

# **VANCOUVER COASTAL HEALTH RESEARCH INSTITUTE (VCHRI)**

## **SAFETY ORIENTATION GUIDE**

**DIVISION OF INFECTIOUS DISEASES**  
(452D Heather Pavilion East, 2733 Heather Street)

**JACK BELL RESEARCH CENTRE**  
(2660 Oak Street)

**VANCOUVER GENERAL HOSPITAL  
RESEARCH PAVILION**  
(828 West 10<sup>th</sup> Avenue)

**WILLOW CHEST CENTRE**  
(2647 Willow Street)

**ROBERT H. N. HO RESEARCH CENTRE**  
(2635 Laurel Street)

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## **EMERGENCY TELEPHONE NUMBERS**

**Security** ..... **Dial 4777**

For **routine** request, such as, access requests, escorts etc.

**Security** ..... **Dial 5800**

For **urgent** requests, such as, suspicious behaviour, first aid etc.

**First Aid** ..... **Dial 5800**

Only call if you are not able to go to VGH Emergency Department.

**Life threatening emergency or ambulance required** ..... **Dial 9-911**

Also call Security at **5800** as they can assist in directing emergency crews.

**Major Hazardous Spill Response** ..... **Dial 9-911**

Cleanup **IS** time sensitive. Also dial **88** and inform them 911 have been called.

**Intermediate Hazardous Spill Response**..... **Dial 5800**

Cleanup is **NOT** time sensitive.

**Fire – pull fire “pull”, then call** ..... **Dial 88**

**Waste Disposal - VGH Transportation** ..... **Dial 62729**

Battery & Ethidium Bromide waste collection

**Poison Control** ..... **Dial 9-604-682-5050**

**Facility Maintenance** ..... **Dial 54171**

**Compass (housekeeping)**..... **Dial 9-604-418-1369**

### **Other:**

Aramark (outside grounds & equipment removal) ..... 9-604-694-6300

Vancouver Fire Department (non-emergency)..... 9-604-665-6010

### UBC Risk Management Services – Occupational & Research Safety

Manager (Bruce Anderson) ..... 9-604-822-7596

Biosafety Associate (Stephanie Thomson) ..... 9-604-822-9527

Environment & Chemical Safety (Noga Levit) ..... 9-604-822-9280

Emergency & Continuity Planner (Calvin Cheung)..... 9-604-822-1237

Occupational Hygiene Associate (Sonny Dhasi)..... 9-604-822-6098

Radiation Safety (Ted Sedgwick or Kim Sharpe) ..... 9-604-822-7052

Environmental Services (Bang Dang)..... 9-604-822-1285

## **EMERGENCY PROCEDURES**

### **ALARM BELL (Two Stages)**

#### **Stage One - Intermittent**

If the alarm bell rings intermittently (every 3-4 seconds), you have time to save your work, stop experiments and gather things. Then proceed with evacuating the building. Close all doors and windows as you are evacuating. Do not re-enter the building until the all clear signal is heard (alarm bell pause followed by three gongs)

#### **Stage Two – Solid State**

If the alarm bell rings continuously, all personnel must evacuate the building immediately. Close all doors and windows as you are evacuating. Do not re-enter the building until the all clear signal is heard (alarm bell pause followed by three gongs).

### **EMERGENCY ASSEMBLY AREA**

Each lab/office has an emergency assembly area for personnel. After evacuating the building personnel will congregate in their assembly area and ensure all personnel are accounted for. Check with your lab manager as to where your assembly area is located.

### **FIRE - (DIAL 88)**

In case of fire: alert staff in the area, use the nearest fire pull and evacuate the building. Dial 88 and state: “Fire at (building, floor & area)”. Provide directions to response team. Fire Wardens are listed on p.6 and are posted on the OH & S boards.

### **HAZARDOUS SPILLS**

In case of hazardous spill; Establish control and cordon off area, notify supervisor and others, identify spill and obtain MSDS, evacuate as necessary, assess for injuries, extinguish all ignition sources if spill is flammable. Then make one of the following calls depending on the nature and extent of hazard:

- For **highly hazardous** spills where cleanup **is time sensitive**, call **911**, request HAZMAT and give details, then call security at local **88** and call for a code brown and inform them that 911 has been called.
- For **intermediate spills** where cleanup is **not time sensitive**, call security at local **5800**, call for a code brown and provide details of spill.

Remain at a safe distance from the spill area with MSDS until security arrives and then fill out an Incident Report.

### **FIRST AID - (DIAL 5800)**

If you're in need of First Aid, dial 5800 and wait for a first aid attendant. Report all injuries, even minor ones. Minor injuries can become major and if there is no record then it may be difficult to receive compensation. (Forms are available on OH & S boards).

## **EARTHQUAKE RESPONSE PROCEDURE**

### **THE FIRST INDICATION OF AN EARTHQUAKE MAY BE:**

- A low or loud rumbling noise
- A sudden violent jolt
- A shaking or moving of objects
- Any combination of the above

### **WHAT TO EXPECT:**

- Ruptured water lines
- Possible loss of suction/vacuum
- Electricity may be lost (auxiliary power may or may not function)
- Fire and chemical spills may occur
- Structural damage to walls, ceiling and floors could occur
- Non-structural damage to light fixtures, shelves and window may occur
- Possible loss of telephones

### **WHAT TO DO IMMEDIATELY:**

- Protect yourself
- Move away from large windows and objects which may fall. Drop to the floor and cover the back of your neck with your hands. If you are able, get under a heavy table or desk.



### **WHAT TO DO WHEN THE SHAKING STOPS:**

- Assess the area for immediate danger such as fire, flooding, chemical spills
- Assess coworkers for injuries, give first aid to the most seriously injured
- Access the Earthquake Survival Kits: flashlights, hardhats, glow sticks, radio, whistles etc
- Clear away hazardous debris, close fume hood sashes
- Put all telephone receivers back on their hooks
- Check for others who may be trapped
- Remain calm and stay in intact rooms
- Prepare to evacuate when order is given or remove yourself if you perceive imminent danger
- **If you smell gas, do not flick switches**
- **Prepare for aftershocks**

## Occupational Health & Safety Committee

(Heather Pavilion, Jack Bell Research Centre, Research Pavilion, Robert HN Ho Research Centre  
& Willow Chest Centre)

