



Laboratory and Biological Safety

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UNIVERSITY
OF NORTH TEXAS®
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Megan Shoff, M.S., Ph.D.
Biosafety Officer
March 18, 2019

A little about myself...



FDA
U.S Food and Drug Administration

HODGES
UNIVERSITY

NSU

OHIO STATE

CDC **USDA** Federal Select Agent Program



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Important Contacts

- Emergency: Dial 911
- UNT Police: 940-565-3000
- UNT Risk Management: 940-565-2109
- UNT Emergency Management: 940-565-6153
- UNT Environmental Risk: 940-565-4751
- UNT Biosafety: 940-369-8513
- Student Health and Wellness Center: 940-565-2333
- Counseling and Testing Services: 940-565-2741

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Roles of the Biosafety Office(r)

- Ensure that regulatory mandates and guidelines applicable to biological research are followed:
 - Keep knowledge current
 - Training (safety and compliance)
 - Lab/facility/site inspections
- Serve as a liaison between the researcher and UNT's IBC
- Assist PIs with regulatory permits as necessary
- Assist researchers with biological materials shipping
- Bloodborne Pathogens Standard Compliance and Exposure Control

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Regulations and Standards



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References

- *Biosafety in Microbiological and Biomedical Laboratories* [HHS Publication No.(CDC) - 5th ed., Feb 2007] (BMBL)
- *NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules* [NIH; April, 2016] (NIH Guidelines)
- *Control of Communicable Diseases Manual* [American Public Health Association - 18th ed., 2005]
- *Laboratory Biosafety Manual* [World Health Organization – 3rd ed., 2004]
- *Biological Safety PRINCIPLES AND PRACTICES* [ASM Press – 4th ed., 2006]
- *Biosafety REFERENCE MANUAL* [AIHA Publications – 2nd ed., 1995]



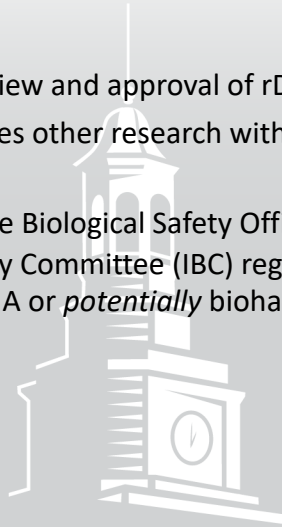
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Institutional Biosafety Committee (IBC)

- Required for the review and approval of rDNA research
- Reviews and approves other research with biohazardous risks

Work closely with the Biological Safety Officer (BSO) and the Institutional Biosafety Committee (IBC) regarding any activity that may involve rDNA or *potentially* biohazardous materials.



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Research Requiring IBC Registration

- Select Agents and Toxins
 - Select agents are certain microorganisms and toxins specifically identified in federal regulations.
- Toxins of Biological Origin
- Human or Non-Human Primate (NHP) Blood and Tissue
- Environmental Samples
 - Techniques used to enhance and/or culture environmental samples should be conducted at BSL-2 or higher levels in an appropriate containment device, such as a biological safety cabinet.

Contact biosafety@unt.edu with questions PRIOR to starting work!

Note: You must register ANY potentially biohazardous research. Lack of funding resource does NOT exempt work.

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Research Requiring IBC Registration, cont.

- Animals (vertebrate AND invertebrate)
 - Animal work done with controlled substances (for uses other than anesthesia or euthanasia), biological agents (bacteria, viruses, protozoa), or toxins and any animal work done outside of the SRB vivarium
- Hazardous or potentially hazardous biological agents
- Dual Use Research of Concern (DURC)
 - Dual use research (DUR) is research conducted for legitimate purposes that generates knowledge, information, technologies, and/or products that can be utilized both for benevolent and harmful purposes.
- Recombinant and Synthetic Nucleic Acid Molecules

Contact biosafety@unt.edu with questions PRIOR to starting work!

