

NOTES

Safety Newsletter for Lab Workers

UCSD Environment, Health & Safety Office

New Scoring System for Laboratory Safety Audits

The laboratory safety audit scoring system UCSD has been using was based on accumulated points, with 1, 4, 16, or 32 points assigned, depending on the severity of the issue. Points were doubled if the same issue was found in consecutive audits. Under the system, points were deducted from 100. For example, a laboratory with three 4-point violations would receive a score of 88, (100 minus 12).

There are two problems with this approach. It appears the score is 88%, but actually there is no percentage involved. Also, the 88 looks like a B+ grade, so it appears that the performance is acceptable. Under scrutiny from an external regulatory agency, such as the Environmental Protection Agency, these three violations could translate into significant monetary fines. In reality, the performance must be improved.

New Scoring System

A new scoring system will be used as of January 2003. Under the new system, the audit score will be the total violation points. In the example above, the audit score would simply be 12 points. The goal for all laboratories is zero points.

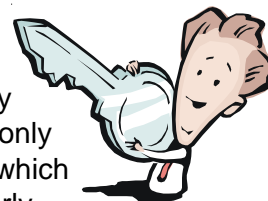
Questions or comments? Contact John Zummo, jzummo@ucsd.edu, (858) 534-1069.

What's Inside:

- **Safety Award For Excellence**
Professor Jay Siegel shines! 2
- Exits – Your Pathways to Safety 2
- Use Caution Preparing Acid Baths 3
- “Ship To” Guidelines for Purchasing
Radioactive Materials 3
- Annual Hazardous Waste
Refresher Training Online 4
- Don’t Dump it Down the Drain! 4

Security of Radioactive Materials

Federal regulations mandate the security of radioactive materials. You're not expected to lock up every sample of radioactive material – only the concentrated, larger amounts which could cause harm if used improperly.



The UCSD Radiation Safety Officer has set trigger levels for each isotope using a risk-based approach. Trigger levels are 100 times the Code of Federal Regulations, Part 20, Appendix C value. The more radiotoxic the isotope, the lower the value. As shipments are received, the EH&S Isotope Lab will specially label stock vials that require the additional security.

Individual stock vials whose reference activity exceeds the trigger level must be in an area attended by an authorized user, or stored when unattended in a locked container, refrigerator, or laboratory.

Trigger levels for the six most commonly used isotopes are:

Isotope	Activity (mCi)
H-3	100
C-14	10
P-33	10
S-35	10
P-32	1
I-125	0.1

This policy applies only to stock vials containing radioactivity greater than these amounts, not to waste or experiments in progress.

Questions or comments? Contact John Zummo, jzummo@ucsd.edu, (858) 534-1069.

Safety Award For Excellence Winner!

Professor Jay Siegel shines!
Read what it takes to be a SAFE winner on page 2.



Exits – Your Pathways to Safety



In the event of fire or other emergency, you need a clear way out! **Corridors are the most important element for your safe and expeditious escape from a building.**

The following guidelines cover storage of materials, use of equipment, and conducting activities in corridors for both new and existing buildings. Guidelines also apply to your path out of large rooms and laboratories – unobstructed corridors are of little value if you can't get to them!

Permitted in corridors:

- Noncombustible or limited combustible materials permitted by California codes or regulations.
- Bulletin boards. Those greater than four feet square require frames and glass front. Those greater than nine feet square also require locking mechanisms.
- Metal file cabinets which have positive-locking drawers to prevent inadvertent opening during earthquakes.
- In general, equipment like soda or snack vending machines, ATMs, and trash or recycle containers are not permitted in corridors. Some exceptions may apply. Contact the Fire Marshal for more information.

Restrictions on what is permitted:

- Materials, equipment, or activities may not obstruct the required width of a corridor – generally 44 inches.
- Equipment must be secured to eliminate the possibility of movement during an earthquake.
- Electrical equipment must draw power without the use of power taps or extension cords.
- If, in the opinion of the Fire Marshal, any equipment, material, or activity would interfere with exiting, it must be removed.

