

Wright-Patterson AFB, Ohio

**Environmental, Safety and
Occupational Health
(ESOH) Newsletter**



August 2001



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Ozone Action Day Notice

Tuesday, 7 August 2001

The Regional Air Pollution Control Agency (RAPCA), in conjunction with the Regional Ozone Action Program, has issued an ozone action day notice for Tuesday, 7 Aug 01 for Clark, Greene, Miami and Montgomery counties.

This means that weather/heat conditions are such that high concentrations of ground-level ozone (smog) levels are likely. The elderly and children or adults with breathing problems are encouraged to stay indoors especially between 1:00 p.m. and 4:00 p.m. Ground-level ozone (smog) is formed when bright sunlight mixes with emissions from vehicles and small gasoline-powered engines. These emissions collect in a stagnant air mass and form smog. It's important that everyone takes action to reduce ground-level ozone especially on days when these notices are issued.

All are encouraged to follow these actions:

- Avoid driving if possible. Carpool/vanpool or take the bus. Vehicle emissions cause almost 50% of ground-level ozone. For short trips, walk or ride a bike. Miami Valley RTA will offer \$.25 fares on all fixed routes on ozone action days. Call rideshare at 223-save or 1-800-743-save for a list of potential carpoolers/vanpoolers.
- Refuel your vehicle only after 6:00 p.m., or if possible, don't refuel at all on ozone action days. Vapors from gasoline contribute to the smog problem. By refueling after 6:00 p.m. when it's cooler, smog doesn't form as easily. Make sure your gas cap fits tightly so gas fumes don't contribute to the problem.
- If you must drive, try to combine running errands or delay them until the ozone action day notice is lifted.
- Drive a car that is well-tuned. "Jackrabbit" acceleration and excessive idling, especially at "drive-thru" windows, can cause tremendous amounts of emissions.
- Around the home, limit your use of small gasoline-powered equipment such as lawn mowers, chainsaws, power trimmers and shredders. Operating a gasoline-powered lawn mower for one (1) hour produces the same amount of pollution as driving a car for eleven (11) hours! Try a "push" or battery-powered lawn mower instead.
- Mow your lawn after 6:00 p.m. when the sunlight is not as strong and smog is less likely to form.

By taking these actions, we may avoid violating the health standard for ground-level ozone. For additional information, contact the following agencies:

- The Miami Valley Regional Planning Commission (937) 223-6323
- The Regional Air Pollution Control Agency (RAPCA) (937) 225-4435
- Visit www.rapca.org for more information about "ozone action days" and the regional ozone action program.
- See a visual depiction of ozone in your area by logging on to www.epa.gov/airnow



101 Critical Days of Summer Update

SSgt Kevin Smith
AFRL/PROE Ground Safety

Well, summer is in full swing now. With about one month left in the Air Force's 101 Critical Days of Summer Safety Campaign we must remain vigilant in whatever summer activities we take part in. I would like to say that it has been an accident free summer for the Air Force and Wright Patterson AFB, but I can't.



According to the Air Force Safety Center Web Page, through the first nine weeks of the 2001, 101 Critical Days of Summer, fourteen Air Force members have lost their lives in ground related mishaps. Four of these occurred on duty while ten occurred off duty. Of the ten off duty fatalities, seven involved four wheel privately owned vehicles, two involved motorcycles, and one involved sports and recreation activities. Two of the four-wheel vehicle and one of the motorcycle mishaps involved operators who were under the influence of alcohol. Of the four fatalities occurring on duty, one resulted from drowning, one resulted from a vehicle accident, and two resulted from physical exertion. None of the mishaps involving military members have occurred to anyone stationed here at Wright-Patterson, but it has not been a perfect summer for us.