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Recombinant DNA: The *NIH Guidelines*

- Scope
 - Specifies practices for constructing and handling
 - Recombinant DNA molecules
 - Organisms and viruses containing recombinant DNA molecules
 - Definition
 - Constructed outside living cells by joining natural or synthetic DNA segments to DNA molecules that can replicate in a living cell
 - Molecules resulting from the replication of those described above

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The NIH Guidelines Apply to:

- Recombinant DNA research that is
 - Funded by the NIH
 - Performed at or sponsored by an institution that receives any NIH funding for recombinant DNA research
- Rationale: For biosafety/biocontainment to be meaningful, it has to be observed by all investigators at an institution

***UNT receives NIH funding for recombinant DNA research

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NIH Guidelines noncompliance

- **What are potential consequences of noncompliance with the *NIH Guidelines*?**
 - suspension, limitation, or termination of NIH funds for recombinant DNA research at the institution, or
 - a requirement for prior NIH approval of any or all recombinant DNA projects at the institution.
 - ask Dr. Splitter (UW-Madison)...

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General Safety Expectations

Hazard Assessments

What hazards are involved with the work I'm about to perform and how will I react?

What PPE do I need?
 Chemical hazards?
 Biological hazards?
 Hazards of destination?
 How will I dispose of...
 How will I quench...
 How will I decontaminate...
 What do I do if I am exposed, burned, injured, etc.



Be PREPARED...Be **PROACTIVE**...not **reactive**

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General Safety Expectations

Personal Protective Equipment (PPE)

- When performing lab work, safety glasses, lab coats, and gloves must be worn
- Do not wear gloves in public areas!
- Only wear lab coats in public areas if absolutely necessary (ex: walking in hallway to another lab)
- Avoid wearing lab coats in offices
- Wear PPE when getting liquid nitrogen from the storeroom.



When in doubt, wear PPE

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General Safety Expectations

Laboratory Work Environment

Lab Behavior/Occupancy:

- Working alone in a research laboratory on weekends or after 5:00pm on the weekends should be done so with caution
- Ongoing experiments will not be left unattended without proper safety mechanisms in place and critical information in plain site.
- An Overnight Experiment Notice should be posted as necessary
- Laboratory doors will be locked at all times when the room is unoccupied
- Visitors who are not part of the UNT community are to be accompanied by a departmental representative

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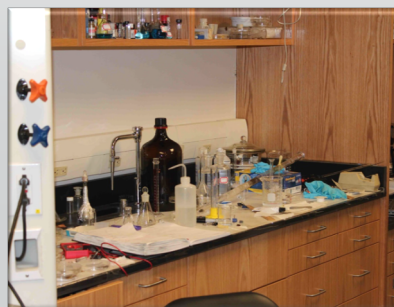
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General Safety Expectations

Laboratory Work Environment

Housekeeping

- Floors should be clear of any hazards. Chemicals and chemical wastes are not to be stored on the floor without secondary containment
- Always keep tables, chemicals hoods, floors, aisles, and desks clear of all material not being used
- Passageways to exits must be kept clear
- There should always be clear space around safety showers or eyewashes, fire extinguishers, and electrical controls



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Housekeeping



A well-organized work area can help prevent accidents.

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BIOLOGICAL SAFETY



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Laboratory Safety

• Biological Safety

- Biological safety is overseen by the Biological Safety Officer (BSO) and the Institutional Biosafety Committee (IBC)
 - Comprehensive biological safety program
 - Applies to all university research and teaching facilities
 - Provides guidance and consultation to assess biohazardous risks
 - Ensures compliance with NIH, CDC, USDA, OSHA, and other Federal, State, and Local Requirements
 - Effects actions to correct deficiencies when noted
- Annual Training Requirements (found on the Risk Management Services Website)
 - If you work with ANY biologicals: Biosafety Training (BSL-1 and BSL-2)
 - If you work with human-derived materials: Bloodborne Safety
 - If you work with any animals: Animal BioSafety Training

<https://riskmanagement.unt.edu/rm-training>

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Accidents Do Happen



BSC fire. Source: Stanford University, *Use of open flames in Cabinets/Tissue Culture Hoods* (May 29, 2003).

Singh, Kamaljit. Laboratory-Acquired Infections. *Clinical Infectious Diseases*. 2009; 49:142-7.

Table 2. Laboratory-associated infection and relative risk of infection, compared with the risk among the general population.

Organism	No. of cases of infection	Relative risk of infection
Shigella species	15	1
Brucella species	7	8012.5
Salmonella species	6	0.08
Staphylococcus aureus		
All	6	NA
MRSA	5	NA
Neisseria meningitidis	4	40.8
Escherichia coli O157:H7	2	8.6
Coccidioides species	2	1.1
Clostridium difficile	1	0.03

NOTE. Data are for the years 2002–2004 [11]. MRSA, methicillin-resistant *S. aureus*.

