

BioSide Lines

January 2003

The Newsletter of the UW-Madison Office of Biological Safety
www.fpm.wisc.edu/biosafety

Report on Carcinogens

The National Toxicology Program's (NTPs) 10th Report on Carcinogens has recently been released (<http://ntp-server.niehs.nih.gov/NewHomeRoc/AboutRoC.html>). The Report on Carcinogens now lists 228 substances as either "known" to be human carcinogens or "reasonably anticipated" to be human carcinogens.

Added to the list of known human carcinogens are:

- Steroidal estrogens (found in estrogen replacement therapy and oral contraceptives). Some individual estrogens were previously listed as reasonably anticipated to be human carcinogens.
- Broad spectrum ultraviolet radiation (solar and artificial sources such as tanning beds)
- Wood dust
- Nickel compounds (found in batteries, ceramics, and industrial settings)
- Beryllium and beryllium compounds (previously listed as reasonably anticipated to be human carcinogens). Workers with ceramics and electronic equipment and jewelers have higher potential for exposure.

Added to the list of agents reasonably anticipated to be human carcinogens are:

- Chloramphenicol (antibiotic commonly used in laboratories, restricted use in humans)
- Several dyes (Dyes that metabolize to 3,3'-dimethoxybenzidine or to 3,3'-demethylbenzidine)
- Styrene-7,8-oxide (used in production of plastics and chemicals)
- IQ (a quinoline found in foods (meat, eggs) cooked at high heat and in cigarette smoke)
- Several flame retardants/intermediates in production of flame retardants (2,2-bis-(Bromomethyl)-1,3-propanediol and 2,3-Dibromo-1-propanol)
- Ultraviolet A, Ultraviolet B, Ultraviolet C Radiation (clean rooms, biosafety cabinets)
- Methyleugenol (found in some herbs, spices, anesthetics, insect attractants, and sunscreens)
- Metallic nickel (not present in nickel coin but used in industrial settings)
- Vinyl bromide and vinyl fluoride (used to make polymers for fabrics and weather-resistant fluoropolymers)

See the National Institute of Environmental Health Sciences (NIEHS) Press Release for more info (<http://www.niehs.nih.gov/oc/news/10thrc.htm>).

New Rules for Working with Select Agents

The USDA and CDC recently published interim final rules regarding pathogens and toxins that are deemed to pose a severe threat to human, plant, and animal health. The new rules take effect on 7 February 2003 and will be fully applicable by 12 November 2003. The published rules are "interim final" rules, which means that the federal regulators are soliciting comments and the rules are subject to change. The Biosafety Office is assisting University officials with an analysis of the proposed regulations and their impact on research operations. The University will submit comments including any changes considered necessary to minimize the impact on legitimate research efforts.

The development of these rules was based in part on the mandatory survey of possession of microbes and toxins that was completed last September. A preliminary assessment of the

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regulations suggests that the provisions of the new rules will affect relatively few investigators. The new rules and lists of regulated pathogens and toxins are easily accessed from the biosafety website.

More microbes and toxins are subject to the new rules than were previously regulated as select agents. Some materials were dropped, e.g. aflatoxins, yellow fever virus and hantaviruses, but 10 plant pathogens and numerous animal pathogens were added. While most of the toxins remain categorized as select agents, exemptions for small quantities will allow most investigators to conduct their research activities without being subject to these regulations. Investigators who claim these exemptions still must meet the standards set forth by CDC with regard to limiting access, keeping an inventory, and securing materials.

Some of the requirements under the new regulations:

- CDC and/or APHIS will grant approval to individuals to possess/use/transfer these materials for legitimate purposes.
- Visitors, custodians, and maintenance personnel must be escorted in areas where these materials are used or stored.
- APHIS permits are required for possession of the animal and plant pathogens.
- Facilities that conduct diagnostic activities will be exempt from the registration requirements if they report findings to APHIS or CDC and do not maintain cultures of the pathogen.
- Detailed records of inventory and access must be maintained.
- Prior approval by CDC or APHIS will be required for all transfers of these materials.

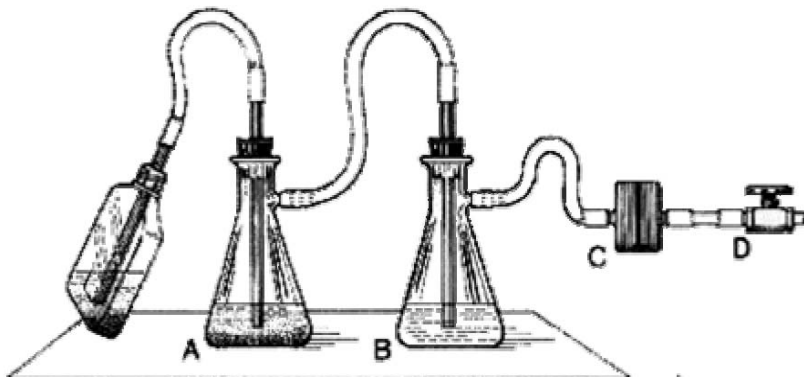
OBS is available to answer questions related to the new rules and will assist those investigators who are subject to the provisions in achieving compliance with these new mandates

Protecting Vacuum Equipment

Vacuum systems that connect directly to a motorized pump or to a building's central system must be protected from aspirated hazardous materials so that the equipment can be safely serviced.

Contamination of the equipment can result in costly repairs.

A simple means to achieve protection against pathogens is illustrated in this diagram.



Dual aspirator flasks (A and B) are placed in series and a disposable in-line HEPA filter (C) is placed between the flasks and the source valve (D). Flask A typically is used to collect the contaminated fluids into a disinfectant such as bleach. Flask B serves as a fluid

overflow collection vessel. Extending the tube to the bottom of the flask helps to minimize splatter. The filter should be replaced annually at a minimum and whenever there is evidence of failure or blockage.

When this arrangement is used for work that is done inside a biological safety cabinet (BSC), the flasks also should be located inside the BSC. If placement outside of the BSC is necessary, the flasks should be protected against breakage by being positioned in a leakproof secondary container.

Basic Biosafety Class Offered

This class will give an overview of basic biological safety. Topics include: biosafety levels and biohazard containment, good microbiological techniques, waste disposal, risk assessment, and emergency preparedness. It is intended primarily for students and staff who are new to this institution and/or new to working in a laboratory. Everyone is welcome to attend.

Wednesday, February 12, 2003
Union South 1:30 – 3:00 p.m.

Registration is required. Contact Margy Lambert at 3-9013 or lambert@fpm.wisc.edu.

Shipping Infectious Substances and Other Biological Materials

The Office of Biological Safety will provide training and certification for shipping infectious substances and other biological materials, with a focus on safety and regulatory compliance for research laboratories. The Department of Transportation requires that persons involved in shipping hazardous materials in commerce be trained and certified in proper handling of these materials.

Wednesday, January 15, 2003
Union South 1:30 to 3:30 p.m.
Refreshments will be served.

Registration is required. Contact Margy Lambert at 3-9013 or mlambert@fpm.wisc.edu.

All staff are welcome to attend this class for initial or re-certification. Staff approaching their two-year expiration for certification will receive a notice in advance of that date. Computer-based training is available only for those who attended the class for their initial certification.

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