**please post Emergency Telephone Numbers: please post**

 August - 2010

 **Biological Sciences Department Small Chemical Spill Designates**:

|  |  |  |
| --- | --- | --- |
| **Name** | **Office**  | **Campus phone** |
| Dorothy Fabijan | B613 | 492-5523 |
| Tom Hantos | CW315A/M341A | 492-2399/4433 |
| James Maclagan | Z009 | 492-5482 |
| Richard Mah | M341 | 492-4433 |

**1. Fire/Police/Ambulance (24h*)*****911**state the U number “11”, get the

 responders moving first,**then**

**2*.* UofA Campus Security Services (24h)** **2-5050** advise CSS to meet/guide responders

 **On campus:**

Campus Security Emergency **2-5050** (security, transport to hospital, first aid)

 (24h, both numbers) (non-emergency) **2-5252** general office

Building maintenance/repair (24h) **or** **2-4833** (building emergency/mechanical problems

Communications Control Centre (24h) **2-5555** e.g. flood / gas leak / stuck elevator /

 major chemical spill after hours)

U of A Hospital (switchboard; 24h) **2-8822**

U of A Health Services (8AM-4PM) **2-2612**

U of A - Office of Environmental Health **2-1810** (chemical spill information)

 and Safety (8AM-4PM): **2-1631** (alternate numbers)

 **2-5655** ( " " )

Building Services (8AM-4PM) (help with cleanup after hazard

 Biological Sciences **2-1754**  has been removed/neutralized)

 **(**alternate number) **2-3209**

 **Off Campus:** if you cannot contact help with campus numbers, try these:

Police (non-emergency) **(9) - 780-423-4567**

Ambulance (non-emergency) **(9) - 780-426-3232**

Poison Center **1-800-332-1414**

Edm Drainage Spills (**9)-780-496-1717** (chemical spill into the drain system)

Edm Dangerous Goods info **(9)-780-496-3899** (road chemical spills in Edmonton)

AB Dangerous Goods & Rail Safety **(9)-780-422-9600** (other roadway spills)

When you call, be prepared to provide:

 - name

 - phone number

 - location (street, building name, room number)

 - closest entrance in building

 - nature and extent of accident or spill

If possible, have someone meet the response team at the entrance to guide them to the site.

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(http://www2.ucdsb.on.ca/tiss/stretton/chem3/4cmatter.html)
This system was developed to provide workers and students with complete and accurate information regarding hazardous products.  All chemical products that are used in business, workplaces, industry or schools must contain standardized labels and must be accompanied by Material Safety Data Sheet (MSDS) in a location convenient to the worker or student.  The MSDS sheet must provide clear and precise information about the product.  Clear and standardized labeling of products is an important component of WHMIS.  The labels must be present on the product's original container or a label must be created and added to any container the product is added to.

General safety rules:  Always store materials in their proper designated areas.  Always wear protective clothing, along with face and eye protection

|  |  |  |  |
| --- | --- | --- | --- |
| http://www2.ucdsb.on.ca/tiss/stretton/graphics/WHMIS2.JPG | Class A Compressed GasesMaterial that is normally gaseous and kept in a pressurized container | • could explode due to pressure• could explode if heated or dropped• may be hazardous from the force of the explosion or the release of the contents | •  ensure container is always secured•  store only in designated areas•  do not drop or allow to fall |
| http://www2.ucdsb.on.ca/tiss/stretton/graphics/WHMIS7.JPG | Class BFlammable and Combustible Materials   | •  may ignite spontaneously•  may release flammable products if allowed to degrade or if exposed to water. | •  avoid heating•  avoid sparks and flames•   ensure that electrical sources are safe |
| http://www2.ucdsb.on.ca/tiss/stretton/graphics/WHMIS4.JPG | Class COxidizing Materials | •  can cause skin and eye burns•  increase of fire and explosion hazards•   may cause combustibles to explode or react violently | •   store oxidizers in containers that will not rust or oxidize |
| http://www2.ucdsb.on.ca/tiss/stretton/graphics/WHMIS3.JPG | Class DDivision 1Toxic MaterialsImmediate and Severe Hazard | •  may be fatal if ingested or inhaled•  may be absorbed through the skin•   small volumes have a toxic effect | •  avoid breathing dust and vapours•  avoid contact with skin or eyes• work in well ventilated areas |
| http://www2.ucdsb.on.ca/tiss/stretton/graphics/WHMIS1.JPG | Class DDivision 2Toxic MaterialsLong Term Concealed | •  may cause permanent injury or death•  may cause birth defects or sterility• may cause cancer•  may be sensitizers causing allergies | •  avoid direct contact •   wear appropriate personal protection•  use hand, body, face and eye protection |
| http://www2.ucdsb.on.ca/tiss/stretton/graphics/WHMIS8.JPG | Class DDivision 3Biohazardous Infectious Materials | •  may cause anaphylactic shock • includes viruses, yeasts, molds, bacteria, and parasites that affect humans•  includes fluids that contain toxic substances• includes cellular components    | • special training required to handle these materials •  avoid forming aerosols•  avoid  breathing vapours•  avoid contamination of people and work area |
| http://www2.ucdsb.on.ca/tiss/stretton/graphics/WHMIS6.JPG | Class ECorrosive Materials | • may irritate eyes and skin on exposure•  may cause severe burns to tissue upon longer exposure•  may damage lungs if inhaled•  may cause blindness if contact with eyes• may cause serious environmental damage as a result of fumes  | • avoid all direct body contact   |
| http://www2.ucdsb.on.ca/tiss/stretton/graphics/WHMIS5.JPG | Class FDangerously Reactive Materials | • may react with water• may be chemically unstable• may explode if exposed to heat or shock• may release toxic or flammable vapours• may vigorously polymerize•  may burn unexpectedly    | •  handle with care, avoiding vibrations, shocks, and sudden temperature changes•  store in appropriate containers•  ensure storage containers are sealed |