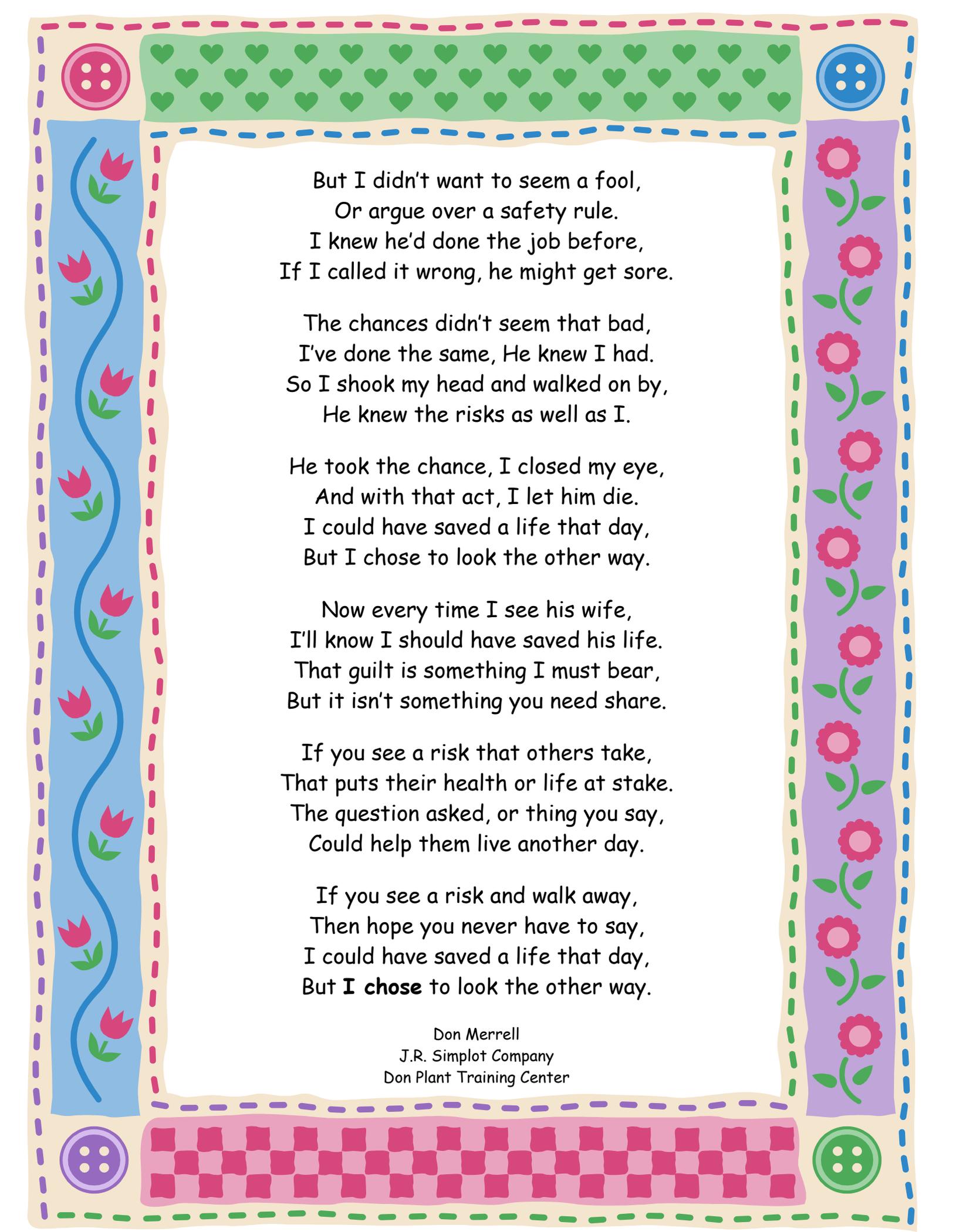


On June 8th, a retired Master Sergeant drowned at Bass Lake when he was trying to retrieve some fishing gear that had fallen in the water. This just proves that tragedy can strike when you least expect it. Please keep this in mind while participating in all the fun activities of summer. Don't take any unnecessary risks! It just isn't worth losing your life.

For more information on the 101 Critical Days of Summer please visit the Safety Centers Web Site

http://www-afsc.saia.af.mil/AFSC/RDBMS/Ground/101_2001.htm





But I didn't want to seem a fool,
Or argue over a safety rule.
I knew he'd done the job before,
If I called it wrong, he might get sore.

The chances didn't seem that bad,
I've done the same, He knew I had.
So I shook my head and walked on by,
He knew the risks as well as I.

He took the chance, I closed my eye,
And with that act, I let him die.
I could have saved a life that day,
But I chose to look the other way.

Now every time I see his wife,
I'll know I should have saved his life.
That guilt is something I must bear,
But it isn't something you need share.

If you see a risk that others take,
That puts their health or life at stake.
The question asked, or thing you say,
Could help them live another day.

If you see a risk and walk away,
Then hope you never have to say,
I could have saved a life that day,
But **I chose** to look the other way.

