

VOLUNTEER HANDBOOK

TUCSON/PIMA COUNTY HOUSEHOLD HAZAROU D WASTE PROGRAM

Operated by the City of Tucson, Department of Environmental Services

Revision 2013

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I. Welcome to the Tucson/Pima County Household Hazardous Waste Program (HHWP)

Welcome to the HHWP, which is managed by the City of Tucson Department of Environmental Services. This program is designed to substantially reduce the volume of toxic materials entering our landfills, sewers, air and desert surroundings and reduce community exposure to those toxic materials. We are delighted that you have chosen to donate your time and skills to help us provide this valuable community service. Your participation and shared enthusiasm are a critical part of this program. We're confident that you will benefit from the experience of helping protect our environment, and we know that we will benefit from your unique background and skills.

The primary objective of this handbook is to give you as a volunteer an understanding of your role in helping HHWP fulfill its mission. The goal of the training program is to ensure that volunteers are well trained on the HHWP's guidelines, policies and procedures and have the skills and abilities to perform their duties as volunteers in a safe and efficient manner. The objectives are: 1) to increase volunteers' knowledge of the chemical and environmental hazards that may occur at the worksite; 2) to promote safe work habits; 3) to ensure compliance with all applicable City, County, State and Federal regulations; and 4) to document all initial and refresher training provided to volunteers.

If you have friends who are interested and would like to be trained please have them call the HHWP facility at 690-5749.

II. Overview of the HHWP

In the early 1980s there was a growing demand throughout the community for a safe means to dispose of household hazardous waste (HHW). In 1986 a community-based committee partnered with the City of Tucson, Pima County and the University of Arizona to provide a two-day outreach to collect HHW. The collection was very successful, and a second two-day collection was offered in 1988. These events were primarily organized and staffed by volunteers. In 1989 the City and County entered into an intergovernmental agreement or IGA for the purpose of establishing a HHW collection and education program. The HHWP was established to provide for a safe and cost-effective alternative for the disposal of HHW, as well as to develop an outreach and education program. The main facility located at 2440 W. Sweetwater Facility opened in 1990 and was under the direction of the Pima County Wastewater Management Department. The program initially had one employee with most other tasks completed by volunteers. Since then the HHWP has been providing Pima County and City of Tucson residents HHW collection and disposal services at the main facility, by conducting monthly one-day collection events at established satellite locations, by conducting one-day collection events at the request of local communities, and through self-serve drop off sites located at all local landfills and transfer stations. Volunteers continue to play a vital role by assisting at collection events and with education and outreach activities.

The HHW Program currently collects over 1 million pounds of HHW a year and recycles 95(?)% of all materials collected. In addition, the Small Business Waste Assistance Program (SBWAP) is available to assist qualified businesses at the main site. The SBWAP offers a safe and economical option for

businesses to properly dispose of their hazardous wastes. In the 25 years since the program's inception, over 17 million pounds of HHW have been collected and diverted from the wastewater treatment plants and landfills in Tucson and Pima County, and the Program has an active education program that focuses not only on raising the public's awareness of the collection program, but also on pollution prevention methods to reduce the generation of HHW.

The program is operated by the City of Tucson Department of Environmental Services under the direction of the Director of the Department of Environmental Services. Day-to-day operations are the responsibility of the Program Coordinator. The Program Steering Committee provides oversight and direction for the Program's activities. The Steering Committee is comprised of seven members representing professional, business and government arenas, acting in an advisory capacity to the Director.

The mission of the HHWP is to prevent hazardous materials from entering the environment locally and at the point of recycling, reclamation, treatment or disposal. This mission is accomplished by two major steps: 1) Removing the materials from circulation through frequent collection periods, and 2) Educating the community about the potential impacts of household hazardous materials.

The main objectives of the Program are to alleviate problems that can pose serious threats to human health and the environment by:

- ◆ Protecting children's health by minimizing potential home exposure;
- ◆ Protecting Pima County's ability to effectively treat wastewater;
- ◆ Protecting solid waste workers' health;
- ◆ Conserving valuable landfill space; and
- ◆ Safeguarding groundwater from potential leaching of contaminants.

III. What is Household Hazardous Waste (HHW)

Even though we may not realize it, most American families have become dependent upon the daily use of chemical products in our homes. Many of these chemical products require special handling, storage, and disposal. We depend upon these products because they are quick and easy to use. Dangers from chemicals depend greatly on the individuals using them. Chemicals are safe to use when people read the directions and use them correctly. Chemicals play an important role in our health, economy, and social lives by providing us with better medicines and foods, creating jobs, and making our living environment more comfortable. (FEMA)

A hazardous material is any chemical when released or incorrectly used has the potential to hurt you or the environment. When people assume they know how to deal with a chemical or they just do not follow the directions, injuries, illness, and even death can occur. Our homes can sometimes be more dangerous than a laboratory because people ignore safety measures. Americans have about half a million different products containing chemicals available for use in our homes. Most people use chemicals safely everyday without incident, but as the number of chemical products increases, the rate of improper use and injury also increases. (FEMA)

The Children's Health Environmental Coalition estimates the average American has 3-10 gallons of hazardous materials in his/her home. You may not believe your home generates enough HHW to cause a problem, but when you combine it with the waste from all the other homes in our community, you can begin to understand how household hazardous products can pose a danger to your health and the environment. (FEMA)

The U.S. Environmental Protection Agency (EPA) defines HHW as "leftover household products that contain corrosive, toxic, ignitable or reactive ingredients."