Department of Biological Sciences: Guidelines for Chemical Spills

In case of a chemical spill:

1. look for any injured people; make sure they are taken care of first.

2. get help: notify co-workers that a spill has occurred before trying to clean up.

**A. Small spill / low hazard**:

(e.g. <250 mL of flammable or corrosive material)

* if you know all the hazards associated with the chemical and know you can quickly and safely clean it up with adsorbent (paper towels or spill mix) and transport the waste into a fume hood; then proceed with the assistance of another person.

**B. medium spill / unknown hazard:**

(e.g. >250 mL of flammable/corrosive material **or** any amount of a **T**oxic, **B**iohazardous or **H**ighly **R**eactive material):

* contact a Departmental Spill Designate. If no one is available, call Campus Emergency at 2-5555 and they will contact the UofA Chemical Spill Designates from the Office of Environmental Health and Safety.

**C. Large spill / high hazard:**

(e.g. > 500 mL of a flammable solvent, hydrofluoric or perchloric acid spill, >30 mL mercury).

* contact Campus Emergency (2-5555) first and then try to find a Departmental Spill Designate.

In any accident, focus on people safety first (particularly any injuries), then:

* get help
* seal off the area
* develop a plan for containment and cleanup
* remember that equipment and building losses are secondary to personal safety

Department of Biological Sciences: Access to Material Safety Data Sheets (MSDS)

for information on dealing with hazardous products: handling, cleanup, etc.

1. Hardcopies: main site is located outside CW468 in a filing cabinet.

**2. Computer access:**

via Department of Biological Scienceshomepage:

open page:  [http://www.biology.ualberta.ca/](http://biodb.biology.ualberta.ca/biosci.php3)

and under the left side menu, select "Safety" and then “Chemical Safety”. This brings you to the MSDS sources page.

**Response to Small Chemical Spills**

Biological Sciences Department

1. Help injured people first: Don’t panic. If necessary, and without causing any further damage,

try to remove the injured person from the vicinity of the accident. Call for medical help.

2. Identify the hazard and alert others:

* protect yourself
* what chemicals are involved?
* other potential hazards? (radioactive, electrical, biohazard, reactive mixtures)
* for flammables: turn off all sources of flame/sparks (stirrers, hotplates, unplug fridges)
* notify others; evacuate spill area if necessary
* isolate the spill area: post warning signs

3. Get help:

* obtain the MSDS
* assess the situation: phone for assistance/information if you are unable to handle the spill with resources/people at hand or if you are not sure what to do.

4. Clean up the spill:

* get the spill cleanup kit and use the protective equipment (gloves, apron, goggles, respirator). NEVER work alone.
* contain the spill by spreading a ring of adsorbent mixture around the spill and then work it towards the center.
* scoop up the adsorbent and place in bucket or plastic bag. Move the material into a fume hood.
* if you know EXACTLY what to do, neutralize the material in the hood with the

appropriate agent.

ACIDS: dilute with cold water and add a weak base (sodium carbonate). Flush down the drain with lots of water (don’t plug the drain with sand).