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YOU ARE NOT THE ONLY PERSON TO PROTECT!

2y & 3y Infections were to Close Contacts.

- LAI with *S. sonnei* (RG2) in clinical laboratory; 2y transmission to grandchild; 3y to 3 family members.
- 4 secondary infections in children under age 4 whose **parents were students in microbiology teaching laboratories** in the US.
- Dinner prepared by microbiologist transmitted *Salmonella* (RG2) to wife and son.
- Lactating mother transmitted *Leptospira interrogans* (RG2) through breast milk.
- 2 secondary transmissions of *Bordetella pertussis* (RG2) occurred.
- Polio virus – **vaccine strain**. Transmission to immunized child of staff member involved in spill cleanup.
- SARS (RG2) – 2 secondary, 5 tertiary. Inadequately inactivated samples removed from BSL3; 2: mother and nurse of student, 5 patients of nurse.
- 1 death due to **attenuated** *Y. pestis* KIMD27 (LAI had undiagnosed hereditary hemochromatosis).

Byers, K and L. Harding. 2017. Laboratory Acquired Infections IN *Biological Safety, Principles and Practices*, 5th ed. D. Wooley and K. Byers, ed. ASM Press

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Risk Group Matrix

Risk Group	Acquisition	Source	Treatment Available?	Personal Health Impact	Community Health Impact
1	Rare; contact	Primarily indigenous	Yes	Low	Low
2	Contact	Primarily indigenous	Yes	Low to Moderate	Low
3	Contact; inhalation	Indigenous or exotic	Mostly, but not always	Moderate to high	Low to Moderate
4	Contact; inhalation	Exotic	No	High	High

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Biosafety Level Differences

Level	Description of Agent	Containment Facilities
BSL-1	Suitable for work involving well-characterized agents not known to consistently cause disease in immunocompetent adult humans, and present minimal potential hazard to laboratory personnel and the environment.	Basic
BSL-2	Builds upon BSL-1. BSL-2 is suitable for work involving agents that pose moderate hazards to personnel and the environment.	Basic
BSL-3	Applicable to clinical, diagnostic, teaching, research or production facilities where work is performed with indigenous or exotic agents that may cause serious or potentially lethal disease through inhalation route exposure	High containment
BSL-4	Required for work with dangerous and exotic agents that pose a high individual risk of life-threatening disease, aerosol transmission, or related agent with unknown risk of transmission.	High containment

UNT does not currently have high containment facilities.

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WHO Risk Groups and Biosafety Levels

Risk groups (RG) relate to **but do not “equate”** to the biosafety level (BSL) of laboratories designed to work with organisms in each RG.

Risk groups are based on their relative risk, considering:

- Pathogenicity of the organism
- Mode of transmission and host range
- Availability of effective preventive measures (e.g., vaccines)
- Availability of effective treatment (e.g., antibiotics)
- Other factors



BSL = RG INFORMATION + PRACTICES AND TECHNIQUES
+ SAFETY EQUIPMENT + LABORATORY FACILITIES

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Biosafety Level 1

- Do not prop open doors.
- Persons **must wash their hands** after working with potentially hazardous materials and **before leaving the laboratory**.
- NO Eating, drinking, smoking, handling contact lenses, applying cosmetics
- Careful management of needles and other sharps are of primary importance.
- Perform all procedures to minimize the creation of splashes and/or aerosols.
- Decontaminate work surfaces after completion of work and after any spill or splash of potentially infectious material with appropriate disinfectant (i.e. 10% bleach or autoclave; refer to biosafety manual).
- **Wear protective eyewear** when conducting procedures that have the potential to create splashes of microorganisms or other hazardous materials.
- Gloves must be worn to protect hands from exposure to hazardous materials. Gloves are **NOT** worn outside of laboratory
- **Protective laboratory coats**, gowns, smocks, or uniforms designated for lab use are worn while in the laboratory. This protective clothing is removed and left in the laboratory before leaving for non-laboratory areas (e.g., cafeteria, library, administrative offices).
- Biohazard sign is posted

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Biosafety Level 2

- Materials Handled at BSL-2
 - Human/NHP Blood
 - Human/NHP Tissues
 - Human/NHP Cell Lines
 - Biotoxins
 - Viral Vectors
 - Transgenics (many)
 - Risk Group 2 Agents

