New Employee Orientation

Your Health and Safety at Boston University

704 Commonwealth Ave.  617-353-4094

Fuller Building 470  617-638-8830

www.bu.edu/ehs
Environmental Health and Safety

Environmental Health and Safety's mission is to provide a safe environment for students, employees, faculty, and staff as well as patients and others visiting our facilities and to help ensure compliance with federal, state, and local codes and regulations, in accordance with the Boston University Statement of Commitment to Environmental Health and Safety.

Environmental Health and Safety (EHS) is comprised of Campus & Clinical Safety, Emergency Response Planning, Environmental & Waste Management, Medical Physics & Radiation Safety, and Research Safety. These five divisions provide a full range of environmental, health, and safety services to the Boston University and Boston Medical Center communities.

- Emergency Response Plan
- Fire Safety
- New Employee Orientation to EHS at BU
- Boston University's Annual Security and Fire Safety Report
- NEWFire information on our Visitors in the Laboratory Policy and additional information regarding summer volunteers and visiting lab members please contact Research Safety via <a>research@bu.edu</a>
- Laboratory Safety Annual Refresher – Online: For your convenience the Online Safety Training Modules have been combined into one module and launched online. For more info or to take the training please log into your RMS Training Profile.

MSDS Search Engine
(available from <a>Vincent Safety Information Resources</a>)

EHS Divisions

- Campus & Clinical Safety
- Research Safety
- Environmental Management
- Medical Physics & Radiation Safety
- Emergency Response Planning
Emergency Contacts

<table>
<thead>
<tr>
<th>Emergency</th>
<th>CRC</th>
<th>BUMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security-related issues, medical emergencies</td>
<td>353-2121</td>
<td>414-4444</td>
</tr>
<tr>
<td>Facilities Related</td>
<td>353-2105</td>
<td>414-6666</td>
</tr>
<tr>
<td>Fires</td>
<td>353-2121</td>
<td>414-6666</td>
</tr>
<tr>
<td>Hazardous spills, EHS emergencies</td>
<td>353-2105</td>
<td>414-6666</td>
</tr>
<tr>
<td>Medical assistance related to laboratory work. Report ALL lab injuries or illnesses</td>
<td>414-7647</td>
<td>414-7647</td>
</tr>
<tr>
<td>Non Emergency Contacts</td>
<td>353-4094</td>
<td>638-8830</td>
</tr>
</tbody>
</table>
What is Hazard Communication (HAZCOM)?

- An OSHA standard
  - Changes to standards
- Your “Right to Know”
- Information on chemicals you work with.
- Knowledge reduces risk from chemical hazards
  - Policies and plans
  - Training
  - MSDS’s (SDS’s)
  - Door placards
  - Labels and warning signs

www.hazard.com/msds/index.php
Material Safety Data Sheets (MSDS) and Safety Data Sheets (SDS)

As part of OSHA adopting the GHS what you currently know as an MSDS will phase into an SDS.

- MSDS/SDS are provided with every chemical manufactured in the United States.
- MSDS/SDS contain a lot of information. EHS can help you interpret important points such as PPE, storage conditions, hazardous properties.
- You must review information from an MSDS/SDS prior to working with any chemical.
- You must have quick access to MSDS/SDS for chemicals you are using. You can obtain them from the EHS website, the manufacturers website, or hard copies kept in your area.

What does the change mean for you?