NAME	DEPARTMENT	PHONE
Susan Moore	Prostate Centre / OH&S Chair JBRC - 5th Floor	69629 or 68665 <a href="mailto:susan.moore@vch.ca">susan.moore@vch.ca</a>
Karen Donaldson	VCHRI Manager / OH&S (Co-chair) Willow Chest Centre	55470 <a href="mailto:karen.donaldson@vch.ca">karen.donaldson@vch.ca</a>
Norma Cooper	VCHRI Assistant / OH&S Secretary Willow Chest Centre	61910 <a href="mailto:norma.cooper@vch.ca">norma.cooper@vch.ca</a>
Christine Chow	GPEC JBRC - 5th Floor	68893 <a href="mailto:christine.chow2@vch.ca">christine.chow2@vch.ca</a>
Mehdi Jafarnejad	Li Lab JBRC – 4th Floor	54891 <a href="mailto:mehdi.jafarnejad@yahoo.com">mehdi.jafarnejad@yahoo.com</a>
Peng Zhang (Calvin)	Steinbrecher & Duronio Labs JBRC – 4 <sup>th</sup> Floor	54451 <a href="mailto:pengubc@interchange.ubc.ca">pengubc@interchange.ubc.ca</a>
Dirk Lange	Lange Lab - The Stone Centre at VGH JBRC 3rd Floor	63502 / 68485 <a href="mailto:dirk.lange@ubc.ca">dirk.lange@ubc.ca</a>
Jenny Bazov	Vancouver Prostate Centre JBRC – 3 <sup>rd</sup> Floor	604.417.9679 <a href="mailto:jbazov@prostatecentre.com">jbazov@prostatecentre.com</a>
Kate Orchard	Surgical Lab JBRC – Basement & 1st Floor	54159 <a href="mailto:kate.orchard@vch.ca">kate.orchard@vch.ca</a>
Jeffrey Helm	Immunity & Infection Research Centre Heather Pavilion	68576 <a href="mailto:jhelm@interchange.ubc.ca">jhelm@interchange.ubc.ca</a>
Sonal Brahmhatt	Collins Lab RHNH – 1 <sup>st</sup> Floor	62445 <a href="mailto:sbrahmhatt@prostatecentre.com">sbrahmhatt@prostatecentre.com</a>
Danmei Liu	Centre for Hip Health & Mobility RHNH – 5 <sup>th</sup> Floor	<a href="mailto:danmei.liu@hiphealth.ca">danmei.liu@hiphealth.ca</a>
Agripina Suarez	Shaw Lab RP – 3 <sup>rd</sup> Floor	68375 <a href="mailto:suarez@mail.ubc.ca">suarez@mail.ubc.ca</a>
Ted Sedgwick	UBC Risk Management Services Liaison	604.822.7052 <a href="mailto:ted.sedgwick@ubc.ca">ted.sedgwick@ubc.ca</a> <a href="mailto:radiation@riskmanagement.ubc.ca">radiation@riskmanagement.ubc.ca</a>
Maria Infante	HEU Safety Steward VGH	604.875.4465 <a href="mailto:Maria.infante@vch.ca">Maria.infante@vch.ca</a>
Jeremy Green	iCORD Liaison	604.675.8810 <a href="mailto:jgreen@icord.org">jgreen@icord.org</a>

## VCHRI FIRE WARDENS

(Updated list is posted on the OH & S board)

<b>Building</b>	<b>FLOOR</b>	<b>NAME</b>	<b>ROOM</b>	<b>LOCAL</b>
HP	D Floor	Jeffrey Helm	D452	68576
HPE	C & D Floor	Devki Nandon	368F	54347
JBRC	Basement	Nick Tiganis	127	54159
JBRC	1st Floor	Damon Jung	127	54159
JBRC	2nd Floor – South	John Morrison	236	54849
JBRC	2nd Floor – North	Brenda Prieur	246	55404
JBRC	3rd Floor – South	Dirk Lange	312	68485
JBRC	3rd Floor – North	TBA	TBA	TBA
JBRC	4th Floor – South	Payman Hojabrpour	436A	55702
JBRC	4th Floor – North	Sylvia Cheung	444	61339
JBRC	5th Floor – South	Christine Chow	509	68893
JBRC	5th Floor – North	Susan Moore	555	69629
RP	1st Floor – South	Chris Lockhart	186	68535
RP	2nd Floor – South	TBA	TBA	TBA
RP	2nd Floor – North	Suzanne Richardson	260	54149
RP	3rd Floor – South	Agripina Suarez	386	68375
RP	3rd Floor – North	TBA	TBA	TBA
RP	4th Floor – South	Blanche Lo	467	69394
RP	4th Floor – North	Eddy Wang	467	69394
RP	5th Floor – South	Honglin Zhang	578	66319
RP	5th Floor – North	Douglas Race	593	68515
RP	6th Floor – South	Kevin McElwee	tba	63908
RP	6th Floor – North	Cristiane Yamabayashi	617	62574
RP	7th Floor – North	Vicky Chan	704	67417
RP	7th Floor – North	Shirley Yue	706	62187
WCC	1st Floor	Norma Cooper	109	61910
WCC	1st Floor	Karen Donaldson	112	55470
WCC	3rd Floor	TBA	TBA	TBA
RHNH	1st Floor	Shaun Anderson	189	21775
RHNH	2nd Floor	Lana McClelland	292	52571
RHNH	3rd Floor	Shannon Awrey	366	21767
RHNH	3rd Floor	Fariba Ghaidi	381	21781
RHNH	4th Floor	Mike Brenneman	492	21783
RHNH	4th Floor	Rouhollah Mousavizadeh	493g	n/a
RHNH	5th Floor	Danmei Liu	591	52577
RHNH	5th Floor	Lutetia Wallis-Mayer	572	21789
RHNH	6th Floor	Seth Gilchrist	687a	n/a
RHNH	6th Floor	Anna Chudyk	678d	n/a
RHNH	7th Floor	Lidi Giroux	796	52580
RHNH	7th Floor	Victoria Webber	799	52575

Heather Pavilion (HP), Jack Bell Research Centre (JBRC), Robert H.N. Ho Research Centre (RHNH), Research Pavilion (RP), and Willow Chest Centre (WCC).

## VCHRI SAFETY GUIDELINES

VCHRI contains both VGH and UBC personnel. All new VCHRI employees, students, staff and faculty must follow UBC and WorkSafeBC regulations and receive appropriate training and orientation in the procedures required to safely perform their work. These guidelines are the **MINIMUM** requirements. All personnel are expected to help keep their work environment clean, uncluttered, and safe **at all times**.

The following guidelines are in place for all VCHRI facilities:

1. Orientation training must be conducted at the worksite by the immediate supervisor or designate. The employer is responsible for the appropriate training in lab procedures; chemical safety and biohazard safety (see Appendix V). A training record must be completed for each employee (see Appendix VI) and kept for review by WorkSafeBC inspectors or internal auditors.
2. In addition to regular safety audits done by OH & S and the University, each lab must complete a monthly safety checklist (see Appendix III).
3. VCHRI is a high security area and perimeter doors must not be propped open. Access is available only to individuals with correct identification which must be worn at all times. All visitors must sign in at the front desk and be escorted by an employee. Please report any suspicious activities or persons to security.
4. All personnel must follow proper waste disposal procedures and keep their work area and facilities clean and tidy at all times.
5. All personnel must complete WHMIS training and other safety courses as required for the nature of their work.

UBC Occupational Health and Research Safety: <http://riskmanagement.ubc.ca/health-safety>

UBC safety courses are listed at:

<http://riskmanagement.ubc.ca/courses>

WorkSafeBC website:

[www.worksafebc.com/regulation\\_and\\_policy](http://www.worksafebc.com/regulation_and_policy)

VCHRI website:

[www.vchri.ca/s/OHAS.asp](http://www.vchri.ca/s/OHAS.asp)

Safety Notice Boards are also located on each floor near the elevators and stairwells. They contain all current safety forms and relevant safety information.



## **SAFETY COURSES**

### **ALL STAFF**

#### **WHMIS (Workplace Hazardous Materials Information System)**

This is a **MANDATORY** course for all new staff and students at VCHRI research sites. The course is available on-line at <http://www.vchri.ca/s/WHMIS.asp>

### **LAB PERSONNEL**

#### **Laboratory Biological Safety (UBC)**

**MANDATORY** for all staff (Principle Investigators/Course Directors, faculty, staff and students) conducting work with materials designated Biohazard level II or greater. Course covers topics essential for working with all biohazards including risk factors, routes of transmission, containment facilities; personal protective equipment; inspections & reporting; decontamination/sterilization procedures; disposal & spill procedures; transportation; and the effective use of Biological Safety Cabinets.

#### **Laboratory Chemical Safety (UBC)**

**MANDATORY** for all faculty, staff and students who handle hazardous materials. This course covers chemical hazards, WHMIS, safe handling, storage, hazard recognition and control, waste management and emergency response. Practical session includes learning about Vancouver Fire Service's HAZMAT team, spill clean up, decontamination procedures and how to safely extinguish a fire. (Valid 60 months).

