

Toxics and Pollution Prevention Guide **Go Green NRV** www.gogreenrv.com

1. **Identify the location of hazardous materials in your workplace.** These include janitorial chemicals, paints, inks, oils, automotive chemicals, spent fluorescent lamps, etc.
2. **Safely dispose of old and unwanted chemicals.** Generator (VSQG) program. Contact the VSQG program at 330.1425 for more information and an appointment.
3. **Submit your janitorial product inventory.** The inventory sheet must contain the following information:
 1. Product name
 2. Manufacturer name and product code (if any)
 3. Ingredients list

You will be able to obtain this list from your janitorial service company or use the product information included in the order invoice and locate ingredient information from the manufacturer's website. You can also look for the janitorial products in the workplace and note the ingredients listed on the label.

4. **Review the Pollution Prevention portion of the checklist** and be prepared to show supporting documentation for all the measures you checked off.

Please use the following resources to help your business implement and meet the New River Valley Green Business toxics and pollution prevention standards.

1. **Cleaning Products**
2. **Pesticides**
3. **Paints**
4. **Carpet**
5. **Aerosol Cans**
6. **Lighting**
7. **Chlorine Free Paper**
8. **Remanufactured Toner Cartridges**
9. **Rechargeable Batteries**
10. **Markers**
11. **Soy inks and vegetable-based ink printing**
12. **Building Material**
13. **Clean Air**
14. **Wastewater**

1. **Cleaning Products**

Use low-toxic cleaning products. Commonly used janitorial cleaning products contain ingredients that may cause harm to human health, indoor air quality, and the environment. Since it's hard to know what many "green" (or natural, environmentally friendly) product claims mean please follow the guidelines below to meet program standards:

If you contract with a janitorial service company (medium and large businesses)	If you clean your own facility (small and home based businesses)
<p>Use 3rd party certified institutional grade products, such as:</p> <p>Green Seal and Ecologo certified products listed on the Responsible Purchasing Networks Product Database.</p>	<p>Use Good Guide's list of top-rated household cleaners.</p>
<p>Use automated dispensing systems that allow safe use of concentrated products.</p>	<p>Read product labels: choose products that carry the CAUTION label (slightly toxic, most products carry this label) over products that carry the WARNING label (Moderately toxic) and DANGER label (Highly toxic).</p> <p>Always wear gloves and eye protection, even when using 'mild' products and follow manufacturer's instructions for mixing and use.</p> <p>For more information -</p> <ul style="list-style-type: none"> • The Janitorial Pollution Prevention Website is a public service website that has fact sheets on safe and effective cleaning techniques for windows, carpets, restrooms, and other cleaning jobs • The MSDSs of many cleaning products that are sold to the general public can be found in the National Institutes of Health's Household Products Database

- Strongly request employees to leave personal air fresheners, soaps, pesticides, and other chemicals that do not meet program standards at home.
- Avoid the use of disinfectants unless you are operating a medical facility or a food service establishment. Most commonly available disinfectants contain hazardous ingredients and require 10-20 minutes to kill germs. Since over 90% of actual disinfection is accomplished simply by cleaning away dirt there are very few situations that really require the use of disinfectants.

Use These Safer Cleaning Products



Avoid These Cleaning Products



2. Pesticides

Pesticides are designed to kill living beings such as weeds, insects, rodents, or fungi. That means these chemicals are inherently more dangerous to people, pets, and wildlife. An integrated pest management (IPM) approach emphasizes preventive and non-chemical techniques and applies least-toxic pesticides only as a last resort in order to reduce pesticide use while effectively managing pests.

Use These IPM Methods



Avoid These Pest Control Methods



<p>If you contract with a pest control operator (large businesses, tenants in most commercial buildings)</p>	<p>If you do not contract with a pest control operator (small businesses)</p>
<p>Use a third party certified pest control operator (PCO) such as EcoWise Certified or Green Shield Certified PCO.</p> <p>If your PCO is not certified require them to:</p> <ul style="list-style-type: none"> • Use non-chemical means of pest control and prevention (i.e. HEPA vacuums, caulking, traps). 	<p>.</p>

- Not use spray formulations of contact insecticides inside of a building. Will use baits in containers, cracks, crevices, and wall voids. Avoid perimeter spraying for ants and cockroaches.
- Use a pesticide listed on San Francisco's SF Approved list of pesticides.

