

Eastern Connecticut State University

Safety Manual

APRIL

2021

Program Review: This written program shall be reviewed on at least an annual basis by the Campus Wide Safety Committee, Departmental Safety Committee members and the Environmental Health and Safety Coordinator. Any revisions or updates shall be made and the policy shall be re-distributed to affected areas.

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Policy Statement

ECSU Safety Policy

Both Eastern Connecticut State University (ECSU) and its employees are subject to the [Connecticut Occupational Health and Safety Act of 1970](#). Employees are expected to understand and observe the safety requirements of their own jobs and to report any hazardous conditions observed to their supervisors. All employees are expected to abide by the general Safety and Health Rules, as established and adopted by the Safety Committee. Safety is a day to day task that all employees must keep in mind for the benefit of themselves and ECSU. A copy of these rules follows.

Reporting Safety Concerns

The Complaint Process

Filing a complaint: Any employee or student with a concern about safety or health should adhere to the following:

A. If the safety/health concern is **Immediately Dangerous to Life and Health** contact:

University Police at 860-465-5310 and have the Dispatch contact Eric Germain.

B. If the safety/health concern is **not** life threatening the following should be followed within 48 hours of identifying the hazard:

The employee or student who notices the safety concern should contact any of the ECSU safety committee members

or

Eric Germain
Director of Environmental Health & Safety
Eastern Hall, Room 26
860-465-5103

Safety Groups and Committees

Campus-Wide Safety Committee

The Campus-Wide Safety Committee was established to coordinate efforts to improve safety and health conditions in the working environment. They address campus-wide safety issues and maintain an active safety education program for the ECSU community. Members of the Campus Wide Safety Committee meet several times throughout the academic year, more often if needed, to identify/correct safety concerns for the entire campus.

Members of the Campus-Wide Safety Committee include labor and management representing by various departments on campus. Members include representation of various departments throughout the campus.

ECSU/Campus-Wide Safety Committee Members

Claudia Ahern	Child & Family Development Resource Center Teacher	860/465-5225
Lourdes Ardel	Human Resources, Manager of Compensation and Training	860/465-5118
Elizabeth Cowles	Department Chair, Biology	860-465-4385
John Bazin	Registrar's Office	860-465-1490
Joe Salvaggio	Food Service Director	860/465-5051
Anne-Marie Senechal	Health Services, Associate Director	860/465-5263
Cedric Lindsay	Facilities, GTW	860/465-5390
Edward Figiela	Facilities Management & Planning, Associate Director	860/465-5317
Jeffrey Garewski	Public Safety, Chief/Director	860/465-4521
Eric Germain	Director Environmental Health & Safety	860/465-5103
Angela Bazin	Housing & Residential Life, Associate Director	860/465-0072
Silas Gray	Bio/Phys Sci/EES Depts., Technical Supervisor	860/465-4490
Renee Keech	Director of Facilities	860/465-5496
Jason Wadeki	Technical Supervisor FAIC	860/465-0292
Bill Geitner	Men's Basketball Coach	860/465-5332
Kristen Scavone	Office of Accessibility Services	860/465-4667
James Howarth	VP Finance & Administration	860/465-4418
Cynthia Brokaw	Payroll Clerk	860/465-0166

Safety Guidelines for ECSU Employees

The following general safety and health rules have been developed for your guidance. They **DO NOT** cover all situations that you will come across in the course of employment at Eastern Connecticut State University. It is vital that you use common sense and good judgment be utilized in any situation regarding safety and health. If you have any questions or doubt as to whether something is unsafe or unhealthy, “Err on the Side of Safety” - stop and ask your supervisor:

1. Report all safety concerns to your supervisor.
2. If you are uncertain of how to do your job safely, stop and ask your supervisor.
3. Plan ahead for the equipment, personal protection and assistance that you may need for any job that you are preparing to do.
4. Ask for the help of others if any item is too heavy for you to comfortably lift. Use proper lifting techniques (bend at the knees, keep back neutral and keep load close to body.)
5. Obey all warning/hazard signs or tape to keep clear of an area; if you see something that should be marked as hazardous, report it to your supervisor.
6. Horseplay and unsafe practical jokes are prohibited in the workplace and may result in disciplinary action.
7. Use of drugs or alcohol in the workplace, or being at work under the influence is prohibited. If you must take a prescription or other kind of drug that may impair your ability to do work, inform your supervisor.
8. Only use machinery, tools and equipment that you are qualified and trained to use. Ask for assistance if you need training or have questions concerning their safe operation.
9. Machine Guards must be in place for your protection. Never remove a guard or attempt to make repairs to a machine/equipment that you are unfamiliar with. If machine guard is missing then no work shall be done until guard is reattached.
10. Do not wear loose clothing, jewelry, loose ties when operating machinery.
11. Smoking is NOT allowed in any State buildings.
12. The use of defective tools, equipment or machinery is prohibited.
13. Inspect all ladders before use; extension ladders shall be placed using a 75 degree pitch and at least 3 feet (3 rungs) extending above the top of the work area and shall be properly secured. Foot ladders must be in the open and locked position, never using the top step.

14. When using chemical/hazardous materials, review the Safety Data Sheet (SDS) before use and protect yourself from any hazard that they may pose to you.
15. Use proper personal protective equipment for all jobs, i.e. safety glasses, gloves, boots, ear plugs, etc. Contact your supervisor immediately if these items are not in your possession.
16. Ground electrical power tools and equipment properly, protect power extension cords from damage. In wet areas, a GFI is required.
17. Never take a shortcut to get the job done if it poses a safety hazard.
18. Keep access open to exits, aisles, fire extinguishers, fire alarms, electrical lighting/circuit boxes/power panels.
19. First aid kits are located throughout the campus.

Hazard Communication Program

This program has been developed to insure that the safety and health of Eastern Connecticut State University employees is maintained while using hazardous materials in the work place. It meets the requirements of the [OSHA Hazard Communication Standard 29 CFR 1910.1200](#). The program includes procedures and guidelines for the safe use, handling, and storage of hazardous chemicals by our employees. It also covers the communication, training, documentation, and labeling requirements.

This program applies to all employees of Eastern Connecticut State University, whether part-time, full-time, hourly or salaried, at all locations affiliated with the university. Contractors and sub-contractors hired for any reason, who use hazardous materials, are also required to maintain compliance with this program.

Definitions:

SDS:	Safety Data Sheet
NFPA:	National Fire Protection Association
OSHA:	Occupational safety and Health Administration
GHS:	Global Harmonization System

Program Components:

A. Chemical Inventory: All departments shall retain, on file, a complete inventory list of all hazardous materials used in that department. At a minimum, this shall include the name of each chemical, manufacturer, the area utilized, handled or stored, and verification as to whether the Safety Data Sheet (SDS) is on file. All efforts should be made to obtain SDS's for any hazardous substances used. All of the SDS's are accessible via the internet. Supervisors are responsible for maintaining this inventory.

B. Labels:

Primary Container Labeling: All chemicals on site will be stored in their original or approved containers with a proper label clearly visible. Labels must include the name of the chemical, name and address of the manufacturer, physical hazards, and chemical health hazards.

Secondary Container Labeling: Employees may dispense chemicals from original containers in small quantities intended for immediate use. These must be properly labeled with the appropriate NFPA labeling system or the GHS system.

The following is an explanation of the NFPA labeling system:

The NFPA labeling system is a unique from other labeling systems since it utilizes a diamond shape. Within this diamond are four colored sections. They are:

RED	Fire
BLUE	Health
YELLOW	Reactivity
WHITE	Special Hazard

Within the colors will be a numbering system. An explanation of the numbers is as follows:










RATING	RED	BLUE	YELLOW
0	Will Not Burn	Normal Material	Stable
1	Flash Point >200°F	Slightly Hazardous	Not stable if heated
2	Flash Point >100°F <200°F	Hazardous	Violent Chemical change
3	Flash Point >73°F < 100°F	Extremely Hazardous	May detonate with Heat or Shock
4	Flash Point <73°F	Deadly	May detonate

The following is the explanation for the White section, Special Hazard:

OXY	Oxidizer
ACID	Acid
ALK	Alkali
COR	Corrosive
W	Use No Water
	Radiation Hazard

A good rule of thumb is any chemical with a number greater than 2 should be handled with care.

The following is an explanation of the GHS labeling system.

 <ul style="list-style-type: none"> ▪ Carcinogen ▪ Mutagenicity ▪ Reproductive Toxicity ▪ Respiratory Sensitizer ▪ Target Organ Toxicity ▪ Aspiration Toxicity 	 <ul style="list-style-type: none"> ▪ Flammables ▪ Pyrophorics ▪ Self-Heating ▪ Emits Flammable Gas ▪ Self-Reactives ▪ Organic Peroxides 	 <ul style="list-style-type: none"> ▪ Irritant (skin and eye) ▪ Skin Sensitizer ▪ Acute Toxicity ▪ Narcotic Effects ▪ Respiratory Tract Irritant ▪ Hazardous to Ozone Layer (Non-Mandatory)
<p style="text-align: center;">Gas Cylinder</p>  <ul style="list-style-type: none"> ▪ Gases Under Pressure 	<p style="text-align: center;">Corrosion</p>  <ul style="list-style-type: none"> ▪ Skin Corrosion/Burns ▪ Eye Damage ▪ Corrosive to Metals 	<p style="text-align: center;">Exploding Bomb</p>  <ul style="list-style-type: none"> ▪ Explosives ▪ Self-Reactives ▪ Organic Peroxides
<p style="text-align: center;">Flame Over Circle</p>  <ul style="list-style-type: none"> ▪ Oxidizers 	<p style="text-align: center;">Environment (Non-Mandatory)</p>  <ul style="list-style-type: none"> ▪ Aquatic Toxicity 	<p style="text-align: center;">Skull and Crossbones</p>  <ul style="list-style-type: none"> ▪ Acute Toxicity (Fatal or Toxic)

Unmarked Containers: No unmarked containers are to be left unattended in the work area.

C. Safety Data Sheets (SDS):

1. Master File:

Most SDS's can be found on the internet. An easy search engine is Google. Chemicals in the Science Building are maintained by CEMS, a chemical SDS management system on the intranet. If an employee cannot access the internet, they are to contact their supervisor, who will get them a copy of the SDS.

2. Departmental Central File:

Each department utilizing, storing, or handling hazardous materials shall maintain an updated inventory list.

3. SDS Distribution:

SDS's for the materials in use must be made available to all employees in the area of their work sites. Supervisors shall insure that they are readily available at all times for review in case of emergency. In any case of exposure to a hazardous chemical, the SDS shall accompany the employee to the medical facility if seeking treatment. This is to ensure that medical providers get immediate and accurate data for effective treatment.

4. SDS Availability:

Every chemical purchased at Eastern Connecticut State University shall be accompanied with an SDS and distributed to the department that ordered that chemical. If a chemical is received by a department without an SDS, that department should access the internet to retrieve the appropriate SDS.

D. Employee Training: All employees who come in contact with hazardous materials, shall be trained initially at new employee orientation. Additional training will be conducted when different materials are added to the work environment as required by 1910.1200. Records of any training conducted shall be maintained by the Environmental Health and Safety Department. Department supervisors are responsible for reviewing specific SDS's of chemicals that their employees use in the department.

Training shall include the following components:

1. Provisions of the federal and state laws.
2. Review of the ECSU Hazard Communication Policy
3. Physical and health hazards associated with chemicals.
4. Protective measures from hazards associated with the chemicals, to include purpose, proper use and limitations of protective equipment.
5. Methods of detecting the presence or release of hazardous chemicals in the work area.
6. An explanation of the labeling requirements of this policy.
7. Where to locate SDS's and how to read them.
8. An explanation of emergency procedures.
9. An explanation of the emergency evacuation procedures for the area.

Outside Contractors: All outside contractors doing work for Eastern Connecticut State University shall follow their specific HazComm policy and will be expected to comply. The contractor shall provide SDS's for any chemicals brought on site that could create a physical or health hazard to our employees and affected employees shall be made aware of this information. Outside contractors are expected to have their own written program and be in full compliance with the applicable state and federal requirements.

Hazardous Waste

Purpose

The purpose of this policy is to protect the health and safety of faculty, staff and students through environmentally sound management of hazardous wastes, and to ensure compliance with federal and state regulations. Management of the hazardous waste at Eastern Connecticut State University is by the Director of EH&S with assistance from the Science Department's Technical Supervisor.

Since Eastern is a Small Quantity Generator (SQG), our waste is disposed of once every 180 days. When a disposal is scheduled, a general notice will go out to the departments that are known to generate waste indicating when a licensed hazardous waste disposal company will be on site. It is the department's responsibility to contact the Environmental Health and Safety Department to schedule this.

Hazardous waste generated at Eastern is disposed of or recycled by licensed outside contractors. The records of all the hazardous waste generated and manifests are available through the Environmental Health and Safety Department.

What is Hazardous Waste?

A **waste** is defined as any useless, unwanted or discarded substance or material, whether or not such substance or material has any other future use, and includes, any substance or material that is spilled, leaked, pumped, poured, emitted, disposed of, emptied, or dumped onto land, water or ambient air.

A **Hazardous waste** is a substance or material that meets the criteria of the above mentioned definition of a waste, and to be considered hazardous, must exhibit any one of the following:

1. Ignitability

- The waste is a liquid and has a flash point of < 140F, or
- The waste is an ignitable compressed gas, or
- The waste is an oxidizer

2. Corrosivity

- Aqueous liquid with a pH < 2.0 or >12.5

3. Reactivity

- The waste is reactive to water, shock, heat, pressure, or
- The waste reacts to giving off toxic gases, or
- The waste is unstable and reacts rapidly or explosively.

4. Toxic Characteristic Leaching Process (TCLP)

This category includes waste that leaches more than a specified amount of heavy metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver) or one of six pesticides.

Due to the complex regulations concerning Hazardous waste, once you have either identified or generated hazardous waste in your area, contact the Environmental Health and Safety Coordinator for assistance.

Information on [P-coded wastes](#), [aerosol can program](#) and the [fluorescent light bulb policy](#) follows.

P-Coded Wastes

Chemicals on EPA's P Code Hazardous Waste list are regulated as Acute Hazardous Waste. The amount of these wastes produced annually can affect our regulatory status and trigger additional requirements to be met.

Since Eastern Connecticut State University is a small quantity generator, we may not produce more than 2.2 pounds (1 kilogram) at any one time of all chemicals on this list.

Consult the current [CFR Title 40 Part 261.33](#) for the official, most up-to-date listing.