#### **Introduction to Laboratory Safety (UBC)**

Covers the safe handling of chemicals in laboratories, WHMIS, hazard control, waste management and emergency response. This course is suitable for students (graduate, undergraduate & summer students) who are working under constant supervision in laboratories where chemicals are in use. (Valid 60 months)

#### **Radionuclide Safety and Methodology (UBC)**

**MANDATORY** for all faculty, staff & students working with radioactive materials and must be completed prior to commencing work with radioactivity. The fundamentals of radiation physics are briefly covered, with the emphasis placed on practical handling techniques, health hazards, record keeping, legal requirements, purchasing of isotopes, spill management and waste disposal. Meets the basic training requirements for the Canadian Nuclear Safety Commission (Valid 60 months).

#### **Animal Care (UBC)**

All personnel doing animal experiments are required to complete the UBC Animal Care Course (on-line). Additional training requirements may be necessary and will be determined by animal care management.

## **SUPPLEMENTAL TRAINING**

### **TDG - Transportation of Dangerous Goods (Air & Road)**

**Mandatory** for all receivers and shippers of dangerous goods.

### **Occupational First Aid Level One Training (UBC)**

The Occupational First Aid Level 1 Course teaches the basics of first aid response in an emergency situation. Certification is from the WorkSafeBC and Saint John Ambulance, and is valid for two (2) years. The course also includes CPR Level A certification, which is valid for one (1) year. Course is intended for departmental first aid attendants.

### **Safety Committee Training (UBC)**

Intended for Safety Committee members and supervisors. Topics include accident prevention, effective committee operations, safety inspections, accident investigation, safety training and the role of the WorkSafeBC. Meets WorkSafeBC Safety Committee Training Requirements.

### **Animal Care Certification (UBC)**

Completion of these courses can be arranged through [www.animalcare.ubc.ca](http://www.animalcare.ubc.ca). The courses can only be completed in the following order.

- 1) Biology and Husbandry of the Laboratory Rodent
- 2) Anesthesia of the Laboratory Rodent
- 3) General Principles of Rodent Surgery

## GENERAL LAB SAFETY

1. No food or drink may be consumed in the laboratories. A shelf has been provided in the hallway for drink and food containers. Do not bring empty containers into the lab.
2. Due to possible chemical hazards: No open toed shoes; No shorts; Bare legs must be covered. No exceptions.
3. Lab coats must be worn in the lab areas but not in the lunch room or public areas.
4. Gloves should not be worn outside of the lab areas unless transferring materials between labs. **You must always have one ungloved hand** for opening doors, elevators, etc.
5. Personnel protective equipment (goggles, gloves, lab coats, etc.) are provided and must be used as appropriate.
6. Do not abuse shared equipment and sign up for use when required.
7. Keep exits and hallways clear.

## WORKING AFTER HOURS

Completion of the Introduction to Laboratory Safety course only allows students to work under constant supervision. Students are not permitted to work alone unless they have completed the Laboratory Biological Safety and Laboratory Chemical Safety courses.

If working alone:

- Be aware of all hazards in the lab.
- Keep the lab door closed and locked if in an area that is accessible to outsiders.
- Have a contact number for another member of the lab and have them check in on you periodically to make sure you are fine.
- Immediately report any suspicious activity to Security (**Dial 5800**).

## **Liquid Nitrogen Safety**

Liquid nitrogen has a boiling temperature of  $-196^{\circ}\text{C}$  at atmospheric pressure. Direct contact can freeze the skin causing frostbite and cold burns. Delicate tissue, such as eyes, can be damaged by an exposure to the cold gas alone which would be too brief to affect skin. Liquid nitrogen has a liquid to gas expansion rate of 1:694. This means as it vaporizes the volume it occupies will expand close to 700 times. If liquid nitrogen gets into a vial, this expansion rate is what can cause vials to explode when removed from liquid nitrogen storage.

**Do not expose bare skin to liquid nitrogen or its vapours.**

**Do not inhale liquid nitrogen vapours.**

**Always wear the proper protective equipment (PPE) including: a face shield (if a face shield is unavailable use goggles, not safety glasses); a lab coat; proper footwear and clothing; and cryo-gloves which are designed to protect against extreme cold.**

**The cryo-gloves are NOT designed to be immersed in liquid nitrogen. Always use tongs to remove items from liquid nitrogen.**

**Select vials which are suitable for liquid nitrogen storage.**

**Immediately loosen the lid and put vials in a container or behind a shield when thawing. Do not remove PPE until they have reached room temperature.**

**Do not hold tubes in your hand to warm them up.**

**Always transport liquid nitrogen in an appropriate container (not ice buckets!) which must be properly vented. Use a cart between buildings and floors.**

**Do not transport liquid nitrogen in the passenger elevator, use the freight elevator.**

**Always allow excess liquid nitrogen to evaporate in a fume hood or in a well ventilated area.**

**NEVER use liquid nitrogen in the cold room – it is NOT ventilated.**

**Never mix liquid nitrogen with ice or water. Ice can solidify around it, trapping gas at high pressure and the ice can become a projectile.**

**Never pour liquid nitrogen down the sink.**

**Do not place freezer box towers directly on the floor; place on a Styrofoam box lid.**

## **RIGHTS AND RESPONSIBILITIES**

Compliance with the WorkSafeBC, WHMIS (Workplace Hazardous Materials Information System) and related legislation is the **minimum** standard acceptable. Everyone is encouraged to exceed these minimum legal standards. All possible preventive measures are taken to eliminate accidental injuries, occupational diseases and risks to personal security.

### **THE UNIVERSITY:**

It is the responsibility of the University acting through administrative heads to:

- provide a safe, healthy and secure working environment.
- ensure regular inspections are made and take action to improve unsafe conditions.
- ensure the health, safety and personal security considerations form an integral part of the design, construction, purchase and maintenance of all buildings, equipment and work processes.
- provide first aid facilities where appropriate.
- ensure compliance with WorkSafeBC and other applicable legislation.
- establish departmental or building safety committees
- support safety committee and supervisors in implementing effective health, safety and security programs.
- communicate with university and affected groups about events or situations when potentially harmful conditions arise or are discovered.
- ensure adequate resources are available to implement appropriate procedures.

### **THE SUPERVISOR:**

It is the responsibility of the supervisor to:

- formulate specific safety rules and safe work procedures for their area of supervision.
- ensure that all employees are aware of safety practices and follow procedures.
- provide training in the safe operation of equipment
- inspect their areas regularly for hazardous conditions
- promptly correct unsafe work practices or hazardous conditions.
- respond to any concerns about personal security or safety. To report and investigate any accidents, injuries, unsafe conditions or security concerns which have occurred in their area.
- participate, if requested, on departmental or building safety committees

### **INDIVIDUAL STUDENTS, STAFF AND FACULTY:**

It is the responsibility of individual students, staff and faculty to:

- observe all safety rules and procedures established by supervisory staff, administrative heads and the University
- promptly report all hazards, accidents, injuries, unsafe conditions or security issues to your supervisor or administrative head of unit
- use properly and care for adequately, any personal protective equipment provided
- be safety conscious in all activities.
- participate, if elected or appointed, in departmental or building safety committees.

### **RIGHT TO REFUSE**

It is your right to refuse to do any activity if you believe that the activity would create an undue hazard to yourself or others. Under current regulations all employees must be trained and have hazard information on all materials they work with or are exposed to.

You can not be discriminated against for reporting hazardous conditions or refusing to work in hazardous conditions. You can not be subjected to disciplinary action because you have acted in compliance with WorkSafeBC regulations.