Don Merrell
J.R. Simplot Company
Don Plant Training Center

Environmental Management Looks for Pollution Prevention Opportunities



Headquarters Air Force Material Command, Environmental Quality Office (HQ AFMC/CEVQ) is sponsoring an effort to help the Air Force implement Compliance Through Pollution Prevention (CTP2). Here at Wright-Patterson, Penny Kretchmer with Battelle Corporation is working with the 88 ABW Office of Environmental Management to identify opportunities for Pollution Prevention across the Base. During the review process, Ms. Kretchmer will be contacting Unit Environmental Coordinators to discuss each organization's environmental burdens and identify areas for improvement. Battelle personnel supporting AFMC's CTP2 program are Mr. Gary Baker, Mr. Jerad Ford, and Ms. Gina Bonner.

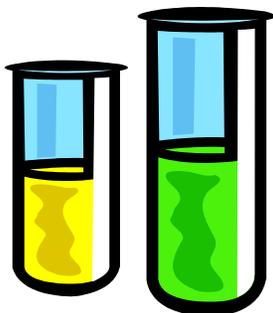
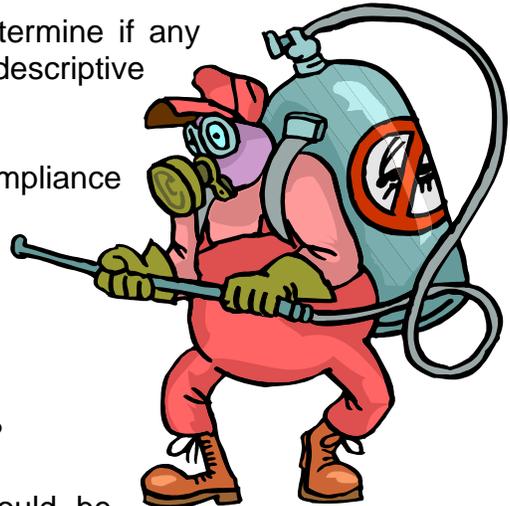
The intent of the Pollution Prevention program here on Base is for Environmental Management to work with Base organizations to put together a sound long-term strategy to eliminate or reduce pollution sources such as hazardous materials and wastes. One area being focused on is the substitution of hazardous materials used in cleaning processes with "greener" products. These are generally not only cleaner for the environment, but are less harmful to the user.



One of the challenges the team is facing is the wide variety of chemicals used in very small amounts across the Base, especially at the laboratories. It's easier to find one greener product that will impact a large, single process than it is to find multiple environmentally friendly substitutes for the wide variety of chemicals used in very small quantities. Many research applications do not offer much flexibility in elimination of hazardous materials, but where possible, it should be considered. "I want to try to work with the Unit Environmental Coordinators across the Base to see if their process owners can be convinced to change out existing 'common' processes for more environmentally and personnel friendly ones" says Ms. Kretchmer. "I have a questionnaire that I will use when I talk to each UEC. We will be looking closely at AFRL to get a better understanding of the types of activities that specialized laboratories perform." The information will then be entered into a database and will be used to develop each AFMC Base CTP2 Management Action Plan (MAP). One area that will be considered more in the future is how the reduction and elimination of hazardous materials can improve personnel safety and occupational health.

Base organizations will be asked to consider the following questions in order to search for Pollution Prevention opportunities:

1. What are your organization's Top 5 environmental compliance burden sites?
2. Review your current compliance sites and determine if any additional information needs to be added, such as descriptive information or additional sites that are not listed.
3. What are the processes performed at these compliance sites (i.e. painting, depainting, sandblasting, washing activities, or any job that results in a waste or generates pollution)?
4. How would you currently rank your sites?
5. What ranking would you give to your processes?
6. How do you think the compliance sites should be grouped (i.e. by chemical, process, building, etc.)?
7. Have any pollution prevention (P2) initiatives been performed lately within your program?
8. Are there any fields that you would like to see added to the compliance site inventory database?
9. What environmental or occupational health risks do you perceive to be in your work area?
10. How would you measure reductions in risk?
11. Do you have any other suggestions for environmental improvements within your organization or on Wright-Patterson?