Not permitted in corridors:

- Workstations may not be located in, or exposed to, corridors.
- Do not use or store hazardous materials in a corridor. Never store compressed gas cylinders in corridors. **Note:** Dewars of liquefied inert gases may be stored in corridors as long as they comply with the restrictions listed above for equipment that is permitted.

Questions? Contact the UCSD Fire Marshal, rbenton@ucsd.edu, (858) 534-1062.

Chemistry & Biochemistry Department Professor is a S A F E Award Winner!

Professor
Jay Siegel
displays his
Safety Award For
Excellence



Congratulations to Professor Jay S. Siegel,
Safety Award For Excellence winner
for Outstanding Individual, autumn 2002

What does it take to be a winner?

Professor Siegel and his staff make every effort to comply with the campus Laboratory Safety Plan, constantly identifying ways to improve lab safety for the benefit of all. An example is a ledger of accidents, incidents, and near misses in the lab. Lessons learned from this accident history benefit both current and future lab personnel.

Another example of his proactive approach is hazard communication. In the main corridor outside of his laboratories, reaction pathway diagrams for chemical reactions conducted in the lab's chemical fume hoods are posted. Associated hazards and the individuals responsible for each reaction are also posted. This allows colleagues, visitors, and health and safety professionals to better understand the unique hazards involved and take proper precautions. If an incident regarding one of these reactions occurs, Professor Siegel's safety methodology enables prompt response and greater safety for emergency response personnel, reducing risk to both people and property. **Congratulations to an outstanding faculty member!**

Nominate someone!

Tell us about the people who are making UCSD a SAFE place. Visit the SAFE page on Blink at <http://blink.ucsd.edu/go/safe>. We look forward to hearing from you. Award recipients receive lunch at the Faculty Club and a handsome award plaque.

Use Caution Preparing Acid Baths

Injuries are up among workers preparing acid baths. One injury occurred when water was added to acid, rather than acid to water. Another worker was splashed in the face with acid – the person was not wearing a face shield.

Follow these basic procedures when preparing an acid bath:

- Wear a face shield and goggles when working with concentrated acids.
- Wear heavy-duty gloves over a pair of disposable gloves. Check the glove guide at <http://www-ehs.ucsd.edu/lab/1002.htm> for best choice of material.
- Always wear a lab coat and close-toed shoes.
- Add acid to water – not water to acid.
- Dilute concentrated acids in the fume hood.
- Keep the acid bath covered when not in use.
- Prepare a written Standard Operating Procedure (SOP) that includes:
 - A description of the procedure and chemicals involved
 - Engineering controls used (example: fume hood)
 - Personal Protective Equipment (PPE) required
 - Spill and emergency procedures
 - Waste disposal procedures
 - Any necessary approvals, specific decontamination procedures, or designated areas for specific operations

Disposal of acid bath solution:

- Only dilute acids and bases between pH 5 and 12.5 can be disposed of down the lab sink.
- Acids between pH 2 and 5 can carefully be neutralized and then disposed of down the sink as long as no other hazardous material is present.
- Dispose of all other solutions through EH&S.

Questions? Contact an EH&S Research Assistance Program specialist at (858) 534-3660.

Research Assistance Program



Research Assistance Program (RAP) specialists assist researchers with their chemical, radiation, and biological laboratory safety needs. Specialists are assigned by building. Find out who the RAP contact is for your building at <http://blink.ucsd.edu/go/rap>.

“Ship To” Guidelines for Purchasing Radioactive Material



Strict regulations governing radioactive materials require those responsible for purchasing them to act diligently when interacting with a vendor’s customer service agents. Radioactive materials used in research are a “restricted commodity” at UCSD, so specific acquisition, shipping, and receiving conditions apply.

All radioactive material orders **must be shipped to and received at** the EH&S Isotope Lab. Make sure the vendor receives all lines of the shipping address below:

SHIP TO:
UCSD Radiation Safety
University Center Bldg. 301B
Corner of Myers and Gilman Dr.
La Jolla, CA. 92093–0035
Do not deliver before 9am
Attention line: RUA number and principal investigator’s name only

On the attention line:

- Do not include the building and room number that the material will ultimately be used in.
- Do not include phone extensions, or the name of any individual other than the principal investigator the RUA number is issued to.