1. If work is refused the supervisor will investigate the matter and either:
  - a) ensure the unsafe condition is remedied without delay; or
  - b) if in his/her opinion the report is not valid then he/she shall inform the person who made the report.
2. If the situation is not resolved then the supervisor must investigate the work conditions in the presence of the person reporting the condition as well as a member of the Occupational Health & Safety Committee or a member of the trade union representing the worker (or if neither are available any other reasonably available worker selected by the complainant).
3. If the matter is not resolved at this point both the supervisor and the complainant must notify an officer of WorkSafeBC who shall investigate the matter without undue delay and issue whatever orders he/she deems necessary.
4. The supervisor may not assign the work to another person without informing them that the work has been refused, why the work was refused, and the right to refuse the work.
5. A temporary assignment to alternative work (with no loss of pay) can be made and this assignment shall not constitute disciplinary action.

**It is expected that most matters will be resolved at points (1) or (2).**

# HAZARDOUS MATERIALS INFORMATION

## CHEMICAL INVENTORY

(See Appendix I for the UBC Chemical Incompatibility Guide)

An annual inventory of hazardous materials must be maintained which identifies all hazardous substances and their quantities at the workplace. A chemical inventory includes the chemical name and formula of the material, the size of its container and the primary WHMIS hazard class. Annual inventories allow for the following:

1. To check ethers and other chemicals with limited shelf life.
2. To remove surplus hazardous chemicals.
3. To remove chemicals that you will not use, or have not used in the past 1-3 years.
4. To correct incompatible storage.
5. To identify which chemicals are present.

## GAS CYLINDERS

All full or empty gas cylinders (e.g. carbon dioxide) must be properly secured at **all** times. Full and empty cylinders are stored in room 114. Access is only available between 7am to 3pm, Monday to Friday. For access after hours call security (84). Cylinders are labeled with lab name. Be sure to rip off the 'full' label once cylinders are empty.

## WHMIS

All personnel must complete the WHMIS course provided by the OH & S committee. The information below is not a substitute for the course and is only meant as a reminder.

**Class A    Class B    Class C    Class D1    Class D2    Class D3    Class E    Class F**



### Class A. Compressed Gas



Contents are under pressure and must be stored in a secure manner. Contents may explode if heated or may become a missile if punctured. Compressed gases include:

- compressed gas (O<sub>2</sub>, helium, argon)
- compressed liquid (Chlorine; CO<sub>2</sub>)
- dissolved gas in liquid (acetylene in acetone)
- cryogenic liquids (N<sub>2</sub>; O<sub>2</sub>) – contact with liquid may cause frostbite.

### Class B. Flammable and Combustible Material



These are solids, liquids and gases capable of catching fire or exploding in the presence of an ignition source. Examples: white phosphorus, acetone, propane, gasoline.

### **Class C. Oxidizing Materials**

Oxidizing materials readily yield oxygen or its equivalents and stimulate the combustion (oxidation) of organic matter. Examples: oxygen, organic peroxides, nitrates, perchlorates.

- May cause fire if in contact with flammable and combustible materials, even without a source of ignition or oxygen
- May increase the speed and intensity of a fire
- May cause normally non-combustible materials to burn rapidly
- May react with other chemicals to produce toxic gas

### **Class D1. Poisonous & Infectious Materials – Immediate & Serious Toxic Effects**



These materials have serious toxic effects and may cause death or immediate and serious effects with exposure. Examples include sodium cyanide, hydrogen sulphide, carbon monoxide, ammonia.

### **Class D2. Poisonous & Infectious Materials – Other Toxic Effects**

Exposure to these materials may cause life-threatening, cumulative and serious long term health problems as well as less severe but immediate reactions. Can cause cancer, allergic reactions, disease of organs, neurological problems, reproductive problems, sensitization, and eye, skin, and respiratory system irritation. Examples include acetone, asbestos, toluene diisocyanate, chemotherapeutics, silica, lead, benzene.

### **Class D3. Poisonous & Infectious Material – Biohazardous Infectious**

These materials contain harmful micro-organisms that have been classified into Risk Groups 2, 3, or 4 as determined by the World Health Organization (WHO) and Federal Government. Examples include: *E. coli*, *Salmonella*, Hepatitis B, HIV.

### **Class E. Corrosive Materials**

These are caustic or acidic materials that can destroy skin or eat through metals. They can cause mild to severe burns, burn eyes and skin on contact, or burn tissues of respiratory system if vapours inhaled. Examples: caustic soda, hydrochloric acid, bleach, ammonia.

### **Class F. Dangerously Reactive Substances**

Become unstable or react with other materials to cause fires or explosions.

- undergo vigorous polymerization decomposition or condensation
- become self reactive with increased pressure, temperature or shock
- react vigorously with water or incompatible materials; can give off toxic gases

Examples: barium, lithium, magnesium, phosphorus, acetylene, potassium cyanide.



## **WASTE DISPOSAL PROCEDURES**

### **BATTERIES**

A box is available for disposal of used batteries on the main floor by the elevators. When the box is full, call VGH Transport (62729) for pickup.

### **ANATOMICAL WASTE**

**Any human or animal tissues, organs, body parts excluding teeth, hair or nails.**

Put into red anatomical waste bags (available through OH & S) or red anatomical waste containers with lids (available from VGH stores: 6L - #00073859; 20L = 00075535). Store at 4°C. Call for pickup (54615). This waste is incinerated.

### **BIOHAZARDOUS LIQUID WASTES**

Media aspirated from cell culture plates, or which may contain biohazardous materials shall be decontaminated with bleach so that the final concentration is 5% bleach. After thorough mixing and allowing 10-15 minutes for decontamination, the solution may be washed down the drain with copious quantities of water.

### **BIOMEDICAL WASTES**

**Human Blood and body fluids contaminated with blood** - refers to waste items with liquid blood in them, body fluids contaminated with blood or materials saturated with blood to the point of dripping. This waste is to be disposed of into yellow lidded containers (available from housekeeping or VGH stores; 20L pail = #00075536) lined with yellow bags.

**Microbiology Laboratory Waste** - refers to items such as laboratory cultures, stocks or specimens or micro organisms, live or attenuated vaccines and human or animal cell cultures used in research. This waste, once autoclaved is to be disposed of into containers lined with yellow bags.

This waste is collected by housekeeping and then sent for processing in a hydroclave that treats the waste with high temperature steam, shreds it and then it is sent to the landfill.

## **CHEMICAL WASTES & SOLVENTS**

**All solid or liquid chemical wastes that are poisonous, toxic, flammable, reactive or corrosive and cannot be disposed of in landfills or sewers. Do not mix wastes.** Keep waste in its original container if it is in good condition. Collect solvents separately in red jerry cans. All waste containers must be labeled as “Waste” and require lab name, room number, contact phone number and full chemical name (no abbreviations). Contact your OH & S floor rep for access to the chemical waste storage room (JBRC - Room 113). Fill out the log book and put containers into flammable or acid cupboard. Wastes are collected every 3-4 months by Sumas Environmental, who is contracted by UBC. (For disposal of hazardous gases, explosive chemicals or unknown chemicals – contact OH & S. See Appendix I for the UBC Chemical Incompatibility Guide.)

## **CYTOTOXIC WASTES**

**Includes antineoplastics, chemotherapeutics, or cancer therapy drug waste (doxorubicin, paclitaxel, vincristine, etc.) including contaminated disposable items and solutions.**

Collect wastes and put into a white gasketed pail with a yellow lid and a cytotoxic label. Seal container and label with name and room number. Collected by housekeeping and incinerated. (Containers available from VGH Stores: pail = #00011347, lid= #00075541, label = #00075421).

## **ETHIDIUM BROMIDE WASTE**

**Ethidium bromide is considered a mutagen. All items contaminated with ethidium bromide must be disposed of properly – Do NOT put into garbage or down sink.** Keep liquid and solid Ethidium bromide waste separate by collecting in separate black pails with lids (available from VGH stores). When full, seal container and call VGH Transportation (62729) for pickup.