(<http://www.epa.gov/waste/conserva/materials/hhw.htm>) The EPA has set stringent requirements for the management of hazardous waste generated by industries, but Congress chose not to regulate HHW even though many of the wastes are similar to industrial wastes, because they felt regulating every household was simply too impractical. For the Tucson/Pima County Household Hazardous Waste Program, HHW is defined as follows:

- It must be from a household. It is not hazardous waste from any commercial or business operation.
- It may be in the form of a liquid, emulsion, paste, powder, crystal or compressed gas (such as an aerosol or propane cylinder) or other form.
- It may be an oxidizer, flammable, poisonous, irritating, acidic, basic material or a combination of these.
- It is not radioactive, infectious, explosive, pyrophoric, shock sensitive, unstable or otherwise unpredictable.
- It is not unused medications.
- It is not biohazards (anything that comes in contact with your body, i.e. needles, bandages etc.)

IV. The Volunteer Program

The Program has multiple volunteer opportunities.

- **Collection Events:** Most volunteers work at the once per month collection events, and this is the Program's greatest need. The collection events would not function without the volunteers. Special collection events may be held throughout the year where volunteers are also needed.
- **Educational and Outreach Events:** From time to time the Program needs volunteers to assist at educational and outreach events. These may be activities such as giving a talk about the Program to a community group, staffing a table at a community fair or attending a school presentation.
- **Special Projects:** The Program also has special projects that need volunteers. These projects will be announced to volunteers when available.

Volunteer Qualifications

As a volunteer you do not need to have any previous experience or training. You must be at least 18 years old. As a volunteer you may be required to stand for long periods of time and be exposed to a variety of weather conditions, including extreme heat, cold and sudden rainstorms. During collection events you may be required to lift items such as from the trucks of cars and placing them on a cart. You must be comfortable working with hazardous materials. Even though the Program is collecting items from

households, these often include items such as pesticides, solvents, pool acids, motor oil and antifreeze.

Time Commitment

Volunteers must commit to working a minimum of four hours per calendar year. If a volunteer fails to meet the time requirement, the volunteer will be placed in an inactive status. After three calendar years of inactive status, the volunteer will be dropped from the volunteer rolls.

Initial Training

All new volunteers are required to complete the initial 8-hour training and successfully complete a written skills assessment before volunteering at a collection event. New volunteers will be assigned a team member during their first collection event to assist them throughout the event and to assist with additional hands-on training.

Refresher Training

- All active volunteers are required to complete an annual refresher training. The Program will offer refresher trainings throughout the year.
- Inactive volunteers for more than two years are required to retake the initial 8-hour training before volunteering at a collection event.
- Active volunteers who have not attended a collection event for more than three years will be required to retake the initial 8-hour training before volunteering at a collection event.

Volunteer Coordinator

The Program Coordinator is the Volunteer Coordinator and has the following responsibilities:

- Conducting volunteer recruitment and selection;
- Coordinating volunteer training;
- Providing guidance and advice to volunteers;
- Overseeing and evaluating volunteer performance;
- Ensuring accuracy of volunteer agreements and updating as necessary;
- Acknowledging volunteer accomplishments and recommending formal recognition and awards for outstanding service;
- Maintaining records of volunteer work hours; and
- Ensuring that volunteer rights are respected and assisting volunteers in carrying out their responsibilities and performing their duties.

Volunteer Recognition Program

The Program holds annual recognition events for volunteers.

Volunteer Evaluation

The Program does not have a formal volunteer evaluation program. In the event that a volunteer is not working in a manner consistent with the Program's guidelines and policies, the volunteer will be counseled by the Program Coordinator. If the behavior continues, the volunteer may be asked to leave the Program. If a volunteer is working in an unsafe manner during a collection event, the Site Coordinator will counsel the volunteer immediately. If the behavior continues, the volunteer may be asked to leave

the collection event and will receive counseling from the Program Coordinator at a later date.

V. The Volunteer Agreement Form

All volunteers must sign the HHWP Volunteer Agreement Form (see Appendix C) prior to conducting any volunteer activities. The volunteer agreement is your contract with the HHWP, and it contains the following elements:

- A description of the volunteer work that you agree to accomplish;
- The names, addresses and telephone numbers of the people that you wish to have notified in case of emergency;
- Assurance that the City shall indemnify, defend and hold harmless volunteers from all claims arising from and incurred during the pursuit of any Program operation and activity;
- Assurance that the you will be covered by workers compensation;
- Certification of your health and physical capability to perform the volunteer job; and
- Any medical conditions that you wish to disclose to the Program.

As a volunteer, you may receive first aid and medical care for on-the-job injuries. You have the same coverage as City employees under the Federal Workers' Compensation Program, with one exception: you cannot receive continuation of pay for up to 45 days after an on-the-job injury, since you are not an employee.

VI. Volunteer Safety

Your safety is the Program's number one concern during your volunteer activities. Volunteers at collection events are at the highest risk of encountering hazards. You are working outside, participants are driving vehicles near you and bringing in hazardous materials. The contents may not be properly labeled, be unknown to the participant, and/or may have spilled during transport to the event. Many participants bring in old, broken down, rusty containers that have been sitting outside for a long time or in the back corner of an old shed. Often you are working in extreme heat, and you may be rushing because you see a line of cars. However, you can greatly minimize your risk of injury by being aware of the potential hazards, learning how to reduce your risk of exposure or injury, following the Program's safety guidelines, and when in doubt ask questions.

The primary hazards associated with collection events are:

- **Chemical hazards** are primarily exposure but also fire and explosion hazards.
- **Physical hazards** may include injuries due to slips, trips, and falls on slippery or uneven walking and working surfaces, use of tools, equipment and machinery, and vehicle traffic from participants.
- **Biological hazards** include coming into contact with biting or venomous insects, scorpions, snakes or other animals or coming into contact with biohazardous waste such as medical sharps (needles).
- **Thermal hazards** resulting from extreme heat, cold, ultraviolet (UV) radiation (sunburn), and fatigue may result from working in a fast-paced environment.