Confirm the correct information has been relayed to the vendor. When you call to place an order, ask the vendor’s agent to repeat the address and attention line information back to you.

Only radioactive material shipments will be accepted at the shipping address above. Any other packages will be returned to the carrier for rerouting to the appropriate location. Familiarize all new and interim staff charged with the responsibility of ordering radioactive material with this information.

Following these guidelines will ensure packages of radioactive material destined for UCSD are delivered to the proper location, regulatory guidelines are met, and radioactive materials are expeditiously placed in inventory and available to researchers.

Questions, comments, or concerns? Contact Tom Fox at tfox@ucsd.edu, (858) 534-6418.



Before you buy chemicals, check ChemCycle first!
<http://chem-tech.ucsd.edu/Reuse/>

Don't Dump it Down the Drain!

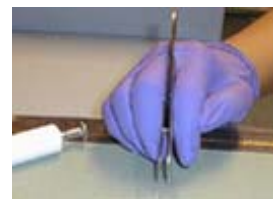
UCSD has repeatedly had low pH spikes at the sewer connections associated with the Basic Science Building, Medical Teaching Facility, and the Stein Clinical Research Building since May 2002. **Low pH spikes are the result of materials being improperly disposed of down the drain.**

No material or waste with a pH less than 5 may be dumped down the drain. Contact the EH&S Environmental Management Facility at (858) 534-2753 to dispose of all acids and other hazardous materials and wastes.

Questions? Contact the School of Medicine Safety Officer at (858) 534-8224, or the Environmental Management Facility at (858) 534-2753.

Ergonomic Risk Factors for Laboratory Workers

Laboratory workers face a unique set of ergonomic risk factors. Learn how to prevent work-related injuries, performing your daily tasks comfortably and safely. See the Ergonomic Risk Factors page at <http://blink.ucsd.edu/go/ergorisk>.



Material Safety Data Sheets

<http://blink.ucsd.edu/go/msds>

A Material Safety Data Sheet (MSDS) provides hazard information for a specific chemical or product. MSDSs vary in style and content, but all contain certain required information that includes:

- Chemical identification, composition, and physical properties
- Health, physical, and environmental hazards
- Emergency and first aid procedures
- Safe handling and storage procedures

See Material Safety Data Sheet Sources online at <http://blink.ucsd.edu/go/msds> for an extensive list of MSDSs and other chemical hazard information resources.

Annual Hazardous Materials Refresher Training Online!



San Diego County requires UCSD **employees who work with hazardous materials** to receive annual refresher training in hazardous materials use, waste disposal, and emergency response.

Use the convenient new online Annual Hazardous Waste Training tutorial to meet this requirement.

- **Register** for a user name and password at <http://132.239.155.44/ehstutorial/login.html>.

The tutorial is quick and easy to use. Print out a certificate of completion when you successfully finish the quiz to document your training.

First-time Hazardous Materials Training

If you have not yet received formal first-time training in safely handling hazardous materials, you must complete one of the following training options before you are eligible to take the annual refresher course above:

- **Laboratory employees:** Attend *Laboratory Safety for Professionals/IIPP*.
- **Non-laboratory employees** (shop or studio): Attend both the *Injury & Illness Prevention Program* and *Hazardous Waste Training*.

Register for first-time training via Enrollment Central at <http://enrollmentcentral.ucsd.edu>.

Questions? Contact the safety training coordinator at rbelmontez@ucsd.edu, (858) 822-5974.

Go to Enrollment Central for Safety Training

<http://enrollmentcentral.ucsd.edu>

Looking for biological, chemical, hazardous waste, and radiation safety training? Register for safety training online via Enrollment Central at <http://enrollmentcentral.ucsd.edu>. Browse "EH&S – Safety" under Course Topics for schedules.

Risk Management: Your Role in Managing Departmental Exposures

February 4, 8:30 -1 1:30 a.m.

Register on Enrollment Central at <http://enrollmentcentral.ucsd.edu>