GREEN LABS GUIDE

Portland State
UNIVERSITY

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PORTLAND STATE

GREEN GREEN LABS

Portland State

WASTE SIGNAGE

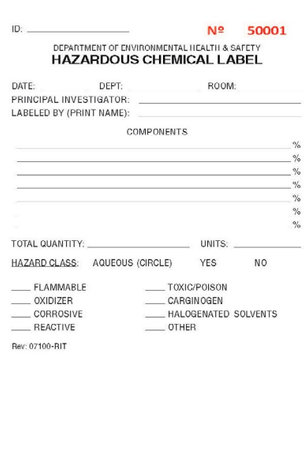
RECYCLE:
PAPER, METAL, PLASTIC BOTTLES & TUBS > 6oz

NO

FROZEN FOOD BOXES
DRINK CUPS
TAKEOUT CONTAINERS
PLASTIC BAGS
LIDS

WASTE DISPOSAL:
HAZARDOUS & UNIVERSAL WASTE

(Place a work order here to have any of the following items picked up:)



ID: _____ Nº 50001

DEPARTMENT OF ENVIRONMENTAL HEALTH & SAFETY
HAZARDOUS CHEMICAL LABEL

DATE: DEPT: ROOM:
PRINCIPAL INVESTIGATOR: _____
LABELED BY (PRINT NAME): _____

COMPONENTS

_____ %
_____ %
_____ %
_____ %
_____ %
_____ %
_____ %

TOTAL QUANTITY: _____ UNITS: _____

HAZARD CLASS: AQUEOUS (CIRCLE) YES NO

____ FLAMMABLE ____ TOXIC/POISON
____ OXIDIZER ____ CARGINOGEN
____ CORROSIVE ____ HALOGENATED SOLVENTS
____ REACTIVE ____ OTHER

Rev: 07100-RIT

*Use your Stericycle provided medical waste container, it may vary from the photo.

INCLUDES:

ITEMS WITH RADIOACTIVE MATERIALS.
LABLED USED OR UNWANTED CHEMICALS
LABORATORY GLASSWARE
SHARPS WITH BIOLOGICAL MATERIALS
USED OIL

RECYCLE GLASS:
BOTTLES & JARS

NO

LIDS
LIGHTBULBS
BROKEN GLASS
LABORATORY GLASS

LANDFILL:
DRINK CUPS, FOOD CONTAINERS, BAGS & WRAPPERS

NO

CANS
GLASS/PLASTIC BOTTLES
CLEAN PAPER

COMPOST:
ANY FOOD SCRAPS

NO

LIQUIDS, GREASE, COOKING OIL
PLASTIC BAGS
CARDBOARD OR PIZZA BOXES
TAKEOUT CONTAINERS
STYROFOAM
GLASS OR METAL

REDUCE & REUSE

Minimize Disposables

- **Share with Chemical Inventory**: Post non-expired surplus chemicals to EHS Assistant for viewing by and exchange with other labs. Check the inventory before purchasing new chemicals.
- **Maintain an inventory** in EHS Assistant of supplies, equipment, and chemicals to avoid unnecessary purchases.
- **Utilize durables**. Use glassware (volumetric pipettes, test tubes, Petri dishes) and reusables whenever possible.
- **Stop junk mail**: Request electronic catalogs. Unsubscribe and reject mail with these steps.
- **Printing**: Set printers to double-sided as default.
- **Reuse in your lab**: Designate a spot in your laboratory to store envelopes, stakes and flags used in the field, or other items for reuse.

- **Checkout lab coats and eyewear** from the Chemistry Stockroom. Laundering service is free.
- **Check the stockroom for chemicals;** they distribute the amount you need from their bulk supply.
- **Get cleaning materials/refills from the stockroom for free;** they stock PSU-preferred greener cleaning brands and you can bring your soap/cleaner container to get a refill.
- **Stockroom reuse:** Save the following items to bring to **Stockroom SRTC 280 and utilize these shared materials instead of buying.**

- Styrofoam shipping containers
- Dry ice containers
- Packing peanuts
- Pipette tip boxes (go to Terracycle)
- Bubble wrap, small quantities of air filled packing pillows
- Electronic (E-waste)*
- Gas cylinders
- Wood crates
- Foam pieces
- Scrap metal
- Batteries and fluorescent bulbs*
- Ink and other printer/copier cartridges*

