animals, recombinant DNA or RNA and material of human origin) be registered and approved (as necessary) by the Institutional Biosafety Committee (IBC). Details are provided at:

http://www.lbl.gov/ehs/biosafety/Biosafety_Manual/html/reg__overview.shtml

- 4) **Human Subjects Review:** Required for use of any non-commercial human tissues, or personal information, when anyone in the world may be able to determine the individuals who donated the samples/information. The review will determine if the work is exempt from approval or is subject to approval. This review is required even if the work is approved at a collaborators institution. Details are provided in PUB3000 Chapter 22 at

http://www.lbl.gov/ehs/pub3000/CH22.html#_Toc407001700

- 5) **Animal Use Review:** Required for all use of vertebrate animals or their tissues that are not commercially available, including primary cell lines. This review is required even if the work is approved at another institution. Details are provided at

http://www.lbl.gov/ehs/pub3000/CH22.html#_Toc407001700

- 6) **Vendor Permitting:** Vendor technicians installing or maintaining equipment must be authorized by Division EH&S staff.

- 7) **Other Authorizations:** Radiological Use Authorization, Low Activity Source Authorization.

6 – Waste

Step 6. Manage Waste

You are responsible for the proper management of hazardous waste in your laboratories.

- a) Inspect your Satellite Waste Accumulation Areas quarterly

There are very specific rules that must be followed for hazardous, biohazardous, and radioactive waste. Each lab should appoint a trained manager for each SAA and more junior deputy reporting directly to the PI.

Hazardous waste must be stored in a “satellite waste accumulation area (SAA)” and for no longer than 9 months. *In MSD, we ask that waste be disposed of every at least every 6 months.* Each SAA must:

- be on Paul Johnson’s list of SAA’s
 - be posted with a completed and current SAA sign
 - store hazardous waste only, no reagents or non-hazardous waste
 - use approved waste storage containers, which vary with the nature of the waste
 - be provided with secondary containment trays
 - contain all the hazardous waste in the area – no hazardous waste can be stored outside of an SAA
 - store containers labeled with a completed and dated hazardous waste label
 - segregate incompatible waste
 - have waste accumulation logs where wastes are bulked into a storage container
 - segregate halogenated wastes from non-halogenated wastes
 - be emptied regularly: waste must never be stored for more than 9 months
- b) All SAA managers and PIs will receive an email from the MSD EH&S office every 6 months asking they dispose of all stored waste. The disposal schedule is staggered by building so as not to overload the resources of the EH&S Waste Management Division (see Schedule on inside cover).

Step 7. Manage Chemical Use and Storage

You are responsible for ensuring that chemicals you use are used in a responsible manner and that you understand and manage their hazardous properties.

Most chemicals can be used without formal approval. They must be properly stored, inventoried and disposed of when no longer needed or exceed their shelf life. Hazardous chemicals must be tracked in the LBNL database, properly labeled, thoughtfully stored and periodically inspected. This is particularly important for chemicals that peroxidize and become potentially explosive upon extended storage.

a) Inventory, Storage, Labeling, and Use.

1. Labeling:

- For procured containers of hazardous materials: contents and major hazards (e.g. corrosive, toxic).
- For large secondary chemical containers such as squeeze bottles: contents and primary hazards.
- For small research containers, such as flasks and test tubes: some identifying marking. Hazard information generally not required.

2. Inventory:

- Commercial materials with hazardous properties. Use inventory datasheet (available from Paul Johnson) for transfer to on-line “Chemical Management System” inventory database at <https://cms.lbl.gov/jsp/login.jsp> .
- Apply a bar code tag to the bottle (labels from Paul Johnson).
- When container is empty, remove the bar code and remove from database.
- Chemicals used routinely in relatively large quantities, label the storage location rather than the individual bottle or bottles. Database must reflect maximum amount of chemical in storage.

