April/May 2010

In this issue:

"Safety Comes First"

Case Department of Occupational and Environmental Safety

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Eating Food in the Lab: An Illegal Habit

Eating, drinking, chewing gum, applying cosmetics, taking medications, or similar activities in laboratories may result in the accidental ingestion of hazardous materials (chemical, radiological, biological); therefore these activities are strictly prohibited from all Case Western Reserve University laboratory spaces. Such activities are permitted in an area (defined as a room with floor to ceiling walls and a closed door) separated from the laboratory space. If a separate area can only be accessed by going through the laboratory, then only covered food or beverage items may be carried through the laboratory. These requirements help to prevent the ingestion of hazardous materials, which can occur by touching one's mouth with contaminated hands, eating from a container that is contaminated, eating food that has come into contact with hazardous materials accidentally.

In order to reduce the likelihood of ingestion of hazardous materials, the Occupational Safety and Health Administration (OSHA) and Centers for Disease Control and Prevention (CDC have incorporated "No Food or Drink" language into various regulations and safety manuals. Below you will find the applicable regulations.

OSHA Laboratory Standard (29 C.F.R. 1910.1450, Appendix A) [http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=10107]

(d) Eating, smoking, etc.: Avoid eating, drinking, smoking, gum chewing, or application of cosmetics in areas where laboratory chemicals are present (22, 24, 32, 40); wash hands before conducting these activities (23, 24).

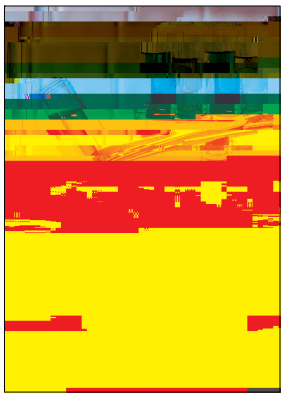
Avoid storage, handling, or consumption of food or beverages in storage areas, refrigerators, glassware or utensils which are also used for laboratory operations (23, 24)

Research Laboratory Decommissioning Procedure Checklist

"All chemical waste needs to be

- Submit a Laboratory Decommission notification via e-mail or letter copy to the Assistant Radiation Safety Officer (RSO).
- Review and annotate the RAD 6 Report, the radioisotope inventory form. This should include updates on the disposition of all personnel, radiation meters and inventory
- If applicable, complete and submit Radioisotope Transfer Form to the RSO.
- Submit list of all radiological wastes in the affected laboratory indicate if they

Eating Food in the Lab: An Illegal Habit (con. from page 1)



OSHA Bloodborne Pathogens Standard (29 C.F.R. 1910.1030 (d)(2)(ix) and 1910.1030(d)(2)(x)) [http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051]

"Persons must wash their hands after working with potentially hazardous materials and before leaving the laboratory."

Safe Alternatives to Ethidium Bromide

"The DOES office requires that laboratory personnel collect all ethidium bromide gels in a container and dispose of them as hazardous waste."

In research, working with toxic agents is sometimes a necessity but with recent technological advances by some research supply companies, many of these toxic agents can be substituted for something that is less likely to cause harm. One such example of this comes from Invitrogen. Invitrogen has recently been marketing a product called SYBR® SAFE as a replacement for ethidium bromide in laboratories that conduct gel electrophoresis.

Ethidium bromide is termed a mutagen because of its characteristic as a DNA intercalator, meaning that it intercalates itself between DNA base-pairs in the double-helix. In order for this to occur, the DNA double helix must expand slightly by unwinding, which may lead to errors in normal cellular processes such as; DNA replication, transcription, and repair.

Because of the mutagenic hazard associated with ethidium bromide, special care must be taken when working with the chemical and disposing of gels and solutions containing ethidium bromide. The DOES office requires that laboratory personnel collect all ethidium bromide gels in a container and dispose of them as hazardous waste.