4. **Paints**

Paint can contain toxic heavy metals while the solvents, particularly in oil-based paints, can consist of toxic and flammable petroleum-based products such as mineral spirits, toluene, and xylene that emit volatile organic compounds (VOCs) which can combine with other pollutants to create ozone. Buy and use latex or water-based paints, finishes, and varnishes rather than oil-based paints. Buy zero- or low-VOC paints.



- Every major manufacturer has a zero- or low- VOC line. Amazon Paint offers 50% post consumer recycled content paint at competitive prices. Sherwin-Williams and Kelly-Moore offer zero, or close to zero, VOCs emission recycled content paint.
- Other options for less toxic paints are listed here: http://eartheasy.com/live_nontoxic_paints.htm#2d.
- Find a product certified by Green Seal as meeting their GS-11 standards for paints.

5. **Carpet**

When buying new carpet or replacing old ones choose carpets made with natural fibers, recycled nylon, or low VOCs. VOCs (volatile organic compounds) are chemicals that under normal room conditions vaporize and enter the atmosphere. They contribute to indoor air pollution and can be found in carpet backing and paint. Buy carpets that meet the California Gold Sustainable Carpet Standard.

Or choose from these options: FiberWorks, Shaw Floors, Bentley Mills, Mohawk Carpet, Tandus, Ruckstuhl, Milliken Carpet

6. **Aerosol Cans**



Avoid using aerosols

Eliminate use of aerosol cans. Aerosol particles can trigger asthma and other breathing problems because they are made up of very small droplets that are easily inhaled into the lungs.

Common household products such as pesticides, spray paint, cleaning supplies, keyboard dusters, and air fresheners have chemicals that can harm human health. In addition to the product, up to 40% of the contents in an aerosol container can be propellants. Most propellants are petroleum products (propane, butane, etc.) that are highly flammable and can cause nervous system damage or asphyxiation at high concentrations, as well as dizziness and other narcotic effects in low concentrations.

While consumer products may be just as hazardous when dispensed from other containers the use of aerosol containers may increase the likelihood that exposure will occur. Pump spray bottles are less likely to cause direct health hazards because they lack propellants and deliver the product in larger droplets that are less able to penetrate the lungs.

7. Lighting



"Green Tipped" low mercury fluorescents

Use energy efficient lighting (please see the Energy Conservation Resource Guide). However, several types of energy-efficient lamps contain mercury and/or lead and other toxic heavy metals. Unfortunately, national fluorescent lamp labeling regulations do not require manufacturers to indicate how much mercury is in their lamps.

- LEDs and low mercury CFLs instead of incandescents.
- LED Exit Signs
- Low mercury & energy-efficient T8s (and T-5s).

When switching to linear T-8 fluorescent lamps use electronic ballasts that are extra-efficient and have the NEMA Premium designation on their label to the greatest extent practicable. Acceptable brands of extra-efficient (NEMA Premium Efficiency) ballasts include GE UltraMax or UltraStart, Sylvania Quicktronic High Efficiency (QHE), Advance Optanium (Instant and Program Start), Universal Ultim8, or equivalent.

Low mercury fluorescents lights can often be identified with green tipped ends.

8. Chlorine Free Paper

Chlorine-containing bleaching agents are often used to turn paper and janitorial products (paper towels, toilet paper, napkins, and toilet seat covers) bright white. The bleaching process can generate a toxic soup of various chlorinated pollutants. These substances tend to persist in the environment for a very long time where they can harm wildlife and human health.



Look for brands that are unbleached or that are whitened using only oxygen, ozone, hydrogen peroxide, or another chlorine-free process. (These products are sometimes labeled PCF for processed chlorine-free.) Some environmentally preferable janitorial paper products are also made with tree-free fibers which save trees and are often easier to bleach than virgin tree fiber.

Please use office paper with recycled content. Choosing recycled paper that is also chlorine free will enable applicants to qualify for double credit. The EcoLogo certification label is a good indicator of Chlorine Free Paper with sufficient recycled content.