SITE SAFETY AND HEALTH PLAN (SSHP)

The objective of the SSHP is to provide safety and health information for the operation of a HHW collection event. It provides valuable information about setting up and operating your specific site. Of

utmost importance is the safe identification, evaluation, and control of potential hazards related to HHW materials during receipt, re-sort, consolidation, labeling and shipment. It also contains a work area layout design, emergency response guidance, location of safety equipment and a map to the nearest hospital. The SSHP is reviewed with volunteers at the Safety Meeting held prior to the start of each collection event. You should be familiar with the contents and location of the SSHP for your site. If an emergency occurs you do not want to be searching for the emergency telephone numbers or maps contained in the document. The SSHP must be returned with the supplies at the end of the day. The SSHPs for each site are found in [Appendix B](#).

HAZARDOUS MATERIALS

Hazardous Materials (also known as hazardous chemicals, substances, and wastes) can be found in almost any home or work environment. Hazardous Materials are defined by various regulatory agencies:

- U.S. Department of Transportation (DOT)
- U.S. Environmental Protection Agency (EPA)
- U.S. Occupational Safety and Health Administration (OSHA)

Simple definition of hazardous material is: any substance, material, chemical, compound, or waste (whether solid, liquid or gas) that when released to the environment is capable of causing damage, injury, illness or death. They are often divided into two categories: physical and health hazards.

Physical hazards deal with a substance's physical properties. Common examples of physical hazards include: Flammable and Combustible, Reactive, Explosive, Pyrophoric (spontaneously ignite), Water Reactive, Oxidizer (releases oxygen), Corrosive, and Asphyxiant (oxygen deficient).

Health hazards are substances for which there is significant evidence that they produce adverse reactions to the body resulting in acute or chronic health effects may occur in exposed volunteers, including: Toxic Substances, Irritants and Sensitizers, Carcinogens, Mutagenic and Teratogenic (reproductive hazards), Biologicals, and Radioactive Substances.

CHEMICAL HAZARDS

Exposure to hazardous materials, chemicals, and wastes is the primary hazard associated with collection events and can occur anywhere during the process. Exposures may occur from items such as residues on containers, leaking or broken containers, containers dropped while handling, spills in participant's car trunks, fumes from unsealed containers and contaminated PPE. Chemical hazards also include fire and explosion hazards associated with flammable materials and pressurized propane tanks. Vapors from flammable and combustible liquids can mix with air and burn if they contact an ignition source. By following the procedures outlined in this manual, you can greatly reduce your risk of exposure and safely handle the HHW brought to the collection event.

Labeling

Understanding the labeling on HHW is the first step to reducing your risk of exposure. The Federal Hazardous Substances Act (FHSA) provides specific guidelines regarding labeling of hazardous substances. This act covers all hazardous substances sold for use in the home except pesticides, drugs

and cosmetics. Pesticides are covered under the Federal Insecticide, Fungicide, and Rodenticide Act, while drugs and cosmetics are covered under the Federal Food, Drug and Cosmetics Act. The FHSA states all of the following must appear prominently on the label. The signal word, statement of principal hazard, and statement of precautionary measures must be blocked together within a square with or without a border. The labels on hazardous substances must include the following:

- * Signal words, such as Poison, Danger or Caution
- * Statement of principal hazard and any related pictograms
- * Common, usual or chemical name of substance
- * Statement of precautionary measures to follow
- * Instructions for safe handling and storage
- * "KEEP OUT OF THE REACH OF CHILDREN" or equivalent statement
- * First aid instructions
- * Name and place of business of manufacturer, packer, distributor, or seller, and contact information

Unfortunately, many items brought to collection events have labels that have been damaged and cannot be easily read or have fallen off. Many items have been repackaged by the homeowner and no longer are sufficiently labeled to state the hazards or are very old and do not have labeling to current requirements. In these cases we must be very careful when handling the containers and treat the materials as unknowns.

Upon identifying that hazardous materials will be handled, exposure and injury prevention methods can be determined and implemented. Methods of protection may include:

- Implementation of mandatory OSHA programs, such as Hazard Communication and HAZWOPER Incident Response Programs
- Work-practice controls to reduce hazard exposure such as training volunteers in safe chemicals handling practices, housekeeping, and proper storage of wastes.
- Personal protective equipment (PPE) which is required to be used to prevent exposure.

Hazard Communication Program

OSHA's Hazard Communication Standard, 29 CFR 1910.1200, is based on the concept that workers have both a need and a "right to know" the identities and hazards of the chemicals they are exposed to when working, and need to know what protective measures are available to prevent adverse effects from occurring. Chemical manufacturers, importers, distributors and employers must all comply with Hazard Communication Standard requirements.

Employers must ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with the identity of the hazardous chemical(s) in each container, as well as hazard warnings, words, pictures, symbols, or a combination, which provides at least general information regarding the physical and health hazards of the hazardous chemical. Labels are not removed or defaced and must be replaced when missing or unreadable. Workers must be instructed how to read the labels. If the labels do not provide enough information, volunteers should refer to the chemical material safety data sheets (MSDS).

The Hazard Communication Standard requires chemical manufacturers and importers evaluate their chemicals and prepare Material Safety Data Sheets (MSDS) for distributors, suppliers and end users. Employers can rely on the information provided in the MSDS and do not have to do independent chemical analysis. MSDS will have the 16 sections containing the following information: chemical identification; hazard identification; composition/ingredients; first-aid measures; fire-fighting measures accidental release measures; proper handling & storage; and exposure controls & PPE. Workers must be instructed how to locate and read the MSDS.