**Liquid Ethidium Bromide Waste:** Any buffer or solution that has or may be contaminated with Ethidium Bromide (i.e. if you pre-mix Ethidium Bromide into your gel then the running buffer after running the gel would be considered contaminated and should be disposed of into the liquid Ethidium Bromide waste black pail).

**Solid Ethidium Bromide Waste:** Everything that comes in contact with Ethidium Bromide (i.e. gloves, plastic ware, agarose gels premixed with or soaked in Ethidium Bromide)

Use alternative methods whenever possible. Decontamination procedures are available upon request (OH & S Committee).

## **GENERAL WASTE**

Put into containers lined with black bags. Collected by housekeeping and sent to landfill.

## **GLASS WASTE**

**Includes non-contaminated glass. NO mercury thermometers.**

Put into a black garbage bag, then put inside a cardboard box or white pail. Seal container and label as glass waste. Collected by housekeeping and sent to the landfill.

## **LIQUID WASTES**

The GVRD (Greater Vancouver Regional District) prohibits materials entering the sewers which are:

- Nuclear or radioactive;
- Biomedical wastes;
- Flammable/Explosive: e.g. gasoline, benzene, naphtha, diesel or other fuel oil;
- Obstructive: particles > 0.5 cm in any dimension; e.g. earth, sand, ash, glass, tar, asphalt, plastic, wood, waste portions of animals, fish or fowl, and solidified fat;
- High Temperature: >65°C (150° F);
- Corrosive or with a pH at the point of discharge into a Sewer that is < pH 5.5 or >pH 10.5.
- Organic compounds (e.g. phenols, chlorophenols, benzenes, toluene, xylenes).
- Inorganic compounds (e.g. metals, cyanides, sulphides, sulphates)

## **MEDICAL SHARPS WASTE**

**Includes contaminated scalpels, needles and syringes, glass ampoules, glass vials, medical sharps, razor blades. NO mercury thermometers.**

Put into a yellow plastic sharps containers (available from VGH or UBC stores). When ¾ full, seal the lid and label with lab name, room number and contact phone number. Put safely in hallway and housekeeping will collect at night. This waste is sent for processing in a hydroclave that treats the waste with high temperature steam, shreds it and then it is sent to a special landfill.

## **MERCURY THERMOMETERS**

Mercury thermometers should be replaced with a non-mercury alternative. Package unwanted mercury thermometers so as to protect it from breakage and label the package as 'mercury waste'. Contact your floor rep and put in chemical waste room, located in JBRC, room 113. Broken thermometers are treated as a Mercury spill – establish control of the area, call security (5800) and wait for them to arrive. A spill kit is available but should only be used by trained personnel.

### **PLASTIC PIPETTES**

Non-contaminated plastic pipettes are placed in a box lined with a black garbage bag. Contaminated pipettes are put into yellow biohazard bags in the tissue culture areas. Both are collected by Housekeeping for appropriate disposal.

### **RADIOACTIVE WASTE**

Dispose of all radioactive wastes according to radiation safety manual and federal procedures. Only personnel with radiation training may deal with radioactive materials. Before disposal all labels must be removed and all radioactive symbols must be defaced. Radioactive garbage should show NO level of radioactivity. All garbage must be tested and then labeled with date and name of tester before being put into the dumpster.

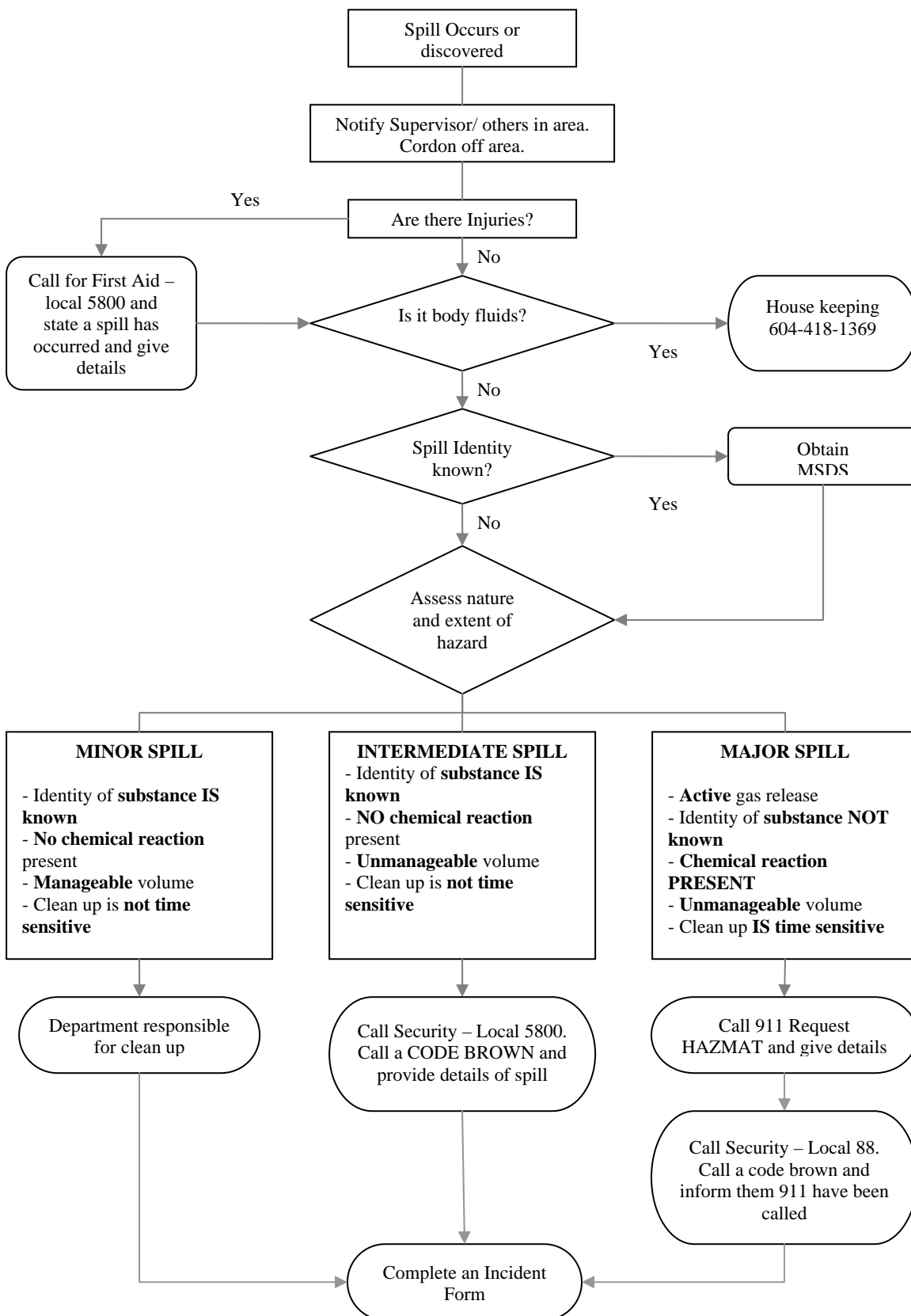
**WASTE OIL** Take to VGH Power Plant Shed (call 62601 for access) or follow procedures for chemical wastes and put in room 113 JBRC.