Questions or comments regarding the Compliance Through Pollution Prevention Program may be addressed to Penny Kretchmer, Office of Environmental Management, at 72184 x 251

Pool Chemical Hazards

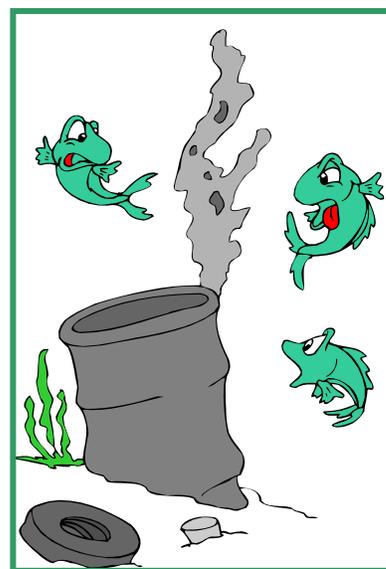
Last summer in Kentucky, a person bought pool chemicals (an algaecide and liquid shock treatment) from a major retailer and placed the containers in the back seat of their car. Pulling into their home driveway, the car windows were then rolled up and at that moment, the passenger compartment of the car erupted in flames. The driver was severely burned but survived. A lawsuit was filed against the retailer and unfortunately, exact details have not been released to the public.



As pool chemicals are hazardous, several scenarios could have happened but the focus of the investigation is on packaging of the chemicals. Sampling of pool chemicals in retail stores by local media found that many pool chemical product containers had pin-hole size leaks in the containers or that residual chemicals may be on the outside of the container from the packaging process. Evidence of this can be seen by just walking down the aisle where such chemicals are sold and smelling the vapors.

Some pool chemicals can explode into flames by heat, spillage, contacting water or mixing with other chemical vapors. If you purchase and use pool chemicals, read the instructions on the container and ask for a Material Safety Data Sheet (MSDS) from the dealer. Safe handling must begin the moment you remove the chemical from the store shelf.

In the work place, employees must be extensively trained before handling chemicals. At home, there is no requirement for training. Think about that the next time you, your kids or spouse go to the store for such items.



The following web sites provide information regarding home and pool chemicals:

Pool Chemicals.... <http://www.seasonalstore.com/chemicalsafety.html>

Home Chemicals.. <http://www.state.ma.us/dep/recycle/hazards/hhwhome.html>

Home Chemicals.. <http://members.aol.com/planetsolutions1/ps-moreinfo.html>

WORKING WITH CRYOGENIC LIQUIDS



(NOTE: The following information is a general guide for safe handling of cryogenic materials. Check with your Chemical Hygiene Officer or supervisor to verify procedures specific to your laboratory.)

If you are studying or using materials at extremely low temperatures, then you know the definition of cryogenics. According to the National Institute of Standards and Technology (NIST), the term cryogenics applies to all temperatures below minus 150°C (minus 238°F). Cryogenic applications have become common in medical surgery, tool and metal tempering, nuclear research, electromagnetism and many laboratory techniques.

Liquid nitrogen, liquid oxygen and liquid helium are commonly used in cryogenics, and the nature of these liquids requires taking special precautions when working with them. Having the right equipment becomes essential because the extreme temperatures of cryogenic liquids make most solids become more brittle. Materials such as carbon steel, plastics and rubber can easily fracture and break if they come into contact with cryogenic liquids.



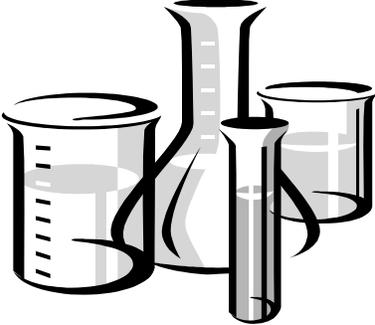
Personal protective equipment is also critical. To protect against splashes, both chemical splash goggles and face shields should be worn when transferring or handling cryogenic liquids. Gloves should be loose-fitting and sufficiently insulated to withstand the extremely low temperatures. Touching any material that has recently touched a cryogenic liquid should be avoided. The resulting cold burns and frostbite can cause extensive tissue damage and require surgical repair. Long-sleeve shirts and full-length trousers will help to protect all parts of the skin.

Because cryogenic liquids are actually compressed gases, different kinds of hazards develop when they warm up. As a gas decompresses the expanding volume may be capable of rupturing vessels or producing explosions. For this reason, only containers made specifically for the purpose, such as Dewar flasks, should be used for holding cryogenic liquids. Dewar flasks protect the liquid from warming quickly, thus avoiding rapid expansion of the gas.



A rapid expansion of a compressed gas can also lead to asphyxiation in an enclosed area (compressed oxygen is the exception). Because rapidly expanding gas can displace available oxygen and quickly leave anyone present with nothing to breathe, work with cryogenic liquids should always take place in an open, well-ventilated area.