Hazardous Material Incident Response

OSHA's 29 CFR 1910.120 Hazardous Waste Operations & Emergency Response (HAZWOPER) standard is designed to protect five groups of workers – those engaged in:

- Clean-up operations conducted at uncontrolled hazardous waste sites;
- Corrective actions involving clean-up operations at sites covered by the Resource Conservation and Recovery Act (RCRA);
- Voluntary clean-up operations at uncontrolled hazardous waste sites;
- Operations involving hazardous wastes that are conducted at treatment, storage, and disposal facilities regulated by RCRA; and
- **Emergency response operations for releases of, or substantial threats of releases of, hazardous materials regardless of the location of the hazard.**

City of Tucson employees will be responsible for responding to and handling large dangerous hazardous material releases, however volunteer may be present during such incidents and must trained how to respond to protect themselves in an emergency. City of Tucson employees and volunteers are considered to be awareness Level First Responders, also known as FRA Level 1 responders, and are responsible for ONLY the following:

- Recognizing or suspecting the presence of hazardous materials or an emergency release
- Identifying the hazardous substance (if possible)
- Protecting themselves
- Calling for appropriate assistance
- Securing the area (if directed and trained to do so)

Not all releases of hazardous materials will require initiating emergency response efforts. An incidental release is a non-emergency release of a hazardous substance since the substance can be absorbed, neutralized, or otherwise controlled at the time of release by staff in the immediate release area. Such releases are limited in quantity, exposure potential, or toxicity, and present minor safety or health hazards to workers in the immediate work area or those assigned to clean them up. Volunteers will be trained in regarding all emergency procedures, including clean-up of incidental non-emergency spills.

COT HHW EMERGENCY PROCEDURES

The very first thing to keep in mind for emergencies is that the SSHP has a section with emergency phone numbers and information. Trained HHWP staff and experienced volunteers at each site are available to help in all emergencies.

Fire. In the event of fire follow these steps:

- Sound the alarm to those in your area to evacuate and/or participate;
- Sound the alarm to emergency personnel (911), even if you can quickly put it out.
- Use the county radio to call the Program Coordinator; and
- Deal with the fire with a portable extinguisher if you determine that you can do so SAFELY!

Chemical Spill. If you have a ruptured container follow these steps:

- Sound the alarm for all unprotected people to leave the immediate area
- Inform the Site Commander and HHWP staff member at the site.
- Grab the spill kit provided to your site and open the container.
- Next, pour the absorbent material in the spill kit all around the spill.
 - Use the plastic shovel from the spill kit to move the absorbent towards the center of the spill.
 - If you are on a porous surface you will have to work quickly!
- Pick up the contaminated absorbent and place it back in the drum.
- Place any contaminated equipment (including PPE) on top of the absorbent.
- Close the drum and label it as "EXPIRED."
- Complete an *Unusual Incident* report form.
 - Make certain that the spill kit is restocked!

Medical Emergency. In the event of a medical emergency use the site SSHP for guidance.

- The SSHP shows a map to the nearest hospital. Depending on the injury and some common sense, determine if you need to mobilize and wait for an EMT or if you should send the party to the hospital immediately.
- When in doubt, call 911 immediately and await assistance.
- Watch carefully for signs of heat stress/heat stroke.
 - Change in attitude, nausea, confused speech and dry mouth are **some** of the symptoms of heat disorders.

Emergency Communications. Mobile phones are supplied to each outreach site for communication with the main site. Radios are to be used for medical, chemical or other emergencies and for communicating needs to the Main site. The main site is the clearinghouse for additional supplies, errand runners and technical information.

Collection Site Hazards

Unintended exposure to hazardous materials presents the most frequent and obvious risk to HHW volunteers, however other potential sources of injuries include:

- PHYSICAL HAZARDS such as: slipping or tripping, being struck by motor vehicles, items falling onto feet or smashing fingers, being cut by sharp items, use of damaged tools, incorrect and over-lifting.
- THERMAL HAZARDS such as: fatigue, sunburn, and heat illness.
- BIOLOGICAL HAZARDS such as: unexpected contact with insects, snakes, vermin, and participants' pets.

Volunteers must be trained to recognize these hazards in order to prevent injuries and illness.

PHYSICAL HAZARDS

Same Level Falls

While falls to the same level usually result in less-serious injuries, they occur much more frequently than falls from a height to a lower level. Reasons for same-level falls slipping and tripping due to: Poor housekeeping and unsafe floor maintenance; Improper equipment and materials storage; Inadequate lighting or suddenly changes in light intensity; Incorrect footwear; Not looking where walking; Carrying oversized objects obstructing view of travel; Walking too fast, running or changing direction quickly; and Wearing sunglasses in low light areas.

Housekeeping

Volunteers must maintain the workplace in a clean and orderly condition. This may be accomplished by “cleaning as you go”. Stored items, wastes and any other debris must be kept cleared from work areas, passageways, in and around buildings. Maintain floors in a clean, dry and trip-free condition. In areas where wet floor conditions could exist (e.g. pouring areas) ensure proper prompt clean-up is provided.

Traffic

Traffic poses a potential threat to workers and participants. Hazards to participants can be avoided for the most part by keeping participants in their cars. Workers should have one or two people directing traffic and maintain constant observance of traffic flow and congestion as well as pedestrian movement. Volunteers must wear an orange safety vest, be aware of their surroundings, and watch for poor or distracted drivers, rolling vehicles or swinging car doors. Volunteers should not walk between moving vehicles. Traffic flow should follow the diagram displayed in SSHP for the site.

Safe Tools & Equipment

Equipment must be installed and used in accordance with any instructions included in the listing or labeling. Never use any machinery, equipment, tools or materials that are damaged, defective or otherwise not in compliance with manufacturer specifications (this includes volunteer-owned items brought into the workplace). Identify damaged or defective items as unsafe by: tagging them “do not use” or similar language; locking or otherwise rendering them inoperable; or physically remove the items from the work area. City of Tucson employees may utilize Lockout/Tagout to prevent unexpected energization, start-up or release of stored energy to protect injury to staff and volunteers. Locks and tags will be used to identify and prevent activation of machines that are being serviced or repaired.

