



# Environment, Health and Safety Department Facilities Planning & Management UNIVERSITY OF WISCONSIN-MADISON

Paul Umbeck  
Director

April 15, 2013

## FACILITY MANAGERS MEETING

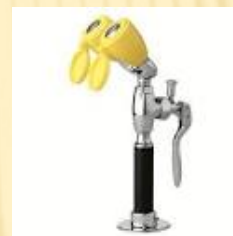
# TOPICS

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- ✖ Emergency Eyewashes
- ✖ Flip Packs
- ✖ Oxygen Depleting Gases

# EMERGENCY EYEWASH MAINTENANCE

- ✗ Many Types & Styles
- ✗ Emergency eyewashes often go unused; critical to test these devices regularly to ensure they function properly in an emergency
- ✗ Studies show that seconds immediately following an eye injury or chemical splash are critical to minimizing damage
- ✗ If the eyewash uses tap water, it is recommended that they be flushed weekly.
- ✗ Contact:
  - + Jeff Schiller
  - + (608) 225-7693
  - + [jschiller@fpm.wisc.edu](mailto:jschiller@fpm.wisc.edu)



# FLIP PACKS

- Used for the transport of liquids/chemicals i.e., lab to lab or building to building movement on campus only
- NOT designed for transporting chemicals/liquids in commerce
- If you see these in your building or on the loading dock, please contact EH&S
- Contact:
  - Troy Vannieuwenhoven
  - 262-1072
  - [tvannieuwenhoven@fpm.wisc.edu](mailto:tvannieuwenhoven@fpm.wisc.edu)



# Request a Flip Pack Pick Up on the EH&S Website

## Chemical Disposal/ Surplus Pickup Request Form

UNIVERSITY OF WISCONSIN-MADISON

Environment, Health & Safety  
Division of Facilities Planning & Management

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HOME ABOUT EH&S EH&S PROGRAMS LAB & RESEARCH FACILITIES LAKE CAMPUS AFFILIATES

tornado & severe weather awareness week  
april 21 - 25  
>> Click to learn more

**About EH&S**  
Safety is a daily practice at UW-Madison. EH&S envisions a campus where safety awareness and compliance are integrated into everyday operations, making this University a model for safe research and education.  
>> [Learn More](#)

**POPULAR SEARCHES**

Services	Guidance/Policy	External Links
Abatement/Asbestos	Animal Contact	Animal Risk Questionnaire
Biosafety Cabinet Certification	Research Bloodborne Pathogens	HP Assist Login
Biosafety Protocol	Chemical Hygiene Plan	IBC Internal Login
CORD	Combustible Storage	Pathogen Safety Data Sheets
Dosimetry	DEA Controlled Substances	Select Agent Login
Fire Extinguishers	Facility Exit & Evacuation	
Lab Remodeling Assessment	Hazard Communication	<b>* Moved to UHS:</b>
Lab Inspections/Outreach	Hazmat Shipping	- Ergonomics
Lake Conditions	Lab Safety Guide	- Safety Eyeglasses
Personal Protective Equip	Pesticides	- Respiratory Protection
Safety Data Sheets	Sharps Policy	- Noise & Hearing Conservation
Shower & Eyewash Stations	Spill Information	- Reproductive Hazards

**QUICK LINKS**

- Emergencies**  
Protocol & contact info for emergency situations
- Training**  
Descriptions & schedules for our training courses
- Disposal Services**  
Disposal of chemicals, animal tissue & sharps
- Forms/Manuals/Signs**  
Pull any form, manual or sign from our database
- Contact List**  
Look here for staff member contact information

**NEWS**

**Important Service Changes**  
With the goal of improving the delivery of health and safety services on campus, EHS and UHS are excited to announce service and location changes effective January 1st.

**Lake Safety - Now Hiring**  
Our Lake Safety team is now hiring Lifesaving Station Operators (LTEs) and Student Lifeguards for the 2014 season.  
>> [More News](#)

Environment, Health & Safety, 30 East Campus Mall, Madison, WI 53715-1227 | 608-265-5000 | Fax: 608-262-6767  
Feedback, questions or accessibility issues: [ehs@fpm.wisc.edu](mailto:ehs@fpm.wisc.edu)  
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<http://www.ehs.wisc.edu/chemicaldisposalpickup.htm>

# OXYGEN DEPLETING/ DISPLACEMENT GASES

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- ✖ <http://www.fireengineering.com/topics/m/video/46427462/phoenix-az-fire-department-safety-alert-liquified-co2.htm>

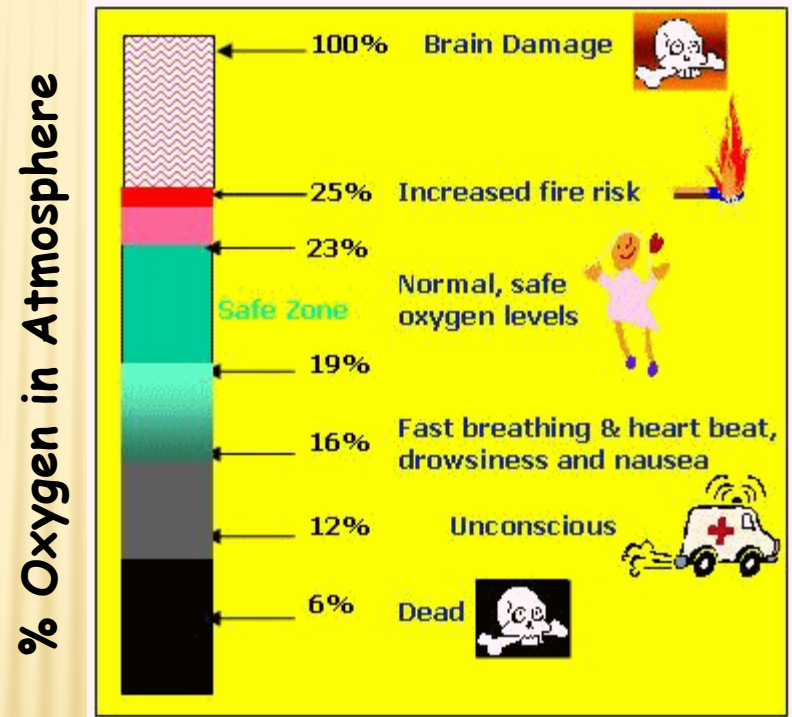
# EFFECTS OF OXYGEN DEFICIENCY

Oxygen Levels (%)	Symptoms of Exposure
19.5	Minimum oxygen level without adverse effect.
15-19	Decreased ability to work strenuously. Impaired coordination. Early symptoms.
12-14	Breathing rate increases, increase in heart rate. Impaired coordination, perception & judgment.
10-12	Breathing further increases in rate & depth, lips turn blue. Poor judgment.
8-10	Mental failure. Fainting. Nausea. Unconsciousness. Vomiting.
6-8	8 minutes – fatal, 6 minutes – 50% fatality, 4-5 minutes – possible recovery.
4-6	Coma within 40 seconds, convulsions, breathing stops, death.

# ATMOSPHERIC HAZARDS OF CONCERN

Rapid release of a gas into an enclosed space can displace oxygen  
→ asphyxiation (suffocation) hazard