Avoiding splashes when pouring cryogenic liquids is tricky, in part because the liquids will appear to be boiling when they are exposed to room temperature. Cryogenic liquids should be poured slowly to minimize splashing and tongs should be used for removing anything immersed in the liquid.



Using Liquid Nitrogen

- Always use liquid nitrogen in a well ventilated area, especially when filling a warm container or transfer tube or inserting a warm object, as large volumes of nitrogen gas are evolved. (Do not transport a dewar of liquid nitrogen in an elevator outside normal working hours. Failure of the dewar or a large spillage could result in asphyxia in the confined area at a time when you are unlikely to be found or able to pull the alarm quickly).
- Use only containers or fittings (pipes, tongs *etc.*) that have been designed specifically for use with cryogenic liquids as non-specialized equipment may crack or fail. In particular, do not use food type vacuum flasks as they can implode resulting in flying glass fragments.
- Protect all glass Dewars against the possibility of flying glass fragments, arising from failure by mechanical or temperature stress damage, by sealing all exposed glass either in an insulated metal can or by wrapping with adhesive tape.
- Always fill warm dewars slowly to reduce temperature shock effects and to minimize splashing. Do not overpressure the storage dewar when filling a globular dewar. Use the minimum pressure required to maintain a flow of liquid.
- Always make sure that containers of liquid nitrogen are suitably vented and unlikely to block due to ice formation.
- Beware of the formation of liquid oxygen in cold-traps that are open to air or the increase of liquid oxygen content in a flask of liquid nitrogen that has been cold for a long period. (Liquid oxygen has a blue water-like appearance). However, most liquid nitrogen containers are closed except for a small neck area and the nitrogen vapor issuing from the surface forms a barrier which keeps air away from the liquid thus preventing oxygen contamination.
- Avoid skin contact with either liquid nitrogen or items cooled by liquid nitrogen as serious burns may occur. Beware of wearing gloves, wrist-bands or bracelets which may trap liquid nitrogen close to the skin.



- Always wear approved Personal Protective Equipment especially safety glasses to protect against splashes, vapor, failure of glass apparatus resulting in implosion, brittle failure of items cooled by liquid nitrogen.

Use the following Personal Protective Equipment

- Face shield and safety glasses
- Dry asbestos (substitute) or dry leather gloves (when handling equipment that has been in contact with the liquid). There is dispute over the advisability of wearing gloves while handling liquid nitrogen because there is a belief that gloves could fill with liquid and therefore prolong hand contact which would make burns more severe. If gloves are worn they should be loose fitting and easily removed.
- Lab coat or overalls are advisable to minimize skin contact, also, wear trousers over shoe/boot tops to prevent shoes filling in the event of a spillage.



Level of Risk Remaining

There remains a significant risk in using liquid nitrogen from the inadvertent condensation of oxygen into a closed system. It is recommended that whenever possible some other coolant is used e.g. solid carbon dioxide/liquid traps or baths - the preferred liquids for such baths are isopropanol or glycols. It is strongly recommended that such baths are used in preference to liquid nitrogen when long term storage is envisaged.



For more information on cryogenic liquids:
<http://www.chm.bris.ac.uk/safety/lnitcry.htm>

To find a selection of cryogenic gloves, Dewar flasks and more, search by key word "cryogenic" at:
<http://www.labsafety.com>

Responsibilities for Laser Safety Changing Hands

The Bioenvironmental Engineering Office, 74 AMDS/SGPB, has assumed all responsibilities for lasers used on Base effective 1 Jul 01. The new base Laser Safety Officer is
2Lt Michael Smith, 255-6815.



ESOH Training and Opportunities

RCRA Hazardous Waste Training

Initial Training - 20 Sep, 15 Nov 01
Schedule with Shelly Baty x77152 x281

Annual Refresher Training - AFRL Only
13 Sep, 8 Nov 01
Schedule with Mary Shelly x59000

Organizations other than AFRL - Refresher Training
16 Aug, 18 Oct, 20 Dec 01
Schedule with Shelly Baty x77152 x281



Environmental Compliance, Assessment and Management Program (ECAMP) Training

5-8 Nov 01

This satellite course will teach you the objectives, principles, and mechanics of an environmental audit/assessment. The course (ENV020) is taught by AFIT and is required for those wishing to participate on an ECAMP team. For more information on the course visit [AFIT's Website](#).

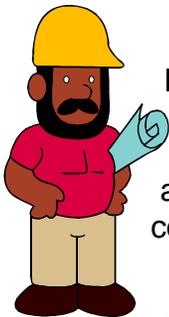


Environmental Management will be facilitating a satellite downlink of the course. **You must sign up for the course through your Training Focal Point (TFP) prior to 25 Sep 01** since that is the deadline requests are due to AFIT. Also please contact the course facilitator, **Karen Thompson, 88 ABW/EMO at 72010, ext. 211** if you are planning on attending.

Unit Environmental Coordinator (UEC) Training

7-11 Jan 02

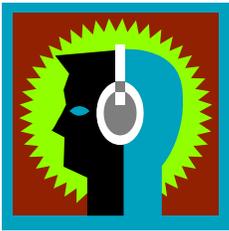
Environmental Management will be sponsoring a satellite downlink of this course which equips the UEC with the tools to improve and maintain environmental compliance within their organization, recognize and address problems when they occur, and act as organizational point of contact for environmental issues concerning their organization.



You must sign up for the course through your Training Focal Point (TFP) prior to 27 Nov 01 since that is the deadline requests are due to AFIT. **Also please contact Shelly Baty at 77152 x281** if you are planning on attending.



CPR Training - required for electrical and confined space workers per 29 CFR 1910.151. The American Heart Association recommends CPR refresher training every two years and the American Red Cross recommends CPR refresher training every year. CPR training (per the American Heart Association) is **taught at the Base Hospital every Tuesday** provided that there are enough students for a class. **Contact Marcia Wilson at x79347.**



ESOH Awareness Training - 10 Oct 01

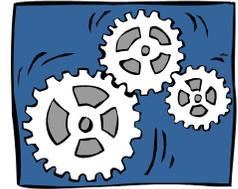
Schedule with Mary Shelly x59000

This course covers a broad range of topics and requirements that apply to all of us at Wright-Patterson. This course is highly recommended for all employees on Base, including contractors.

Operational Risk Management (ORM) Training

Schedule with Chuck Swankhaus at 43390

This Level II course teaches the skills necessary to anticipate and avoid costly and possibly injurious mistakes or delays in your program. By learning and applying tools to identify and eliminate potential land mines BEFORE they occur, your project will run more smoothly. This is NOT just a safety program.



SMOKERS...

Each cigarette you smoke takes 7 minutes off of your life.
A pack-a-day habit at today's prices costs you over \$1,000 per year!

NOW IS THE TIME TO FACE YOUR FUTURE!
Discover your own ability to overcome NICOTINE!
Call the Health & Wellness Center at 257-9896 and speak to Pat Kehl for information about the next 5 day **"DO IT" Tobacco Cessation Program.**



Public Health Training Schedule for 2001

Seating is limited, so classes will be filled based on the order people sign up. More classes will be scheduled if needed. Since these are "Train-the-Trainer" courses, only supervisors or trainers should come to this training. If you would like training on other occupational subjects, please call Public Health at x52515 and they will assist you as best as they can.



HAZCOM Training

1 Oct, 3 Dec 01

**To schedule, contact SrA Gumbus or
SSgt Hastings at 5-2515**

All classes will be held in the Bldg 103 Training Room, Area B starting at 1:00. Hazcom Training per 29 CFR 1910.1200 is required for all employees who use, handle, or may be exposed to hazardous materials upon initial assignment to that job (if not already receiving Chemical Hygiene Training per 29 CFR 1910.1450). People often ask if annual refresher training is required. Hazcom refresher training is required whenever a new chemical or hazardous process is introduced into the work area or it is evident an employee needs refresher training. Other than this, there is no "annual" requirement for Hazcom training.

Ergonomics Training

24 Aug, 5 Nov 01

**To schedule, contact SrA Gumbus or
SSgt Hastings at 5-2515.**

All classes will be held in the classroom in Bld 103, Area B and will begin at 1:00. Please contact SrA Gumbus or SSgt Hastings at 5-2515 to schedule the day you would like to attend.



Ergonomics is a major issue in virtually all workplace environments, from sitting at a computer to loading bombs on the fighter. Because of the variety of occupations, the ergonomics class offered will be "basic ergonomics." If you would like in-depth ergonomic training that is more job specific, we are available to do that on a one to one basis.



If you have any suggestions or comments for this newsletter or if you would like to be added / removed from the distribution list, please contact Mary Shelly (937) 255-9000.