Hazardous Waste No.	Substance
P023	Acetaldehyde, chloro-
P002	Acetamide, N-(aminothioxomethyl)-
P057	Acetamide, 2-fluoro-
P058	Acetic acid fluoro-sodium salt
P066	Acetimidic acid, N-[(methylcarbamoyl)oxy] thio-, methyl ester
P002	1-Acetyl-2-thiourea
P003	Acrolein
P070	Aldicarb
P004	Aldrin
P005	Allyl alcohol
P006	Aluminum phosphide (R,T)
P007	5-(Aminomethyl)-3-isoxazolol
P008	4-alpha-Aminopyridine
P009	Ammonium picrate (R)
P119	Ammonium vanadate
P010	Arsenic acid
P012	Arsenic oxide As ₂
P011	Arsenic oxide As ₂ O ₅
P011	Arsenic pentoxide
P012	Arsenic trioxide
P038	Arsine diethyl-
P036	Arsonous dichloride, phenyl-
P054	Aziridine
P013	Barium cyanide
P024	Benzenamine, 4-chloro-
P077	Benzenamine, 4-nitro-
P028	Benzene, (chloromethyl)-
P042	1, 2-Benzenediol, 4-[1 -hydroxy-2-(methyl-amino)ethyl]-, (R)
P046	Benzeethanamine, alpha,alpha-dimethyl-
P014	Benzenethiol
P001	2H-1-Benzopyran-2-one,4-hydroxy-3- (3-oxo-1- phenylbutyl)-, and salts
P028	Benzyl chloride
P015	Beryllium dust

Hazardous Waste No.	Substance
P016	Bis(chloromethyl) ether
P017	Bromoacetone
P018	Brucine
P021	Calcium cyanide
P022	Carbon bisulfide
P022	Carbon disulfide
P095	Carbonic dichloride
P023	Chloroacetaldehyde
P024	p-Chloroaniline
P029	Copper cyanide
P030	Cyanides (soluble cyanide salts), not otherwise specified
P031	Cyanogen
P033	Cyanogen chloride
P034	2-Cyclohexyl-4,6-dinitrophenol
P036	Dichlorophenylarsine
P037	Dieldrin
P038	Diethylarsine
P041	Diethyl-p-nitrophenyl phosphate
P040	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	Diisopropyl fluorophosphate (DEP)
P004	1,4:5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexachloro-1,4,4a,5,8 8a-hexahydro-(1alpha, 4alpha, 4abeta, 5alpha, 8alpha, 8abeta)-
P060	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a- hexahydro-(1alpha, 4alpha, 4abeta, 5beta, 8beta, 8abeta)-
P037	2,7:3,6-Dimethanonaphth [2,3b]oxirane, 3,4,5,6,9,9- hexachloro- 1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha, 2beta, 2aalpha, 3beta, 6beta, 6aalpha,7beta, 7aalpha)-
P051	2,7:3,6-Dimethanonaphth [2,3b]oxirane octahydro-(1aalpha, 2beta, 2abeta, 3alpha, 6alpha, 6abeta, 7beta, 7aalpha)-
P044	Dimethoate
P045	3,3-Dimethyl-1 -(methylthio)-2-butanone, O-[(methylamino) carbonyl]oxime
P046	alpha, alpha-Dimethylphenethylamine
P047	4,6-Dinitro-o-cresol and salts
P048	2,4-Dinitrophenol
P020	Dinoseb
P085	Diphosphoramidate octamethyl-
P039	Disulfoton
P049	2,4-Dithiobiuret
P050	Endosulfan
P088	Endothal
P051	Endrin

Hazardous Waste No.	Substance
P042	Epinephrine
P101	Ethyl cyanide
P054	Ethyleneimine
P097	Famphur
P056	Fluorine
P057	Fluoroacetamide
P058	Fluoroacetic acidsodium salt
P065	Fulminic acid mercury(2+)salt (R,T)
P059	Heptachlor
P062	Hexaethyltetraphosphate
P116	Hydrazinecarbothioamide
P068	Hydrazine, methyl-
P063	Hydrocyanic acid
P063	Hydrogen cyanide
P096	Hydrogen phosphide
P064	Isocyanic acid, methyl ester
P060	Isodrin
P007	3(2H)-Isoxazolone, 5-(aminomethyl)-
P092	Mercury, (acetato-O)phenyl-
P065	Mercury fulminate (R,T)
P082	Methamine, N-methyl-N-nitroso-
P016	Methane, oxybis(chloro-
P112	Methane, tetranitro- (R)
P118	Methanethiol, trichloro
P050	6,9-Methano-2,4,3-benzodioxathiepen, 6, 7, 8, 9, 10, 10- hexachloro- 1, 5, 5a, 6, 9, 9a-hexahydro-3-oxide
P059	4,7-Methano-1H-indene, 1,4,5,6,7,8,8- heptachloro- 3a,4,7,7a- tetrahydro-
P066	Methomyl
P067	2-Methylaziridine
P068	Methyl hydrazine
P064	Methyl isocyanate
P069	2-Methylactonitrile
P071	Methyl parathion
P072	alpha-Naphthylthiourea
P073	Nickel carbonyl
P073	Nickel carbonyl, (T-4)-
P075	Nicotine and salts
P076	Nitric oxide
P077	p-Nitroaniline
P078	Nitrogen dioxide

Hazardous Waste No.	Substance
P076	Nitrogen oxide NO
P078	Nitrogen oxide NO ₂
P081	Nitroglycerine (R)
P082	N-Nitrosodimethylamine
P084	N-Nitrosomethylvinylamine
P074	Nickel cyanide
P085	Octamethylpyrophosphoramidate
P087	Osmium oxide
P087	Osmium tetroxide
P088	7-Oxabicyclo[2.2.1] heptane- 2,3-dicarboxylic acid
P089	Parathion
P034	Phenol,2-cyclohexyl-4,6-dinitro
P048	Phenol, 2,4-dinitro
P047	Phenol, 2-methyl-4,6-dinitro- and salts
P020	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P092	Phenylmercury acetate
P093	Phenylthiourea
P094	Phorate
P095	Phosgene
P096	Phosphine
P041	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl]ester
P094	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl]ester
P044	Phosphorodithioic acid, O,O-dimethyl S[2-(methylamino)-2-oxoethyl]ester
P043	Phosphorofluoridic acid, bis(1-methyl-ethyl) ester
P089	Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester
P040	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	Phosphorothioic acid O-[4-((dimethylamino)-sulfonyl)phenyl] O,O-dimethylester
P071	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester
P110	Plumbane, tetraethyl-
P098	Potassium cyanide
PO99	Potassium silver cyanide
P070	Propanal, 2-methyl-2-(methylthio)-, O[(methylamino) carbonyl] oxime
P101	Propanenitrile
P027	Propanenitrile, 3-chloro-
P069	Propanenitrile, 2-hydroxy-2-methyl-
P081	1,2,3-Propanetriol trinitrate (R)
P017	2-Propanone, 1-bromo-
P102	Propargyl alcohol

Hazardous Waste No.	Substance
P003	2-Propenal
P005	2-Propen-1-ol
P067	1,2-Propylenimine
P102	2-Propyn-1-ol
P008	Pyridinamine
P075	Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-,and salts
P111	Pyrophosphoric acid, tetraethyl ester
P103	Selenourea
P104	Silver cyanide
P105	Sodium azide
P106	Sodium cyanide
P107	Strontium sulfide
P108	Strychnidin-10-one, and salts
P018	Strychnidin-10-one, 2,3-dimethoxy-
P108	Strychnine and salts
P115	Sulfuric acid, thallium(I) salt
P109	Tetraethyldithiopyrophosphate
P110	Tetraethyl lead
P111	Tetraethylpyrophosphate
P112	Tetranitromethane (R)
P062	Tetraphosphoric acid hexaethyl ester
P113	Thallic oxide
P113	Thallium(III) oxide
P114	Thallium(I) selenide
P115	Thallium(I) sulfate
P109	Thiodiphosphoric acid, tetraethyl ester
P045	Thiofanox
P049	Thioimidodicarbonic diamide
P014	Thiophenol
P116	Thiosemicarbazide
P026	Thiourea, (2-chlorophenyl)-
P072	Thiourea, 1-naphthalenyl-
P093	Thiourea, phenyl-
P123	Toxaphene
P118	Trichloromethanethiol
P119	Vanadic acid ammonium salt
P120	Vanadium(V) oxide
P084	VinylamineN-methyl-N-nitroso-
P001	Warfarin
P121	Zinc cyanide

Hazardous Waste No.	Substance
P122	Zinc phosphide (R,T)

Aerosol Can Policy

The following is the protocol that shall be adhered to when disposing of aerosol cans at Eastern Connecticut State University.

Once an aerosol can is either empty or no longer used by the department, it shall be placed in a container, which will be designated as “USED AEROSOL CANS.”

The Environmental Health and Safety Department will pick up any aerosol cans that are being stored in these containers. If your department needs a pick up, contact Eric Germain at 55103.

The used aerosol can will then be placed in an Aerosol Can Recycling System, which is located within the facilities department. Any remaining materials in the can will be collected in a receiving drum while the propellants will be collected in the filtering system.

Once the aerosol can has been punctured, residual materials drained, and propellants captured in the filters, the cans will be recycled as scrap metal.

The captured material will be contained within a 20-gallon drum and will be disposed of as hazardous waste.

Fluorescent Light Bulb Policy

Mercury is an essential ingredient for most energy-efficient lamps. Fluorescent lamps and high intensity discharge (HID) lamps are the two most common types of lamps that utilize mercury. Fluorescent lamps provide lighting for most schools, office buildings and stores. HID lamps, which include mercury-vapor, metal halide and high-pressure sodium lamps, are used for streetlights, floodlights and industrial lighting. A typical fluorescent lamp is composed of a phosphor-coated glass tube with electrodes located at either end. The tube contains mercury, of which only a very small amount is in vapor form. When a voltage is applied, the electrodes energize the mercury vapor, causing it to emit ultraviolet (UV) energy. The phosphor coating absorbs the UV energy, causing the phosphor to fluoresce and emit visible light. Without the mercury vapor to produce UV energy, there would be no light. A four-foot fluorescent lamp has an average rated life of at least 20,000 hours. To achieve this long life, lamps must contain a specific quantity of mercury. The amount of mercury required is very small, typically measured in milligrams, and varies by lamp type, date of manufacture, manufacturing plant and manufacturer.

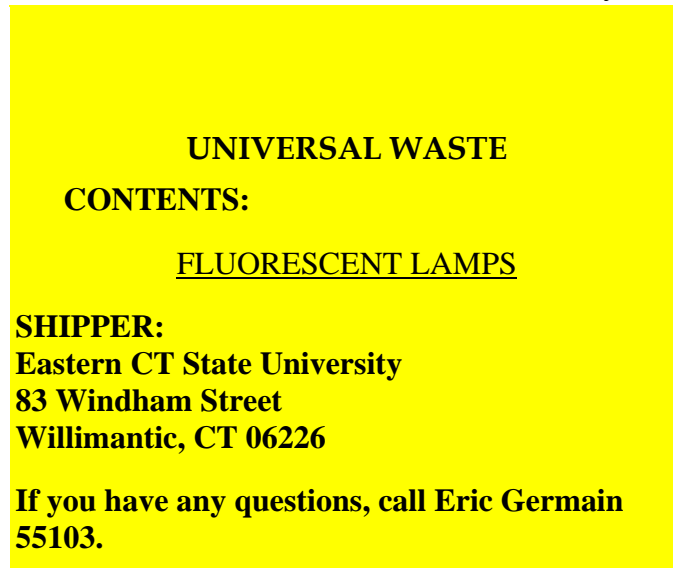
The following is the procedure that will be adhered to when disposing of fluorescent light bulbs at Eastern Connecticut State University.

Once a fluorescent light bulb is no longer usable it shall be considered a Universal Waste. At this time the used fluorescent light bulb will be placed in a container that will be structurally

sound, closed, and adequate to prevent breakage and compatible with their contents to prevent breakage.

This container will be labeled with the following information:

The words: "UNIVERSAL WASTE"
Contents of container: "FLUORESCENT BULBS"
Shipper information: "Eastern Connecticut State University"



Under the CTDEEP Hazardous Waste regulation, Eastern Connecticut State University is a Small Quantity Handler for Universal waste and as such, can store said waste on campus for up to one year. In order to stay in compliance with the storage limits, Eastern Connecticut State University has decided that used fluorescent light bulb will be disposed of by a licensed recycler at least two times per year. Prior to this pick up a facilities department employee will gather all of the used fluorescent light bulbs that have been generated around campus and place them in the central storage area that is located in the lower levels of the facilities department. The larger containers will also meet the same storage and labeling requirements as mentioned above. By disposing of the fluorescent bulbs on a regular basis we will meet the storage requirements outlined by the CT DEEP.

Used Electronics Disposal Policy

The following is a definition of "used electronics":

a device or component thereof that contains one or more circuit boards or a cathode ray tube and is used primarily for communication, data transfer or storage, or entertainment purposes, including but not limited to, desk top and lap top computers, computer peripherals, monitors, copying machines, scanners, printers, radios, televisions, camcorders, video cassette recorders ("VCRs"), compact disc players, digital video disc players, MP3 players, telephones, including cellular and portable telephones, and stereos." Due to the presence of hazardous materials these types of equipment cannot be discarded in the general trash.

The following is the procedure that will be adhered to when disposing of used electronics.

Once a used electronics is no longer usable it shall be considered a Universal Waste. At this time the used electronics will need to be treated as Universal Waste. Once this determination has been made, the employee who generates the used electronics will contact Shipping and Receiving for proper disposal. Facilities will pick up the equipment and transport it to the Universal Waste Storage area.

Under the CTDEEP Hazardous Waste regulation, Eastern Connecticut State University is a Small Quantity Handler for Universal waste. We can store said waste on campus for up to one year. In order to stay in compliance with the storage limits Eastern Connecticut State University has decided that used electronics will be disposed of by a licensed recycler 2/year. At this time, a licensed recycler will arrive on campus and discard all the Used Electronics that have been generated.

ECSU Asbestos Policy

Purpose: This policy has been developed for the protection of Eastern Connecticut State University employees who may be required to perform routine maintenance or repair work in areas that are known to have asbestos containing material (ACM) or areas which have presumed asbestos containing material (PACM).

General Requirements:

1. All Eastern Connecticut State University employees who perform housekeeping operations or may disturb ACM or PACM must complete asbestos awareness-training
2. All employees working in these areas must use “good common sense” work practices at all times and obey all other health and safety policies/procedures that are applicable to the task assigned, e.g., the appropriate use of personal protective equipment (PPE).

Implementation: The following are guidelines to assist the employee when performing maintenance and repair work in areas having ACM or PACM:

1. Discuss with your supervisor the areas to be entered and check the asbestos inventory for known ACM.
2. Have your supervisor visit the work site if you require verification of ACM locations and its integrity.
3. If you have known ACM or PACM obstructing your work area
stop work
resecure the area
notify your supervisor immediately
4. If you notice damaged ACM or PACM
stop work
resecure the area
notify your supervisor immediately

Responsibilities:

1. It is the University’s responsibility to either encapsulate or remove damaged ACM. This will be accomplished by a notification to the Connecticut Department of Administrative Services, DAS, for their assessment and action. All ACM work will be handled through the DAS and their state contracted services.
2. It is the responsibility of all Eastern employees to report any damaged ACM or PACM to their supervisor immediately.

3. It is the responsibility of Eastern Facilities Management and Planning and Environmental Health & Safety to maintain the most current asbestos inventories of all areas and maintain adequate and proper markings accordingly.

ECSU Housekeeping Policy

It is the policy of Eastern Connecticut State University that all personnel keep their area, along with the surrounding areas, free of obstructions. It is also the responsibility of all employees to remain in compliance with [OSHA's regulation, 1910.22](#), which pertains to Housekeeping.