SYBR®SAFE offers a safe alternative to ethidium bromide, and it also does not require the same level of waste management. The alternative does not demonstrate the mutagenic properties of ethidium bromide, and agarose gels containing the material do not need to be treated as hazardous waste. The DOES office asks that the agarose gels are collected in a cardboard box lined with a plastic bag; once the box is filled it can be taped shut and taken by custodial services. No forms are required for the disposal of agarose gels containing SYBR®SAFE.

Please note that this [illegible] to agarose gels containing SYBR®SAFE. Due to the carcinogenic properties of acrylamide, these gels must be collected in a cardboard box lined with a plastic bag; then disposed of as hazardous waste.

SYBR®SAFE is sold in 400µL of a 10,000X concentrate, and it costs about $45.00. This product can be used to soak gels after electrophoresis or when precasting gels before electrophoresis*

A similar product is available through AMRESCO® called EZ-Vision,™ and it is sold as a 6X loading buffer that is added to the DNA prior to loading the gel.

If you have any questions please see the links below, or speak with your Invitrogen or AMRESCO sales representative regarding these products.

Invitrogen: http://probes.invitrogen.com/media/pis/mp33100.pdf

AMRESCO: http://www.amresco-inc.com/media.asp?path=/media/products/pdf/dfN650.pdf

*Special thanks to Eric Ast Laboratory member for the information regarding SYBR®SAFE.

Upcoming Training Sessions*

NOTE: While all laboratories must attend training at DOES, labs must hold specific training in the CHP and ECP as it pertains to the actual work they do. Labs will also need an outline of the CHP and ECP training and a sign in sheet to accompany it. The sign-in sheet and outline will be kept in the CHP and ECP. It will be asked for during lab inspections.

New Hazard Communication (Right-to-Know) Training
Retraining is required annually
DOES Small Meeting Room - Service Building 1st Floor
PREREGISTRATION IS REQUIRED - Please call 368-2907

New Radiation Safety Training
Retraining is required annually
DOES conference room - Service Building 1st Floor
PREREGISTRATION IS REQUIRED - Please call 368-2906

New Laser Safety Training
Retraining is required annually
DOES conference room - Service Building 1st Floor
PREREGISTRATION IS REQUIRED - Please call 368-2906

FOR THE FOLLOWING CLASSES:

Laboratory Safety Retraining
Regulated Chemical Retraining
Hazard Communication (Right-to-Know) Retraining
Bloodborne Pathogen Retraining
Radiation Safety Retraining
Laser Safety Retraining
Respirator Safety Retraining

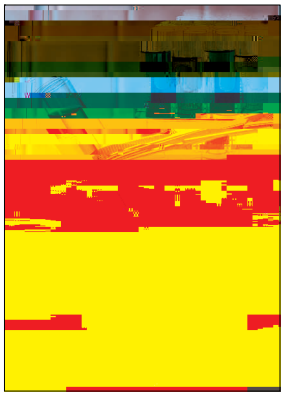
Please retain on the Internet at <http://does.case.edu> and click on Training.
Print test and fax or mail it to the DOES office.
If your training is more than one year overdue, then you must attend the training class in person and cannot retain online.

FOR THE FOLLOWING CLASSES:

New Laboratory Safety Training
New Regulated Chemical Training (Formaldehyde, Benzene, Methylene Chloride, Vinyl Chloride, etc.)
New Bloodborne Pathogen Training
New Respirator Safety Training
New BSL-3 Safety Training

Retraining is required annually
DOES Conference Room - Service Building 1st Floor
PREREGISTRATION IS REQUIRED - Please call 368-2907

*THIS IS A TRUNCATED LIST OF OUR OFFERINGS. As always consult our website (http://does.case.edu) for a full schedule of training sessions



Please remember that our updated DOES website provides many resources to meet your safety needs. The DOES website (http://does.case.edu/) includes all of the following resources:

- Safety Services Manuals and Forms
- Archived DOES Newsletters
- Training Class Schedules
- Staff Information
- MSDS
- Important Safety Links
- Our Mission Statement
- Contact Information

If you have any questions about our website, please feel free to contact us at ext. 2906/2907

Remember, all back issues of the DOES Newsletter can be found online at http://does.case.edu. Simply click on the “Newsletter” link in the left-hand column!