### **ELECTRONICS**

**Includes computers, monitors, printers, fax machines, televisions.**

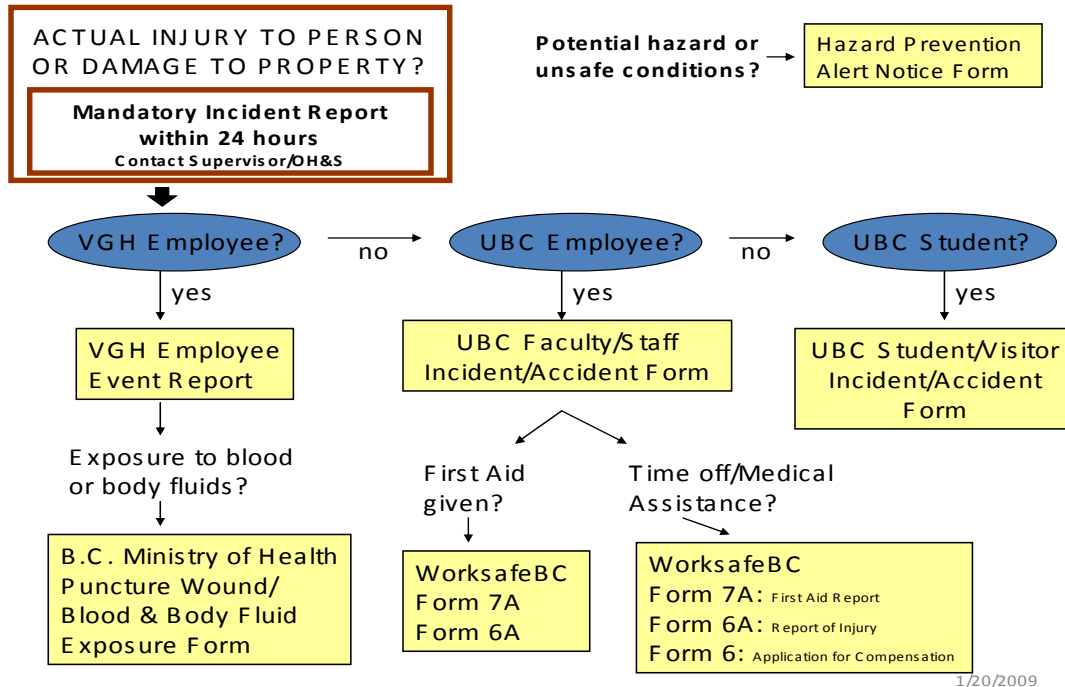
These items can NOT be put in the landfill and must be disposed of at local "Return-It Electronics" centers ([electronicsrecyclingbc.ca](http://electronicsrecyclingbc.ca)). For large collections call Encorp 1-800-330-9767. {May 2008 costs: desktop computers \$10; monitors \$12; notebook computers \$5; printers/faxes \$8; TV's \$15-45.}

## SPILL REPORTING PROCEDURE



## INCIDENT REPORTING PROCEDURES

The purpose of incident/accident reporting and investigations is to identify and prevent the recurrence of the hazardous conditions causing the event. The goal of investigations is to find solutions, not to place blame. (All forms are posted on the OH & S boards.)



1. Report unsafe conditions to supervisor. If appropriate fill out a Hazard Prevention/Alert Notice Form and give to an Occupational Health & Safety Committee member.
2. It is **mandatory** to report any incidents that resulted in:
  - work related injury requiring treatment by a medical practitioner
  - death or critical condition with serious risk of death or injury
  - time loss injury
  - occupational disease or allegations of an occupational disease
  - major structural failure or collapse
  - release of a toxic or hazardous substance; or
  - near miss (no injury but had the potential to cause a serious injury)
3. Incident reports must be submitted within 72 hours. Investigations should consist of the worker and/or an employee representative, the supervisor (or delegate) and a member of the local Occupational Health & Safety Committee. If warranted, appropriate experts should also be included in an accident investigation.

4. Incident reports vary according to whether personnel are VGH employees, UBC employees, UBC students or visitors. Please refer to the diagram above and contact an OH & S representative. All forms are posted on the OH&S boards on each floor. UBC forms are also available at <http://riskmanagement.ubc.ca/z-forms-and-publications>. VGH forms are available at [www.vcha.ca/ee/worksafe\\_and\\_wellness/more\\_information/ww\\_forms/page\\_20296.htm](http://www.vcha.ca/ee/worksafe_and_wellness/more_information/ww_forms/page_20296.htm)
5. WorkSafeBC must be informed immediately of any incident that results in:
  - death or critical condition with a serious risk of death
  - major structural failure or collapse of a building
  - major release of a toxic or hazardous substance
  - an accident required by regulation to be reported.

**UBC Risk Management Services:**  
**WorkSafeBC:**  
**VCHRI:**

<http://riskmanagement.ubc.ca>  
[www.worksafebc.com](http://www.worksafebc.com)  
[www.vchri.ca/s/OHAS.asp](http://www.vchri.ca/s/OHAS.asp)

## APPENDIX I

### Chemical Incompatibility Guide

This list is only a guide. Specific incompatibilities are listed in MSDS sheets.  
Contact UBC Environmental Audit Officer (604-822-8762) for further information.

<b>CHEMICAL</b>	<b>INCOMPATIBLE WITH</b>
Acetic Acid	Chromic acid, nitric acid, hydroxyl compounds, ethylene glycol, perchloric acid, peroxides, Permanganates
Acetylene	Chlorine, bromine, copper, fluorine, silver, mercury
Alkali and alkaline earth metals (powdered aluminum, magnesium calcium, lithium, sodium, potassium)	Water, carbon tetrachloride, or other chlorinated hydrocarbons, carbon dioxide, halogens
Ammonia (anhydrous)	Mercury (in manometers), chlorine, calcium Hypochlorite, iodine, bromide hydrofluoric acid (anhydrous)
Ammonium Nitrate	Acids, powdered metals, flammable liquids, chlorates, nitrites, sulfur, finely divided organic combustible materials
Aniline	Nitric acid, hydrogen peroxide
Arsenic materials	Any reducing agent
Azides	Acids
Bromine	See Chlorine
Calcium Oxide	Water
Carbon (activated)	Calcium hypochlorite, all oxidizing agents
Chlorates	Ammonium salts, acids, powdered metals, sulfur, finely divided organic or combustible materials
Chromic Acid & Chromium Trioxide	Acetic acid, naphthalene, camphor, glycerol, alcohol, flammable liquids in general
Chlorine	Ammonia, acetylene, butadiene, butane, methane, propane (or other petroleum gases), hydrogen, sodium, carbide, benzene, finely divided metals, turpentine
Chlorine Dioxide	Ammonia, methane, phosphine, hydrogen sulfide
Copper	Acetylene, hydrogen peroxides
Cumene Hydroperoxide	Acids (organic or inorganic)
Cyanides	Acids
Flammable liquids	Ammonium nitrate, chromic acid, hydrogen peroxide, nitric acid, sodium peroxide, halogens
Fluorine	All other chemicals



<b>CHEMICAL</b>	<b>INCOMPATIBLE WITH</b>
Hydrocarbons (butane, propane, benzene)	Fluorine, chlorine, bromine, carbonic acid, sodium peroxide
Hydrocyanic Acid	Nitric acid, alkali
Hydrofluoric Acid(anhydrous)	Ammonia (aqueous or anhydrous)
Hydrogen Sulfide	Fuming nitric acid, oxidizing gases
Hypochlorites	Acids, activated carbon
Iodine	Acetylene, ammonia (aqueous or anhydrous), Hydrogen
Mercury	Acetylene, fulminic acid, ammonia
Nitrates	Acids
Nitric Acid (concentrated)	Acetic acid, aniline, chromic acid, hydrocyanic acid, hydrogen sulfide, flammable liquids and gases, copper, brass, any heavy metals
Nitrites	Acids
Nitroparaffins	Inorganic bases, amines
Oxalic Acid	Silver, mercury
Oxygen	Oils, grease, hydrogen, flammable liquids & solids
Perchloric Acid	Acetic anhydride, bismuth and its alloys, alcohol, paper, wood, grease, oils
Peroxides, organic	Acids (organic or mineral) [avoid friction, store cold]
Phosphorus (white)	Air, oxygen, alkalis, reducing agents
Potassium	Carbon tetrachloride, carbon dioxide, water
Potassium Chlorate	Sulfuric and other acids
Potassium Perchlorate	Sulfuric and other acids
Potassium permanganate	Glycerol, ethylene glycol, benzaldehyde, sulfuric acid
Selenides	Reducing agents
Silver	Acetylene, oxalic acid tartaric acid, ammonium compounds, fulminic acid
Sodium	Carbon tetrachloride, carbon dioxide, water
Sodium Nitrite	Ammonium nitrate and other ammonium salts
Sodium peroxide	Ethyl or methyl alcohol, glacial acetic acid, acetic anhydride, benzaldehyde, carbon disulfide, glycerin, ethylene glycol, ethylacetate, methyl acetate, furfural
Sulfides	Acids
Sulfuric Acid	Potassium chlorate, potassium perchlorate, potassium permanganate (similar compounds of light metals such as sodium, lithium)
Tellurides	Reducing agents