- a) Access to emergency equipment, showers, eyewashes, fire extinguishers and exits should never be blocked by anything.
- b) All chemical containers must be labeled with the identity of the contents and the hazards those contents present to users (NFPA or GHS labeling system).
- c) Keep all work areas clear of clutter.
- d) Keep all aisles, hallways, and stairs clear of clutter.
- e) All chemicals should be placed in their assigned storage areas at the end of each workday
- f) All work surfaces and floors should be cleaned regularly.
- g) No chemicals are to be stored in aisles or stairwells, on desks or laboratory benches, on floors or in hallways.

Compressed Gas Policy

The following is Eastern Connecticut State University's policy on the use and storage of compressed gas cylinders aimed at reducing risk to students, staff, and faculty. To ensure the safe handling and storage of compressed gas cylinders at Eastern, the following rules shall be followed:

General Use of Gas Cylinders

1. Know the contents of a cylinder and be familiar with the properties of that gas.
2. Never use a cylinder that cannot be positively identified. Do not depend on color coding for gas identification.
3. All cylinders must bear an identification tag stating the name of the gas or mixture and illustrating one of three conditions: full, in service, or empty.
4. Handle cylinders carefully and fasten them in a secure manner at all times in an upright position.
5. Transport larger cylinders only on a wheeled cart specifically designed for gas cylinders. Remove regulators and attach safety caps before transport.
6. Never tamper with any part of a valve such as the safety or packing nuts.
7. Do not strike an electric arc on cylinders.
8. Use cylinders only with matched connectors and proper Compressed Gas Association regulator. Never install cylinder adapters on a regulator.
9. Leak test all connections to a cylinder with a soap solution. **Caution:** Any gas, regardless of its hazardous properties, may cause asphyxiation by displacing oxygen.
10. Close cylinder valves when not in use, and then bleed pressure from the regulator.
11. Close valves on empty cylinders and mark "empty."
12. Never attempt to refill a cylinder.
13. Cylinders of compressed gases must be handled as high energy sources and, therefore, as potential explosives.
14. When storing or moving a cylinder, have the cap in place to protect the valve stem.
15. Do not expose cylinders to temperatures higher than 50° C or 122° F.
16. When classifying a gas mixture for use in the laboratory, base the classification on the most hazardous component.

17. Never bleed a cylinder completely empty. Leave a slight pressure to keep contaminants out. Notify the vendor with a note if draw down occurs.
18. Always wear safety glasses when handling and using compressed gases.
19. Ground all cylinders containing flammable gases.
20. When using gases with cryogenic properties, allow adequate ventilation and wear personal protection equipment including heavy gloves and safety goggles. (Gloves must be loose fitting to facilitate rapid removal in case of a spill.)
21. When transporting cylinders on elevators, passengers should be prohibited until the cylinders have been unloaded at their destination. Signs should accompany the cylinder-in-transit warning passengers not to enter.

Storage of Gas Cylinders

1. Store cylinders in a ventilated area away from heat or ignition sources.
2. Fasten cylinders securely at all times in an upright position.
3. Cylinders in storage must be protected from weather extremes and direct sunlight. Protect the base of cylinders from dampness.
4. Store flammable gases away from all other gases. This will be accomplished by a separation of at least 20 feet of open space or by a wall having a fire rating of at least one hour.
5. Safety caps shall be in place at all times during storage and transport of cylinders.
6. Cylinders will not be stored or left unattended in hallways, corridors, stairways, or other areas of access and/or egress.
7. When classifying a gas mixture for storage, base the classification on the most hazardous component.
8. Always separate empty and full cylinder storage.

Chemical Hygiene Plan

ECSU Chemical Hygiene Plan

As part of the laboratory safety standard, [1910.1450](#), Eastern Connecticut State University has developed a Chemical Hygiene Plan designed to provide site specific training and policies for those exposed to hazardous chemicals in the laboratory. This plan is specific to laboratory settings.

The principal focus of the Eastern Connecticut State University Chemical Hygiene Plan (CHP) is that of a written plan capable of protecting laboratory workers from health hazards associated with hazardous chemicals, and keeping exposures below the Permissible Exposure Levels (PEL), as published and enforced by OSHA as a legal standard. It is designed to be a working document, readily available to all employees. The CHP shall include each of the following elements and shall indicate specific measures that Eastern Connecticut State University take to ensure laboratory employee protection:

1. [Standard operating procedures for the use of hazardous chemicals.](#)
2. [Criteria for determining and implementing control measures to reduce exposure.](#)
3. [Measures to assure proper functioning of fume hoods and other engineering controls. Provisions for employee information and training.](#)
4. [Provision for employee information and training.](#)
5. [Circumstances under which a laboratory operation or procedure will require prior approval.](#)
6. [Provisions for medical consultation and examination.](#)
7. [Designation of responsible personnel, including the Chemical Hygiene Officer.](#)
8. [Provisions for particularly hazardous substances.](#)

1. Standard Operating Procedures

1. A. General Rules

Awareness is the most fundamental rule of chemical safety. Everyone working in a laboratory should remain constantly aware of:

The chemicals hazard, as determined from the Safety Data Sheet (SDS) and other appropriate references.

Appropriate safeguards for using that chemical, including

Use of personal protective equipment.
Knowledge of the location and proper use of emergency equipment.
Appropriate storage of the chemical when not in use.
Proper personal hygiene practices.
The proper use, maintenance, and awareness of the limitations of personal protective equipment.
Correct methods of transporting chemicals within the facility.
Appropriate procedures for emergencies.

Never put yourself at greater risk by working alone in a laboratory. Working alone is not recommended.

1. B. *Personal Hygiene*

Personal hygiene is an important factor in chemical hygiene. To affect a person, a toxic chemical must contact that person. The four routes of entry (inhalation, ingestion, injection, and eye and skin contact) limit the chemical's ability to contact us.

If we properly protect ourselves, we can eliminate the chemical's ability to do harm. Some good personal hygiene practices include:

Wash promptly if skin contact is made with any chemical.
Wear appropriate eye protection at all times.
Avoid inhalation of chemicals; do not "sniff" test chemicals.
Do not mouth pipette anything; use suction bulbs.
Wash well before leaving the laboratory; do not wash with solvents; use soap.
Change clothing as soon as possible after leaving the laboratory, and launder work clothes often.
Do not drink, eat, smoke, or apply cosmetics in the laboratory.

1. C. *Food and Smoking*

Eating, drinking, smoking, or application of cosmetics is NOT allowed in areas where chemicals are either stored or used.

1. D. *Personal Protective Equipment (PPE)*

The most fundamental piece of protective equipment is the clothing, which a lab worker wears. Clothing should be worn to minimize exposed skin surfaces available for direct contact through splashing. Therefore, all lab workers should wear long sleeved/long legged clothing and avoid short sleeved shirts, short trousers or skirts when manipulating chemicals. Sandals, open-toed shoes and canvas shoes should not be worn in the laboratory.

In addition, the following is a list of PPE which is the responsibility of the laboratory worker to make certain is appropriate protection for the hazards encountered:

Eye Protection
Gloves
Aprons
Face Shields
Lab Coats

A detailed review of PPE is found in [section 2.E](#).

1. E. *Housekeeping*

Common housekeeping practices contribute to improving chemical hygiene and safety. A clean, organized work area is much safer than a cluttered or dirty one. Some appropriate housekeeping measures include:

Keep all aisles, hallways, and stairs clear of all chemicals.

Keep all work areas, especially lab benches, clear of clutter and obstruction.

All working surfaces and floors should be cleaned regularly.

Wastes should be kept in the proper containers and labeled properly.

Access to emergency equipment, showers, eyewashes and exits, should never be blocked.

Never store chemicals on the floor, even temporarily.

All broken glassware shall be discarded in approved containers. Do not throw broken glass in the general trash.

All chemicals shall be placed in proper storage areas by the end of each workday.

All chemical containers shall be labeled with both the identities of the chemical and its hazards.

All spills shall be promptly cleaned up and the spilled chemical is properly disposed of.

1. F. *When Not to Proceed with Experimental Work in a Laboratory*

Sometimes, laboratory workers should not proceed with what seems to be a routine task. Under some conditions, the routine task might contain hazards not fully recognized by the worker.

Workers should recognize certain indicators to review the procedure, including but not limited to:

- New procedure, process or test even if it is very similar to older practices.
- It is likely that toxic limit concentrations could be exceeded or that other harm is likely.
- Change or substitution of any of the ingredient chemicals in a procedure.
- Failure of any of the equipment used in the process, especially safeguards such as fume hoods or clamp apparatus.
- Unexpected test results. When a test result is different than predicted, a review of how the new result impacts safety practices must be made.
- If members of the laboratory staff become ill, suspect exposure, or otherwise suspect a failure of laboratory safeguards.

The occurrence of any of these conditions should result in work stoppage and immediate investigation by the laboratory supervisor.

The results of the investigation should be reported immediately to the Chemical Hygiene Officer (CHO) who must decide whether to continue the investigation, institute any additional corrective actions beyond those of the laboratory supervisor, or allow work to continue.

1. G. *Spills and Accidents*

Spills of toxic substances or accidents involving any hazardous chemicals should be resolved immediately. The overall steps to handle a spill or accident are:

- Notify your supervisor or other nearby laboratory workers immediately.
- Call Campus Police at 55310 and EH&S 55103.
- If the spilled chemical is flammable, extinguish all nearby sources of ignition.
- If a person has been splashed with a chemical, wash the victim with plenty of water for at least 15 minutes, remove all contaminated clothing, and get medical attention.
- If a person has been overexposed by inhalation, get the victim to fresh air, and get medical attention.
- After securing proper medical attention for a chemical exposure victim, neutralize or absorb the spilled chemical with the proper spill clean up material and dispose of it in accordance with the Eastern Connecticut State University's Hazardous waste policy.

For assistance with chemical spills, call the Chemical Hygiene Officer, Eric Germain, 55103

There are some fundamental actions that must NOT be used in handling emergencies. Some of them include:

DO NOT handle emergencies alone, especially without notifying someone that the accident has occurred.

DO NOT apply medical aid procedures without some training in that area.

DO NOT linger at the accident scene if you are not one of the emergency responders.

1. H. *Waste Chemicals*

Chemical wastes are regulated by the Environmental Protection Agency (EPA) under the Resource Conservation and Recovery Act (RCRA) as well as the Connecticut Department of Energy and Environmental Protection. Eastern Connecticut State University has its own Hazardous Waste Policy, based upon these regulations.

Each laboratory worker at Eastern Connecticut State University should have a copy of the Hazardous Waste Policy, and be familiar with its procedures. It is the responsibility of every laboratory worker, faculty, staff and student to legally and safely dispose of all hazardous chemical wastes. A copy of the hazardous waste policy is available from the Chemical Hygiene Officer, Eric Germain, 55103.

1. I. *Procedure-Specific Safety Procedures*

Written laboratory procedures normally have a brief description of specific safety practices for that particular procedure. Lab workers should read and review those practices before commencing a procedure.

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2. Criteria to Determine and Implement Control Measures to Reduce Exposure to Hazardous Chemicals

Chemical safety is accomplished by awareness of a chemical's hazards, and by keeping the chemical under control through a variety of engineered safeguards. Laboratory workers should be familiar with the proper use of those safeguards.

Laboratory supervisors should be able to detect the malfunction of those safeguards. All engineered controls must be properly maintained, inspected on a regular basis, and never overloaded beyond their design limits.

2. A. General Ventilation

General ventilation refers to the quantity and quality of the air supplied to the laboratory. The building ventilation system should ensure that the laboratory air is continuously being replaced so that harmful concentrations of hazardous chemicals do not increase during the working day. A ventilation system that changes the room air 4-12 times per hour is normally adequate.

2. B. Fume Hoods

The fume hood is the best-known local exhaust device used in laboratories. It is, however, but one part of the total ventilation system and should not be considered as separate from the total system, because its performance will be strongly influenced by other features in the general ventilation system. All work done with chemicals with low exposure limits or high vapor pressures should be done in a fume hood. To ensure your fume hood provides the highest degree of protection, observe the following guidelines:

Only materials being used in an ongoing experiment should be kept in the fume hood.
Cluttering of the hood will create airflow disturbances.

Large apparatus inside a hood should be placed upon blocks or legs to allow air to flow underneath.

Operate the hood with the sash as low as practical, but not above 15 inches open to insure worker protection.

Work as far into the hood as possible. At least six inches is recommended.
Keep your head outside the hood.

Avoid cross drafts at the face of the hood. Even pedestrian traffic may be sufficient current to cause air turbulence.

Keep hood door closed when not attended.

The performance standard for fume hoods at Eastern Connecticut State University is the delivery of a minimum face velocity of 80-120 linear feet per minute with a door opening of 15 inches. The Chemical Hygiene Officer on an annual basis conducts performance testing.

2. C. *Flammable Storage Cabinets*

Cabinets designed for the safe storage of flammable chemicals can only do so if used and maintained properly. Always read the manufacturer's information, and abide by the following:

- Store only compatible materials inside the cabinet.
- Do not store paper or cardboard inside cabinets with the chemicals.
- Do not overload the cabinet.

2. D. *Eyewashes and Safety Showers*

Eyewashes and safety showers will be provided wherever chemicals are handled for immediate first aid treatment of chemical splashes, and for extinguishing clothing fires.

Every laboratory worker should learn the locations of, and how to use the safety showers and eye washes in their laboratory so that he or she can find them with their eyes closed, if necessary.

Keep all passageways to the eyewash and shower clear of any obstacle.

Showers should be checked routinely to be assured that access is not restricted.

2. E. *Personal Protective Equipment (PPE)*

A variety of specialized clothing and equipment is commercially available for use in the laboratory. The proper use of these items will minimize or eliminate exposure to the hazards associated with many laboratory operations. Every laboratory worker should be familiar with the location and proper use of the PPE in their laboratory area.

A brief introduction to PPE was made in section 1.D. Some additional information is found in the following:

Eye Protection

2. E.1. *General Eye Protection Policy*

Eye protection is required of all personnel and any visitors present in any location where chemicals are stored or handled. This protection should meet the requirements of the American National Standards Institute (ANSI) Z87.1.

No one should enter any laboratory without appropriate eye protection. Safety spectacles that meet the criteria described below provide minimum eye protection for regular use. Additional protection may be required when carrying out more hazardous operations.

Contact lenses should not be worn in a laboratory. Gases and vapors can be concentrated under such lenses and cause permanent eye damage. Furthermore, in the event of a chemical splash in the eye, it is often nearly impossible to remove the contact lens to irrigate the eye because of involuntary spasm of the eyelid. There are some exceptional situations in which contact lenses must be worn for therapeutic reasons. Persons who must wear contact lenses should inform the laboratory supervisor so that satisfactory safety precautions can be devised.

2. E.2. *Safety Glasses*

Ordinary prescription glasses do not provide adequate protection from injury to the eyes. Safety glasses must be worn to protect the eyes from the impact of flying objects, and some extent chemical splashes. When safety glasses are worn without sideshields, liquid splashes or flying particles can potentially reach the eye. If sideshields are attached to the frames, greater protection against liquid or solid agents is afforded.