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Biosafety Level 2

- Laboratory-Specific Biosafety Plan required
- Report all Spills and Incidents to BSO
- Utilize BSC for aerosol work
- Decontaminate (typically via autoclave) all biohazardous waste
- Do not prop open doors.
- Persons **must wash their hands** after working with potentially hazardous materials and **before leaving the laboratory**.
- NO Eating, drinking, smoking, handling contact lenses, applying cosmetics
- Careful management of needles and other sharps are of primary importance.
- Perform all procedures to minimize the creation of splashes and/or aerosols.
- Decontaminate work surfaces after completion of work and after any spill or splash of potentially infectious material with appropriate disinfectant
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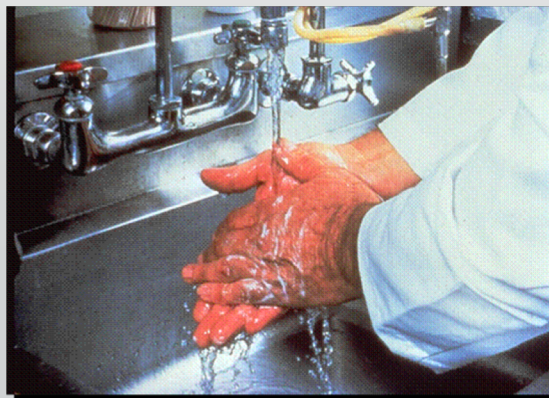
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Safe Work Practices for all Levels

Wash hands

You should never walk out of a lab without washing your hands!

Each sink should have soap and paper towels for hand washing.



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**No sandals when
working in the
laboratory!!!**



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Watch Out!

This person passes
you in the hallway,
going to the break area!



Keep the Bugs in the Lab!



Leave PPE
in Lab

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Safe Work Practices for all Levels

- **Do no prop open laboratory doors!**
- **Wash hands after work; when removing gloves; before leaving lab**
- No eating, drinking, applying cosmetics, handling contact lenses in the lab.
- Maintain labs in clean, orderly fashion.
 - No cloth chairs, cloth floor mats/rugs allowed
- Limit access to lab when work with organisms is in progress
- Use good microbiological techniques
- No mouth pipetting
- When possible use plastic instead of glass

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Biological Spills

- Spill response will vary depending on:
 - What was spilled?
 - How much was spilled?
 - Where was the spill?
 - What is the potential for release to the environment?
- Spills should be cleaned up immediately to ensure proper decontamination.
- All spills/incidents are to be reported ASAP to the lab supervisor and RMS/BSO (via Biosafety Incident Reporting Form).

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Biological Spills

- When cleaning up surfaces use 10% bleach solution or approved disinfectant (Mix bleach solution fresh each time.)
- Put wipes or paper towel on top of the spill
- Spray and allow it to stand for at least **twenty minutes** before wiping up.
- Dispose of all wipes in biohazard containers.
- Decontaminate any materials used to clean up blood or other potentially infectious material (OPIM) (mops, sponges, buckets, etc.)
- PPE should be removed and disposed of in biohazard containers.

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University of North Texas
Vice President for Finance and Administration
Risk Management Services

A green light to greatness™

Biohazard Incident Report Form

Instructions: This form should be completed by lab principal investigators (PIs), supervisors, or the person involved in the incident. Please provide information in the yellow boxes and select the appropriate checkboxes. Please email the completed form to the Biosafety Officer at Biosafety@UNT.edu.

Please note: if this involved an injury, an [Incident Report Form](#) also needs to be submitted to Risk Management.

Incident Information		
Principal Investigator	Department	Phone
Click here to enter text.	Click here to enter text.	Click here to enter text.
Is this an NIH funded project? ☐ Yes ☐ No		
Location of incident including building and room #		Time of incident
Click here to enter text.		Click here to enter text.
Name and role of person involved in the incident		
Click here to enter text.		
Type of incident (select all that apply)		
☐ Needlestick ☐ Puncture wound ☐ Skin laceration or other sharp injury ☐ Scratch ☐ Animal bite ☐ animal scratch ☐ Splash to mucous membrane: ☐ eyes ☐ nose ☐ mouth ☐ Environmental release (anything outside of the lab, vivarium, or plant facility) of an animal/ animal product, plant product, microorganism, or human material. ☐ Other: please describe: Click here to enter text.		
Did the incident involve (select all that apply):		
☐ Human materials (cells, tissues, cultured media, blood, etc.) ☐ Recombinant or synthetic DNA or RNA ☐ Viral vectors ☐ Infectious or pathogenic agents (bacteria, viruses, fungi, prions, etc.) ☐ Transgenic animals ☐ Transgenic microorganisms ☐ Transgenic invertebrates ☐ Transgenic plants		
Working in a biosafety cabinet		
☐ Working alone ☐ during work hours ☐ after hours ☐ weekend		
If this involved an injury, what personal protective equipment (PPE) was worn at the time of the incident? (select all that apply)		
☐ Bouffant cap ☐ Disposable gown ☐ Disposable sleeves ☐ Face mask ☐ Face shield ☐ Goggles ☐ Lab coat ☐ N95 ☐ Nitrile gloves ☐ Safety glasses ☐ Shoe covers ☐ none		
Other: Click here to enter text.		
Did the Institutional Biosafety Committee (IBC) approve this research?		
☐ Yes, please provide IBC # Click here to enter text.		
Approval date: Click here to enter text.		