## **APPENDIX II**

### **TISSUE CULTURE STANDARD OPERATING PROCEDURES**

#### **BEFORE STARTING**

- i. Please sign up to use the biological safety cabinets (BSC). Bookings should be restricted to the time required. Respect of the needs of other users.
- ii. Use a lab coat designated for tissue culture work only.
- iii. Use clean gloves to open incubators (or wash hands with anti-microbial soap). Spray hands with 70% ethanol (EtOH).
- iv. Wipe the outside of bottles with 70% EtOH before putting them in the water bath or BSC.

#### **WORKING INSIDE THE BSC**

- i. To ensure sterility, the blower should be turned on at least 15 minutes before infectious materials are to be put in the hood. Many cabinets remain on at all times during the day – check with your supervisor. Check the BSC airflow gauge. [Normal reading is approximately 0.5 inches; higher readings indicate filter clogging; zero readings may indicate loss of filter integrity.]

#### **NEVER place anything over the front or rear grilles.**

- ii. Wear disposable gloves and change them frequently.
- iii. Wipe the inside surfaces of the hood with 70% EtOH.
- iv. Wipe the outsides of all equipment, media bottles etc., with 70% EtOH before placing in BSC. {Use a stronger disinfectant (5% bleach) for spills.}
- v. After all materials have been placed in the cabinet, wait 2-3 minutes before beginning work to purge any airborne contamination in the BSC.
- vi. Keep materials in BSC to a minimum to ensure proper airflow. Do not crowd the work area and minimize movements to prevent airflow disruption.
- vii. Work in the center of the work surface.
- viii. Do not leave bottles open and uncapped. Do not reach over open bottles or touch the neck of the bottle. Place cap over the bottleneck loosely if bottle is to be used again.
- ix. Maintain sterility. Be aware of what you touch throughout all procedures.

#### **EXIT PROCEDURES**

- i. When finished the hood should be cleared and the area left clean and tidy for the next person. Clean up all spills inside or outside the BSC.
- ii. Wipe the interior of the cabinet with 70% EtOH. Allow the cabinet to run for at least 10 minutes before shutting down.
- iii. Wipe the outside of all flasks and bottles with 70% EtOH before returning them to either incubators or refrigerators.

- iv. If you are the last person booked into the hood turn off the light and power outlets.
- v. Empty solid and liquid biohazard wastes regularly.  
**Waste disposal is the responsibility of every individual using the tissue culture room. Do not mix wastes.**
- vi. Ensure:
  - that the incubator/fridge/freezer doors are closed correctly.
  - that the incubators are operating properly. Check the temperature, the humidity tray, and the CO<sub>2</sub> levels of both the incubator and the tank.
  - that equipment is switched off (such as microscopes and centrifuges).

### BIOHAZARDOUS WASTES

- i. Dispose of all sharps (needles, glass Pasteur pipettes, contaminated plastic tips, etc) into the yellow biohazard sharps container provided. When 2/3 full, seal the lid, put your lab name, contact number and room number on the container & place in the hallway for housekeeping to collect.
- ii. Put solid biohazardous wastes into the appropriate **yellow** biohazard bags (No liquids!).
- iii. Do not put plastic pipette tips into yellow biohazardous waste bags because of the possibility of punctures. If contaminated put into the sharps container; if not put into regular garbage.
- iv. Full bags should be sealed with a tape, labeled with your name, room number and contact local, then put into the hallways for housekeeping to collect for proper disposal.
- v. Liquid wastes should be emptied regularly before the container is full.
- vi. Make sure media or other solutions are not pooling in the tubing. Check that the in-line filter between the pump and the vacuum flask regularly. Replace the filter if contaminated with media. Do not allow media into pump!
- vii. Liquid wastes must be treated with bleach before discarding. Add bleach until the solution is 5% bleach, leave for at least 15 minutes and then discard down the sink with lots of water. Rinse the container several times with bleach. Rinse the tubing with 70% EtOH.

### DECONTAMINATION PROCEDURES

All spills must be dealt with ***without delay***.

#### Small spills:

- i. Cover a small spill with absorbent paper to avoid the formation of aerosols.
- ii. Disinfect the spill by slowly pouring on a disinfecting solution working from the outside in towards the center of the spill in a circular motion.
- iii. Leave the spill long enough for disinfection to take place and then carefully wipe up wearing gloves.

- iv. Pick up any glass using forceps.

### **Larger spills:**

- i. Larger spills and spills during centrifuging should be left to settle for 30 minutes before clean up to avoid inhalation of aerosols.
- ii. Once all the material has been removed disinfect the area thoroughly.

### **Bacterial, Fungal or Yeast Contamination**

Deal with any contamination immediately. **Inform your colleagues.** DO NOT open contaminated flasks, plates, etc. Dispose of contaminated cells/media as follows:

- i. Do not open flasks or plates and DO NOT ASPIRATE media in the tissue culture room as this can spread contamination.
- ii. Remove the plates to another room. Immediately add bleach & disinfect for 10-15 minutes. Discard with plenty of water.
- iii. Dispose of all solid and liquid wastes as soon as possible (seal bags).
- iv. Clean the water bath, incubator and BSC. Keep all other incubators closed during cleaning.

### **CLEANING**

#### **Flow Hoods:**

- i. Use 70% EtOH for cleaning. Do not use abrasives or caustic solutions as they can cause pitting and rusting.
- ii. Switch off the hood and remove any equipment.
- iii. Remove the work trays; front grille and tray supports.
- iv. Clean all the surfaces inside the hood.
- v. Clean the work trays, grille, and tray supports and then re-assemble.
- vi. Clean all equipment before returning to the BSC.

#### **Incubators:**

- i. Use 70% EtOH for cleaning. Do not use abrasives or caustic solutions as they can cause pitting and rusting.
- ii. Carefully remove flasks/plates from the incubator and check for contamination. Wipe the outside of any uncontaminated cultures and place in a clean cabinet.
- iii. While cleaning keep all other incubators closed.
- iv. Remove incubator-shelves, shelf supports and humidity tray and clean individually.
- v. Clean incubator chamber and doors, inside and out.
- vi. Replace shelf supports and shelves. Make sure all shelves and supports are completely dry before returning to the incubator.
- vii. Replace the humidity tray with sterile water or fresh 0.1% (w/v) Roccal.

- viii. Allow the temperature and CO<sub>2</sub> levels to stabilize before returning flasks to the incubator.

**Water Bath:**

- i. Empty and clean water bath regularly.
- ii. Remove water and wash with 70% EtOH.
- iii. Replace water and add an appropriate fungicide.
- iv. Wash any equipment or bottles with 70% EtOH before placing (or replacing) them in the water bath.