*indicates items that are preferably picked up via work order

Procuring New

- **Order samples** if you only need a small amount.
- **Combine orders** with other labs.
- **Take-back programs and packaging**: Learn about the programs companies offer for taking back lab products. Thermo has a cardboard box alternative to Styrofoam coolers.
- **Recycled content**: Purchases products manufactured from recycled materials when possible. Per campus standards, purchase 100% recycled paper.
- **Check for eco-labels:** such as Energy Star, ACT, Federal Energy Management Program (FEMP), and other energy efficient equipment and products.
- **Microscope bulbs**: Choose LED microscope lighting versus standard mercury microscope bulbs.
- **Shipping**: Choose ground. Only ship overnight or rush when absolutely necessary.

Donate and Get Used

- **Donate large items**: Contact Surplus to donate office equipment, furniture, appliances, and electronics. This service is free and Surplus will not conduct pickups without contact.
- **Buy used on campus**: Check Surplus sales and auction for larger used items.
- **Check PSU's Reuse Room** in Cramer Hall 180 (open 24/7) before buying new and to donate smaller office, household, and kitchen items.
- Utilize other local and on-campus reuse/donation/rental resources.

Field Work

- Pack-In and Pack-Out.
- Use compostable staking/flagging materials in case of loss.
- Use drip irrigation, soaker hoses, and other techniques when doing field work.
- Practice the Leave No Trace principles.

CONSERVE

Energy

- **Turn off lights** when you leave the room. Use task lighting and/or natural window lighting rather than overhead lights when possible.

- **Turn off and/or unplug** electronic devices (computers, monitors, heat plates, spinner plates, cell phone chargers, battery chargers, etc.) that may draw a charge even when not in use, especially before weekends and breaks.

    - **Set electronics to sleep after a short period of inactivity.**
    - **Use energy smart power strips to easily cut power.**
    - **Use automatic turn off timers on equipment.**

- **No space heaters** are allowed at PSU.

- **Air vents** should be unobstructed.

- **Fume Hoods**: Keep fume hood sashes closed when they are not in use and low when they are in use in order to save energy.

- **More sustainable travel/conference methods**: teleconference, foot/stroll, bike, train, public transit, carpooling, electric car. **Look for lodging certifications** (EPA Energy Star Label for Hospitality, LEED Certification, Green Hotels Association, Ecoroom).

Freezer Management

Participate in the Freezer Challenge!

- **Chill up** ultra-low temperature (ULT) freezers from -80ºC to -70ºC. (Storing DNA at -70°C has been found to preserve DNA as well as -80°C.) Store samples at the most appropriate temperature closest to or at room temperature.

- Defrost freezers and/or remove ice buildup to maintain low-temperature freezers at least 1 time per year or whenever the ice on the interior walls builds up to ¼ of an inch in thickness.

- Clean the external components of our refrigerator and/or freezer, including coils, filters, and motors every 6 months to avoid excess energy usage and costly repairs.

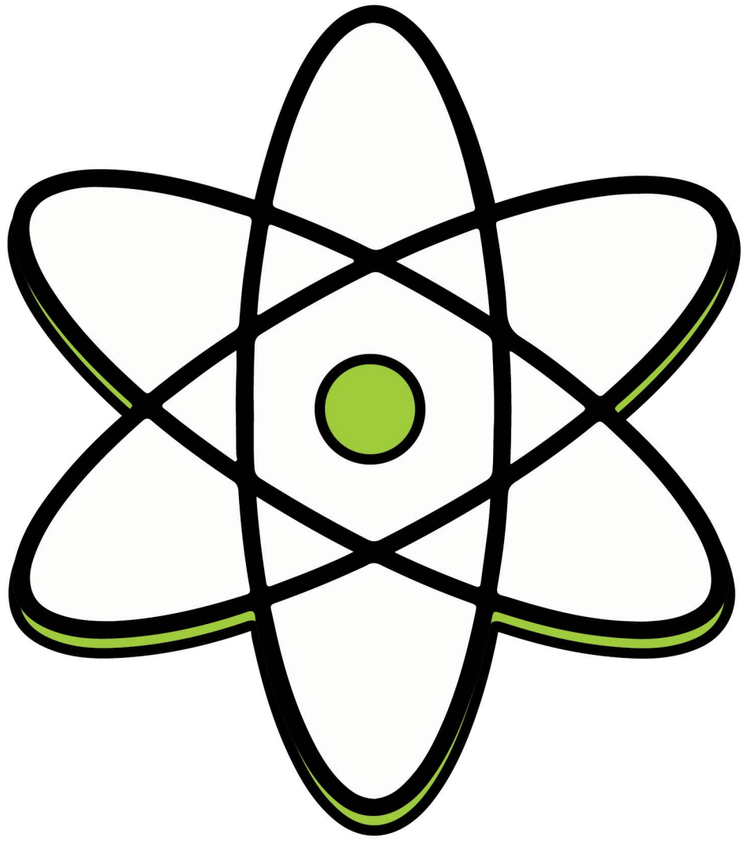
- **Conduct clean-outs**. Designate lab member(s) to take regular (monthly and a larger biannual) inventory of your freezer/refrigerator to ensure that expired or irrelevant samples aren't taking up valuable space and energy. Barcode samples for easier management.