Approved biosafety level(s) for the research:	Click here to enter text.
Additional approval requirements:	Click here to enter text.
What (if any) section(s) of the NIH Guidelines is the research subject to?	
Click here to enter text.	
Description of agent, recombinant, or synthetic agent or material involved (please indicate strain, attenuation, etc., as relevant).	
Click here to enter text.	
Please briefly describe the nature of the incident (how did it happen, did it involve an injury, what first aid measures were taken, was medical attention sought, how did the accident, spill, or release occur, etc.).	
Click here to enter text.	
Has a root cause for this incident been identified? ☐ Yes ☐ No	
If yes, please describe: Click here to enter text.	
Describe measures taken to mitigate any problems identified:	
Click here to enter text.	

For Biosafety Program Use Only	
Revised date	Click to enter a date.
Revised by	Click here to enter text.
Signature	
Responsible to the IBC?	☐ Yes ☐ No
Responsible to NIH/OBA or other?	☐ Yes ☐ No

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Biohazardous Waste Containers

- The outer collection container must be durable, leak proof, have a lid and be of such a design so as not to be mistaken by Housekeeping as regular trash.



- All biohazard bags must be red in color. Before lining the container with the red biohazard bag, crisscross the bag's biohazard symbol and/or markings with heat sensitive autoclave tape.

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Biohazardous waste bags should NEVER be left on the floor, and should never be tied shut!

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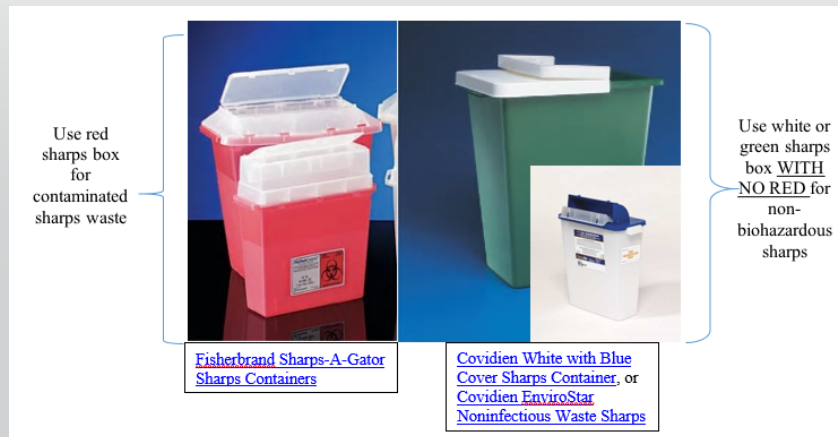


Do not over-fill biohazardous waste bags! Waste bags should be in secondary containers!