Fire Prevention

To prevent accidental fire, flammable liquids may be used only where there are no open flames or other sources of ignition within 50 feet of the operation, unless conditions warrant greater clearance. Where flammable or combustible liquids are used or handled, means will be provided to dispose promptly and safely of leakage or spills. Only approved containers and portable tanks will be used for storage and handling of flammable and combustible liquids. Oxygen cylinders in storage must be separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet or by

a noncombustible barrier at least 5 feet high having a fire-resistance rating of at least one-half hour. Portable fire extinguishers are required by fire code and will be mounted, identified, and located so that they are readily accessible (unblocked) for use.

Back Safety

Back injuries tend to be the result of cumulative exposure occurring over time, rather than being caused by a single incident. A person can be at risk while working as well as at home and during leisure activities. The major factors leading to back injury are:

- Position – improper lifting
- Force – lifting too much weight
- Repetition – too many lifts

Ways to prevent back injuries include:

- Provide engineering controls when possible to remove lifting hazards.
 - Example : using dollies or carts, lowering truck lift-gate, standing on ladder
- Train volunteers in proper lifting technique and other work practice controls to reduce lifting hazards.
 - Example : use team lifting, warm-up stretching.
- Use proper lifting from the floor as follows:
 - Make sure item is not too heavy.
 - Place feet correctly.
 - Bend knees instead of bending over at middle of the back.
 - Maintain natural curvature of the spine.
 - Use correct grasp.
 - Keep load close to body - utilize leverage.
 - Always keep the back as straight as possible while lifting - avoid arching the back.
- Where the load or material is too much for one person to handle safely, and mechanical equipment is not practical, assign additional worker(s) to assist in the job.
 - Workers of about the same size should be used and they should be trained in team-lifting.
 - Pick a leader - if one worker lifts too soon, shifts the load, or lowers improperly, the partner
- Workers that implement warm-up and stretching programs experience as much as 75% fewer back strain, joint and other soft-tissue injuries.
 - To be effective Warm up and stretch your muscles before starting work everyday, and
 - Step away from the job regularly to stretch and do something else for a few moments, so that your muscles can relax, rest and receive oxygen. may be overloaded and strained.

When lifting containers out of trucks and cars and when loading presorted waste, always bend at the knees while keeping the back as straight as possible. Do not carry a load that obstructs your view in your direction of travel. Make sure that the path of travel is clear of obstructions. Do not turn at the waist to change direction or to put an object down; turn the whole body and crouch down to lower the object.

First Aid Services

City of Tucson will provide for volunteer first aid and medical treatment. Staff trained in emergency first

aid, CPR and fully stocked first aid kits will be available every collection site. In the event volunteers eyes or skin could come in contact with corrosive chemicals (e.g. bleach), quick flushing such as bottled eyewash solution, a tank style station, plumbed fountain or emergency shower will also be available. Each collection site will also provide volunteers ready access to sanitary restrooms and potable water.

THERMAL HAZARDS

Preventing volunteer fatigue, sunburn, heat illness, contact with hazardous reptiles and insects, and back injuries are of heightened importance. In order to maximize safety and prevent repetitions all volunteers (and staff) are required to report any, whether minor or suspected, accident, injury, illness, and/or property damage to the site coordinator immediately. Detailed emergency procedures are listed in the HHW Program Site Safety & Health Plan that is maintained at every collection facility and remote event. Volunteers are allowed and encouraged to review the SSHP at any time during a collection event.

In order to prevent fatigue, volunteers should take a rest break every hour and eat and drink something. Under extreme heat conditions, you may need to take additional breaks. If you become fatigued, notify your Site Commander and take an extended break or leave the collection event. You do not need to stay until the end of the event.

Sunburn

Sunlight exposure is highest during the summer and between 10:00 a.m. and 4:00 p.m. Working outdoors during these times increases the chances of getting sunburned. Workers are at risk of UV radiation even on cloudy days. Many drugs increase sensitivity to sunlight and the risk of getting sunburn. Some common ones include thiazides, diuretics, tetracycline, doxycycline, sulfa antibiotics, and nonsteroidal anti-inflammatory drugs, such as ibuprofen. In addition to the skin, eyes can get burned from sun exposure. Sunburned eyes become red, dry, and painful, and feel gritty.

Unlike a thermal burn, sunburn is not immediately apparent. Symptoms usually start about 4 hours after sun exposure, worsen in 24-36 hours, and resolve in 3-5 days. Symptoms may include: red, warm, and tender skin; swollen skin ; blistering; headache; fever; nausea, and fatigue. In order to prevent sunburn: wear sunscreen with a minimum of SPF 15 and follow the application directions on the sunscreen bottle. Sunscreens should be liberally applied (a minimum of 1 ounce) at least 20 minutes before sun exposure and include the ears, scalp, lips, neck and backs of hands, and should be reapplied at least every 2 hours or more frequently. Remember to wear appropriate clothing, such as light colors, natural and breathable fabrics, and hats to shade your face.

Heat Stress

Especially during summer months, volunteers may be exposed to extreme heat, which can result in heat stroke, heat exhaustion, heat cramps or heat rashes. Heat can also increase the risk of injuries as it may result in sweaty palms, fogged-up safety glasses and dizziness. Burns may also occur as a result of accidental contact with hot surfaces. Workers at greater risk of heat stress include those who are 65 years of age or older, are overweight, have heart disease or high blood pressure, or take medications that may be affected by extreme heat.

To reduce the incidences of heat stress during collection events the Program

- Provides cool water and other liquids to staff and volunteers.
- Requires rest periods with water breaks.
- Provides shaded areas for use during break periods.

Volunteers should take the following steps to help prevent heat stress:

- Wear light-colored, loose-fitting, breathable clothing such as cotton. Avoid non-breathing synthetic clothing.
- Be aware that protective clothing or personal protective equipment may increase the risk of heat stress.
- Take more breaks in extreme heat. During busy collection events, you may feel uncomfortable sitting down taking a break when there is a line of cars; however, breaks are mandatory. Your Site Commander will tell you to take a break if he/she believes that you have not taken enough breaks.
- Drink water frequently. Drink enough water that you never become thirsty. Approximately one cup every 15-20 minutes.
- Avoid drinks with large amounts of caffeine or sugar.
- Eat snacks especially salty ones during breaks.
- Gradually build up to heavy work.
- Monitor your physical condition and that of your coworkers.
- If you feel any symptoms of heat stress, immediately notify your Site Commander or a coworker.

