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 employees, faculty, and staff as well as patients and visitors to our facilities. The purpose of established programs are not only to provide a safe environment but also to help to ensure compliance with federal, state, local codes, and regulations. Environmental Health and Safety (EHS) provides a full range of environmental, health, and safety services to the Boston University and Boston Medical Center communities.

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>
</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.

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## 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>Inform workers about the hazards of chemicals in workplaces under normal conditions of use and foreseeable emergencies.</td>
<td></td>
</tr>
<tr>
<td>Number System: NFPA rating and OSHA's Classification System</td>
<td>1-4</td>
<td>1-4</td>
</tr>
<tr>
<td>1-4-most severe hazard</td>
<td>1-4- most severe hazard</td>
<td></td>
</tr>
<tr>
<td>2-very hazardous</td>
<td>2-very hazardous</td>
<td></td>
</tr>
<tr>
<td>3-slightly hazardous</td>
<td>3-slightly hazardous</td>
<td></td>
</tr>
<tr>
<td>4-minor hazard</td>
<td>4-minor hazard</td>
<td></td>
</tr>
<tr>
<td>Intended Provided on Label</td>
<td>Health-blue</td>
<td>Product identifier</td>
</tr>
<tr>
<td></td>
<td>Flammability-red</td>
<td>Sign/Word</td>
</tr>
<tr>
<td></td>
<td>Instability-Yellow</td>
<td>Hazard Statement(s)</td>
</tr>
<tr>
<td></td>
<td>Special Hazard(s)-White</td>
<td>Pictogram(s)</td>
</tr>
<tr>
<td></td>
<td>OK Orsizers</td>
<td>Precautionary statement(s):</td>
</tr>
<tr>
<td></td>
<td>W Water Reactive</td>
<td>Emergency response; and</td>
</tr>
<tr>
<td></td>
<td>S; Simple Asphyxiant</td>
<td>number of responsible party</td>
</tr>
<tr>
<td>Health Hazards on Label</td>
<td>Acute (short-term) health hazards ONLY.</td>
<td>Acute (short-term) and chronic (long-term) health hazards.</td>
</tr>
<tr>
<td></td>
<td>Acute hazards are more typical for emergency response applications.</td>
<td>Both acute and chronic health effects are relevant for employees working with chemicals day after day. Health hazards include acute hazards such as eye irritants, skin corrosives, as well as chronic hazards such as carcinogens.</td>
</tr>
<tr>
<td></td>
<td>Chronic health effects are not covered by NFPA 704.</td>
<td></td>
</tr>
<tr>
<td>Flammability/ Physical Hazards on Label</td>
<td>NFPA divides 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, flammable liquids, oxidizers, reactive substances, pyrophoric substances, combustible dusts and corrosives.</td>
</tr>
<tr>
<td></td>
<td>Flammability in red section; instability in yellow section</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>The hazard category numbers listed in section 7 of the HIC2013 compliant RBES are NOT to be used for fill-in the NFPA 704 diamond</td>
<td>Supplemental information may also appear on the label such as any hazards not otherwise classified, and directions for use.</td>
</tr>
</tbody>
</table>

Website:
- [NFPA.org](http://www.nfpa.org)
- [OSHA.gov](http://www.osha.gov)
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>Category</th>
<th>Best Place For:</th>
<th>NOT Appropriate For:</th>
<th>Management:</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Garbage/Recycling</td>
<td>o  Non-contaminated gloves, paper, chucks, general waste items.</td>
<td>o  Items which are biological or radiological contaminated.</td>
<td>Collected by custodial staff.</td>
</tr>
<tr>
<td></td>
<td>o  If the item is recyclable please assist our efforts in waste reduction.</td>
<td>o  Chemicals</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>o  Sharp objects including broken glass</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>o  Centrifuge tubes</td>
<td></td>
</tr>
<tr>
<td>Red Bag Lined Biological Waste Box</td>
<td>o  Infectious solids, such as Petri dishes, contaminated gloves, chucks, etc.</td>
<td>o  General, uncontaminated trash as this is very wasteful.</td>
<td>Containers Provided / Removed by:</td>
</tr>
<tr>
<td></td>
<td>o  Contaminated, un-broken glass objects free of liquids.</td>
<td>o  Sharps and broken glass</td>
<td>o  Housekeeper (Med)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o  Liquids</td>
<td>o  EHS (CRC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o  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>Sharps Container</td>
<td>Sharps including:</td>
<td>o  Chemicals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o  Needles,</td>
<td>o  Radiological contaminated items</td>
<td>Containers Provided / Removed by:</td>
</tr>
<tr>
<td></td>
<td>o  Scalpels,</td>
<td></td>
<td>o  Housekeeper (Med)</td>
</tr>
<tr>
<td></td>
<td>o  Razor blades,</td>
<td></td>
<td>o  EHS (CRC)</td>
</tr>
<tr>
<td></td>
<td>o  Pasteur pipettes,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>o  Contaminated broken glass or broken plastic.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Do not over-stuff.</strong></td>
<td>Multiple sizes available</td>
</tr>
<tr>
<td>Glass Disposal</td>
<td>o  Un-contaminated glass (broken and unbroken)</td>
<td>o  Biological or radiological contaminated items</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o  Uncontaminated broken (sharp) plastic objects</td>
<td>o  Chemicals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o  Uncontaminated ‘pointy’ plastic items (ex: large pipettes)</td>
<td>o  Fluorescent bulbs</td>
<td></td>
</tr>
<tr>
<td>Satellites Accumulation Area</td>
<td>o  Chemical Wastes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>o  Chemical Spill Debris</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Training, signage, container closure, labeling, inspections, and other rules apply.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiological Waste Container</td>
<td>Radiological contaminated items such as:</td>
<td>o  Biological or radiological contaminated items.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o  Gloves,</td>
<td>o  Sharps</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o  Bench chucks,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>o  Paper,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>o  Plastic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Must be managed by Laboratory Staff</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>o  Full containers removed by EHS.</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.
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.
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.
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**

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

- 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.
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.
Computer & Workstation Ergonomics

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/