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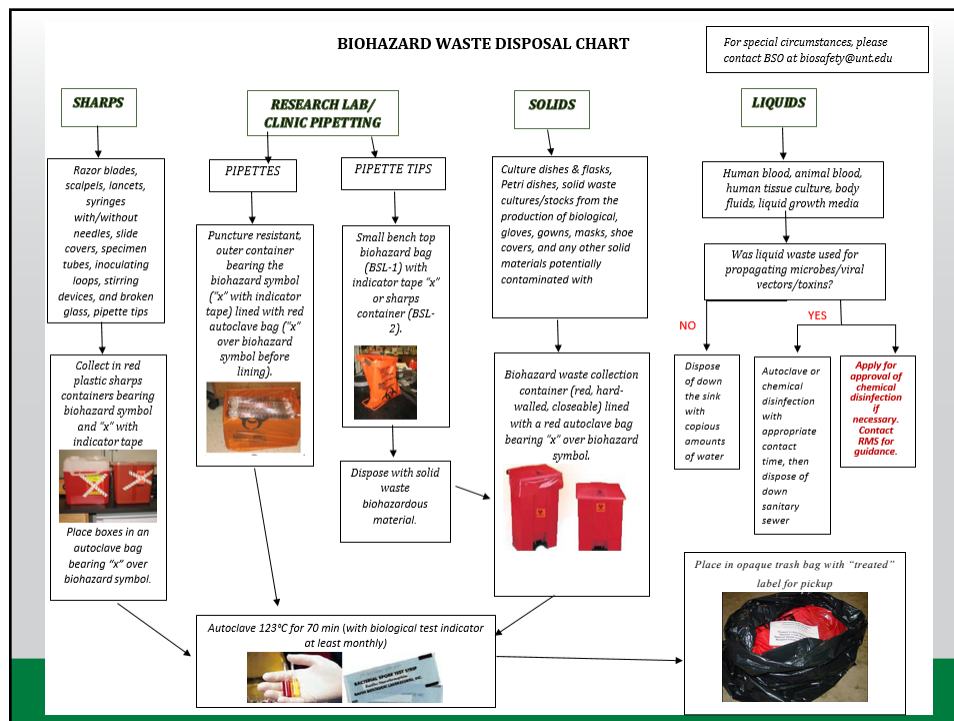


Always use appropriate sharps containers (with lids),
and do not over-fill!

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Cabinets and Hoods

Biosafety Cabinets (BSCs): enclosed, ventilated laboratory workspace for safely working with materials contaminated with (or potentially contaminated with) pathogens requiring a defined biosafety level. Protect the worker and the environment, and, depending on type, the product.



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BioSafety Cabinets

- 3 Classes
- All exhaust is HEPA filtered before leaving the cabinet
- Most UNT cabinets are Class II, A2 (recirculate 70% of air)
- **DO NOT** use Bunsen burners in Class II BSC's!
 - Destroys the HEPA filter
 - Can cause fire/explosion



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Biological Safety Cabinet Operation

CAUTIONS

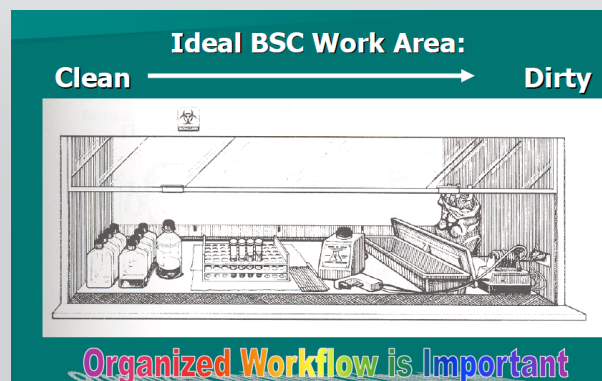
- Chemicals may damage HEPA filter
- Volatile chemicals NOT retained by HEPA filter
 - Exposes personnel if not exhausted
- Fans NOT spark proof
 - Chemical use may result in fire and/or explosion
 - Never use flammable gases
 - Open fire and heat damages HEPA filter



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BSC Work Area: Rear Vent Obstructed



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Store Supplies OUTSIDE of BSC



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Cabinets and Hoods

PCR Cabinets : enclosed, ventilated laboratory workspace to create a contaminant-free environment for the product. Does NOT protect the person or environment.



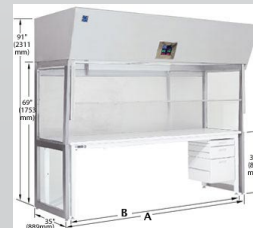
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Cabinets and Hoods

Clean Bench: Also known as laminar flow hood. Ventilated laboratory workspace to create a contaminant-free environment for the product. Does NOT protect the person or environment.



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Cabinets and Hoods

Chemical Fume Hoods: Designed to limit exposure to hazardous or toxic fumes, vapors or dusts. DOES NOT protect the user from biohazardous materials and should NOT be used with biohazards.