ALKALIES: dilute with cold water and add dilute acid (4% HCl). Flush to drain with lots of water.

Never use strong or concentrated acids or bases to neutralize things due to the violent reaction that will occur. If you have never done this before, leave the material in the hood and call for assistance.

FLAMMABLES: allow to evaporate in the hood. Post warning signs in the area to avoid sparks, flames, etc.

* dispose of the neutralized solid material in the garbage. If there is any potential hazard with the residue, contact the Department of Environmental Health Services (EHS) for pickup (complete and submit a disposal form through the Chematix Waste Disposal System).
* clean up the spill area with soap and water. DO NOT LEAVE CHEMICAL RESIDUE

FOR CLEAN UP BY BUILDING SERVICES PERSONNEL.

5. Notify your chemical spill designate about the accident and if any supplies from the spill or

first aid kits need to be replaced. The Safety Officer or APO **must** be notified as soon as possible

 if any sort of personal injury was sustained. WCB injury reports must be submitted within **72**

 **hours** of the accident occurrence.

6. Review what happened and how a recurrence might be avoided in the future.

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| **Safety Equipment Located in the Department of Biological Sciences**BSB Biological Sciences BuildingESB Earth Sciences Building

|  |  |  |
| --- | --- | --- |
| **First Aid Kits** |  | **Showers in Biological Sciences Building** |
| *Departmental Supported Kits* |  | *Emergency Showers (no privacy):* |
| **Room** | **Bldg** | **Location** |  | **Hallway** | **Laboratory:** |
| Z207 | BSB | BioStores |  | CW468 | M245 | M547 |
| CW405 | BSB | Main Office |  | Z804 | M349 | M528 |
| CW312 | BSB | Student Services |  | B426 | M453 | Z631 |
| Z203 | BSB | Cabinet |  |  |  |  |
| M427 | BSB | Cabinet |  | *Privacy Showers:* |  |
|  |  |  |  | CW544 | Open |  |
| 218 | ESB | Museum |  | M525 | Open |  |
|  |  |  |  | Z107 | Locked |  |
|  |  |  |  | Z1003A | Open |  |
|  |  |  |  | Z1003B | open |  |

**Chemical Spill Cleanup Kits**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Floor** | **Wing1** | **Room** | **In/Out2** | **Location** | **Access3** |
| 6 | B | 610 | Out | N end of hallway | open |
| 4 | B | 409B | In | Botany kitchen | open |
| 3 | B | 311 | In | Prep lab, east wall |  |
| 4 | CW | 468 | Out | hallway, near safety shower | open |
| 3 | CW | 315 | In | photocopy room | CARD |
| 1 | CW | 117 | In | Prep lab, near fire extinguisher |  |
| 2 | ESB | 223 | In | Keddie lab |  |
| 2 | ESB | 215 | In | Teaching lab |  |
| 1 | ESB | 152 | In | Grad Student offices |  |
| 5 | G | 502 | Out | N end of hallway | open |
| 4 | G | 430A | Out | S end of hallway | open |
| 3 | G | 319 | Out | S end of hallway | open |
| 1 | G | 117 | In | workshop |  |
| 4 | M | 453 | In | research lab, near safety shower |  |
| 3 | M | 341 | In | Prep lab, near small sterilizer |  |
| 9 | Z | 923 | Out | N end of hallway | open |
| 8 | Z | 815 | Out | N end of hallway | open |
| 6 | Z | 611 | In | sterilizer room, near ice machine | open |
| 5 | Z | 517 | Out | N end of hallway | open |
| 2 | Z | 207 | In |  |  |

**1B**otany, **C**enter **W**ing, **E**arth **S**ciences **B**uilding, **G**enetics, **M**icrobiology, **Z**oology**2In/Out** **3Access** In: within a room open: should be unlocked at all times Out: in hallway CARD: requires swipe magnetic swipe card unspecified: should be available during regular work hours/daysRevised April 20, 2011 |

**Department of Biological Sciences**

**Location of Chemical Spill Cleanup**

**Kits**

**April 2011**

**Zoology**

**Genetics**

**Botany**

**Center Wing**

**Earth Sciences Building**

**G502**

**G430A**

**G319**

**G117**

**CW468**

**CW315**

**CW117**

**2-15**

**2-23**

**1-52**

**Z923**

**Z815**

**Z61**

**Z517**

**Z207**

**Biological Sciences Building**

**B610**

**B409B**

**B311**

**Microbiology**

**M549**

**M453**

**M341**

**Microbiology**

**M549**

**M453**

**M341**