Laboratory Emergency Response Guidelines

Laboratories are workplaces where hazardous materials may be used, stored, or synthesized on a non-production basis. Volumes of hazardous materials are limited to containers that can be easily and safely manipulated by a single worker. Lab operations vary continuously and are managed independently by many different individuals.

At UVM, laboratories (buildings indicated in red on emergency response map) occupy about 500 rooms, managed by about 220 laboratory supervisors who oversee about 1200 workers. Information on laboratory hazards in specific UVM Buildings and Rooms can be found at **https://riskmgmt.w3.uvm.edu/labhazards/** (Password protected).

Chemical Hazards: Laboratory chemical hazards include flammability, corrosivity (acids and bases), reactivity/instability (water-reactive, pyrophoric, organic peroxides, etc.) and toxicity (acute and chronic). Lab chemicals are stored in small containers; usually 1-gallon or less and no bigger than 5-gallons. UVM requires lab chemical containers to be labeled with the chemical name and hazard and stored with compatible materials in appropriate locations within the lab. It is unpredictable what specific chemicals are used in a laboratory daily.

In some laboratories, new, unnamed chemicals are produced. The flammability or corrosivity of these new chemicals is generally predictable, their toxicity is not.

Biological Hazards: Biological research conducted within UVM laboratories is conducted at either biosafety containment level 1 or 2. Biosafety Level 1 work involves biological agents not known to cause disease in healthy adults. Biosafety Level 2 work involves moderate-risk agents associated with human disease which are not known to be transmissible by aerosol route, and for which preventive or therapeutic interventions are often available. Biosafety Level 2 laboratories are identified via signage at the entrance(s) to the laboratory that indicates Biosafety Level 2 (BSL-2).

Radiation Hazards: About 60 laboratories at UVM use radioactive isotopes in their work or contain x-ray equipment. Low levels of radioactive materials are used which typically produce radiation doses only slightly above natural background levels. The primary exposure route of concern associated with these radioactive isotopes is ingestion. X-ray devices are marked with radiation hazard signs; these devices produce X rays only when the power is on.

Physical Hazards: UVM laboratories include many physical hazards, such as: strong magnets; Class 3R, 3B and 4 lasers; gas cylinders; high voltage electricity; and batteries. Many of these are permanently located in specific rooms and these rooms are posted for the hazard. Some of these hazards move frequently depending on the needs of the work, so some rooms might not be posted for these hazards.

Combustion Hazards: In addition to the chemicals used and stored in UVM laboratories, many unusual materials are incorporated into the scientific equipment used. For example, Teflon and other unusual plastics are commonly used in many scientific applications. If these burn, they can create corrosive smoke, like when PVC or other building materials burn. The location of these materials is unpredictable.

UVM Environmental Health & Safety (EHS): EHS works closely with lab personnel to ensure safe operations and control of hazardous materials. EHS are available to assist in planning for and responding to laboratory incidents. UVM Police can page EHS personnel in emergency situations. Contact safety@uvm.edu with non-urgent questions or concerns.

Room Specific inventories available at https://riskmgmt.w3.uvm.edu/labhazards/

unfold for MAP

"Other Buildings" - Unusual Emergency Response Hazards

Aiken Center – offices/classrooms, with a hydroponics classroom in 213 with a support lab (minimal chemicals) in 214.

208 Flynn Ave Freezer Farm includes 200 freezers containing biological specimens and backup electrical power.

280 East Avenue includes on the east side, a large machine shop with a variety of machining equipment, and associated chemicals. The west side and basement are for library storage of books and papers.

655 Spear Street/Bio-Research Complex includes a series of buildings:

Ungulate Facility (665) containing animals and surgery suites, radioactive waste storage, and biological specimen collection.

BioResearch Complex Green Houses includes propane tanks for heating and small quantities of pesticides and fertilizers.

Environmental Safety Facility (667) is a permitted hazardous waste storage facility with chemical waste in DOT shipping containers. The inventory of wastes stored can be found at **https://riskmgmt.w3.uvm.edu/emergency**

Fleming Museum includes a carpentry shop, a large lecture hall in the basement, and artwork on display and in storage.

Forestry Research Garage is used for storage of vehicles, boats and other equipment, and small containers of fuels.

Fort Ethan Allen Complex [Essex] contains two workshops (330 and 340), one Automotive Repair Facility (350), and office spaces, one (321) contains compressed air cylinders and an exterior Asbestos Waste Trailer (marked & labelled).

Given Bunker attached to the Given loading dock, is a short-term hazardous waste storage area. A current inventory of wastes stored here can be found at **https://riskmgmt.w3.uvm.edu/givenbunker**

Greenhouse at Stafford Building includes storage of small quantities of pesticides & fertilizers.

Grounds Garage includes a variety of automotive shop related chemicals and fuels.

Innovation is connected to Discovery as one building. **Innovation Loading Dock** includes a LN2/dry ice room with an oxygen sensor.

Mann Hall contains a large UPS (room 002), which includes a lead-acid battery bank of 60 batteries and FM200 fire suppression system.