It means you must become familiar with the new universalized format. MSDS have no current required format but SDS will have a strict 16 category format and order. Researchers should begin updating MSDS libraries with SDS as they are received. You are not required to change them all at one time.
### MSDS/SDS Categories

1. **Identification** - Product identifier, manufacturer contact info, restrictions on use
2. **Hazard Identification** - Includes all hazards regarding chemical and label elements
3. **Composition/Ingredients** - Chemical ingredients, and trade name secrets
4. **First Aid measures** - Includes symptoms/effects, acute, delayed and treatment
5. **Firefighting measures** - Proper extinguishing techniques, equipment. Hazards from fire
6. **Accidental release measures** - Emergency procedures, ppe, containment and cleanup
7. **Handling and Storage** - Precautions for safe storage such as incompatibles
8. **Exposure Controls/PPE** - Lists PEL, TLV, engineering controls and ppe
9. **Physical and chemical properties** - Characteristics of a chemical
10. **Stability and Reactivity** - Possible reactions and stability of the substance
11. **Toxicological information** - Routes of exposure, symptoms, effects, numerical toxicity measures
12. **Ecological Information**
13. **Disposal Considerations**
14. **Transport information**
15. **Regulatory Information**
16. **Other information** - Preparation and revision dates

*OSHA doesn’t regulate information in these sections*
# NFPA 704 and New GHS Numbers

OSHA and NFPA worked together to produce this card to alleviate confusion.

These numbers should not cause confusion and are used for separate purposes.

OSHA and NFPA plan to reassess this as GHS unfolds to determine if changes are warranted.

## Comparison of NFPA 704 and HazCom 2012 Labels

<table>
<thead>
<tr>
<th>Purpose</th>
<th>NFPA 704</th>
<th>HazCom 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides basic information for emergency personnel responding to a fire or spill and those planning for emergency response.</td>
<td>Informs workers about the hazards of chemicals in workplace under normal conditions of use and foreseeable emergencies.</td>
<td></td>
</tr>
</tbody>
</table>

### Number System: NFPA Rating and OSHA’s Classification System

<table>
<thead>
<tr>
<th>NFPA 704</th>
<th>HazCom 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>1-4</td>
</tr>
<tr>
<td>0 = least hazardous</td>
<td>1 = most severe hazard</td>
</tr>
<tr>
<td>4 = most hazardous</td>
<td>4 = least severe hazard</td>
</tr>
</tbody>
</table>

* The Hazard category numbers are NOT required to be on labels but are required on SDSs in Section 2.
* Numbers are used to CLASSIFY hazards to determine what label information is required.

### Information Provided on Label

<table>
<thead>
<tr>
<th>NFPA 704</th>
<th>HazCom 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Haze &amp; Hazard</td>
<td>Health Haze and Hazard</td>
</tr>
<tr>
<td>(Health Hazard)</td>
<td>(Health Hazard)</td>
</tr>
<tr>
<td>Special Hazard(s) - Blue</td>
<td>Special Hazard(s) - Blue</td>
</tr>
<tr>
<td>Toxicity (Toxicity)</td>
<td>Toxicity (Toxicity)</td>
</tr>
<tr>
<td>Water Reactivity</td>
<td>Water Reactivity</td>
</tr>
<tr>
<td>Simple Asphyxiant</td>
<td>Simple Asphyxiant</td>
</tr>
</tbody>
</table>

### Health Hazards on Label

* Acute (short term) health hazards ONLY. Acute hazards are more typical for emergency response applications.
* Chronic health effects are not covered by NFPA 704.

### Flammability/Physical Hazards on Label

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HazCom 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divided Flammability and Instability hazards into two separate numbers on the label.</td>
<td>A broad range of physical hazard classes are listed on the label including explosives, flammables, oxidizers, reactives, pressurizers, combustible dusts and corrosives.</td>
</tr>
<tr>
<td>Instability in red section</td>
<td>Instability in red section</td>
</tr>
</tbody>
</table>

### Where to get information to place on label

**NFPA**


### Other

- The hazard category numbers found in section 2 of the H2012 compliant SDSs are NOT to be used to fill in the NFPA 704 diamond.
- Supplemental information may also appear on the label such as any hazards not otherwise classified, and directions for use.