Heat Rash

Heat rash is a skin irritation caused by excessive sweating during hot, humid weather. Symptoms of heat rash include:

- Heat rash looks like a red cluster of pimples or small blisters.
- It is more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases.

Workers experiencing heat rash should:

- Try to work in a cooler, less humid environment when possible.
- Keep the affected area dry.
- Use dusting powder to increase comfort.

Heat Syncope

Heat syncope is a fainting (syncope) episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization.

Symptoms of heat syncope include:

- Light-headedness
- Dizziness
- Fainting

Workers with heat syncope should:

- Sit or lie down in a cool place when they begin to feel symptoms.
- Slowly drink water, clear juice, or a sports beverage.

Heat Cramps

Heat cramps usually affect workers who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture levels. Low salt levels in muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion. Symptoms of heat cramps include muscle pain or spasms usually in the abdomen, arms, or legs.

Workers with heat cramps should:

- Stop all activity, and sit in a cool place.
- Drink clear juice or a sports beverage.
- Not return to strenuous work for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention if any of the following apply:
 - The worker has heart problems.
 - The worker is on a low-sodium diet.
 - The cramps do not subside within one hour.

Heat Exhaustion

Heat exhaustion is the body's response to an excessive loss of the water and salt, usually through excessive sweating. Workers most prone to heat exhaustion are those that are elderly, have high blood pressure, and those working in a hot environment.

Symptoms of heat exhaustion include:

- Heavy sweating
- Extreme weakness or fatigue
- Dizziness, confusion
- Nausea
- Clammy, moist skin
- Pale or flushed complexion
- Muscle cramps
- Slightly elevated body temperature
- Fast and shallow breathing

Treat a worker suffering from heat exhaustion with the following:

- Have them rest in a cool, shaded or air-conditioned area.
- Have them drink plenty of water or other cool, nonalcoholic beverages.
- Have them take a cool shower, bath, or sponge bath.

Heat Stroke

Heat stroke is the most serious heat-related disorder. It occurs when the body becomes unable to control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. When heat stroke occurs, the body temperature can rise to 106 degrees Fahrenheit or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not given.

Symptoms of heat stroke include:

- Hot, dry skin or profuse sweating
- Hallucinations
- Chills
- Throbbing headache
- High body temperature
- Confusion/dizziness
- Slurred speech

Take the following steps to treat a worker with heat stroke:

- Call 911 and notify your Site Commander immediately.
- Move the sick worker to a cool shaded area.
- Cool the worker using methods such as:
 - Soaking their clothes with water.
 - Spraying, sponging, or showering them with water.
 - Fanning their body.

Volunteers should take the following steps to help prevent heat stress:

- Wear sunscreen with a minimum of SPF 15. Sunscreen performance is affected by wind, humidity, perspiration and proper application. Follow the application directions on the sunscreen bottle.
- Sunscreens should be liberally applied (a minimum of 1 ounce) at least 20 minutes before sun exposure. Special attention should be given to covering the ears, scalp, lips, neck and backs of hands.
- Sunscreens should be reapplied at least every 2 hours or more frequently if you are perspiring heavily.
- Wearing appropriate clothing. High-SPF clothing has been developed to provide more protection for those with photosensitive skin or a history of skin cancer.
- Volunteers should also consider wearing wide-brimmed hats and sunglasses with almost 100% UV protection and with side panels to prevent excessive sun exposure to the eyes.
(CONSISTENT WITH SAFETY GLASSES SECTION)

Cold Stress

During winter months, volunteers may be exposed to cold temperatures. Volunteers should follow these recommendations to protect themselves from cold stress:

- Wear appropriate clothing.
 - Wear several layers of loose clothing. Layering provides better insulation.

- Tight clothing reduces blood circulation. Warm blood needs to be circulated to the extremities.
- When choosing clothing, be aware that some clothing may restrict movement resulting in a hazardous situation.
- Make sure to protect the ears, face, hands and feet in extremely cold weather. Wear a hat; it will keep your whole body warmer. (Hats reduce the amount of body heat that escapes from your head.)
- Avoid touching cold metal surfaces with bare skin.
- Monitor your physical condition and that of your coworkers.

Hypothermia

When exposed to cold temperatures, your body begins to lose heat faster than it can be produced. Prolonged exposure to cold will eventually use up your body's stored energy. The result is hypothermia, or abnormally low body temperature. A body temperature that is too low affects the brain, making the victim unable to think clearly or move well. This makes hypothermia particularly dangerous because a person may not know it is happening and will not be able to do anything about it.

Symptoms of hypothermia can vary depending on how long you have been exposed to the cold temperatures.

Early Symptoms

- Shivering
- Fatigue
- Loss of coordination
- Confusion and disorientation

Late Symptoms

- No shivering
- Blue skin
- Dilated pupils
- Slowed pulse and breathing
- Loss of consciousness

Take the following steps to treat a worker with hypothermia:

- Notify your Site Commander
- Move the victim into a warm room or shelter.
- Remove any wet or damp clothing.
- Warm the center of their body first—chest, neck, head, and groin—using an electric blanket, if available; or use skin-to-skin contact under loose, dry layers of blankets, clothing, towels, or sheets.
- Warm beverages may help increase the body temperature, but do not give alcoholic beverages. Do not try to give beverages to an unconscious person.
- After their body temperature has increased, keep the victim dry and wrapped in a warm blanket, including the head and neck.

