

## Green Flag Level Two Survey: Non-Toxic Product Program

You have chosen to investigate your school's cleaning and maintenance products to learn if they are safe for humans and the environment. The survey will take you around your school, and you will become a Toxic Products Detective. Be curious, and leave no stone unturned, in your quest to understand what chemicals and ingredients can be found in some of the products at your school.

The custodial and maintenance staff is in charge of your school's cleaning and maintenance products. So, when filling out the survey, you will need their help to answer the questions.

Please refer to the Non Toxic Products (NTP) section of the level one Green Flag School Environment Survey before completing the level two survey, because some of the information is applicable to questions asked in this survey.

There are two parts to the survey. One describes how the cleaning products in your school are used, stored and purchased. The second part of the survey will give you a better understanding of what chemicals are in the cleaning products your school uses and how safe or dangerous they are. These products are usually described as institutional or industrial products, and often are labeled and used differently than products found in the supermarket.

We have also included a glossary and informational resources for some of the terms that you will find when completing this survey.

### **Glossary:**

**Toxic:** Not all chemicals are harmful, and they can play an important role in cleaning your school. However, toxic chemicals are those that can cause harm to humans, animals or the environment.

**Hazard:** Unsafe and can be dangerous to human health and safety.

**Institutional and Industrial Products:** Products sold often in concentrate form for frequent use in a large building by a worker as opposed to consumer products, which are generally used in one's home.

**Environmentally Preferable Product:** A product that is less harmful to human health and the environment than other products used for the same purpose.

**Reactive:** A product that is reactive easily undergoes chemical change, which leads to change in its chemical contents and toxicity. Highly reactive chemicals are often hazardous.

**Sanitizer:** A product that cleans by reducing the effects of bacteria, germs and viruses.

**Disinfectant:** A product that kills specific bacteria, germs and viruses.

**Corrosive:** A product that contains ingredients that can cause another material to be burned or wear away. Corrosive products can also burn eyes and skin. Corrosivity is measured by pH level, between 0-14, with 7 being neutral, or that of water.

**Aerosol:** A product that is mixed with a gas to produce a liquid mist. Aerosol products are great for many applications, but when used indoors or, in a few cases outdoors, their contents are often highly flammable.

**Flammable:** A product that is flammable is likely to catch fire when it comes in contact with excessive heat.

**Information About Your School**

Name of Your School: \_\_\_\_\_

School Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Survey Date: \_\_\_\_\_

**Part 1: School Practices and Policies regarding toxic chemicals**

1. Who buys cleaning and maintenance products used at your school?

\_\_\_\_\_

2. If cleaning and maintenance products are purchased by your school district as a whole, does your school have authority to choose or avoid certain products? If so, how are these requests made? \_\_\_\_\_

\_\_\_\_\_

2. Does your school practice environmentally preferable or “green” purchasing? Yes  No   
If yes, please attach a copy of the policy or describe your school’s “green product” policy.

\_\_\_\_\_

\_\_\_\_\_

3. Does your school or school district have a written policy on how to use, store and/or dispose of products containing hazardous chemicals including pesticides, paint, cleaning products, such as sanitizers and disinfectants, floor waxes, finishers and strippers etc.? Yes  No

3a. If yes, please attach the policy. If the answer is no, we can provide a model policy to present to your school’s decision makers? Yes  No

To whom should it be sent? \_\_\_\_\_

4. What procedures does your school take if someone reports a spill, or any accident that might involve toxic materials (improper use of pesticides, cleaning product spill, etc.)?

\_\_\_\_\_

\_\_\_\_\_

5. Is the storage area/janitor’s closet kept locked during hours students are in school? Yes  No

6. Are materials containing toxics (e.g., cleaning products, paints, chemicals, fuels) stored in janitorial closets neatly organized and labeled? Yes  No

7. Is the storage area containing chemical products labeled? Yes  No

8. In that storage area is there a vent leading directly outdoors? Yes  No

8a. If not, how is that area ventilated? \_\_\_\_\_

9. Are products identified or known to be highly reactive, flammable and corrosive stored separately so as to reduce health risks? Yes  No

10. Most schools use concentrated cleaning supplies that are intended for institutional use. But some schools buy ready-to-use products typically sold at retail stores. (Ready-to-use products require more packaging, which creates unnecessary waste, and are very expensive as compared to a concentrated cleaner that is diluted with water to be used most effectively.)