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CHEMICAL SAFETY



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Laboratory Accidents



Explosion due to Incompatible Waste Mixing



THE UNIVERSITY DAILY KANSAN

Two students injured in explosion at Malott Hall lab



June 2015

Explosion Blew Out Fume Hood Windows



May 2015

Explosion Causes Eye Injury



The New York Times

Yale Student Killed as Hair Gets Caught in Lathe

By LISA W. FODERARO APRIL 13, 2011



Yale University

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<https://www.labsafety.org/memorial-wall>

- Student researcher died from burns received when a fire broke out in a microbiology lab at Premier Service Medical Investments. 2017, Harare, Zimbabwe.
- Chemical explosion inside research lab injures one – University of Akron – September 15, 2015
- Princeton University chemistry building evacuated after chemical spill – September 2, 2015
- Methanol fire in museum demonstration injures 3 children – Reno, NV – Sept. 3, 2014
- Explosion in chemistry lab during azide synthesis injures graduate student - University of Minnesota – June 17, 2014
- Lab worker killed during explosion in petroleum engineering lab – Texas A&M at Qatar – May 28, 2014
- 50-year-old technician died at Southwest Research Institute as the result of a lab accident. 2014, San Antonio, TX.
- Six undergraduate students exposed to chemicals due to waste bottle explosion – University of Illinois – Nov. 12, 2013
- 2012, San Francisco. 25-year-old VA hospital lab worker died from exposure to bacterial strain causing septicemia and meningitis.

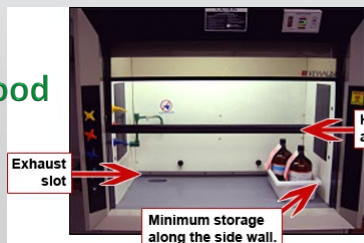
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Safety Equipment

Fume Hoods

Good



Hood set at 18 inches.

Minimum storage along the side wall.

Not so Good



Hood sash set above 18 inches.

- Excess storage of chemicals.
- Exhaust slots blocked.
- Containers stored within six inches of face of hood.

- Keep hood sashes down and windows closed whenever possible.
- Activate alarm (if available)
- Avoid chemical storage
- Keep sources of ignition (i.e. variacs) out of hoods if flammable vapors are present
- Contact Facilities or RMS if a fume hood is not functioning properly

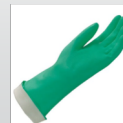
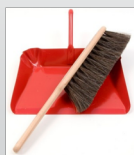
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Chemical Spills

General Spill Kits

- General Chemical Spill Kit
 - Small broom and dustpan (scoop)
 - Trash bag (30 gal, 3 mil) or bucket
 - Heavy neoprene gloves
 - Universal spill absorbent
 - 1:1:1 ratio of unscented kitty litter, sodium bicarbonate, and sand
 - Can also purchase a commercial version
 - Sodium Bicarbonate (for acid spills)
 - Sodium Bisulfate (for base spills)



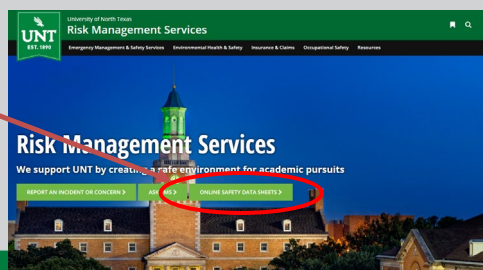
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Hazard Communication

Safety Data Sheets (SDS) ← Note new name!

- Everyone has the right to know the hazards associated with the chemicals they are working with
- SDSs are available from the following sources:
 - Manufacturer website
 - Request from manufacturer
 - Request from our Chemical Hygiene Officer



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Hazard Communication Globally Harmonized System (GHS)

 Flame Flammables Pyrophorics Self-Heating Emits Flammable Gas Self-Reactives Organic Peroxides	 Exclamation Irritant (skin and eye) Skin Sensitizer Acute Toxicity Narcotic Effects Respiratory Tract Irritant Hazardous to Ozone Layer	 Health Hazard Carcinogen Mutagenicity Reproductive Toxicity Respiratory Sensitizer Target Organ Toxicity Aspiration Toxicity
 Gas Cylinder Gases under pressure	 Corrosion Skin Corrosion/Burns Eye Damage Corrosive to Metals	 Skull and Crossbones Acute Toxicity (fatal or toxic)
 Exploding Bomb Explosives Self-Reactives Organic Peroxides	 Flame Over Circle Oxidizers	 Environment Aquatic Toxicity (non-mandatory)

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Hazard Communication

Chemical Labeling

- Synthesized/lab samples
 - Name of material (no abbreviations if possible).
 - Date synthesized
 - Only use laboratory notebook references if absolutely necessary
- Be especially aware of...
 - previous group members samples
 - “unknowns” in teaching labs
 - Samples stored in refrigerators
- Labeling must be sufficient for someone to properly dispose/handle in the future.
- What happens if there is an incident and someone besides you needs to know now!