BIOLOGICAL HAZARDS

During collection events the potential exposure to biological hazards is primarily from getting cut or injected with potentially infected body fluids from used needles and other sharps. We are also considering insect bites and stings, spider bites, scorpion stings and snakebites as biological hazards. Scorpions and spiders can enter the work area naturally, but more frequently volunteers come into contact with them in old boxes containing multiple containers of waste that have been outside or inside a shed or garage for some time. These boxes are usually dirty and in poor condition and sometimes are contaminated with spilled materials. Volunteers must be especially vigilant when unpacking items such as these because of the high potential for chemical and biological hazards.

Rattlesnakes

Rattlesnakes are the largest of the venomous snakes in the United States. They can accurately strike at up to one-third their body length. Rattlesnakes use their rattles or tails as a warning when they feel threatened. Rattlesnakes may be found in most the Program's work habitats. **THEY HAVE BEEN FOUND AT THE MAIN COLLECTION FACILITY.**

Signs or symptoms associated with a snakebite may include:

- A pair of puncture marks at the wound
- Redness and swelling around the bite
- Severe pain at the site of the bite
- Nausea and vomiting
- Labored breathing (in extreme cases, breathing may stop altogether)
- Disturbed vision
- Increased salivation and sweating
- Numbness or tingling around your face and/or limbs

Volunteers should take the following steps to prevent a snakebite:

- Do not try to handle any snake.
- Notify your Site Commander if a snake is seen in the work area.
- Stay away from tall grass and piles of leaves when possible.
- Avoid climbing on rocks or piles of wood where a snake may be hiding.
- Be aware that snakes tend to be active at night and in warm weather.
- Wear boots and long pants when working outdoors.

Volunteers should take the following steps if a snake bites them:

- Seek medical attention as soon as possible (dial 911) and notify your Site Commander
- Try to remember the color and shape of the snake, which can help with treatment of the snakebite.
- Keep still and calm. This can slow down the spread of venom.
- Apply first aid if you cannot get to the hospital right away.
 - Lay or sit down with the bite below the level of the heart.
 - Wash the bite with soap and water.
 - Cover the bite with a clean, dry dressing.

Do NOT do any of the following:

- Do not pick up the snake or try to trap it.
- Do not wait for symptoms to appear if bitten, seek immediate medical attention.
- Do not apply a tourniquet.
- Do not slash the wound with a knife.
- Do not suck out the venom.
- Do not apply ice or immerse the wound in water.
- Do not drink alcohol as a painkiller.
- Do not drink caffeinated beverages.

Spiders

Volunteers at collection events have the potential to come into contact with black widow and brown recluse spiders. As with scorpions they may be in old boxes, bags and containers brought in by participants. Spiders are usually not aggressive and most bites occur because a spider is trapped or unintentionally contacted.

Black widow spiders are identified by the pattern of red coloration on the underside of their abdomen. They are usually found in workplaces containing undisturbed areas such as woodpiles, under eaves, fences and other areas where debris has accumulated. Black widow spiders build webs between objects, and bites usually occur when humans come into direct contact with these webs. A bite from a black widow can be distinguished from other insect bites by the two puncture marks it makes in the skin. The venom is a neurotoxin that produces pain at the bite area and then spreads to the chest, abdomen, or the entire body.

The brown recluse spider is brown in color with a characteristic dark violin-shaped (or fiddle-shaped) marking on its head and has six equal-sized eyes (most spiders have eight eyes). Brown recluse spiders are usually found in workplaces with secluded, dry, sheltered areas such as underneath structures, logs or in piles of rocks or leaves. The brown recluse spider cannot bite humans without some form of counter pressure, for example, through unintentional contact that traps the spider against the skin. Bites may cause a stinging sensation with localized pain. A small white blister usually develops at the site of the bite. The venom of a brown recluse can cause a severe lesion by destroying skin tissue (skin necrosis). This skin lesion will require professional medical attention.

Symptoms associated with spider bites can vary from minor to severe. Although extremely rare, death can occur in the most severe cases. Possible symptoms resulting from a spider bite include the following:

- Itching or rash
- Pain radiating from the site of the bite
- Muscle pain or cramping
- Reddish to purplish color or blister
- Increased sweating
- Difficulty breathing
- Headache
- Nausea and vomiting

- Fever
- Chills
- Anxiety or restlessness
- High blood pressure

Volunteers can take the following preventive steps:

- Check boxes, bags and containers brought in by Participants before removing contents.
- Inspect or shake out any clothing, shoes, towels, or equipment before use.
- Wear protective clothing such as a long-sleeved shirt and long pants, gloves, and boots.
- Keep your tetanus boosters up-to-date (every 10 years). Spider bites can become infected with tetanus spores.

Workers should take the following steps if a spider bites them:

- Immediately seek professional medical attention and notify the Site Commander.
- Stay calm. Identify the type of spider if it is possible to do so safely. Identification will aid in medical treatment.
- Wash the bite area with soap and water.
- Apply a cloth dampened with cold water or filled with ice to the bite area to reduce swelling.
- Elevate bite area if possible.
- Do not attempt to remove venom.

Scorpions

Symptoms of a scorpion sting may include:

- A stinging or burning sensation at the injection site (very little swelling or inflammation)
- Positive "tap test" (i.e., extreme pain when the sting site is tapped with a finger)
- Restlessness
- Convulsions
- Roving eyes
- Staggering gait
- Thick tongue sensation
- Slurred speech
- Drooling
- Muscle twitches
- Abdominal pain and cramps
- Respiratory depression

These symptoms usually subside within 48 hours, although stings from a bark scorpion can be life threatening.

Volunteers should take the following steps to prevent scorpion stings:

- Check boxes, bags and containers brought in by participants before unloading contents.
SCORPIONS HAVE BEEN FOUND IN ITEMS BROUGHT IN BY PARTICIPANTS!
- Inspect or shake out any clothing, shoes, towels or equipment before use.
- Wear protective clothing such as a long-sleeved shirt and long pants, gloves and boots.