10a. Does your school use any ready-to-use products? If so, please list them.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

11. If your school does use concentrates -- are they using dispensing equipment that measures out the exact amounts needed or pre-measured packets to insure that the product is diluted correctly and not wasted? Yes  No

11a. Please describe the dispensing systems:

\_\_\_\_\_  
\_\_\_\_\_

12. Are you aware of other products or materials used in your school that contain or release toxic chemicals into the air (e.g., some art supplies, building materials containing poly vinyl chloride (PVC), etc.)? Yes  No

12a. If so, what are they?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## **Part 2. Product Inventory survey:**

The second part of the survey is to record information about each of the maintenance and cleaning products that are used at your school. To complete this step you should work with your school's custodian, maintenance person or facility manager to complete the following survey.

### **Instructions:**

Count the total number of different products stored at your school. Most of these will be in the janitor's closet or a school storage area. It is possible that there will be many of these, so divide up the total number of products between the Green Flag team members, so that each team member will research an equal number of products.

To complete the survey below you must read the information located on the product label and its Material Safety Data Sheet (MSDS). Each product used at your school should have its own MSDS kept on file at the school, as required by law. If you cannot locate the MSDS at your school, try calling the manufacturer, distributor or use the on-line resources listed below:

### **What is a Material Safety Data Sheet (MSDS)?**

An MSDS is a form required by the Occupational Safety and Health Administration (OSHA) to provide information to workers on the proper procedures for handling or working with a particular product while at work. An MSDS must list all hazardous chemicals that are considered dangerous if they make up 1% or more of a product. If any of the chemicals are carcinogens (can lead to cancer), then they must be listed if they are .01% of the product.

MSDS's sometimes also include information such as toxicity, health effects, first aid, reactivity, storage, disposal and spill/leak procedures. The information you gather here may help you answer important questions about a product's ingredients and safe use. For more information on MSDS sheets see:

- MSDS.com is a site produced by the Interactive Learning Paradigms, Incorporated: <http://www.ilpi.com/msds/faq/parta.html#whatis>
- University of Vermont Safety Information Resources has an Internet website that allows you to search for MSDS's by manufacturers: <http://siri.uvm.edu/>
- Another useful website is the Food Services of America: <http://www.fsafood.com/msds/default.asp>

If you can't locate an MSDS through these sources, this may mean that the product is not currently used at your school and should be disposed of. Older products that are lying around and rarely, if ever, used should be safely disposed of at a hazardous materials facility. Safe disposal of these products can help you earn a NTP green flag award (see NTP program description.)

### **What an MSDS will not tell you.**

MSDS's are not complete sources of information even in protecting adults and they are not at all designed to protect children in schools. They also do not contain information on how products hurt the environment and products are rarely tested to determine their affect on human health. Also while OSHA requires that it is the manufacturer's responsibility to create an MSDS and include health and safety information on it, MSDS's are not fact-checked by OSHA or any other government agency and are sometimes incomplete.

### What is the HMIS Hazard Rating?

MSDS's also often contain hazard ratings called The Hazardous Materials Identification System, HMIS®. These ratings describe the hazard risk potential of a product. This information may also be posted on the product label. The HMIS provides a numerical rating that says how great a health hazard is posed by a product, or how flammable or reactive it is:

0=least, 1=slight, 2=moderate, 3=high, 4=extreme.

### Individual Product Inventory Survey Sheet

1. What is the products' name? \_\_\_\_\_
2. What is the product's manufacturer? \_\_\_\_\_
3. What is the product used for at your school? \_\_\_\_\_

4. How often is the product used at your school? \_\_\_\_\_

5. Read the product label. Does it contain the following information?

How to use the product safely: Yes  No

Health and safety information: Yes  No

How to safely dispose of the product: Yes  No

6. Is the Hazardous Materials Identification System (HMIS) hazard code on the product label? (See explanation on page 4 that provides information on a product's risk levels.) Yes  No

6a. If yes, please record level for these categories that often appear on the label:

Health: \_\_\_ Reactivity: \_\_\_ Fire or Flammability: \_\_\_ Other: \_\_\_\_\_

7. Is this product a concentrate (must be diluted with water when used)? Yes  No

8. Does this product have a Material Safety Data Sheet (MSDS) on file at your school? Yes  No  Schools are required by law to have an MSDS on file for each product they use. (See definition on page 4)

8a. If not, can you obtain a product MSDS for your school, through any of the resources identified on p. 4, or by contacting the manufacturer? Yes  No

If you can locate the product's MSDS please continue filling out the survey.

9. Does the MSDS for this product list any hazardous ingredients (usually in MSDS section 2)?  
Yes  No

10. Does the MSDS list the product's pH level (usually in section 3--physical data) Yes  No

11. Does the MSDS have a section on health hazard data (usually in section 5)? Yes  No

12. Can this product's chemicals cause harm by entering your body through:

**lungs** (inhalation): Yes  No  **skin (absorption)** Yes  No  **mouth** (ingestion):  
Yes  No

13. Does the product's MSDS list it as a:

Carcinogen Yes  No

Mutagen Yes  No  (A substance that can cause a mutation, that can change the genetic make-up of the DNA in a cell. This change can be passed on to a person's children. Some mutations can cause cancer.)