Poor example

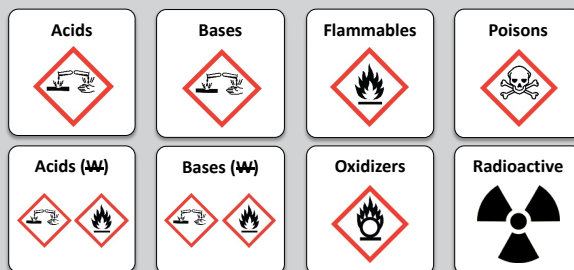
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Chemical Storage

Storage and Segregation

- Minimize the number of chemicals in your lab
- Be aware of legacy chemicals. If it's likely not going to be used again, dispose as through Hazardous Waste Program
- Store chemicals in compatibility groups. Place barriers between groups
- Store chemicals in a manner that minimizes spilling or leaking. Use secondary containment.



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Compressed Gas Cylinders

Compressed gases present a unique hazard. Depending on the particular gas, there is a potential for simultaneous exposure to both mechanical and chemical hazards.

- Hazards may include:
 - Flammable or combustible
 - Explosive
 - Corrosive
 - Poisonous
 - Asphyxiation
 - High pressures
 - Large/heavy equipment



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Compressed Gas Cylinders

Handling and Use

- All gas cylinders must be chained or strapped to a secure point to prevent tipping
 - Wall
 - Rack
 - Bench top
 - Fume hood
- A gas cylinder stand will also suffice



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Hazardous Waste Management

General Waste Management Practices

- All waste must be placed in a properly labeled waste container
- **DO NOT DISCARD WASTE INTO THE SINKS AND DOWN THE DRAIN!**
- Waste containers must be in good condition and stored in a designated satellite accumulation location in your lab until filled
 - Preferably a flammable cabinet or fume hood.
 - Leave ~10% headspace in bottle
 - Cap must be on bottle
- Satellite Accumulation Area **must be clearly labeled**. Can have as many Satellite Accumulation Areas as you wish.
- Ensure waste container contents are compatible with each other!!!

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Hazardous Waste Removal

- Go to...
 - riskmanagement.unt.edu → Environmental Health & Safety → Waste Management
 - Click on “Hazardous Waste Pickup Request”

HUB
1285 Response Save and Continue Complete Response

Please complete this form with as much information as you can. You can attach files or photos to this form to assist with the pickup.

Pickup Procedures

1. Prior to pick up, all waste should be placed in an appropriate satellite accumulation area (SAA).
2. All waste must be placed in a compatible, sturdy container with lid.
3. 10% headspace should be left in the container.
4. All containers must be appropriately labeled. [Download Hazardous Waste Label Template](#)
5. Click on "Complete Response" to submit your request.

Auto Definition Hazardous Materials Pickup Request

Date of Request: 03/25/2018

Pickup Building:

Pickup Room:

Contact Person:

Contact:

Building/Room:

Department:

Email Address:

Phone Number:

Hazardous Materials Pickup Request Questions

Does this pickup include Radioactive Waste? ☐

Does this request include Incompatible waste? ☐

Pickup/Handling Instructions:

For the box below, please describe the contents/type of waste including the number, size, and type of containers. Be as descriptive as possible. If you have any pictures or files you wish to attach, hover over the plus symbol and click on "Attach File".

Description of Hazardous Materials: + Add ...

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Waste Management

Broken Glass

- Ensure plastic bag lines inside of box before placing broken glass inside.
- Non-contaminated broken glass only.
- Not for contaminated sharps or lightbulbs
- When box is full, cardboard flap on lid must be pulled up and the lid must be securely taped.
- For disposal, contact housekeeping or transport to dumpster.



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Closing Comments

- **IF YOU DON'T KNOW...ASK!**
- Please don't become complacent...constantly evaluate your operations and performance
- Safety personnel are here to help protect you and work with you... not "I got you"

RISK MANAGEMENT
SERVICES

UNT[®]

(940) 565-2109
AskRMS@unt.edu

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Thank You.

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