9. Remanufactured Toner Cartridges

Each year millions of empty toner and inkjet cartridges used in laser printers, fax machines, and copiers are discarded into landfills as hazardous waste. However, used toner cartridges can be remanufactured for reuse up to four times. Remanufacturers inspect empty cartridges for damage and then repair or replace broken parts, thoroughly clean the reusable components, and refill the cartridge with new toner. Remanufactured toner cartridges are often cheaper than new cartridges and are sold by most office supply stores (including Office Depot and Staples).

10. Find a manufacturer or vendor that sells remanufactured toner cartridges through EPA's supplier database.

- For information on advantages of using remanufactured toner cartridges, visit: http://www.informinc.org/fact_CWPtoner.php#advantages.

11. Rechargeable Batteries

Over 3 billion batteries are sold a year. All batteries are considered corrosive; if they leak they can cause burns to eyes and skin. Depending on the type they can contain cadmium, mercury, cobalt, copper, zinc, lead, manganese, nickel, and/or lithium. These heavy metals may leach from landfills, contaminate soil, and pollute surface water and groundwater. If incinerated these toxic chemicals can be released into the air. Whenever possible, choose products that operate without batteries or use rechargeable batteries except for emergency equipment.

- Buy items that are solar-powered. Or buy products with Light-Emitting Diode (LED) lights because they require very little energy to operate and will make your batteries last longer.
- If you must buy batteries, buy nickel-metal-hydride (NiMH) and lithium rechargeable. Do not buy nickel cadmium (Ni-Cad) batteries due to shorter life span and higher toxicity. Keep batteries in the recharger until you need them so you don't drain their energy. (rechargeable battery image)

12. Markers

Can contain xylene, propylene glycol, alcohol; levels are not likely to cause acute health problems, but could be a skin, eye, and respiratory irritant. The Oregon Toxics Coalition has published a fact sheet [<http://www.informinc.org/pamarkers.pdf>] explaining the hazards associated with markers and other art supplies. Look for water-based markers rather than those containing solvents or less-toxic options.



- If water-based markers are not available consider those containing alcohol-based solvents rather than petroleum based solvents.
- Some markers are labeled as "ASTM D-4236 compliant." This means that they have passed an acute toxicity test. This test may not consider exposure to solvents or other impacts on respiratory problems. Consider using wax lumber markers on wood, metal, glass, and other surfaces when a

non-permanent mark is needed.

- For a fact sheet on "Industrial Markers and Respiratory Hazards," see <http://www.informinc.org/pamarkers.pdf>.

13. **Soy inks and vegetable-based ink printing**

Printing inks may contain heavy metals such as barium, cadmium, chromium, lead, and potentially hazardous solvents such as alcohols and hydrocarbons. These ingredients can be toxic, flammable, and can contain volatile organic compounds (VOCs) which combine with other pollutants in the atmosphere to create ozone. Improper disposal of spent inks can cause serious contamination of surface water, ground water, or soil. Green Business applicants receive credit for using vegetable-based inks in their printing materials (business cards, letterhead, and marketing material).

Have your commercial printer print with vegetable inks on chlorine-free paper with recycled content. This will qualify applicants for double credit.

14. **Building Material**

Utilizing green building products and practices in building and remodeling projects results in higher quality, financial savings, environmental protection, better indoor air quality, and increased employee morale.

15. **Clean Air**

The New River Valley offers many ways to get around the city that don't involve driving a car. Leaving your car at home reduces carbon dioxide (greenhouse gas) emissions. Encourage your employees to walk, bike, or use public transit to get to work.

- Post bicycle route maps, transit schedules, and commuter ride sign-ups.

16. **Wastewater**

Restaurants are a significant source of FOG (fats, oils, and grease) because of the amount of grease used in cooking and other food preparation work. FOG can be a major problem for sewers. Use preventative measures to properly manage FOG, reduce future problems, and save money.

- Install, where required, a grease trap or interceptor that can handle the amount of FOG residue generated by your establishment. Also, properly maintain grease traps, interceptors, exhaust hood filters, and floor mats.
- Implement Best Management Practices (BMP) during daily operations to keep FOG out of drains leading to the sewer.

*** Special thanks to the Go Green NRV Green Business for allowing us the use of their literature <http://sfgreenbiz.org>. ***