2. E.3. *Goggles*

Goggles provide greater protection against chemical splashes than safety glasses with sideshields due to the fact that they fit more closely to the face and form a more effective barrier against foreign materials. Goggles are also impact-resistant.

2. E.4. *Goggles with Faceshield*

Faceshields provide good protection to the eyes, face and neck against flying particles, sprays of hazardous liquids, and splashes of molten metal and hot solutions. They are not recommended for eye protection against the impact of hurtling objects; therefore it is generally necessary to wear safety glasses or goggles underneath the faceshield.

2. E.5. *Specialized Eye Protection*

There are specific goggles and masks for protection against laser hazards, and other intense light sources, and welding masks and goggles. The laboratory supervisor should determine whether the task being performed requires specialized eye protection and require the use of such equipment if it is necessary.

2. E.6. *Gloves*

Proper protective gloves should be worn whenever the potential for contact with corrosive or toxic materials and materials of unknown toxicity exists. Gloves should be selected on the basis of the material being handled, the particular hazard involved, and their suitability for the operation being conducted. For technical assistance in proper glove selection, call the Chemical Hygiene Officer at x 55103.

2. E.7. *Laboratory Clothing*

The clothing worn by a laboratory worker can be important to their safety.

Such workers should not wear loose (neckties), skimpy (shorts), or torn clothing and unrestrained longhair.

Loose or torn clothing and unrestrained long hair can easily catch fire, dip into chemicals, or become ensnarled in moving laboratory equipment; skimpy clothing offers little protection to the skin in the event of a chemical splash.

Perforated shoes, sandals, or cloth sneakers shall not be worn in laboratories or where mechanical work is being done.

Lab coats are intended to prevent contact via a chemical splash or a spill. The cloth lab coat is, however, primarily a protection for clothing, and may itself present a hazard (combustibility) to the wearer.

Lab coats should only be worn inside the laboratory to avoid the possibility of contamination outside the lab confines.

Rubber Aprons provide better protection from corrosive or irritating liquids in the event of a splash or spill.

2. E.8. Respirators

The written respirator program, as mandated by 29CFR1910.134, will discuss issues such as respirator selection criteria, inspection, and maintenance.

All laboratory workers using respirators will be trained in their proper use and care. Currently there are **NO** laboratory workers that are required or trained to use respirators.

2. E.9. Hearing Protection

Hearing protection should be worn in "high noise" areas to protect individuals from "noise-induced hearing loss", a permanent decrease in the ability to hear resulting from excessive exposure to noise.

Different hearing protection devices vary in their ability to reduce noise. Hearing protectors include a variety of earplugs and earmuffs.

2. F. Vapor Detection

Do not use odor as a means of determining that inhalation limits are or are not being exceeded.

Whenever there is reason to suspect that a toxic chemical inhalation limit might be exceeded, whether or not a suspicious odor is noticed, notify your supervisor.

2. G. Criteria for Control Measures

This section examines the criteria and guidelines that will be used to determine the use of engineered and administrative controls and personal protective equipment.

2. G.1. *Exposure Guidelines for Toxic Chemicals*

The Safety Data Sheet (SDS) for many of the chemicals used in the laboratory will state recommended limits or OSHA-mandated limits, or both, as guidelines for exposure. Typical limits are threshold limit values (TLV), permissible exposure limits (PEL) and action levels.

When such limits are stated, they will be used to assist the laboratory supervisor and/or chemical hygiene officer in determining the safety precautions, control measures and safety apparel that apply when working with toxic chemicals.

2. G.2. *Flammability Guidelines*

The flash point of a substance is the lowest temperature at which a liquid gives off vapor in sufficient concentration to form an ignitable mixture with air near the surface of the liquid. At Eastern Connecticut State University, the flash point of a chemical will be used as the reference standard for flammability.

OSHA and NFPA have guidelines on when a chemical is considered flammable. Those guidelines are herein adopted for use in the laboratory.

"Flammable" is generally used to refer to chemicals with a flash point below 100 degrees F. "Combustible" is generally used to refer to chemicals with a flash point between 100 and 200 degrees F.

Any chemical with a flash point below 140 degrees F will be considered a fire hazard.

2. G.3. *Reactivity Guidelines*

Guidelines on which chemicals are reactive can be found in regulations from the Department of Transportation ([49CFR](#)) and the Environmental Protection Agency ([40CFR](#)). The NFPA has also developed guidelines on constitutes a reactive chemical. All three of these sources will be used as a guideline to determine which substances are considered reactive.

At Eastern Connecticut State University, a reactive chemical is one that is:

Described as such on the chemical's SDS.

Ranked by the NFPA as a 3 or 4 for reactivity.

Determined by the US DOT as an oxidizer, an organic peroxide, or an explosive (Classes A, B, or C).

Fits the US EPA definition of reactive in [40CFR261](#).

Fits the OSHA definitions of unstable.

Is found to be reactive with ordinary substances.

Once a chemical has been determined to be reactive, all proper safety precautions will be used including extra segregation in storage and prohibition of mixing with other chemicals without personal protection and precautions.

2. G.4. Corrosive Material Guidelines

OSHA, DOT and EPA define a corrosive chemical. Eastern Connecticut State University will consider a chemical corrosive if it fits the definition of corrosive in the following list of regulations.

OSHA 29 CFR
DOT 49 CFR
EPA 40 CFR

Corrosive materials are also designated as such on container labels and SDS. Handle corrosive chemicals with all proper safety precautions, including wearing both safety goggles and face shield, gloves known to be resistant to permeation or penetration, and a laboratory apron or laboratory coat.

2. G.5. Miscellaneous Criteria for Control Measures

In addition to the previously listed guidelines in this section, Eastern Connecticut State University will use the available information on a chemical's Safety Data Sheet (SDS) or on the container label. Appropriate control measures found on the label or product SDS may contain the following information: health hazards, fire hazards, PPE required storage and handling data and disposal information. This information will be used to determine the appropriate control measures that are necessary to protect the health of all laboratory workers at Eastern.

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3. Measures to Assure Proper Functioning of Fume Hoods and Other Engineering Controls

Fume Hoods Program

The purpose of the Fume Hood Program at Eastern Connecticut State University is to assure that the hoods on campus perform adequately. The program includes a review of the installation plans of new fume hoods, regular inspections, preventative maintenance, and education.

3. A. Hood Requirements

Eastern Connecticut State University requires all fume hoods to maintain an average linear face velocity of 80 - 120 LFM at a sash height of at least 15 inches.

All fume hoods should be ducted and should have the fan located on the roof.

A make-up air system should be provided for all new hoods.

No hood should be used for a function for which it was not designed.

3. B. Hood Inspections

The Environmental Health and Safety Dept. schedules and performs annual inspections of all fume hoods on campus. Inspections include:

- Air flow survey.

- This involves measurement of the face velocity with an air velocity meter.
- Check to verify that the hoods are being used properly.
Note any conditions that may cause obstruction in airflow or cross drafts.

All information is documented on a test report sheet.

Information on this sheet includes the actual measurements and the hood's average face velocity, the date of inspection, the name of the individual performing the test, and a comment section for miscellaneous information such as messy conditions, excessive chemical storage or other unsafe practices which may be noted at the time of the inspection.

A certification sticker is dated and signed along with the LFM reading and placed on the fume hood cabinet.

If a hood does not meet the minimum face velocity of 80-120 LFM, a Facilities Work Order to correct the deficiency or repair the fume hood as needed. A follow-up survey will be conducted once Facilities notifies the office of Environmental Health and Safety of any and all repairs to the equipment. The same inspection procedure as described above will occur.

During this process, the supervisor of the laboratory as well as the department head will be informed of this activity. The hood is not to be used during this time. If the hood performance is still below standard after repairs have been made, Facilities will be requested to make further adjustments.

A hood which fails to meet the 80-120 LFM will be labeled as not being suitable to work with hazardous materials.

4. Laboratory Worker Information and Training

Eastern Connecticut State University will provide all laboratory workers with information and training concerning the hazardous chemicals in Eastern laboratories. This information and training shall be provided when a laboratory worker is initially assigned to a laboratory where hazardous chemicals are present and also prior to assignments involving new hazardous chemicals and/or new laboratory work procedures.

4. A. *Laboratory Worker Information*

All laboratory workers at Eastern Connecticut State University shall be informed of the following:

4. A.1. *The content and requirements of the OSHA laboratory standard.*

4. A.2. *The content, location, and availability of the Eastern Connecticut State University Chemical hygiene plan.*

4. A.3. *The PEL's, action levels and other recommended exposure limits for hazardous chemicals used in the laboratories.*

4. A.4. *The signs and symptoms associated with exposure to the hazardous chemicals used in the laboratory.*

4. B. *Laboratory Worker Training*

All laboratory workers at Eastern Connecticut State University shall receive training in the following areas:

4. B.1. *The methods and observations that may be used to detect the presence or release of a hazardous chemical.*

4. B.2. *The hazards associated with the chemicals used in Eastern Connecticut State University laboratories.*

4. B.3. *The measures laboratory workers can use to protect themselves from these hazards, including specific procedures such as appropriate work practices, personal protective equipment to be used and emergency procedures.*

4. B.4. *The details of the Eastern Connecticut State University Chemical Hygiene Plan.*

5. *Laboratory Operations or Procedures that Require Prior Approval*

All laboratory workers must obtain prior approval to proceed with a laboratory task from their immediate supervisor or his or her designee whenever:

5. A. *A new laboratory procedure or test is about to be carried out.*

5. B. *It is likely that toxic limit concentrations could be exceeded or that other harm is likely.*

5. C. *There is a change in a procedure or test, which may include:*

5. C.1. *A 10% or greater increase or decrease in the amount of one or more chemicals used.*

5. C.2. *A substitution or deletion of any of the chemicals used in the procedure.*

5. C.3. *Any change in other conditions under which the procedure is to be conducted.*

5. D. *There is a failure of any of the equipment used in the process, especially of safeguards such as fume hoods or clamped apparatus.*

5. E. *There are unexpected results.*

5. F. *Members of the laboratory staff become ill, suspect that they or others have been exposed, or otherwise suspect a failure of any safeguards.*

The occurrence of any of these conditions should result in work stoppage and immediate investigation by the laboratory supervisor. The results of the investigation should be reported immediately to the Chemical Hygiene Officer who must decide whether to continue the investigation, institute any additional corrective actions beyond those of the laboratory supervisor, or allow work to continue.

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6. *Exposure Assessments, Medical Consultations, and Examinations*

6. A. There may be times when laboratory workers or supervisors suspect that someone has been exposed to a hazardous chemical to a degree and in a manner that might have caused harm to the victim. If the circumstances suggest a reasonable suspicion of exposure, the victim is entitled to a medical consultation, and if determined in the consultation, also to a medical examination at no cost, with no loss of work day time attributed to the victim.

6. A.1. *Criteria for Reasonable Suspicion of Exposure*

It is the policy of Eastern Connecticut State University to promptly investigate all work-related incidents in which there is even a remote possibility of laboratory worker overexposure to a toxic substance.

Events or circumstances that might reasonably constitute overexposure include:

A hazardous chemical leak, spill, or other uncontrolled release.

A laboratory worker has direct skin or eye contact with a hazardous chemical.

A laboratory worker manifests symptoms such as headache, rash, nausea, coughing, tearing, irritation or redness of the eyes, irritation of nose or throat, dizziness, loss of motor dexterity, etc. and:

Some or all of the symptoms disappear when the person is taken away from the exposure area and breathes fresh air, and the symptoms reappear soon after the employee returns to work with the same hazardous chemicals.

Two or more persons in the same laboratory have the same complaints.

6. B. *Exposure Assessment*

In cases of emergency, exposure assessments are conducted after the victim has been treated.

Note: It is not the purpose of an exposure assessment to determine that a failure on the part of the victim, or others, to follow proper procedures was the cause of an exposure. The purpose of an exposure assessment is to determine that there was or was not an exposure that might have caused harm to one or more laboratory workers, and if so, to identify the hazardous chemical or chemicals involved. Another purpose of an exposure assessment will include a risk assessment in order to insure that a failure will not occur again, and thereby prevent future exposures.

6. C.1. *Unless circumstances suggest other or additional steps, these actions constitute an exposure assessment:*

Interview the complainant and also the victim if not the same person.

List the essential information about the circumstances of the complaint, including:

The chemical under suspicion.

Other chemicals used by the victim.

All chemicals being used by others in the immediate area.

Other chemicals stored in that area.

Symptoms exhibited or claimed by the victim.

How these symptoms compare to symptoms stated in the SDS for each of the identified chemicals.

Were control measures, such as personal protective equipment and fume hoods, used properly?

Were any air sampling or other monitoring devices in place? If so, were the measurements obtained from these devices consistent with other information?

Monitor or sample the air in the area for suspect chemicals.

Determine whether the victim's symptom compare to the symptoms described in the SDS or other reference material.

Determine whether the present control measures and safety procedures are adequate.

Within 15 working days of receipt of the results of any monitoring, laboratory workers will be notified of those results.

6. D. *Medical Examination and Consultation*

The purpose of a medical consultation is to determine whether a medical examination is warranted. When, from the results of an exposure assessment, it is suspected or known that a laboratory worker was overexposed to a hazardous chemical or chemicals, the laboratory worker should obtain medical consultation from or under the direct supervision of a licensed physician.

When warranted, laboratory workers should receive a medical examination from or under the direct supervision of a licensed physician who is experienced in treating the victims of chemical overexposure. The medical professional should also be knowledgeable about which tests or procedures are appropriate to determine if there has been an overexposure.

These provisions apply to medical consultations and examinations:

6. D.1. Eastern Connecticut State University will provide all laboratory workers who work with hazardous chemicals an opportunity to receive medical consultation and examination when:

The laboratory worker develops signs or symptoms associated with a hazardous chemical to which the worker may have been exposed.

Monitoring, routine or otherwise, suggests that there could have been an exposure above the action level, for a chemical for which a substance-specific standard has been established.

There is a spill, leak or other uncontrolled release of a hazardous chemical.

6. D.2. The physician is to be provided with:

The identity of the hazardous chemical or chemicals to which the laboratory worker might have been exposed. The exposure conditions, if any.

6. D.3. The physician will furnish the employer in written form:

Recommendations for follow-up, if determined to be pertinent.

A record of the results of the consultation and, if applicable, of the examination and any tests that were conducted.

Conclusions concerning any other medical condition noted that could put the laboratory worker at increased risk.

A statement that the laboratory worker has been informed both of the results of the consultation and examination, and of any medical condition that may require further examination or treatment.

6. D.4. These written statements and records should not reveal specific findings that are not related to an occupational exposure.

6. E. *Documentation*

All memos, notes and reports related to a complaint of actual or possible exposure to hazardous chemicals are to be maintained as part of the record, for the duration of the workers employment, plus 30 years thereafter.

6. F. *Notification*

Eastern Connecticut State University laboratory workers shall be notified of the result of any medical consultation or examination with regard to any medical condition that exists or might exist as a result of overexposure to a hazardous chemical.