Miller Research Complex [South Burl.] working farm includes storage of hay for animal feed throughout, and various farm chemicals in working areas, as well as horses (<20) and cattle (<60).

Patrick Gym/Forbush/Gutterson includes storage of solid pool chemical tablets stored in 5-gallon pails (50 lb. - 200 lb. total) in the boiler room. The Gutterson Fieldhouse stores 500 gallons of ethylene glycol in the basement for the ice rink's cooling system. In addition, one Zamboni runs on propane with up to 6 propane cylinders to fuel this on hand.

Plumbing and Electrical Shop contains trade chemicals and welding supplies in the amounts generally associated with a small hardware store.

Outing Club includes storage of supplies such as fuel cylinders and plastics associated with camping gear.

Royall Tyler Theater includes a scenery shop with a variety of construction chemicals (paints adhesives, etc.). This building also includes the **Central Utilities Plant** which has 5 large boilers run by either natural gas or fuel oil and a variety of heating system treatment chemicals that are corrosive.

Southwick Hall contains a large UPS (room 103), which includes a lead-acid battery bank of 24 batteries and Halon fire suppression system.

Track & Field Storage Building contains gasoline and diesel-fuel field maintenance equipment.

Trinity Boiler House contains two natural gas fired boilers.

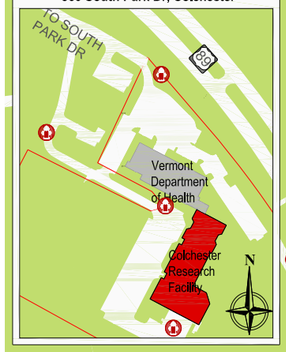
Waterman Building contains a large UPS in the basement (room 125), which includes a lead-acid battery bank of 24 batteries and FM200 fire suppression system.

Emergency Response Map 2023

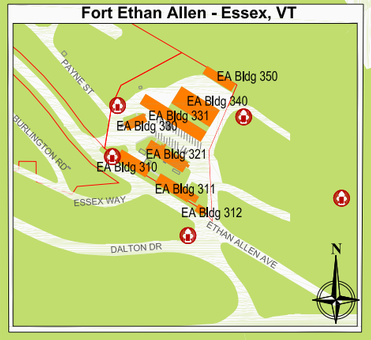
The University of Vermont

Map Produced by UVM Planning, Design, and Construction 2/21/2023

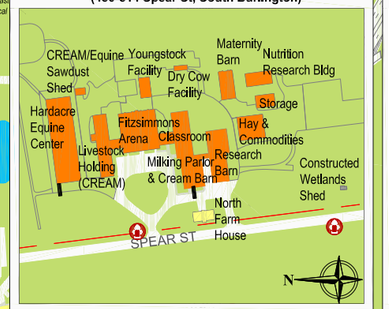
Colchester Research Facility
360 South Park Dr, Colchester



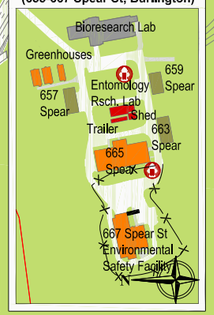
Fort Ethan Allen - Essex, VT



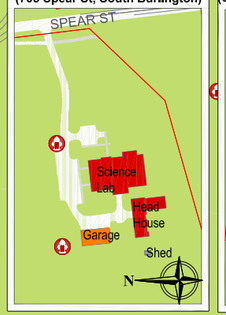
Miller Research & Educational Center
(430-514 Spear St, South Burlington)



Bio-Research Complex
(655-667 Spear St, Burlington)

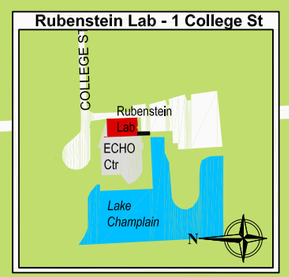


Forestry Research Cmplx
(705 Spear St, South Burlington)

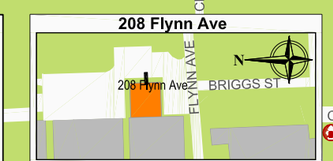


Horticultural Rsch & Edu Ctr
(65 Green Mt. Dr, South Burlington)

Rubenstein Lab - 1 College St



208 Flynn Ave



Map Legend

- Student Housing
- Laboratories
- Offices & Meeting Spaces
- Other
- Non-UVM Owned Bldg.
- Parking Lot
- Fire Hydrant
- Fire Dept. Connection