- **Store samples at high density if possible.**

- **Share** refrigeration space with colleagues.

Water

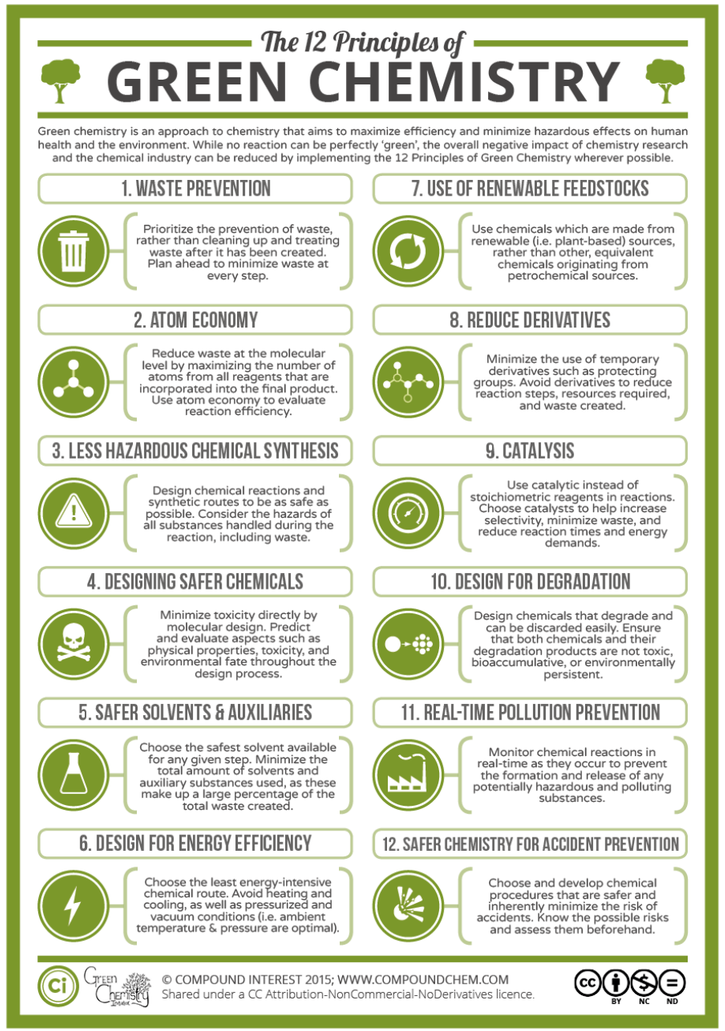
- Utilize autoclaves: Contact EHS (ehs-group@pdx.edu) to receive training on proper and efficient use.
- Use timers for water valves and baths.Turn off baths when not in use.
- Try alternatives to single-pass cooling to save water and prevent flooding risk.
- Use tap water or lower purity water instead of DI water when acceptable for experiment.
- Report leaks for repair.



GREEN CHEMISTRY

Green Chemistry

- Use the 12 Design Principles of Green Chemistry when planning experiments. Plan small-scale experiments first to optimize resources. Use this guide to identify safer chemicals and other tips like capping containers of VOCs and chemical waste when not in use.



Share these tips with all new lab members and during staff meetings!

Resources: PSU Green Chemistry

Sources: NIH, Cornell, UCI, UW, PSU EHS, PSU Planning and Sustainability Office