### Website

- **NFPA**
  - [www.nfpa.org/704](http://www.nfpa.org/704)
- **OSHA**

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Laboratory Door Placard

Information

- PI and #
- LSC and #
- Safety Specialist and #
- Emergency Phone Numbers
- Proper PPE
- Biosafety Level
- Additional Hazards
- NFPA Diamond
- Class 3b or 4 lasers
- Radiation
# Waste Disposal Chart

<table>
<thead>
<tr>
<th>Waste Type</th>
<th>Best Place For:</th>
<th>NOT Appropriate For:</th>
<th>Management:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Garbage/Recycling</strong></td>
<td>○ Non-contaminated gloves, paper, chucks, general waste items.</td>
<td>○ Items which are biological or radiological contaminated.</td>
<td>Collected by custodial staff.</td>
</tr>
<tr>
<td></td>
<td>○ If the item is recyclable please assist our efforts in waste reduction.</td>
<td>○ Chemicals</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ Sharp objects including broken glass</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ Centrifuge tubes</td>
<td></td>
</tr>
<tr>
<td><strong>Red Bag Lined Biological Waste Box</strong></td>
<td>○ Infectious solids, such as Petri dishes, contaminated gloves, chucks, etc.</td>
<td>○ General, uncontaminated trash as this is very wasteful.</td>
<td>Containers Provided / Removed by:</td>
</tr>
<tr>
<td></td>
<td>○ Contaminated, un-broken glass objects free of liquids.</td>
<td>○ Sharps and broken glass</td>
<td>○ Housekeeper (Med)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ Liquids</td>
<td>○ EHS (CRC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ Radiological contaminated items</td>
<td>Laboratory staff build the box, double-line it with redbags, and close full bags and boxes.</td>
</tr>
<tr>
<td><strong>Sharps Container</strong></td>
<td>Sharps including:</td>
<td>○ Chemicals</td>
<td>Containers Provided / Removed by:</td>
</tr>
<tr>
<td></td>
<td>○ Needles,</td>
<td>○ Radiological contaminated items</td>
<td>○ Housekeeper (Med)</td>
</tr>
<tr>
<td></td>
<td>○ Scalpels,</td>
<td><strong>Do not over-stuff.</strong></td>
<td>○ EHS (CRC)</td>
</tr>
<tr>
<td></td>
<td>○ Razor blades,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>○ Pasteur pipettes,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>○ Contaminated broken glass or broken plastic.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Glass Disposal</strong></td>
<td>○ Un-contaminated glass (broken and unbroken)</td>
<td>○ Biological or radiological contaminated items</td>
<td>○ Provided by Laboratory Staff.</td>
</tr>
<tr>
<td></td>
<td>○ Uncontaminated broken (sharp) plastic objects</td>
<td>○ Chemicals</td>
<td>○ Full, closed boxes removed by Custodial Staff.</td>
</tr>
<tr>
<td></td>
<td>○ Uncontaminated ‘pointy’ plastic items (ex: large pipettes)</td>
<td>○ Fluorescent bulbs</td>
<td></td>
</tr>
<tr>
<td><strong>Satellite Accumulation Area</strong></td>
<td>○ Chemical Wastes</td>
<td>○ Biological or radiological contaminated items</td>
<td>○ Must be managed by Laboratory Staff.</td>
</tr>
<tr>
<td></td>
<td>○ Chemical Spill Debris</td>
<td>○ Sharps</td>
<td>○ Full containers removed by EHS.</td>
</tr>
<tr>
<td></td>
<td>Training, signage, container closure, labeling, inspections, and other rules apply.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Radiological Waste Container</strong></td>
<td>Radiological contaminated items such as:</td>
<td>○ Liquids,</td>
<td>○ Must be managed by Laboratory Staff.</td>
</tr>
<tr>
<td></td>
<td>○ Gloves,</td>
<td>○ Chemicals</td>
<td>○ Full containers removed by EHS.</td>
</tr>
<tr>
<td></td>
<td>○ Bench chucks,</td>
<td>○ Sharps</td>
<td></td>
</tr>
<tr>
<td></td>
<td>○ Paper,</td>
<td>○ Lead Pigs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>○ Plastic</td>
<td>○ Radiological Sources</td>
<td></td>
</tr>
</tbody>
</table>
Personal Protective Equipment (PPE)

Depending on your job you may be required to wear PPE
Asbestos Containing Materials

Many building materials in buildings contain asbestos. These materials may include:

- Walls
- Ceilings
- Floors
- Adhesives
- Insulation

Although present, it DOES NOT pose a health hazard or safety risk unless it becomes friable. Asbestos is only hazardous if inhaled or ingested.