Centennial Campus
Trinity Campus
UVM Medical Center Main Campus
Central Campus
Athletic Campus
Redstone Campus
Centennial Woods Natural Area
Main Loop (Nature Path)
University Green
Wind Turbine
Jughandle
Lapoint Field House
Centennial Field Complex
Baseball Stands
Ticket/storage
HVAC & Elec Shop
CFC Storage Bldg
Visitor Field House
CHAMP Field House
Grounds Bldgs
Centennial Court Apartments (Privately Owned)
280 East Ave
Library Rsch Annex
282 East Ave
284 East Ave
Rescue Facility
Cottages
258
254
252
256
Mcauley Hall
Mccann
Hunt
Reade
Richardson
Sichel
Mercy Hall
Trinity Boiler House
St Joseph's Villa
Farrell Hall
Mann Hall
Delehanty Hall
UVM Medical Center Parking
UVM Med Ctr Parking Gar
Given Bunker
Given Medical Complex
Larner Learning Commons
Med Ed Ctr
Firestone Medical Rsch Bldg
Health Science Research Facility
Water Tower (City of Burlington)
James M. Jeffords Hall
Stafford Hall
Stafford Headhouse
Stafford Greenhouse
Rowell Hall
Converse Hall
Central Plant
East Pavilion
Fletcher
Engineering South
Shepardson
North Shepardson
Baird
Main Pavilion
Patrick
Smith
West Pavilion
McClure
Miller Building
Hills Agricultural Sci
Joseph E. Carrigan Wing
Benedict Auditorium
Aiken Ctr
Marsh Life Sciences
Ira Allen School
50 Fletcher Pl
East Central Campus Residence Hall
West
Howe Library
Terrill Bldg
Dudley H. Davis Ctr
Underpass
Johnson House
Adams Bldg 601 Main St
Nolin House 589 Main St
Fleming Museum
Kalkin Hall
Ifshin Hall
Perkins Hall
Votey Hall
Innovation Hall
Discovery Hall
Main Campus District Energy Plant
Royall Tyler Theatre
Lafayette Hall
Old Mill Annex
Old Mill
Williams Hall
Morrill Hall
Burlington Fire Dept Station #3
Mansfield House
Billings/Ira Allen Lecture Hall
Ira Allen Chapel
Billings Addition
Billings Library
Torrey Hall
23 Mansfield Outing Club
Lord House
Pearl House
Dewey Hall
City of Burlington Water Reservoir
Pomeroy Hall
481 Main
479 Main
Yen House
184 S Prospect St
Wadhams House
Clement
Bittersweet
Nicholson House
Old Hall
Clinic
St Joseph's Pavilion
Benedict House
Arnold Pavilion
Rehab
UVM Medical Ctr
1 S Prospect St
Boiler House
Waterman Building
Peirce-Spaulding House
109 South Prospect St Annex
439 College St
Wheeler House
Wheeler House Gar
Englesby House
Jacobs House
440 College St
The Lattie F. Coor House
70 South Williams
Booth House
86 South Williams
34 South Williams
Taft School/Cohen Hall
Jeanne Mance Hall
Grasse Mount
Jack & Shirley Silver Pavilion
Alumni House
Tupper Hall
Marsh Hall
Austin Hall
Millis Hall
Harris/Millis Commons
Harris Hall
L/L A
L/L B
L/L C
L/L D
L/L E
Living Learning Commons
University Heights North 1
University Heights North 2&3
University Heights South 2&3
University Heights South 1
Gutterson Parking Garage
MAC Court
Tarrant Event Ctr (Future)
Patrick Gymnasium
Gutterson Arena
Group Fitness & Multi-Purpose
Gucciardi Fitness Ctr
Moulton-Winder Field
Virtue Field Support Bldg
Virtue Field
Frank H. Livak Track & Field Facility
Track & Field Bldg
Catholic Ctr
Interfaith Ctr
Redstone Water Tower (City of Burlington)
Redstone Lofts Housing (Privately Owned)
Redstone Apartments (Privately Owned)
Music Bldg
Redstone Hall
Southwick Hall
Coolidge Hall
Simpson Hall
Hamilton Hall
Mason Hall
Wing Hall
Davis Hall
Wilks Hall
Robinson Hall
Patterson Hall
Wright Hall
Christie Hall
Slade Hall
Blundell House
322 South Prospect
Redstone Lodge
460 South Prospect
466 South Prospect
474 South Prospect
Overlake Park
To Downtown Burlington, Rubenstein Laboratory, and Lake Champlain (See Insert)
To Miller Research & Educational Ctr, Bio-Research Cmplx, Forestry Research Cmplx, and Horticultural Research Cmplx. (See Inserts)
To Catamount East Lot - UVM Medical Parking Only
EAST AVE
BEAUMONT AVE
SPEAR ST
EAST TERRACE
UNIVERSITY RD
CASE PKWY
BILODEAU CT
CATAMOUNT DR
CARRIGAN DR
MAIN ST
DAVIS RD
PERRY RD
UNIVERSITY HEIGHTS RD
UNIVERSITY TERR
ROBINSON PKWY
HENDERSON TERR
CLIFF ST
MANSFIELD AVE
UNIVERSITY PLACE
SOUTH PROSPECT ST
NORTH PROSPECT ST
COLCHESTER AVE
FLETCHER PL
MARY FLETCHER DR
PEARL ST
COLLEGE ST
MAPLE ST
HANDY CT
SUMMIT ST
GREEN MOUNTAIN WALKWAY
SOUTH WILLIAMS ST
0 225 450 FT
N