**ACTIVATION OF UV LIGHT**

UV lights are not currently used at JBRC. To use secure the front panel and close completely before turning UV on. Use only during working hours and post a sign warning others that the UV lamp is on. A standard operating time for the UV light can be up to 1 hour. Do not leave UV light on overnight.

**APPENDIX III****VCHRI OH&S - MONTHLY CHECKLIST**

PI:

Location:

Audit done by:

Date:

ITEM	YES	NO	N/A	ACTION
<b>1. ENVIRONMENT/FACILITY/EQUIPMENT</b>				
• <b>Physical Hazards</b>				
Floors, halls and workstations clear of obstructions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are freestanding shelf units fixed to walls?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Safety lip on shelves used for chemical and glass storage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• <b>Electrical</b>				
Visual safety check of electrical equipment, ie frayed cords	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• <b>Fire</b>				
Exits clearly marked and employees aware of location?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are fire extinguishers available and checked?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• <b>Fume Hoods/Biological Flow Hoods</b>				
Hoods are clear of clutter?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is current Safety Inspection Certificate in a visible place?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• <b>Gas Cylinders</b>				
In upright position and secured to the wall?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• <b>Eye Wash Stations</b>				
Are they working & flushed on a regular basis?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• <b>Safety Equipment</b>				
Safety equipment available? e.g. gloves, goggles, aprons, safety ladders, kick stools, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>2. WASTE DISPOSAL</b>				
• <b>Disposal</b>				
Proper containers available for all of the types of waste generated? Are they labeled correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SHARPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
GLASS:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BIOHAZARDS:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RADIOACTIVE:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
OTHER:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>3. WORKPLACE HAZARDOUS MATERIAL INFO SYSTEM</b>				
• <b>Education</b>				
All staff trained in WHMIS?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Safety training record up to date for all staff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• <b>Labels</b>				
Chemicals labeled and dated when received according to WHMIS guidelines? No abbreviations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• <b>Manuals</b>				
MSDS sheets available and less than 3 years old?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Safety Program Manual available and up to date?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>4. CHEMICALS</b>				
• Chemical list posted in the lab?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Chemicals stored compatibly and safely?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Acids & flammables stored in their appropriate cupboards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Old and unused chemicals disposed regularly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Spill kit available and are they adequately stocked?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>5. RADIOACTIVE AND BIOLOGICAL SAFETY PRECAUTIONS</b>				
• Necessary approved protective equipment available for use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Sharps containers available and disposed of appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Are work areas and equipment appropriately cleaned?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• "wipe test log" kept up to date?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Employees trained & familiar with procedures developed for body substance precautions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• UBC biohazard & radiation certificates displayed & updated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>6. EMERGENCY PLANS</b>				
• List of staff working in this lab, including their phone numbers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Employees trained and aware of emergency plan for fire, disaster and earthquake?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

oh&amp;s/forms\monthly checklist - Revised – Aug 6, 2008

## **APPENDIX IV:**

### **SAFETY TRAINING RECORD**

All employees must receive training and orientation in the hazards of their work sites and the procedures which must be followed to safely perform their work. This training record must be completed by each employee with the assistance of their supervisor. Once completed, keep a copy and return the original to either: Norma Cooper (Research Pavilion); Jeff Helm (Heather Pavilion); or Susan Moore (Jack Bell Research Centre). The completed forms will be kept on file for possible review by WorkSafeBC inspectors or internal auditors.

Name: \_\_\_\_\_

Position: \_\_\_\_\_ Start Date: \_\_\_\_\_

Supervisor:

Name: \_\_\_\_\_

Phone No: \_\_\_\_\_

Department: \_\_\_\_\_

Local Safety Rep.: \_\_\_\_\_

### **Health, Safety & Environment Courses**

WHMIS Training	Required? <b><u>Yes</u></b>	Date completed_____
Laboratory Chemical Safety	Required?_____	Date completed_____
Laboratory Biological Safety	Required?_____	Date completed_____
Radionuclide Safety	Required?_____	Date completed_____
Introduction to Lab Safety	Required?_____	Date completed_____
Animal Care (UBC)	Required?_____	Date completed_____
Transportation of Dangerous Goods	Required?_____	Date completed_____
Fire Warden Training	Required?_____	Date completed_____
Safety Committee Training	Required?_____	Date completed_____
Occupational First Aid Level 1	Required?_____	Date completed_____

**Other Safety Related Course(s):**

**Please initial and date each of the following declarations that you are comfortable with.**

**I have been informed of the rights of responsibilities of workers and supervisors under WorkSafeBC regulations including my Right to Refuse.**

Date:                                      Worker's Initials:                                      Instructor's Name:

**I have been informed of the department's safety policies, safety training requirements, inspection programs and the OH & S Committee members.**

Date:                                      Worker's Initials:                                      Instructor's Name:

**I have been trained in proper emergency procedures for my work site and know how to contact emergency personnel.**

Date:                                      Worker's Initials:                                      Instructor's Name:

**I have been informed of procedures for working alone and after hours in my work area; how to minimize the risks to my personal safety; and how to summon assistance.**

Date:                                      Worker's Initials:                                      Instructor's Name:

**I have been informed of the procedures in place to avoid violence and threats to personal safety in the workplace and how to summon assistance.**

Date:                                      Worker's Initials:                                      Instructor's Name:

**I have received training with the Workplace Hazardous Material Information System and how to safely work with chemical hazards.**

Date:                                      Worker's Initials:                                      Instructor's Name:

**I have been informed of the safety concerns in my work area and been trained in how to best manage those hazards.**

Date:                                      Worker's Initials:                                      Instructor's Name:



**I understand that I must be trained in the proper use of equipment and instructed on the proper procedures for new tasks or methodologies.**

Date:

Worker's Initials:

Instructor's Name:

**I have been informed of the proper use of Personal Protective Equipment (PPE) for my work and I understand that I must check with my supervisor on what PPE is required for any new procedure.**

Date:

Worker's Initials:

Instructor's Name:

**I have been informed of the proper procedures for First Aid and for reporting injuries, accidents, potential hazards or illnesses.**

Date:

Worker's Initials:

Instructor's Name:

**I have been informed of the purpose and mandate of the Department of Health Safety and Environment at UBC and know where to go for more information.**

Date:

Worker's Initials:

Instructor's Name:

## APPENDIX V

### PERSONAL SAFETY CHECKLIST

This checklist is to help you become familiar with the hazards and safety features in your work area. You are required to complete this form and return it to the WHMIS Instructor.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

PI: \_\_\_\_\_ Dept.: \_\_\_\_\_

Department's Street Address: \_\_\_\_\_

Building Name & Room #: \_\_\_\_\_

#### **Emergency Numbers:**

Fire \_\_\_\_\_ First Aid \_\_\_\_\_

Hazardous Spills \_\_\_\_\_ Security \_\_\_\_\_

#### **Location of nearest.....**

Fire Alarm Pull: \_\_\_\_\_

Fire Extinguishers: \_\_\_\_\_

Fire Exits: \_\_\_\_\_

Evacuation assembly point: \_\_\_\_\_

Incident, Hazard & WCB Forms: \_\_\_\_\_

Eyewash Station \_\_\_\_\_ Emergency Shower \_\_\_\_\_

First Aid Kit \_\_\_\_\_ Spill Kits/Cart \_\_\_\_\_

MSDS sheets \_\_\_\_\_ Glass Waste \_\_\_\_\_

#### **Who is your....? (Name & aPhone No.)**

Safety Committee Representative: \_\_\_\_\_

Fire Warden: \_\_\_\_\_

Emergency Lab Contact: \_\_\_\_\_

**Hazard Identification List** (Identify any hazards in your work area)

<b>Hazard</b>	<b>Orientation Provided</b>