[Return to top Chemical Hygiene Plan.](#)

7. *Designation of Responsible Eastern Connecticut State University Personnel, including the Chemical Hygiene Officer*

7. A. *Responsibilities of the individual laboratory worker:*

7. A.1. Each person working with or around chemicals is responsible for remaining aware of the hazards of those materials and handling those materials in a safe manner.

7. A.2. Each person is responsible for knowing how to store, use, and dispose of hazardous chemicals based on these hazards, and if not sure, is responsible to ASK!

7. B. *Responsibilities of the Laboratory Supervisor (faculty, staff, etc.)*

7. B.1. Each laboratory supervisor has the responsibility of giving all the necessary safety instructions to his or her workers prior to the beginning of any laboratory work involving hazardous chemicals.

7. B.2. Each laboratory supervisor has the responsibility of seeing that laboratory workers carry out their individual safety responsibilities.

7. B.3. Each laboratory supervisor will be familiar with Eastern Connecticut State University Chemical Hygiene Plan and if not sure, is responsible to ASK!

7. C. *Responsibilities of the Eastern Connecticut State University Chemical Hygiene Officer*

7. C.1. The Chemical Hygiene Officer (CHO) is an individual qualified by training and experience to provide technical guidance in the development and implementation of the Chemical Hygiene Plan (CHP).

7. C.2. The CHO is responsible to set forth work practices, procedures, personal protective equipment, and other equipment that will protect the health and safety of laboratory workers.

The designated Chemical Hygiene Officer at Eastern Connecticut State University is the Environmental Health and Safety Coordinator. This position reports to the Director of Public Safety.

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8. Procedures for Carcinogens, Reproductive Toxins, Substances That Have a High Degree of Acute Toxicity, and Chemicals of Unknown Toxicity

The following procedures in this section will apply when performing laboratory work with greater than 10 mg. of any carcinogen, reproductive toxin, substance that has a high degree of acute toxicity, or a chemical whose toxic properties are unknown.

8. A. *The following definitions apply:*

8. A.1. Select carcinogen: Any substance defined as such in 29CFR1910.1450 and any other substance described as such in the applicable SDS.

8. A.2. Reproductive toxin: Any substance described as such in the applicable SDS.

8. A.3. Substance with a high degree of acute toxicity: Any substance for which the LD50 data described in the applicable SDS causes the substance to be classified as a "highly toxic chemical" as defined in ANSI Z129.1.

8. A.4. Chemicals whose toxic properties are unknown: A chemical for which there is no known statistically significant study conducted in accordance with established scientific principles that establishes its toxicity.

8. A.5. For the purpose of this CHP, chemicals in these four categories, 8.A.1. to 8.A.4., will be called "particularly hazardous chemicals".

8. A.6. Designated Area: A hood, glove box, portion of the laboratory, or an entire laboratory room designated as the only area where work with quantities of particularly hazardous chemicals in excess of the specified limit shall be conducted.

8. B. *Designated areas shall be posted and their boundaries clearly marked. Only those persons trained to work with particularly hazard chemicals will work with those chemicals in a designated area. All such persons will:*

8. B.1. Use the smallest amount of the chemical that is consistent with the requirements of the work that is to be done.

8. B.2. Store particularly hazardous chemicals only in the designated area.

8. B.3. Decontaminate a designated area when work has been completed.

8. B.4. Prepare wastes from work with particularly hazardous chemicals for waste disposal in accordance with any specific disposal procedures consistent with Federal and State regulations, and the Eastern Connecticut State University Hazardous Waste Policy.

8. C. Laboratory workers using particularly hazardous chemicals shall take extra precautions in maintaining good persona hygiene. In addition to the hygiene practices in Section 1.B., workers should not wear any personal items, such as jewelry which might be difficult or impossible to decontaminate.

When possible, disposable clothing should be used. Gloves and long sleeves should be used at all times to prevent skin contact with particularly hazardous chemicals.

ECSU Fall Protection Policy

When work is performed on elevated surfaces such as roofs, bucket trucks, man lifts or during construction activities, protection against falls frequently must be considered. Fall arresting systems, which include lifelines, body harnesses, and other associated equipment, are often used when fall hazards cannot be controlled by railings, floors, nets, and other means. These systems are designed to stop a free fall of up to six feet while limiting the forces imposed on the wearer.

Scope and Application

Fall protection is required for most construction activities by the Occupational Safety and Health Administration (OSHA) whenever work is performed in an area that is six feet higher than its surroundings. Exceptions to this rule include work done from scaffolds, ladders and stairways, derricks and cranes, and work involving electrical transmission and distribution. Also excluded is the performance of inspections, investigations, or assessments of existing conditions prior to the beginning or after the completion of construction.

Program Description

Fall protection is required whenever work is performed in an area six feet above its surroundings and can generally be provided through the use of guardrail systems, safety net systems, or personal fall arrest systems. Where it can be clearly demonstrated that the use of these systems is infeasible or creates a greater hazard, a fall protection program that provides for alternative fall protection measures may be implemented. This alternative method must be approved by the EH&S.

Fall Protection Systems

A variety of systems provide fall protection. These systems include:

Guardrails - Standard guardrails consist of a top rail, located 42 inches above the floor, and a mid-rail and toe board. Screens and mesh may be used to replace the mid-rail, as long as they extend from the top rail to the floor.

Personal Fall Arresting Systems - Components of a personal fall arresting system include a body harness, lanyard, lifeline, connector, and an anchorage point capable of supporting at least 5000 pounds.

Positioning Device Systems - Positioning device systems consists of a body belt or harness rigged to allow work on a vertical surface, such as a wall, with both hands free.

Safety Monitoring by a Competent Person - This system allows a trained person to monitor others as they work on elevated surfaces and warn them of any fall hazards.

Safety Net Systems - These systems consist of nets installed as close as possible under the work area.

Warning Line Systems - Warning line systems are made up of lines or ropes installed around a work area on a roof. These act as a barrier to prevent those working on the roof from approaching its edges.

Covers - Covers are fastened over holes in the working surface to prevent falls.

Additional Precautions

Protection should also be provided from falling objects. Work surfaces should be kept clear of material and debris by removal at regular intervals. Toe boards should be used to prevent objects from being inadvertently kicked to a lower level. When necessary, canopies should be provided.

Prohibited Devices

Body harnesses are required for use with all personal fall arresting systems. The use of body belts is prohibited. Only locking-type snap hooks can be used as part of a fall arresting system.

If any deficiencies are identified with any piece of the fall protection equipment it should not be used and must be reported to either your supervisor or the Environmental Health and Safety Coordinator **IMMEDIATELY**.

ECSU Confined Space Policy

This program has been developed to insure that the safety and health of Eastern Connecticut State University employees is maintained when entering a confined space. It covers the requirements of the [OSHA Permit Required Confined Space 29 CFR 1910.146](#). The program includes procedures and guidelines for the safe entrance/exiting of a confined space.

This program applies to all employees of Eastern, whether part-time, full-time, hourly or salaried, at all locations affiliated with the university. Sub-contractors hired, for any reason, who enter a confined space, are also required to maintain compliance with this program.

Entry into a permit required confined space (PRCS) requires the utilization of an entry permit, atmospheric testing and properly trained attendants and entrants. The only employees allowed to enter a PRCS will have received the appropriate training. Under no circumstance will an untrained employee enter a PRCS.

If a potential hazard, such as hot work, is introduced into the confined space, additional atmospheric testing (potential toxic air contaminant) as well as filling out an entry permit, introducing forced air and having properly trained entrants and attendants is required. The additional testing will be conducted by the attendant.

In the event of an emergency, the attendant **WILL NOT** enter the confined space to retrieve the entrant. The attendant will contact the Police Dispatch, who in turn will initiate the emergency procedures.

Definitions of Terms

Attendant -An individual stationed outside the permit required confined space who is trained as required by this standard and who monitors the authorized entrants inside the permit required confined space. An attendant may monitor not more entrants nor more permit spaces than the entry permit specifically authorizes.

Authorized Entrant- An employee who is authorized by the employer to enter a permit required confined space.

Confined Space-

1. Is large enough and so configured that an employee can bodily enter and perform assigned work; and
2. Has limited or restricted means for entry or exit; and
3. Is not designed for continuous employee occupancy.

Emergency- Any occurrence (including any failure of hazard control or monitoring equipment) or event(s), internal or external to the confined space, which could endanger the entrants.

Entry- The act by which a person intentionally passes through an opening into a permit required confined space, and includes ensuing work activities in that space. The entrant is considered to have entered as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry Permit- The written or printed document established by the employer, the content of which is based on the employer's hazard identification and evaluation for that confined space (or class or family of confined spaces if a number of spaces may contain similar hazards) that is the instrument by which the employer authorizes his or her employees to enter that permit required confined space. The entry permit: Defines the conditions under which the permit space may be entered; states the reason(s) for entering the space; cites the anticipated hazards of the entry; for entries where the individual authorizing the entry does not assume direct charge of the entry, lists the eligible attendants, entrants, and the individuals who may be in charge of the entry; and establishes the length of time for which the permit may remain valid.

Entry Permit System- means the employer's written procedures for preparing and issuing permits for entry and returning the permit space to service following termination of entry, and designates by name or title the individuals who may authorize entry. A copy of the ECSU permit can be accessed at

[ECSU CONFINED SPACE PERMIT](#)

Hot Work Permit- The employer's written authorization to perform operations which could provide a source of ignition, such as riveting, welding, cutting, burning or heating.

Immediately Dangerous to Life or Health (IDLH)- Any condition which poses an immediate threat of loss of life; may result in irreversible or immediate-severe health effects; may result in eye damage; or may cause irritation or other conditions which could impair escape from the permit space.

Oxygen deficient atmosphere- An atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen enriched atmosphere- An atmosphere containing more than 23.5 percent oxygen by volume.

Permit Required Confined Space- An enclosed space which:

- Is large enough and so configured that an employee can bodily enter and perform assigned work;
- Has limited or restricted means for entry or exit (some examples are tanks, vessels, silos, storage bins, hoppers, vaults, pits and diked areas);
- Is not designed for continuous employee occupancy;
- and, has one or more of the following characteristics:
 - a) Contains or has a known potential to contain a hazardous atmosphere;
 - b) Contains a material with the potential for engulfment of an entrant;

- c) Has an internal configuration such that an entrant could be trapped asphyxiated by inwardly converging walls, or a floor which slopes downward and tapers to a smaller cross-section; or,
- d) Contains any other recognized serious safety or health hazard.

Permit System - The employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

Retrieval System - The equipment (including retrieval line, chest or full body harness and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

Implementation

Employees required to be involved with a confined space entry shall be properly trained concerning their respective duties. Independent contractors shall be made aware of all proper procedures required by Eastern before being allowed to enter a confined space. Under no circumstances will an employee enter a permit required confined space without 1) Filling out an entry permit 2) Testing the atmosphere and 3) Locking/Tagging Out electrical and pressure lines.

Procedures

A. Entering Permit Required Confined Space

- Obtain a properly issued and signed entry permit from an issuing authority.
- Maintain a copy of the permit at the work location. (Permit follows.)
Review the requirements on appropriate Safety Data Sheets (SDS) if any solvents, cleaners, or other chemicals are to be used.
- Notify the Eastern Police Department Dispatcher of entry into the confined space.
- Post proper signs indicating that work is being performed in a confined space.
- Implement proper lockout/tagout procedures (electrical/pressure lines) that must be performed before entering the confined space.
- Ventilate the confined space **continuously**.
- Perform atmospheric monitoring of the work space, for at least ten minutes, before entering the confined space and continuously thereafter.
- If atmospheric testing proves to be within acceptable limits (19.5%-21% oxygen and less than 10 % LEL) and other requirements of the permit are met then enter the confined space.
- Protect entrant in confined space from unexpected hazards.
- Donn the appropriate body harness, connect to the retrieval line, and enter the confined space via the tri-pod
- When required servicing/maintenance is completed, return permit to issuing authority and notify the Eastern Police Department that confined space entry is complete. The permit becomes invalid upon;
 - 1) completion of the work or
 - 2) at the end of a work shift or
 - 3) if an unacceptable condition arises or
 - 4) if an emergency evacuation takes place.

When applicable, the assigned attendant shall be responsible for the proper set up of rescue equipment such as a tripod and retrieval lines. It is also the responsibility of the attendant to ensure that the entrant(s) is properly equipped with a safety harness and is attached to the retrieval line at **ALL** times.

The assigned attendant shall remain outside while the authorized entrant is inside the confined space. The attendant must be able to communicate with the entrant at all times.

If for any reason the attendant must leave his/her position, the entrant(s) must exit the confined space.

Performing Atmospheric Testing

1. Prior to entering a permit required confined space, check to make sure the meter is reading accurately.
2. If the confined space meter is not reading accurately, **DO NOT** use the meter. Notify the issuing authority immediately.
3. Check the oxygen content first. If the oxygen content is less than 19.5% or greater than 23.5% **DO NOT ENTER THE CONFINED SPACE.**
4. Second, check the flammable gases Lower Explosion Level (LEL). If the LEL is 10% or greater **DO NOT ENTER THE CONFINED SPACE.**

Emergency Response

1. In the event of an emergency (worker is unconscious) the attendant **WILL NOT** enter the confined space to retrieve the worker. The attendant will remove the entrant (via retrieval line) **NON ENTRY RESCUE**.
2. During an emergency, the attendant will notify the police department who will then notify the Willimantic Fire Department.
3. The attendant must let the police know where the emergency crew should go.

Responsibility

Enforcement of this policy shall be the responsibility of the appropriate issuing authority and department director. The Safety Department will assist these individuals with the enforcement and interpretation of this policy. The Safety Department shall be responsible for maintaining proper procedures regarding this policy and for the proper training and certification of affected personnel concerning this policy (both evaluation of procedures and refresher training shall be conducted on a yearly basis).

Lockout/Tagout Program

ECSU Lockout/Tagout Policy

This program has been developed to insure that the safety and health of ECSU employees is maintained while in the work place. It covers the requirements of the OSHA's Control of Hazardous Energy ([Lockout/Tagout](#)) [29 CFR 1910.147](#). The program includes procedures and guidelines for the safe use of hazardous energy.

This program applies to all employees of ECSU, whether part-time, full-time, hourly or salaried, at all locations affiliated with the University. Sub-contractors hired for any reason that utilize hazardous energy are also required to maintain compliance with this program.

Eastern's policy is to require that a piece of equipment is locked and tagged instead of just tagging a piece of equipment to ensure that said equipment is deenergized. In general, before servicing or maintenance is performed on machinery or equipment, the machinery or equipment must be turned OFF and disconnected from the energy source, and the energy - isolating device must be Locked Out

Definitions:

Affected Employee - An employee who operates or uses a machine or equipment on which servicing or maintenance is performed under lockout/tagout or who works in an area in which such servicing or maintenance takes place.

Authorized Employee - An employee who is primarily responsible for his or her personal safety by locking and tagging out machines or equipment to service or maintain them.

Energy Isolating Device - A mechanical device that physically prevents the transmission or release of energy. Examples: electrical circuit breakers, disconnect switches, line valves or blocks. [Note: push buttons, selector switches and other control circuit-type devices are not energy-isolating devices].

Lockout/Tagout - the placement of lockout and tagout devices on an energy isolating device, according to the established procedures of this policy (see sections IV and V).

