BIOCHEMISTRY SEMINAR

The 2nd Annual Safe Laboratory Practices and Procedures

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Chair, Safety Committee
Department of Biochemistry
Memorial University of Newfoundland

Friday, October 16, 2015
1:00 p.m.
L.A.W. Feltham Room, SN-4015

PLEASE NOTE: This seminar will highlight fundamental aspects of safety and MUM procedures that all new members of the Department need to be aware of.

ALL NEW DEPARTMENT MEMBERS SHOULD PLAN ON ATTENDING PLUS ANYONE WHO WOULD LIKE A REFRESHER.
Where are we?

In a time of change!

Universities have expanded their lab safety procedures
Have to think about

Clothing
Chemicals
Label
Equipment
Biohazard
Radioisotope
Electrical
Fire

Lab safety 1000
WHMIS
Lab safety plan
MUN Safety Manual
HSMS
Fumehood
Eye wash / shower
Working late
Where did this come from?

Ans., government legislation

What is Bill C-45?

Ans: An amendment to the criminal code that establishes standards for workplace health and safety.

What does it say?

... "reasonable steps" to ensure the safety of workers and the public.

Bill C-45 became law on March 31, 2004
Flow of Legislation Post-1992

Government
  Federal and Provincial
    Standard practice legislation

University (Health & Safety Dept.)
  H.S.M.S / safety manual

Biochemistry Dept (Safety Committee)
  Lab Safety Plan template

PIs
  Individual Lab Safety Plan
  Signed monthly check list
  Working alone (buddy system)

Researcher
What is HSMS?

Health and Safety Management System

Who runs it”    MUN (EHS dept.)

What does it do?

It disseminates information - eg Chemical inventory
(what, how much, where?)

Safety Data Sheets

Bar codes & labels

On-line storefront - ordering

Procedures - ‘virtual safety’ - only as good as individual users.
What is this seminar all about?

1) Getting started

2) Basic safety
   Do’s and Don’ts
   Housekeeping
   Protective clothing
   Chemical, Electrical, Fire

3) Updates
Getting started

On-line courses - WHMIS
Lab safety 1000

my.mun.ca login ID
D2L
Take record of completion to General Office

Radioisotope and biohazard training

Rod Hobbs, Radiation and Biosafety officer

Locate new stores (Chem. Bldg, C1016) / on-line system
Now what?

Begin with the basics

*It’s mostly ‘common sense’*

Housekeeping

Protective clothing

Communication

Consistency (plan, clean, tidy, keep a record)

Identifying the *real* hazards (substances, equipment)
Some things *not* to do:

* Handle chemicals without protective clothing
* Fill sink with dirty glassware
* Leave things lying around
* Not recording what you’ve done
* Start 'spur-of-the-moment' experiments late at night
* Use dangerous equipment without asking
* Use dangerous chemicals without asking
* Put head inside fume hood
* Free-standing gas cylinders
Good Housekeeping

No food or drink (includes cupboard, bags and internal rooms)

Uncluttered work surface / aisle

Clean and tidy up before going home

Conduct regular checks
Protective clothing

Lab coat
Gloves
Eye protection
Mask

Apron
Insulated glove
Gauntlet
Shoe cover
Lab Coat

Book store (~$15)
Name (black ink, Sharpie)
Fasten
Laundry (stores, ~1 week)
Spare
Eye Protection

Glasses

Goggles

Individual items

Stores

Bookstore (goggles, $12)

Face Shield

Shared (one per lab)
Gloves

Note different types

In stores:

(i) vinyl (powdered and non-powdered)
(ii) nitrile (blue)
(iii) natural rubber (orange) - LATEX
(iv) neoprene (black)

* Double glove (radioisotope handling)
* Wet glassware difficult to handle
* Refrain from touching surfaces (eg handles)
Eyewash and shower

Know where it is

Flush out regularly

Eyewash: once / week

Shower (if available): once / year

Cover caps (green) loosely on
Fume Hood operation

Sash at indicated level (~18 inches)

Uncluttered

Get set - beaker of neutralising solution

Position the chemical ‘far back’

Don’t put your head in!

Afterwards, close the sash leaving a small gap.
A hazard:
something that has the potential to cause harm

*Prioritize the real dangers*
Real Dangers

Egs supplied by persons working in Biochem Dept.

* Metabolic poisons (cyanide) - Dr. Sean Brosnan

* Flammable solvents (acetone, ether)
  * Formaldehyde - Dr. Christian

* Corrosives (acids, alkalis) - Dr. Brunton
  * Chromerge - Donna Hunt

* Neurotoxins (protease inhibitors) - Dr. Heeley
  * Neurotoxin (acrylamide) - Dr. Mulligan

* Powders (SDS) - Marie Codner

* Eye irritant - Chandani Dinash

* Carcinogens, Radioisotopes, Microbes
**Dangerous chemicals** - what to do?

Talk to your PI

Ask PI to show you how

Read the MSDS (last 3 yrs)

**Plan** - protective clothing (COMFORTABLE)

PRACTICE

bench covering / tray, shielding, fume hood

antidote / neutralisation compound

spill kit / first aid kit

label / storage

disposal
Dangerous Equipment
(eg centrifuges, autoclave)

Talk to your PI
Ask PI / Craig Skinner to show you how
Booking system
Plan - start early in the day
Labels

www.mun.ca/biochem/dept_docs/safety/index.php

Read the MSDS

One label per individual chemical in the solution.

Stored solutions only

Small vials - 1 label (for the container)
Electricity safety

* Appliances (eg kettles and toasters) to be approved by Safety Office

* Re: Extension cords (CSA only, do NOT link in series, 1 device per cord, disconnect after use or use power bar)

* Ample space between equipment and wall outlet

* Turn off equipment when not in use
Fire Safety

* No smoking

* Flammable liquids properly stored

* Do NOT use Life Safety Equipment (extinguishers, fire alarms, sprinklers) as hanging devices

* Re: Christmas decorations (non-flammable, away from heat sources).

* Fire Alarm - evacuate building via STAIRWELL

* DO NOT gather inside the Science Quad
Fire Drill  muster points 15B & 17
Updates
Stores, C1016
Procurement Services, C2012

Where are they?
Chemistry Building

What’s the difference?
In stock vs. not in stock.
On-line inventory ($, quantity, catalog # and vendor)

Opening hours: 9 - 4:30 (possibly 5)
What to do?

First, find out where they are.
Order on-line --> email reply --> print

Pick up or delivery?

Indicate preference during ordering.
Delivery (cylinders) - After 2 pm if ordered before noon.
Pick-up - More flexible (~ 3 - 4 hr).
Flu season

Vaccine - late October / early November
Student Health Center - Day clinic or GP
Free or MCP
Be safe
Experiment on