3. Storage:

Chemicals must be safely stored when not in use:

- in a designated storage location, not in a fume hood or on a bench top
- in sealed, undamaged, labeled containers
- in secondary containment (liquids)
- below eye level (corrosives)
- segregated from incompatible materials, including water (water reactives)
- in the minimum quantities consistent with actual use

4. Use:

Each individual who uses a hazardous chemical is expected to be familiar with:

- Its hazardous properties (toxicity, flammability, reactivity etc)
- Routes of toxic exposure
- Signs and symptoms of overexposure
- Engineering, administrative and personal protective controls necessary to protect themselves, such as appropriate gloves, goggles, emergency eyewash system, fume hoods and first aid procedures
- Proper handling procedures, storage requirements, waste disposal requirements

b) Peroxidizable Chemicals:

Most ethers, all small secondary alcohols, and some unsaturated cyclic compounds react to form unstable peroxides. If concentrated (e.g. distilled) they may explode (in rare cases some ethers may explode when simply handled). All peroxidizable chemicals must be labeled, dated when received and opened, and tested for peroxides at least annually. Some (e.g. diisopropyl ether) require testing quarterly. A test kit is available from Paul Johnson. Additional information: <http://www.lbl.gov/ehs/chsp/html/reactives.shtml> . The Chemical Management System database can be queried to identify peroxidizable solvents you are responsible for.

8 – Oops!

When Accidents Happen

Step 8. Oops: When Accidents Happen

First Aid

You must be trained in first aid, use of emergency eyewashes and showers, and how to summon emergency help.

Injuries: If possible, transport injured employee to LBNL Health Services. If not, or after hours, call 7911 for the Fire Department paramedics. Notify Rick Kelly or Paul Johnson.

Clean-up: Some spills are too large, too hazardous or too difficult for researchers to clean up on their own. At a minimum, professional EH&S guidance is necessary, and it may be necessary to get others to perform the clean up. This includes spills:

- Involving elemental mercury
- Involving material that is air reactive
- That take two people more than an hour to clean up
- Where lab personnel are contaminated or inhaled hazardous material
- Involving materials that are highly acutely toxic or very toxic via skin contact (e.g. phenol)
- Of dichloromethane
- Involving >100 ml of materials containing resik group 2 pathogens
- Involving radioactive materials

Chemical Contamination: Immediately wash off the chemical using the sink, eyewash, or emergency shower. Remove contaminated clothing. Whenever the eyewash or shower is used, call the Fire Department and Paramedics (x7911). For very small incidents, where the eyewash and shower are not used, use good judgment and either transport the individual to the Health Services Clinic or call 7911.

Recordkeeping: All cases reported to Health Services will require an injury report. An email will be sent to the supervisor describing the process. *The Supervisor’s Accident Analysis Report is due within 7 days of the incident.*

Fire: Call 7911 for the Fire Department. Use a fire extinguisher for very small fires, if trained to do so. Otherwise, retreat to a safe distance, alert other building occupants, and wait for the Fire Department.

Incident (non-injury, non-fire): Report “near misses” and noninjury incidents to Rick Kelly. Generally, there is no recordkeeping or sanctions associated with these events.

* * *

Facilities/EH&S Staff

Title	Person	Phone #	email
Rick Kelly	Facility/EH&S Manager	x4088, 457-8452	RJKelly@lbl.gov
Paul Johnson	EH&S Technician	x5810, 206-8424	PMJohnson@lbl.gov
Kymba A’Hearn	Facility/EH&S Administrator	x6780	KSAHearn@lbl.gov
John Seabury	EH&SD Liaison	x6547	JJSeabury@lbl.gov
Jim Severns	Electronics Technician	x6058	JESeverns@lbl.gov
Howard Hansen	Waste Generator Assistant	x5867	HLHansen@lbl.gov
Ken Barat	Laser Safety Officer	495-2544	KBarat@lbl.gov
Gil Torres	Building Manager 62, 66, 67	x5395, 289-5137	GJTorres@lbl.gov
Vacant	Building 2 Manager		_____@lbl.gov
John Turner	Building 72 Manager	x5700	JHTurner@lbl.gov

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