Lockout Device - a padlock or equivalent device.

Tagout Device - a warning tag or equivalent device.

Exceptions to the program : Cord and plug connected electrical equipment that, when unplugged, contains no stored energy and cannot be unexpectedly energized. The plug must be under the exclusive control of the authorized employee working on the equipment.

[Note: a plug is in exclusive control of an employee if it is physically in the employee's possession or within arm's reach and in the line of sight of the employee.]

Program Components

1. Service and/or Maintenance Operations; workers engaged in these operations are covered by Lockout/Tagout when any of the following conditions occur:
 - a) The employee must either remove or bypass machine guards or safety devices, resulting in exposure to hazards at the point of operation.
 - b) The employee is required to place any part of his or her body in contact with the point of operation of the operational machine or piece of equipment.
 - c) The employee is required to place any part of his or her body into a danger zone associated with a machine operating cycle. In the above situations, the equipment must be de-energized and locks and tags must be applied to the Energy-Isolation devices.
 - d) The employee may be subject to releases of energy such as steam, high pressure water or hydraulics, or electrical and pneumatic sources. These situations must be locked and tagged out.
2. Remember Lockout or Tagout procedures are always required when servicing or maintenance occurs with the power OFF.

Preparation For LO/TO

1. First, conduct a survey to locate and identify all isolation devices (switches, valves, etc.) which apply to the equipment to be locked out. There may be more than one energy source that supplies a single piece of equipment.
2. Be sure that you know and understand the types and magnitudes of the energy sources. If you have any doubt, do not begin work without consulting your supervisor.
3. For each piece of machinery that has multiple sources of energy, a written procedure must be done to plan the Lockout/Tagout.

Note: The specific LOTO procedures for each type of equipment will be maintained with the supervisor and periodically reviewed with the Environmental Health and Safety Coordinator

Notification

1. Notify all other workers in the area of your intent to lock or tagout a piece of equipment.
2. Signs and labels may be needed in addition to the tag to insure that this is clear.

Shutdown

1. Isolate the equipment energy source: Turn off the equipment by all normal means, i.e. circuit breakers, close applicable valves or place mechanical guards where needed.
2. Dissipate stored energy: This may mean bleeding pressurized lines (pneumatic/hydraulic/steam), releasing springs, lowering equipment parts held up by pressure, draining capacitors, insuring flywheels have completely stopped.
3. Install lockout/tagout devices: Place the lock on the energy source so that access cannot be made without removing it. Complete the tag (legibly) and hang it on the lock.

NOTE: Each employee covered in this policy will be issued his/her own personal lock and will be responsible for his/her key

4. Test isolation method: Insure that all other people in the area are clear of the equipment, turn the “on” switch on and/or operate the controls for normal use of the equipment and make certain that it will not operate.

REMEMBER TO RETURN ALL SWITCHES AND VALVES TO THE “OFF” POSITION.

5. Note: When more than one shop is involved in a service project, each shop (employee) will place a separate lock on the energy isolation device and be responsible for its removal. Multiple lockout devices will be used where needed. Primary responsibility for group lockout/tagout rests with the primary coordinator of the job.

Re-Energizing

1. When the service has been completed, inspect the area to insure that all tools and supplies are clear of the equipment, that operating switches are “off” and that people are clear of the area.
2. Remove the lockout/tagout devices and re-energize the equipment and test for normal operation.

Lock Removal Options

1. If the person who installed the lock/tag to machinery is unavailable for removal, the Supervisor in the area has the authority to do so only after the equipment has been thoroughly inspected for hazards and all efforts to contact the person have been made.
2. The person who initially installed the lock/tag must be informed as soon as possible after removal of it.

PERIODIC INSPECTIONS

Documented periodic inspections must be made at least annually by supervisors and/or the Environmental Health and Safety Coordinator to verify that Lockout/Tagout procedures are understood by employees and are being followed properly.

Training and Record keeping

1. ECSU is committed to providing effective, initial training and re-training as necessary and will certify that such training has been given to all employees covered by the OSHA standard on Lockout/Tagout.
2. The certification will contain each employee's name and dates of training of all authorized and affected employees.
3. Training Records for all "authorized" and "affected" employees completing required training shall be maintained with the Environmental Health and Safety Coordinator.

Personal Protective Equipment

Personal Protective Equipment Policy

This program has been developed to ensure that the safety and health of Eastern Connecticut State University employees is maintained while utilizing Personal Protective Equipment (PPE) in the work place. It covers the requirements of the OSHA Personal Protective Equipment [Standard 29 CFR 1910.132](#). The program includes procedures and guidelines for the selection and use of PPE.

This program applies to all employees of ECSU, whether part-time, full-time, hourly or salaried, at all locations affiliated with the College. Sub-contractors working at ECSU are also required to maintain compliance with this program.

Definitions:

Personal Protective Equipment- Personal Protective Equipment (PPE) is defined as any item including but not limited to, hard hats, safety glasses, respiratory equipment, gloves, shoes, etc.

Hazard Assessment- A step by step process that will evaluate the jobs at ECSU and evaluate if /what type of PPE is required

Program Components:

1. Prior to an employee being given PPE, said employee will understand how to wear the appropriate PPE. This will be accomplished through the PPE training and also through his/her supervisor.
2. A hazard assessment will be performed on all jobs at Eastern that utilize PPE.
3. The hazard assessment will be performed by the supervisor (or designated person) with assistance from the Director of Environmental Health and Safety.
4. The hazard assessment will be used as a tool to evaluate and make sure the appropriate PPE is selected for that job.

The following is a template of the ECSU PPE Hazard Assessment

JOB	HAZARDS	RECOMMENDED PPE
Cutting wood	Flying objects Noise	Eye Protection Ear Plugs

A copy of the hazard assessments will be maintained with the supervisor and Environmental Health and Safety. Additionally, all effected employees will have access to and regular input in this program. The hazard assessment will be reviewed and changed as necessary. A copy of the [PPE Hazard assessment](#) follows. [Or click here for the form in PDF format. This form can be filled out online, then printed.](#)

Responsibility

1. It is the responsibility of the supervisor to inform new employees of this policy and its requirements prior to being hired. This policy will be included as part of the employee's orientation provided by the Safety Office.
2. It is the responsibility of Supervisors and employees covered under this policy to ensure that this policy is implemented and enforced with present employees and new employees.
3. It is the responsibility of the Safety Office to ensure that supervisors comply with their obligation under this policy.
4. It is the responsibility of all employees with work in all areas that require PPE to comply with the requirement of the policy

Training

All personnel required to wear PPE in a designated area shall receive the appropriate training by the Safety Office.

The training shall include:

- ✓ What PPE is necessary;
- ✓ How to properly don, doff, adjust, and wear PPE;
- ✓ The limitation of the PPE;
- ✓ The proper care, maintenance, useful life and disposal of the PPE;
- ✓ Overview of ECSU written program.

The affected employee shall demonstrate an understanding of the training specified in this section, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

PPE Job Hazard Assessment Form

**PERSONAL PROTECTIVE EQUIPMENT JOB HAZARD ASSESSMENT
CERTIFICATION FORM**

Using the following checklist, assess the job tasks for common hazards

The supervisor/employee completing this form must sign and date it when the assessment is completed.

DEPARTMENT BEING EVALUATED _____

JOB TYPE BEING EVALUATED _____

EYE HAZARDS

Check Yes or No if hazard is present or possible:

- Impact Protection needed (Flying particles, chipping, nailing, grinding) Yes____ No____
- Solvent/Chemical Splashing (Pouring and usage of chemicals) Yes____ No____
- Welding Yes____ No____
- Other_____ Yes____ No____

HAND HAZARDS

- Waste products/cleaning-handling Yes____ No____
- Plumbing systems/cleaning Yes____ No____
- Lifting Heavy objects-impact cuts Yes____ No____
- Handling sharp or broken objects/materials Yes____ No____
- Other_____ Yes____ No____

FOOT HAZARDS

- Rolling/falling/pinching Yes____ No____
- Slippery conditions Yes____ No____
- Other_____ Yes____ No____

HEARING HAZARDS

- Unwanted noise over 85 decibels (Portable power tools, mowers, backhoes machines, chainsaws, trimmers, etc..) Yes____ No____
- Unwanted noise <85 decibels Yes____ No____
- Other_____ Yes____ No____

RESPIRATORY HAZARDS

- Particulate in the air Yes____ No____
- Gases in the air Yes____ No____
- Vapors in the air Yes____ No____
- Aerosols in the air Yes____ No____
- Other_____ Yes____ No____

(NOTE: RESPIRATORS CAN ONLY BE WORN IF YOU HAVE HAD THE REQUIRED TRAINING)

Employee's name _____

Employee's Signature _____ Date: _____

Environmental Health and Safety Coordinator's Signature _____ Date: _____

ECSU RESPIRATORY PROTECTION POLICY

This program has been developed to ensure that the safety and health of Eastern Connecticut State University employees is maintained while utilizing Respiratory Protection in the work place. It covers the requirements of the OSHA Respiratory Protection Standard [29 CFR 1910.134](#). The program includes procedures and guidelines for the selection and use of respirators.

Eric Germain, Environmental Health and Safety Director, is the program administrator of the respiratory protection program at Eastern Connecticut State University and will conduct periodic workplace evaluations to ensure the program is being effectively implemented.

This program applies to all employees of Eastern, whether part-time, full-time, hourly or salaried, at all locations affiliated with the university. Sub-contractors working at ECSU are also required to maintain compliance with this program.

It is the policy of ECSU to require all employees who work in areas that require the use of respirators to do so. The two departments that require respirators during certain operations are:

JOB	RESPIRATOR TYPE	CARTRIDGE
Painters	½ Face Respirator	Organic Cartridge (Black)
Carpenters	½ Face Respirator	HEPA, P100, Cartridge (Magenta)

In addition to the jobs mentioned above, there may be other times when respiratory protection may be used on a voluntary basis. If employees choose to use a disposable dust mask, they will be given a copy of [Appendix D](#) of the respirator standard.

Eastern Connecticut State University will supply the respirators and provide medical consultation, when needed, at no charge to employees who are required to wear a respirator as part of their job.

Definitions:

- HEPA** High Efficiency Particulate Air
- MSHA** Mine Safety and Health Administration
- NIOSH** National Institute of Occupational Safety and Health
- OSHA** Occupational Safety and Health Administration
- TWA** Time Weighted Average
- PFT** Pulmonary Function Test

Program Components:

1. Prior to an employee receiving a respirator, they will be required to complete a medical questionnaire and have it evaluated by a Licensed Health Care Provider (LHCP) to assure that they can physically wear a respirator.
2. CorpCare Occupational Health, Manchester, CT and RespSafety are being used as the LHCP.
3. Once the LHCP has cleared the employee to wear a respirator, he/she will receive the appropriate training from the Safety Office.
4. After the training and fit testing has been performed, the employee will be issued a respirator.
5. After the initial medical examination employees required to wear a respirator will complete a Medical Evaluation Questionnaire annually. If the LHCP deems it necessary for a follow up exam, after reviewing the Medical Questionnaire, Eastern will provide this at no charge to the employee.

Respirator Fit

A properly fitting respirator is essential if employees are to receive adequate protection. EH&S will ensure that each employee is Fit Tested to his/her assigned respirator prior to its first use. In addition, User Seal Checks must be performed by the employee prior to each use of the respirator. Procedures for Fit Tests and User Seal Checks and other considerations to ensure fit are as follow:

A. Fit Tests –This section applies to all tight-fitting respirators, excluding dust masks used voluntarily.

1. Employees must pass a respirator fit test prior to using a respirator and annually thereafter.
2. The Department of Environmental Health and Safety will perform these tests using the Qualitative Fit Test method.
3. Additional fit testing is required whenever an employee:
 - incurs a weight change of 20 lbs. or more;
 - has significant dental changes; or
 - has any other change in facial conditions that may interfere with facepiece sealing (i.e., broken facial bone, scarring, surgery, etc.).
4. Fit tests will be conducted with the same make, model, and size respirator that the employee will use on the job.
5. Employees with beards or other facial hair that interfere with a tight facepiece seal will not be allowed to use tight-fitting respirators, and will not be fit tested. Respiratory protection for employees with beards may be attained by using a powered air-purifying hood.

B. User Seal Checks

Prior to each use, a User Seal Check must be performed by the employee to ensure an adequate seal is achieved each time the respirator is worn. User Seal Checks are not substitutes for Fit Tests. User Seal Checks must be conducted as follows:

1. The respirator facepiece, straps, and headband must be adjusted and secured properly.
2. Positive pressure check---Close off the exhalation valve and exhale gently into the facepiece. If a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the facepiece seal, the seal is satisfactory.
3. Negative pressure check---Close off the inlet opening of the cartridges(s) by covering with the palm of the hand(s) or by replacing the filter seal(s)---a thin latex or nitrile glove will help to close off the openings. Inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. If the facepiece remains collapsed with no inward leakage of air, the seal is satisfactory.
4. If leakage is detected, steps 1 through 3 must be repeated until a proper seal is attained.
5. For dust masks, follow manufacturer’s instructions for user seal checks.

C. Other Considerations for Proper Fit

1. Employees who must wear corrective glasses, goggles, or other protective equipment must do so in a manner that does not interfere with the face-to-facepiece seal or valve function of the respirator.
2. Employees using tight-fitting respirators must have no condition, such as facial hair, that would interfere with the face-to-facepiece seal or valve function of the respirator. Moderate stubble or one day’s growth of facial hair is considered excessive and would preclude the use of a tight-fitting respirator.

All the jobs that currently require respiratory protection at ESCU are of the half face negative air type. These respirators, half face, have been approved by NIOSH and MSHA. If a particular job or employee requires a different respirator than the one stated above, it will be provided at no cost to the employee.

The following table explains the most commonly used cartridges on campus and their applicable use.

COLOR	NAME	APPROVED USE
Magenta/Purple	High Efficiency Particulate Air (HEPA)	Dust, Asbestos, Lead, Radon
Yellow	Organic Vapor and Acid Gas	Organic Vapors and Acid gas
Black	Organic Vapor	Organic Vapors
White (Pre-Filter)	Dust/Mist Pre-filter	This Pre-filter is attached to the cartridge to extend the life of the filter
Magenta (purple) and yellow	HEPA/Organic Vapor and Acid Gas	Dust, Asbestos, Lead, Radon and organic vapors

If a particular job requires a different cartridge than the ones listed above, or if you are unsure that the cartridge you have chosen is applicable to the required use, consult the Safety Data Sheet or the Environmental Health and Safety Coordinator.

The cartridge of the respirator shall be changed:

1. When the employee feels it is necessary.
2. When there is difficulty breathing (resistance) while wearing the respirator.

Voluntary Use of Respirators

On occasion employees may desire to use dust masks voluntarily, though conditions do not exist that mandate their use. In such cases, medical evaluations and fit testing are not required and the employer may provide dust masks at the request of the employees or permit them to use their own if:

- the use of the dust mask is not required by the employer;
- the dust mask is used for comfort purposes only and not to protect the health of the employee;
- the employer determines that such dust mask use will not in itself create a hazard; AND
- pertinent selection, maintenance, and training requirements outlined in this program are met.