- Workers with a history of severe allergic reactions to insect bites or stings should consider carrying an epinephrine auto injector (EpiPen) and should wear a medical identification bracelet or necklace stating their allergy.

Volunteers should take the following steps if a scorpion stings them:

- Contact a qualified health care provider or poison control center for advice and medical instructions.
- Ice may be applied directly to the sting site (never submerge the affected limb in ice water).
- Remain relaxed and calm.
- Do not take any sedatives.

Bees, Wasps and Hornets

The health effects of stinging or biting insects range from mild discomfort or pain to a lethal reaction for those workers allergic to the insect's venom. Anaphylactic shock is the body's severe allergic reaction to a bite or sting and requires immediate emergency care. Thousands of people are stung by insects each year, and as many as 90–100 people in the United States die as a result of allergic reactions.

Volunteers should take the following steps to prevent insect stings

- Wear light-colored, smooth-finished clothing.
- Avoid perfumed soaps, shampoos, and deodorants.
- Keep work areas clean. Social wasps thrive in places where humans discard food.
- Remain calm and still if a single stinging insect is flying around. (Swatting at an insect may cause it to sting.)
- If you are attacked by several stinging insects at once, run indoor to get away from them. (Bees release a chemical when they sting, which may attract other bees.)
- Volunteers with a history of severe allergic reactions to insect bites or stings should consider carrying an epinephrine auto injector (EpiPen) and should wear a medical identification bracelet or necklace stating their allergy.

If a worker is stung by a bee, wasp or hornet:

- Have someone stay with the worker to be sure that they do not have an allergic reaction.
- Wash the site with soap and water.
- Remove the stinger using gauze wiped over the area or by scraping a fingernail over the area. Never squeeze the stinger or use tweezers.
- Apply ice to reduce swelling.
- Do not scratch the sting as this may increase swelling, itching, and risk of infection.

Used Needles and Other Sharps

The Program does not collect used needles or other sharps. Occasionally participants will have used needles, old razor blades or other sharps mixed in with their waste. Your gloves may not adequately protect you from sharp objects. The best prevention is to follow the procedures outlined in Section x Collection. Ask participants what types of waste they are bringing to the facility, and look for potential hazards before unpacking bags, boxes or other containers of waste. Most cuts occur when the worker is

not aware of a sharp in a bag or box. If you are cut immediately notify your Site Commander who will provide first aid and contact medical personal. If you find a sharp while unpacking a container, notify your Site Commander who will remove the sharp and place it in an appropriate puncture-proof, labeled container for disposal.

Volunteer Injury and Reporting

Immediately report any accidents and injuries, no matter how small, to your supervisor. Common field injuries include scratches, small cuts, and puncture wounds from sticks. If you are injured, your supervisor will help you fill out the proper forms to protect you in case complications develop later from the injury. Disguising or keeping a medical problem secret may compromise your health or endanger your life or the lives of others. As an example, if you are allergic to bees or other insects, telling your supervisor in advance could end up saving your life.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

The Program requires the use of PPE to reduce volunteer's exposure to hazards. Currently gloves, aprons, closed-toed shoes, glasses, orange safety vest are required to be worn by all volunteers..

- Wear all required PPE when volunteering at a collection event. You may be asked to leave if you refuse to don the appropriate PPE.
- Replace your PPE during the collection event if it became damaged or contaminated.
 - Frequently replace your gloves, because of the chemical residues that often remain on containers.
- Remove your gloves, vest and apron when leaving the site (including leaving to use the restroom).
- Remove your gloves when eating or drinking in the break area.
 - You may leave your vest and apron on, as long as they are not contaminated.

VIII. Site Operations

The purpose of collection events is to:

- Remove hazardous materials from circulation through frequent collection periods where wastes are then:
 - Recycled - examples: used oil, antifreeze, and paint
 - Reclaimed – examples: lead batteries, fluorescent lamps, and broken thermometers can be processed to reclaim metals within
 - Neutralized – examples: simple acids and bases may be neutralized by combining them to form salt solutions
 - Disposed – examples: old pesticides, paint strippers, and wood preservatives may be reused or safely be destroyed
- Educating the community about the potential impacts of household hazardous materials.

The Program has multiple locations for people to dispose of their HHW. The Program encourages people to only come during the specified hours and strongly discourages people from leaving waste by the gate. Remote outreaches are held during the year in rural Pima County locations and at many City of Tucson neighborhoods. The HHW Program usually holds these outreaches in the fall and spring. There is no charge for residents of the City of Tucson or unincorporated Pima County. Residents of Pima County

from Marana, Oro Valley and Sahuarita can bring HHW materials for a \$5 fee.

The hours are available through the program's information line at 888-6947, the website (www.tucsonaz.gov/hhw) and on the Program's main brochure. The location and hours of operation of each collection site are given below.

- The main facility is located at 2440 W. Sweetwater Drive and is open every Friday and Saturday, 8 a.m. to Noon.
- Los Reales Landfill CABOP is located at 5300 E. Los Reales Road and is open Monday through Saturday, 6:00 a.m. to 5 p.m.
- The Program has two satellite sites operating on the first Saturday of every month from 8 a.m. to Noon
 - Eastside City Hall, 7575 E. Speedway Boulevard (north on Prudence Blvd.)
 - Tucson Water Plant 2, 1102 W. Irvington Road
- Antifreeze, Batteries, Oil and Paint (ABOP) drop-off sites are also located at the Tangerine Landfill,
- Sahuarita Landfill, and Catalina and Ryan Field Transfer Stations. Note that these sites can only accept antifreeze, batteries, oil and paint. Other HHW materials will be rejected. These sites are open during regular landfill and transfer station hours of operation.
 - Sahuarita Landfill, 16605 S. La Cañada Dr. Open Monday through Saturday 7:30 a.m. to 3:00 p.m.
 - Tangerine Road Landfill, 10220 W. Tangerine Rd. