Safety Bulletin

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Environmental Health & Safety

What's Inside

Laser Safety In the News and at Yale

The Food and Drug Administration (FDA) regulates all kinds of lasers, both for medical and nonmedical use. Most laser products contain a required warning about hazards and a statement certifying that the laser complies with FDA safety regulations. The label must also state the power output and the hazard class of the product.

Lasers that emit less than 5 milliwatt (mW) output power are legal for purchase for private use. These are often used for presentations, as levels and gun sights. Green lasers are often used by amateur astronomers as they can emit light high into the night sky.

Along with eye and skin injuries that have been on the rise in the last few years, the FDA has also reported an increase in incidents reported by the Federal Aviation Administration (FAA) of pilots experiencing temporary flash-blinding when lasers are aimed at aircrafts from the ground. This includes both handheld lasers as well as laser projectors used for holiday light decorations, which are meant to be aimed at a house, but when they miss the mark, the laser can travel high into the sky. In December 2015, a Boeing 737 near Dallas-Fort Worth Airport reported seeing lasers at 13,000 feet from a holiday light display.

Using a laser to illuminate an aircraft is a federal crime and individuals convicted of shining lasers on an aircraft are subject to fines and may be sentenced to prison time.

Use Caution

There are many laser pointers available on the Internet that are more powerful than advertised.

If you purchase a laser pointer for private use, the FDA recommends the following safety measures:

- Do not buy laser pointers for children or allow children to use them. These products are not toys.
- Do not buy any laser pointer that emits more than 5 mW output power for private use. Do not buy any laser pointer that does not have the output power printed on the warning label.
- Do not aim or shine laser pointers at any person, pet, vehicle, or aircraft directly, or through reflection by mirrors or other shiny surfaces.

Higher powered lasers, known as Class IIIB (5 mW-500 mW) and Class IV (over 500 mW) should only be used by well-trained individuals. At Yale, these high-powered lasers are purchased for University-use through Sciquest so the order can be tracked by EHS and the purchaser can be contacted to ensure the proper use and setup of the device.

Yale maintains laser safety experts in the EHS office and has a designated Laser Safety Officer. If you have any questions regarding laser pointers or laser safety, please contact lasersafety@yale.edu.

Baby, It's Cold Outside

Working outdoors in cold weather brings its own health and safety issues. Whenever temperatures drop decidedly below normal and as wind speed increases, heat can more rapidly leave your body, leading to cold-related injuries and illnesses including frostbite and hypothermia.

Cold weather puts an extra strain on the heart. If you have heart disease or high blood pressure, follow your doctor's advice about shoveling snow or performing other hard work in the cold. Otherwise, if you have to do heavy outdoor work, dress warmly and work slowly. Remember, your body is already working hard just to stay warm, so don't overdo it.

Be aware of the wind chill index, which is the temperature your body feels when the air temperature is combined with the wind speed. As wind speed increases, it can carry heat away from your body quicker, causing skin temperatures to drop.

Here are some tips to help you stay warm and safe during the cold weather:

- Wear several layers of loose clothing. Tight clothing can reduce blood circulation.
- Be sure to protect to your ears, face, hands and feet. Boots should be insulated and waterproof.
- Move into warm locations during work breaks.
- Avoid touching metal surfaces with your bare skin.
- Monitor your physical condition along with that of your coworkers.

Dual Use Research of Concern

At its core, Environmental Health and Safety (EHS) aims to keep members of the Yale community safe. It provides trainings, information and is involved in decision-making throughout the campus to ensure this happens. It has committees to review various safety hazards ranging from radioactive materials to biological waste.

In light of new regulations by the federal government requiring the review of potential misuse of harmful materials, EHS has implemented a new policy regarding Dual Use Research of Concern (DURC). Although the government has just recently instituted these regulations, Yale faculty has always been extremely careful in ensuring that this research was done safely.

DURC is life sciences research that can be beneficial to provide knowledge, information, products or technologies, but could be dangerous if the agents or toxins needed for the research are used inappropriately. The federal government has created a list of 15 agents or toxins that have been identified as DURC Agents and fall under this newly-created policy.

The Principal Investigator must notify the Institutional Review Entity (IRE), a committee of Yale faculty members, by contacting EHS if they are anticipating or proposing research directly involving nonattentuated forms of any of the DURC Agents and may not proceed with their research without IRE approval.

The IRE will then review the research to determine if it meets the criteria of DURC, notify the principal investigator, and, based on the findings, may develop a mitigation plan.

Click here to read the complete policy.

EHS Honors its Employee of the Year

Environmental Health and Safety proudly honors Emma Bahroos as our 2015 Employee of the Year. Emma started at EHS in 2012, and soon gained respect and appreciation as a Safety Advisor.

As our Laser Safety Officer, Emma quickly learned the details of the job and, with the help of consultants, conducted laser safety audits of over 200 lasers within months of beginning her employment.

We know her to be organized, personable, energetic, and analytical. We thank Emma for her hard work in helping to keep Yale safe.

Congratulations Emma!

Emma Bahroos, left, and EHS Director Peter Reinhardt

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"Tomorrow - Your reward for working safely today." - Robert Pelton

Rules of the Road

Winter driving can be dangerous, especially when snow and ice are involved. The Occupational Safety and Health Administration and the National Highway Traffic Safety Administration have developed the following three P's of safe winter driving:

Prepare

- Check your car battery, tire tread, windshield wipers and antifreeze.
- Keep an emergency kit in your car with a flashlight, jumper cables, abrasive material (sand, kitty litter), a shovel, snow brush and an ice scraper.
- Plan your route and allow extra time to arrive at your destination.
- Practice driving in ice or snow during daylight in an open parking lot. Practice steering into a skid and using your brakes on slippery surfaces to see how they will respond.

Protect

- Buckle up and use child safety seats properly.
- Never place a rear-facing infant seat in front of an air bag.
- Children 12 and under are much safer in the back seat.

Prevent

- Reduce your speed and increase your distance between the car in front of you.
- Keep your eyes open for pedestrians walking in the road.
- Do not drive while fatigued, stop every three hours and rotate drivers if possible.
- If you are planning to drink alcohol, designate a sober driver.

Free Plexiglass Shielding Available

EHS has several different sizes of plexiglass shielding along with boxes with hinged lids and loose shields in its West Campus store room available for free to the Yale community. If you are interested, please visit the Eli Surplus Exchange, e-mail waste.requests@yale.edu or call 203-432-6545. EHS will deliver the plexiglass right to your lab and can arrange a visit to West Campus if you would like to see the available sizes.