A. Voluntary use of dust masks

When dust masks will be used voluntarily, supervisors must ensure that:

1. Employees received dust mask awareness training and are given a copy of [Appendix D](#) of this program.
2. The respirator maintenance and care provisions of this program are followed.

B. Voluntary use of all other respirators

If other types of respirators will be used voluntarily, supervisors must ensure that employees are medically evaluated, trained, and fit-tested annually, as outlined below.

Inspection & Storage

Prior to an employee donning a respirator, that employee shall make sure the respirator is working as designed. In order to ensure this, the user shall:

1. Check face piece for cracks/deterioration;
2. Make sure all valves, fittings, and gaskets are in place;
3. Check headband for excessive wear;
4. Check for cleanliness;
5. Make sure the cartridge is firmly secured to the respirator.

If any of the above mentioned items are not functioning properly the employee will NOT use that respirator and shall notify his/her supervisor immediately. Additionally, the respirator will be taken out of service.

After an employee has worn the respirator it shall be properly, stored and cleaned. The following procedures shall be adhered to:

1. Cartridges shall be removed from the respirator;
2. Cartridges shall be sealed with tape;
3. The respirator shall be thoroughly cleaned.

Cleaning and Disinfecting

1. Each employee must be provided with a respirator that is clean, sanitary, and in good operating condition.
2. Respirators (except dust masks) must be cleaned and disinfected as follows:
 - a. As often as necessary when issued for the exclusive use of one employee.
 - b. Before being worn by different individuals.
 - c. After each use for emergency use respirators.
 - d. After each use for respirators used for fit testing and training.
3. Respirators (except dust masks) must be cleaned using the following procedures, or as recommended by the manufacturer:
 - a. Remove filters or cartridges. Disassemble facepieces by removing components as recommended by the manufacturer. Discard or repair any defective parts.
 - b. Wash components in warm (110°F max.) water with a disinfecting cleaner recommended by the manufacturer. Use a nylon brush, if needed, to help remove dirt.
 - c. Rinse components thoroughly in clean, warm, preferably running water. Drain.
 - d. Hand dry components with a clean lint-free cloth or air dry.
 - e. Reassemble facepiece, replacing filters and cartridges where necessary.
 - f. Test the respirator to ensure that all components work properly.

Note: In order for the respirator to be thoroughly cleaned, it must be disassembled.

Once the respirator is cleaned it will be stored the following way:

1. Stored away from heat, dust, extreme cold, moisture or damaging chemicals;
2. Face piece and exhalation valve shall be stored in the normal resting position;
3. Respirator and sealed cartridges shall be stored in a storage bag.

Training:

All personnel required to wear a respirator shall receive the appropriate training from the Safety Office prior to use. The training shall include:

1. Explanation of the [OSHA Respiratory Protection Standard 29 CFR 1910.134](#);
2. Proper use and limitations of respirators and capabilities;
3. How to clean and disinfect the respirator;
4. Proper maintenance/storage of the respirator;
5. How to perform a user seal check (Negative and Positive);
6. Explanation of the ECSU Respiratory Protection Policy.

Retraining will be conducted annually and as needed.

Foot Protection

FOOT PROTECTION POLICY

This program has been developed to insure that the safety and health of Eastern Connecticut State University employees is maintained while utilizing Foot Protection in the work place. It covers the requirements of the [OSHA Occupational Foot Protection Standard 29 CFR 1910.136](#). The program includes procedures and guidelines for the selection and use of foot protection.

This program applies to all employees of Eastern, whether part-time, full-time, hourly or salaried, at all locations affiliated with the university. Sub-contractors working at Eastern are also required to maintain compliance with this program.

It is the policy of Eastern that all personnel who work in areas defined as foot protection areas wear adequate foot protection while engaged in that operation.

Definitions

Foot Protection Area: is defined to include any area where there is the potential for a foot injury due to the presence of chemicals, frequent material handling, wet conditions, falling or rolling objects, or piercing of the sole. Note: Currently **ALL** of the trades, i.e. carpenter, boiler operator, electrician etc., are required to wear safety shoes **ALL** the time.

Adequate Footwear: is defined as footwear that provides protection from the hazards in the foot protection area. Adequate footwear includes shoes or boots with slip resistant soles for the wet environments and steel toes and shanks were there is the possibility of an object piercing, rolling or falling.

Program Components

- 1) New employees will be made aware of the requirements of the Eastern Foot Protection Policy, including the requirements of purchasing adequate footwear, and will not be allowed to work in any "foot protection area" until after the adequate footwear has been purchased.
- 2) Eastern Connecticut State University will pay a percentage of the purchase price of the safety shoes.
- 3) All of the trades departments require safety shoes. As the need arises, there could be additional areas deemed foot protection areas.

Exceptions: An employee can be excused from wearing safety shoes if he/she receives a note from a doctor indicating that safety shoes can not be worn by the individual. Said individual will

be required to wear other forms of foot protection i.e. foot covers, when working in areas that are deemed “foot protection area”. Notes from the doctor shall be updated annually except when the condition is deemed to be chronic. The University may require that the employee be examined by a state employed physician/foot specialist to review the foot condition and justification for the exemption requested

Responsibility

- 1) It is the responsibility of the supervisor to inform all new employees of the Foot Protection Policy and the requirements prior to hire.
- 2) It is the responsibility of the Supervisor and Employees covered under this policy to ensure that it is implemented and enforced with present employees and new employees after hire.
- 3) It is the responsibility of ALL employees who work in Foot Protection areas to comply with the requirements of this policy.

Hearing Conservation Plan

This program has been developed to insure that the safety and health of Eastern Connecticut State University employees is maintained while utilizing hearing protection in the work place. It covers the requirements of the OSHA Occupational Noise Exposure [Standard 29 CFR 1910.95](#). The program includes procedures and guidelines for the selection and use of hearing protection.

This program applies to all employees of Eastern, whether part-time, full-time, hourly or salaried, at all locations affiliated with the university. Sub-contractors working at Eastern are also required to maintain compliance with this program.

It is the policy of ECSU to require all employees, independent contractors, and visitors to wear hearing protection when sound levels exceed OSHA's Time Weighted Average of 85 dB.

Definition:

Decibel- (dB) the unit of measurement of sound level.

Hearing Protection Devices- Personal ear plugs or ear muffs designed to keep noxious noise from the ear to preserve hearing.

Noise-- Any unwanted sound

NRR - Noise Reduction Rating, the reduction in the amount of db that the hearing protection will issue.

TWA - Time Weighted Average, average of the decibel intake over an 8-hr period.

Audiometric Testing -A device that is used to test an individual's hearing ability, develop a baseline, and determine if the hearing level has been reduced due to exposure at work.

Implementation

Any employee who is required to work in areas that contain a loud and unwanted noise are required to wear hearing protection. The employees who are required to wear hearing protection will receive the appropriate training by the Environmental Health and Safety Coordinator.

Currently, there are NO areas on campus in which an employee is exposed to sound levels in excess of OSHA's TWA for 8 hours/day 5 days/week therefore Audiometric testing is not required. If such conditions become unavoidable, audiometric testing will be conducted.

Monitoring

When an area or piece of machinery is suspected of having a noise level exceeding 85 db than noise exposure monitoring shall be conducted by Eastern's Safety Department. This monitoring can be requested by any of the Eastern employees.

During the test a dosimeter will indicate the current noise level in a particular area. If the noise level is <85 dB then no further monitoring is needed. If the area exceeds 85 dB, then additional monitoring will occur.

When additional monitoring is required, the employee working in that area will wear a dosimeter for a representative period of time. After the sampling has taken place the results will be interpreted by the Safety Department. Within 30 days after the testing a memo will be sent to the employees indicating the monitoring results.

All this information will be retained by the Safety Department and available for review at any time.

Personal Protective Equipment

Eastern will provide, at no cost to the employee, several different choices of hearing protection to the employees that require them. All hearing protection will have a Noise Reduction Rating (NRR) that will be attenuated below 85 dB.

Training

Hearing Protection Training will be made available to affected employees by the Safety Department. The training program shall be repeated annually for each employee included in the hearing conservation program. The training will include:

1. Review of the OSHA standard
2. Effects of Noise on Hearing
3. The purpose of Hearing Protection, advantages, disadvantages, attenuation of various types of noise rating reduction.
4. Instruction on selection, fitting, use, and care of hearing protectors.
5. Purpose of audiometric testing, and an explanation of the test procedures

Bloodborn Pathogens and Infectious Disease Prevention at Eastern Connecticut State University

Since March of 1992, OSHA has required that all employers with employees exposed to blood borne pathogens implement an exposure control plan. The purpose of this plan is to identify employees at risk of occupational exposure to bloodborne pathogens and implement control measures designed to decrease these risks.

The OSHA standard also requires the plan to contain the following information:

1. An exposure determination list. This list includes all job classifications where employees have occupational exposure to bloodborne pathogens;
2. The schedule and method used to implement all provisions of the standard;
3. The procedure for evaluating exposure incidents and the procedure used to evaluate post exposure incidents.

This plan is available to all employees and reviewed on an annual basis. This information is maintained at the Health Center, Athletic Department, Facilities Department, Science Department, Police Department and Environmental Health and Safety Coordinator's Office.

EASTERN CONNECTICUT STATE UNIVERSITY **BLOODBORNE PATHOGENS** *EXPOSURE CONTROL PLAN*

I. INTRODUCTION

Eastern Connecticut State University maintains an ongoing effort to provide a safe working environment. As part of that effort, the University has implemented this plan which is intended to reduce the risk of exposure to bloodborne pathogens for all those working in the University who may have such exposure as part of their official duties. This written plan is intended to comply with the requirements of the federal [Occupational Safety and Health Administration \(OSHA\) Bloodborne Pathogen \(29CFR 1910.1030\)](#).

II. REVIEW OF EXPOSURE CONTROL PLAN

The University is responsible for the review and updating of this Exposure Control Plan at least annually and whenever necessary to reflect new or modified tasks that have an impact on individual exposure. A copy of this plan is maintained at the Health Center, Science Building, Police Department, Safety Office and Eastern's Environmental Health and Safety Web Page.

III. DEFINITIONS

Exposure:

Reasonably anticipated skin, eye, mucous membrane, or parental (injection or puncture) contact with blood or other potentially infectious materials (OPIM) as a result of performing official duties.

Other Potentially Infectious Materials (OPIM):

1. These human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to tell the difference between body fluids.
2. Any unfixed tissue or organ (other than intact skin) from a human (living or dead)
3. HIV(Human Immunodeficiency Virus)-containing cell or tissue

Blood

In the text of the Plan that follows, when the term "blood" is used, it includes human blood and OPIM as defined above.

"Good Samaritan" Acts

Good Samaritan acts, such as helping a fellow worker with a nosebleed or cut finger, are not considered official duties or exposures covered under this plan.

IV. EXPOSURE DETERMINATION

Each department or affected group must determine if there are job classifications and work activities in which there are possible exposures to bloodborne pathogens. The University has determined that the following job classifications and tasks have the potential for reasonably anticipated exposure to bloodborne pathogens, regardless of whether protective equipment is used by the employee.

A. Job classifications which include employees whom all have occupational exposure:

- Health Center employees, Athletic Trainers, Police Officers, Housekeeping

B. Job classifications that include employees some of whom have occupational exposure:

- Facilities Department

V. METHODS OF COMPLIANCE

The following practices, procedures and control measures are used or have been instituted to minimize or eliminate exposure to blood.

A. UNIVERSAL PRECAUTIONS - All blood is assumed to be and is treated as if infected. Individuals exposed to direct contact with blood must take the necessary precautions to protect themselves from infection.

B. WORK PRACTICE AND ENGINEERING CONTROLS

1. Accessible handwashing facilities with soap and disposable towels or antiseptic towelettes are available and used after removing gloves, following patient care, or after any other contamination of the hands. If disposable towelettes are used, handwashing with soap and running water is done as soon as practical.
2. After direct contact with blood or after patient contact, touching of the mouth, eyes, or other mucous membranes is avoided until hands have been thoroughly washed.
3. Contaminated needles are not bent, recapped, removed, sheared, or broken. If circumstances call for recapping, only a one-handed "scoop" technique or mechanical device is used.
4. There is no eating, drinking, smoking, applying cosmetics or lip balm, or handling contact lenses in work areas with possible exposure.
5. Food or drink is not stored or kept in areas with blood exposure.
6. Procedures involving blood or blood exposure are done in a way to minimize splash, spray, spattering, or generation of droplets.
7. Mouth pipetting is not allowed.

C. PERSONAL PROTECTIVE EQUIPMENT

1. Personal protective equipment (PPE) appropriate to the tasks being performed is provided and must be used. PPE is made available in the appropriate sizes and is readily accessible. For those allergic to the normal gloves provided, alternatives such as hypoallergenic gloves or glove liners, are made available.

2. The following PPE is available at no cost to employees: Gloves, Gowns, Lab Coats, Face Shields/Masks, Eye Protection, Mouth Pieces, Resuscitation Bags, Pocket Masks.

3. PPE Use:

Gloves are worn whenever hand contact with blood can be reasonably expected and when handling or touching contaminated items or surfaces.

Disposable gloves are replaced or changed as soon as practical when contaminated, torn, or punctured. Disposable gloves are not washed or decontaminated for reuse.

- Utility gloves such as heavy-duty vinyl or rubber gloves may be decontaminated for reuse if they remain in good condition. They are discarded if they become cracked, torn, punctured, are peeling, or are otherwise no longer providing a barrier to contamination.
- Masks or face shields in combination with primary eye protection, such as goggles, are worn whenever there is significant potential for eye, nose, or mouth contamination from splashes, spray,

- spatter, or aerosol droplet generation of blood. Regular safety glasses will not provide protection if splashing occurs.
- If a garment is penetrated by blood, the garment is removed immediately or as soon as feasible.

All PPE is removed prior to leaving the work area.

D. HOUSEKEEPING

1. The worksite is kept in a clean and sanitary condition.
2. A written schedule and procedure for cleaning and decontamination of blood-soiled surfaces is in place and is followed. Minimally, equipment, environmental, and working surfaces are cleaned and decontaminated after a spill or procedure resulting in contamination.

3. SCHEDULE FOR CLEANING AND METHOD OF DECONTAMINATION

ITEM OR AREA	METHOD OF DECONTAMINATION	CLEANING SCHEDULE	COMMENTS
Work Surfaces	Wash with 1:10 bleach solution or other suitable materials.	After the completion of procedures or end of work shift which involved contamination. When surfaces become obviously contaminated.	
Reusable Resuscitation Mask	Wash with hot soap and water. After each use disinfect with alcohol.	After each use.	

4. Housekeeping Procedures

Disposable protective coverings for equipment are replaced after being contaminated. Contaminated broken glassware is picked up with brush and dustpan, tongs, or forceps; **NOT WITH HANDS.**

Any contaminated reusable sharps are stored or processed in a way that does not require an individual to reach by hand into the container where these sharps have been placed. Instead, remote handling devices such as tongs or forceps are used.