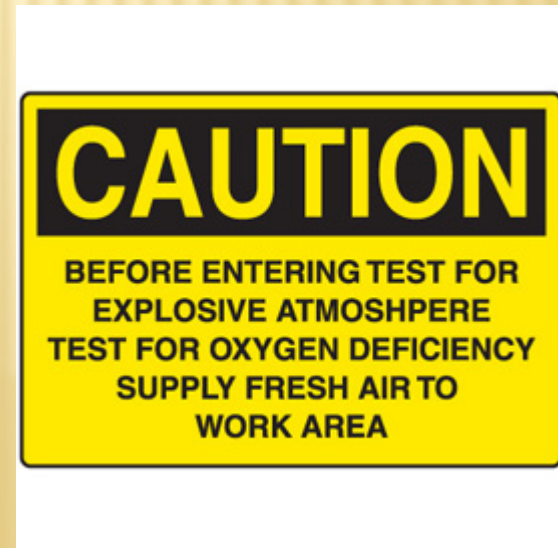
- ✗ Carbon Dioxide ( $\text{CO}_2$ )
- ✗ Helium ( $\text{He}$ )
- ✗ Liquid Nitrogen ( $\text{N}_2$ )
- ✗ Dry Ice (solid  $\text{CO}_2$ )
- ✗ Oxygen ( $\text{O}_2$ )
  - + >23.5% oxygen
  - + Extreme fire hazard
  - + Static electricity (hair or clothing can provide the ignition to start a fire)



# WHY SHOULD YOU BE CONCERNED?

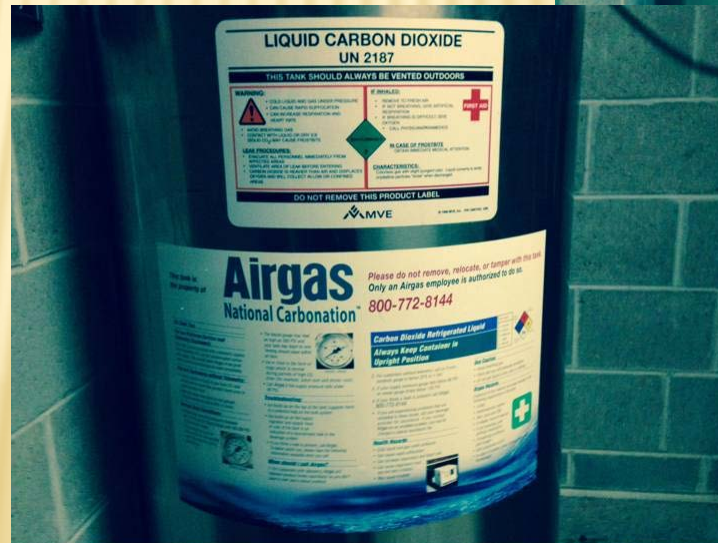
- ✖ Suffocation can occur in seconds!
- ✖ Many areas do not fit the definition of a confined space and are not "signed" or posted as permit requiring. They must meet all 3 criteria:
  - + Limited or restricted entrance or exit
  - + Not a workspace or area designed for continuous occupancy
  - + Area must be large enough to walk into
  - + Has the potential for a significant atmospheric hazard
- ✖ Examples include tanks, silos, storage bins, vaults, manholes, tunnels, equipment housing

# SIGNAGE EXAMPLES



# LIQUID CARBON DIOXIDE CYLINDER

- ✗ Union South
- ✗ Located in a small back hallway
- ✗ Fixed oxygen monitor
- ✗ Signage indicates only Airgas Employee is authorized to remove, relocate or tamper with cylinder
- ✗ Cylinder is the property of Airgas
- ✗ Is the oxygen monitor serviced by Airgas???



# AREAS OF CONCERN THAT DO NOT MEET ALL THE CONFINED SPACE CRITERIA

- ✖ Many locations on campus where there is a potential for hazardous atmosphere i.e., asphyxiation hazards, but do not meet the confined space criteria include:
  - + Basements
  - + Any area where there is no or poor ventilation
  - + Walk-in freezers and refrigerators
  - + Dry ice containers



# WHAT CAN YOU DO TO HELP?

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- ✗ EH&S is trying to create an inventory of areas of concern
  - + If you think you have an area of concern, contact EH&S for assistance with a risk assessment
  - + EH&S will conduct an evaluation of the area to determine if a hazard exists and make a recommendation for necessary controls
  - + EH&S can provide training on the hazards and appropriate administrative controls (e.g., signage, monitoring, detectors)