Teratogen Yes  No  (A substance capable of producing physical defects in a developing baby before it is born. This may result in a child being born with a birth defect or in the death of an unborn or newborn baby.)

**Congratulations on completing your NTP level two Green Flag survey!**

## **More Background Information for the Product Inventory Survey**

### **Descriptions of Hazardous ingredients**

Most MSDS's list hazardous ingredients in section 2 of the MSDS. Here are descriptions of some chemicals frequently listed in that section. If the following chemical additives are listed as active ingredients on the MSDS they are a health hazard and very likely to also cause environmental problems. While many of these additives can be diluted to lessen their toxicity, they all contain toxic chemicals that are unhealthy even when used properly.

- nitrilotriacetic acid (NTA)

NTA is a carcinogen (known cause of cancer) and requires the use of highly toxic materials like formaldehyde in production.

- petroleum or petrochemical compounds

Some petroleum-based solvents depress the central nervous system and have negative health impacts on the liver and kidneys.

- chlorine bleach

The active ingredient in bleach is often identified on an MSDS as calcium hypochlorite or sodium hypochlorite. Bleach can react with other chemicals such as ammonia, itself a respiratory irritant, to produce a toxic gas. Chlorine bleach is used as a disinfectant to kill mold and to brighten surfaces but can cause skin or eye damage when improperly mixed or used.

- Phenolic compounds

Phenolic compounds have a wide use as general disinfectants and germicides. Examples are 'Lysol' (cresol and soap solution) and 'Stericol' (xylenol-rich cresylic acid and soap solution), both of which are active against viruses and bacteria but less active against bacterial spores. Common phenolic compounds used in cleaners include ortho-phenylphenol, o-benzyl-p-chlorophenol, and p-tert-amylphenol.

The National Toxicology Program fact sheet on Phenol lists the following synonyms for Phenol: BENZENOL, CARBOLIC ACID, HYDROXYBENZENE, MONOHYDROXYBENZENE, MONOPHENOL, OXYBENZENE, PHENIC ACID, PHENYL HYDRATE, PHENYLIC ALCOHOL, PHENYLIC ACID, PHENYL HYDROXIDE and PHENOL ALCOHOL.

- glycol ethers

Often identified as ethylene glycol or 2-butoxy ethanol, glycol ethers are found in some graffiti removers, heavy-duty degreasers and floor strippers. They are highly toxic, causing acute reactions, such as headaches, dizziness, lightheadedness, and eye, nose, and throat irritation.

- alkyl phenol ethoxylates (APE)

These compounds are used in detergents and are endocrine disruptors, meaning they interfere with the hormonal activity of humans and animals. One common chemical found in products with APEs is nonylphenol ethoxylate.

- isopropyl alcohol

Commonly used in cleaning products, isopropyl alcohol is highly flammable and can cause eye irritation. If inhaled or swallowed it can cause adverse health effects such as headaches, vomiting and nausea.

### **More questions you can ask.**

Because some important environmental and health considerations are not recorded on an MSDS sheet, here are three questions your Green Flag team should ask of the product manufacturer. This can be done by writing a letter or email to the manufacturer (see model letter in NTP resource packet). Please submit the letter and any responses the Green Flag team receives to the Green Flag program coordinator.

#### **1. Does the product contain fragrances and/or dyes?**

Many people are acutely sensitive to chemical scents and have adverse health reactions to them, including rashes, headaches and eye irritation.

#### **2. Does the product contain volatile organic compounds (VOC's)?**

VOC's include a variety of toxic chemicals, such as formaldehyde, benzene, and toluene. These substances are volatile--meaning that they easily evaporate into the air. VOCs are dangerous to people since they can be readily inhaled. Symptoms associated with exposure may occur within a short time or not occur for many years. Short-term effects include nose and throat discomfort, headache, shortness of breath, nausea, dizziness, and fatigue. Cancer and damage to the liver and the central nervous system are examples of long-term effects.

#### **3. Is it Biodegradable?**

Biodegradability is the process by which a product eventually degrades into water and oxides. Products that are not biodegradable accumulate in the environment and enter plant and animal tissue. Biodegradable products have less environmental impact

**What to look for if your school uses consumer products (bought off the shelf in a store) rather than products produced for institutional use.**

**Product Label:** These provide basic information regarding the product's safe use and potential health risks. The Consumer Product Safety Commission, rather than OSHA or the EPA, requires that the following warnings be placed on all labels:

caution=mildly hazardous substance

warning=moderately hazardous

dangerous=extremely flammable, corrosive or highly toxic

poison=highly toxic