Contaminated sharps and other medical waste are disposed of through the established university procedure in the appropriate sharp containers and the red bag-lined medical waste box. Storage containers are located at the Health Center, Sports Center, Science Building, and the Police Department. Eastern Connecticut State University has contracted with a licensed contractor for disposal of all Biological Waste.

VI. HEPATITIS B VACCINATION

After determination of those who are potentially exposed, those individuals are offered, at the university's expense, vaccination for the prevention of hepatitis B. New employees assigned to positions with exposure are offered this vaccination during the BBP training. The Health Center administers the vaccination.

If declining to receive the offered vaccination, the individual signs a hepatitis B declination form. If the individual later decides to accept the vaccination, it is provided at that time. Except for an individual declining the hepatitis B vaccination, the only acceptable circumstances for not providing this vaccination are that

- 1) the individual has previously received the complete hepatitis B vaccination series, or
- 2) antibody testing has revealed that the individual is immune, or
- 3) the vaccination is not recommended for medical reasons.

VII. POST EXPOSURE EVALUATION AND FOLLOW-UP

In the event of an exposure incident, the post exposure procedures as outlined below are followed.

- The exposed individual immediately cleanses the wound or exposed surface with soap and water or flushes exposed mucous membranes with water.
- The individual notifies his/her supervisor, if available, and then contacts or proceeds to the Windham Hospital. Any remaining blood involved in the incident is saved for subsequent testing.
- The individual's supervisor completes a Report of Accidental Injury or Occupational Illness form as soon as feasible.

The exposed individual's blood is collected as soon as feasible and tested, provided consent is received. Collected blood is held for up to 90 days awaiting consent for HIV testing if consent is not given initially. Testing of the baseline sample is done if consent is given within the 90-day period.

During the post exposure evaluation and examination, the route and circumstance of exposure is determined and recorded. Environmental Health and Safety conduct an accident investigation, as necessary. Every attempt is made to determine the source of the blood and have it tested for HBV and HIV infection and document the results of testing. The results of the source blood testing are made available to the exposed individual along with information about the laws concerning disclosure of the identity and infectious status of the source individual.

Post-exposure prophylactic treatment, when medically indicated; counseling; and evaluation of reported illnesses is provided by the Health Center and documented in the individual's medical record.

XIII. INFORMATION PROVIDED FOR AND BY THE HEALTH CARE PROFESSIONAL

A. If a health care professional from outside the University provides post-exposure evaluation, the following information is given to that person by the Health Center:

1. A description of the exposed individual's duties as they relate to the exposure incident.
2. Documentation of the route(s) of exposure and circumstances under which exposure occurred.
3. Results of the source individual's blood testing, if available, and
4. All medical records relevant to the appropriate treatment of the exposed individual including vaccination status.

B. The health care professional's written opinion is provided by the Health Center to the exposed individual within 15 days of the completion of the evaluation and included in the patient chart. The written opinion regarding hepatitis B vaccination is limited to whether hepatitis B vaccination is indicated for the exposed person and if the person has received such vaccination. The written opinion for post-exposure follow-up is limited to the following information:

1. That the individual has been informed of the results of the evaluation, and
2. That the individual has been told about any medical conditions resulting from exposure to blood which require further evaluation or treatment.
3. All other findings or diagnoses remain confidential and are not included in the written report.

IX. COMMUNICATION OF HAZARDS

A. Warning Labels

1. Warning labels using the standard biohazard symbol, wording, and coloration are provided on containers of regulated waste; contaminated equipment; refrigerators and freezers containing blood; other containers used to store, transport, or ship blood, except that:
2. Red bags or red containers may be used instead of labels.
3. Individual containers of blood placed in a labeled container for storage, transport, shipment, or disposal need not be individually labeled.
4. Regulated waste that has been decontaminated need not be labeled.

B. Information and Training

Initial training is provided to all individuals upon assignment to tasks involving determined exposure and is supplemented when there are changes in tasks or procedures that will affect exposure.

Annual training is provided to individuals within one year of previous training.

X. RECORDKEEPING

A. Medical records for all exposed individuals are maintained by the Health Center for the duration of the individual's employment plus 30 years. These records include:

1. The name and social security number of the individual
2. The individual's hepatitis B vaccine status
3. A copy of information provided to the outside health care professional
4. A copy of all results of examinations, medical testing, and follow-up procedures
5. A copy of the health care professional's written opinion

B. Medical records are available upon request for examination and copying to the subject individual, anyone having the written consent of the subject individual, and representatives of OSHA.

C. The Environmental Health and Safety Department maintain training records for a minimum of 3 years from the training date. These records include the following information:

1. The date of the training
2. The content or summary of the training
3. The names and qualifications of persons conducting the training.
4. The names, signatures, and job titles of all individuals attending the training session.

D. Training records are provided upon request for examination and copying to the subject individual, employee representatives, and representatives of OSHA.

XI. ADMINISTRATIVE RESPONSIBILITIES

A. Department

1. Determine those at risk of exposure.
2. Complete and implement Exposure Control Plan.
3. Provide for annual review and revisions of Plan, as necessary.
4. Ensure that those exposed attend the required initial and annual training.
5. Maintain a copy of the current Exposure Control Plan and training records.
6. Offer and encourage hepatitis B vaccination for all exposed.
7. Provide the necessary PPE and engineering controls to eliminate or reduce exposure.

B. Supervisor

1. Ensure that those exposed attend the required training.
2. Provide the task specific training for individuals.
3. Complete Report of Accidental Injury or Occupational Illness following exposure events.
4. Ensure that those exposed have available and use the appropriate personal protective equipment and that "Universal Precautions" are followed.

C. EHS/Occupational Medicine

1. Conduct initial, annual, and interim training.
2. Provide copies to training records to the Department.

D. EHS

1. Provide assistance in meeting OSHA standard.
2. Investigate exposure incidents, as necessary.
3. Audit department program periodically.

E. Individual

1. Attend the provided training and understand the risk associated with the job.
2. Consider seriously the offer of hepatitis B vaccination.
3. Follow the appropriate practices and procedures established for the work environment to limit or prevent exposures, and adopt the principle of "Universal Precautions."
4. Report any exposures to supervisory personnel and undertake any necessary medical review or treatment.

EASTERN CONNECTICUT STATE UNIVERSITY HEALTH SERVICE
Hepatitis B Vaccination/Waiver

Status: Employee
 Student Worker
 Student
 Other: _____

Name: _____

SSN: _____

If you wish to decline the vaccine, please read and sign the following statement:

*"I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I **decline** hepatitis B vaccine at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me."*

Signature: _____

Date: _____

If you would like to receive the Hepatitis B vaccine, please read and sign the following:

"I have read or have had explained to me the information on the Hepatitis B fact sheet about Hepatitis B and the Hepatitis B vaccine. I have had a chance to ask questions which were answered to my satisfaction. I believe I understand the benefits and risks of the Hepatitis B vaccine and request that it be given to me."

Signature: _____

Date: _____

HEPATITIS B VACCINATION RECORD

	#1	#2	#3
Date			
Lot No.			
Expiration date			
Injection Site			
Signature			

Department: _____ Contact Person: _____

Phone: _____ E-mail: _____

Contact/reminder dates (please initial): _____

Hepatitis B Vaccine Information Statement (7/11/01) given: _____ Date: _____
Provider name

Use of Portable Fire Extinguishers

Portable Fire Extinguisher Use at ECSU

Only if you have been properly trained in proper choice and use of portable fire extinguishers and the fire you have seen is a small fire and after starting the **ALARM** procedure you may now make use of the portable extinguisher.

Remember, keep your back towards an unobstructed exit, stand 6-8 feet away and follow the four step **PASS** procedure:

Make sure the extinguisher you are using can be used on the material that is burning

Fires fall into three basic classes:

Type A: Ordinary combustibles, such as wood, cloth, paper, rubber, and many plastics.

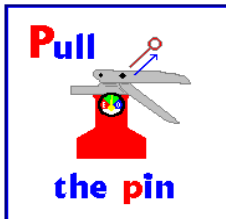
Type B: Flammable liquids, such as gasoline, oil, grease, tar, oil-based paint, lacquer, and flammable gas.

Type C: Energized electrical equipment, including wiring, fuse boxes, circuit breakers, machinery, and appliances.

NOTE: ALL OF THE FIRE EXTINGUISHERS AT EASTERN CONNECTICUT STATE UNIVERSITY ARE RATED FOR TYPES AB and C FIRES.

IF YOU DO FIGHT THE FIRE REMEMBER THE WORD **PASS:**

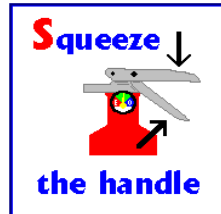
Pull the pin
Aim at the base of the fire
Squeeze the handle
Sweep back and forth



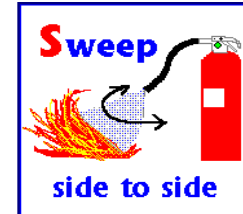
PULL....Pull the pin.



AIM...Aim at the base of the fire.



SQUEEZE...Squeeze the handle.



SWEEP...Sweep from handle side to side until the fire is extinguished.

IF A FIRE EXTINGUISHER HAS BEEN DISCHARGED, DAMAGED OR IS MISSING IT MUST BE REPORTED IMMEDIATELY TO THE POLICE DEPARTMENT DISPATCH AT 55310.

Emergency Response Plan

ECSU EMERGENCY RESPONSE PLAN

This basic plan is intended to help all employees understand the elements of emergency response and/or evacuation as required under [OSHA 29 CFR 1910.38 Employee Emergency, Evacuation, and Fire Prevention Plans](#); which covers employee alarm recognition, evacuation methods, and fire prevention measures.

IMPLEMENTATION

Your correct, quick action could save lives and property.

1) Know Your Building - Be Prepared

- A. Check the location of all fire exits, stairwells from top and basement floors, and final exit doors to street level.
- B. Make sure you can find these key features in times of a power outage, when light levels will be greatly reduced.
- C. Know the location of fire alarm manual pull stations, usually near exit doors, and fire extinguishers in hallways and other locations.
- D. Do you know the sound of the fire alarm horns, and if your building is so equipped, the meaning of fire alarm “flashing” strobe lights?

In Case of Fire - Sound the Alarm - **GET HELP!**

- 1. If you see a fire start (or some smoldering items) **PULL** the nearest **RED** manual fire alarm box and exit the building.
- 2. Make sure the Police Department has been notified by dialing 911, or use the nearest Security phone, and give the dispatcher as much information as possible.

Evacuation Procedures

1. At any time of day or night, when you hear the fire alarm sounding/flashng, evacuate the building.
2. If there are any handicapped people in your building, help them to evacuate, or assist them to a designated Area of Refuge.
3. If there is an elevator in your building, **do not attempt to use it** during a fire alarm as it will automatically be sent to a pre-selected (lower) floor for use by the Fire Department.
4. All employees should report to the Primary Assembly Area, outside the building,
5. Building Re-Entry: The Fire Department ranking officer at the scene will be the Incident Commander and he/she will notify the Eastern Police Officer when it is appropriate to re-enter the building.

People Needing Assistance Leaving the Building

Personnel who cannot evacuate a building without assistance should seek areas of refuge and notify someone of your location by calling ECSU Police 860-465-5559. In all buildings, the stair landings are a safe area. In some buildings, there are actually designated areas of refuge with which you should become familiar.

In buildings that have a full sprinkler system, areas of refuge are not required. Go to any room and close the door to block smoke and ensure that ECSU Police is notified of your location.

Personnel needing assistance, who have disclosed this condition to the university, are listed in building locations according to where they live or work. Upon building evacuation, the Willimantic Fire Dept. and ECSU Police are alerted to the locations of these people and will respond accordingly if an actual emergency exists.

Space Heater Policy

University Space Heater Policy

Certain types of space heaters can be very dangerous due to inadequate safety provisions. Absolutely no personal space heaters are permitted to be used on campus. In the event of a heating problem in a work area, Facilities is to be contacted. If it is determined that an emergency exists, such as no heat to a building or a mechanical problem, Facilities will provide alternate heating. If the emergency dictates the closing of the building occupants will be notified as to what other accommodations will be available until the emergency has passed.

Per State Building Code, all buildings should be heated at 68 degrees F and cooling at 78 degrees F.

Automated External Defibrillator (AED) Policy

Eastern Connecticut State University is committed to the health and safety of its students, faculty, staff and visitors. Due to technological improvements, automated external defibrillators (AEDs) may now be safely acquired and used by authorized/trained persons to save victims of sudden cardiac arrest. An AED is used to urgently diagnose and treat ventricular fibrillation. An AED is attached to a victim's chest to assess the heart's rhythm. If appropriate, the device will recommend that a shock be delivered to resume a safe rhythm for the victim's heart. When delivered, a metered electrical charge restores the heart's functionality and often saves the victim's life. AEDs are most successful when their first shock is delivered within 3-4 minutes of sudden cardiac arrest onset. Because of their ease of use and built-in safeguards, untrained bystanders have successfully used an AED, but they are intended for use by trained personnel.

Departments who are issued an AED must designate a **responsible person**, whose duties are described below.

SPONSORING PHYSICIAN

The college has designated the Physician in the Student Health Center as its sponsoring physician. The physician's duties under the program are as follows:

- Oversee implementation of the AED program.
- Review instances in which an AED was used to determine the appropriateness of the operation of the AED or the AED response.

AED DEPARTMENT RESPONSIBILITIES

Departments that have been issued an AED (i.e., AED Owners) are responsible for maintaining the device to the standards of its manufacturer, and this Policy. AED owners must:

- Periodically check to make sure that the AED is present and ready for use.
- Perform a monthly inspection.

Monthly inspections are available at;

AED MONTHLY INSPECTION

- Notify Environmental Health and Safety, EHS, immediately if the AED is missing, damaged, or does not appear ready for use.
- Ensure on-site records are present.
- Be the departmental "point person" regarding the AED(s).

ENVIRONMENTAL HEALTH AND SAFETY RESPONSIBILITIES

EHS will assist departments and responsible persons in managing AEDs on campus, and will implement and enforce this policy. To do so, EHS will:

- Implement and administer the AED program.
- Ensure that all individuals who are expected to operate an AED have met all training requirements.
- Ensure the maintenance records are up to date.
- Ensure that inspections and maintenance is conducted in a timely manner.
- Document and maintain training records and copies of certifications in the EHS office.
- Periodically inspect AEDs to assure that the responsible person is performing his or her duties under this Policy.
- Maintain a list of AEDs on campus as well as their locations.
- Notify the responsible person when training is due.

LOCATIONS OF AED'S

Sports Center

- Pool Area
- Outside the Cardio Room
- Outside Gymnasium lobby area
- (There are also 5 others that are maintained in the training room and are used for Sporting events)
- Intramural Sports

Student Center

- Fitness Area
- 2 for Club Sports

Police Department

- 3 in the cruisers
- Dispatch Area

Facilities

- Outside Lock Smith Shop

Goddard Hall

- Main Lobby Area

CFDRC

- Great Room

LIBRARY

- Main Lobby

FINE ARTS

- Main Lobby
- 2nd Floor Elevator (Printmaking)

SCIENCE BUILDING

- Lobby

HURLEY HALL

- Main Lobby

Any trained person may use any AED at any location on campus.