Should you have questions regarding possible asbestos containing materials in your work area(s), contact EHS at 617 638-8830 at BUMC or 617 353-4094 at CRC.
What type of training do YOU need?

The answer is dependent on what you do at work:

Research Safety

Research or clinical Laboratory work:

- Laboratory Safety Training

Covers laboratory safety protocols, emergency response, waste management and other pertinent topics. Sessions are held monthly.

Any work that involves BL3-level Organisms:

- BL3 Training

Required for anyone working with BL-3 level biological agents. Sessions can be scheduled by calling EHS @ 638-8830 or 353-4094.

Any work that involves Select Agent use:

- Select Agent Training

Offered to those employees working with Biological Select Agents or Toxins, as required by the BU Select Agent Program. Sessions can be scheduled by calling EHS @ 638-8830 or 353-4094.

Any work that involves Shipping of Biologicals:

- Shipping Biologicals Training

Offered to persons who will be packaging or shipping biohazardous materials, including human or animal specimens of a research or clinical nature (including Select Agents). Trainings are offered monthly or by request @ 638-8830 / 353-4094.
What type of training do YOU need?

Radiation Safety

Any work that involves Radioisotopes, X-rays or Irradiators:

Radiation Protection Training

Topics include radiation safety, isotope management, laser safety, waste disposal, and much more. You can register by calling the Office of Medical Physics & Radiation Safety @ 8-7052.

Other trainings available in programs such as:

- Campus & Clinical
- Lab Animal Science
- Environmental Management
- Controlled Substances

For more information on the various trainings offered by EHS go to our training website @

http://www.bu.edu/orctraining/home/
Employee Accidents (Charles River Campus)

What should you do if you’re hurt at work?

Seek medical attention at:

**The Occupational Health Center:**
930 Commonwealth Avenue
Open Monday – Friday (9am – 5pm)
Contact #: 617-353-6630

**Research Occupational Health Program (ROHP):**
Evans Building, 8th floor (Medical Campus)
Injuries or exposures occurring in research laboratories
Contact #: 617-414-ROHP (7647)

**The Emergency Department:**
Menino Pavilion, 840 Harrison Ave (Medical Campus)
Contact # 617-638-6340

BUPD shall be contacted for any serious emergencies requiring their assistance:
617-353-2121

• In all cases an Accident Report form shall be filled out.
Employee Accidents (Medical Campus)

What should you do if you’re hurt at work?

Seek medical attention at:

Occupational and Environmental Medicine
DOB 7th floor, M-F 7:30 - 4:00
617 638-8400

The Emergency Department
Menino Pavilion, 840 Harrison Ave
(Medical Campus)
Contact # 617-638-6340

Research Occupational Health Program
(ROHP)
Evans Building, 8th floor (Medical Campus)
Injuries or exposures occurring in research laboratories
Contact #: 617-414-ROHP (7647)

• In all cases an Accident Reporting and Analysis (ARA) form shall be filled out.
Emergency Communications

Alerts
Important alerts affecting the BU community. An example would be Emergency Closing

Advisories
Pending emergencies such as potential severe weather

http://www.bu.edu/ehs/comm/

Interactive Flip Chart for emergency contacts and information
Emergency Instruction flip charts are located throughout all areas of the University.

Recently the charts for each campus were combined into one.

This is a quick reference and provides initial actions and contact information for the following emergencies:

More information can be found on the EHS website in the Emergency Response Plans.

Emergency Phone Numbers

Fire Response/ Evacuation

Chemical Spill/ Exposure

Biological Spill/ Exposure

Bomb Threat/ Suspicious Package

Workplace Violence/ Active Shooter

Weather Emergencies

Utility Failure

Emergency Operations Plan

Incident Accident Reporting

This flip chart serves as a quick reference in the event of an emergency. Refer to the appropriate section for relevant information. For additional information on safety policies or procedures, contact Environmental Health and Safety at (617) 638-8830 (BUMC) or (617) 353-4094 (CRC), or visit http://www.bu.edu/ehs.

To directly view this flip chart online, visit www.bu.edu/ehs/flipchart.

Please note this document serves Boston University’s Charles River Campus (CRC), Boston University Medical Campus (BUMC), and Boston Medical Center (BMC). The distinction is necessary due to the geographic separation of the two campuses and the associated implications on emergency response.

August 2012
Incident Command System

The Emergency Phases to initiate BU’s emergency response plan:

“PHASE A” - Phase A response is considered a report of a potential emergency event or one which can be handled through personnel on-site at the time of the incident.

“PHASE B” – A Phase B event will be declared when a response to an event requires the assistance of personnel from other departments.

“PHASE C” – A Phase C disaster will be declared when a major event exists which requires assistance from personnel that are presently not on site. It may also require assistance from contractors and outside agencies.

• Each department is responsible for notifying their own staff during these declarations.
• Your supervisor will inform you of your role during university emergencies.
• All staff are encouraged to learn more about basic emergency response at BU by completing an interactive online training program. Please visit bu.edu/ehs/comm/ to see instructions for “Managing Emergencies Online Training”.
• Visit bu.edu/ehs/plans/management-plans/emergency/ for more information.
Fire Response

In case of fire, think RACE

- **Rescue/Remove** anyone in immediate danger as long as you don’t put yourself at greater risk.

- **Alert** everyone in the area and **Activate** the fire alarm.

- **Contain** the fire and smoke by closing the fume hood sash, cabinet, lab door, etc.

- **Extinguish** and **Evacuate** the area and proceed to the designated assembly location.

Report the fire: at BUMC call 414-6666 at CRC call 353-2121
Extinguish: Fire Extinguishers

Must be inspected monthly and certified annually. Only use a fire extinguisher if:

• You have to fight the fire to save your own life
• It is a small fire that is safe to extinguish, and you have been properly trained

How to use a fire extinguisher:
Remember the acronym PASS

• Pull the retaining pin

• Aim the nozzle at the base of the flame

• Squeeze the handle to discharge contents of extinguisher

• Sweep from side to side to put the fire retardant directly on the fuel of the fire
Fire Safety Information

**Sprinkler Heads**

- Items stacked underneath impede sprayed water
- Missing ceiling tiles allow heat to rise past the sprinkler head

**Fire Doors**

- Doors into and out of rooms and doors in hallways are designed to keep a fire contained on one side.
- Some external doors are delayed-opening. These doors will open after a few seconds (they’re locked electronically) and are marked with large, red signs.

**Heat-activated**: Anything that prevents or delays heat from a fire from reaching the sprinkler is delaying its activation:
Evacuate: Paths of Egress

In a fire situation this may be all you see
Evacuate: Paths of Egress

This is what you don’t see

Make sure egress routes and fire doors are clear and free of obstructions at ALL times.
Information you can find on the Ergonomics website:

- Self Help Guide:
  - for computer workstations
- Healthy Computing Guide
  - equip. related to the computer workstation
- Computer Workstation Stretches
- Stretch Break Software
  - can be downloaded for free

- EHS office is available to conduct site ergonomic evaluations though we ask that you first conduct a self assessment using the on-line self help guide. If you suspect an injury please seek an evaluation at Occupational Health.

http://www.bu.edu/ehs/ergonomics/
This letter stating the President of BU, Robert Brown’s Commitment to Environmental Health and Safety can be viewed on the EHS website at:

http://www.bu.edu/ehs/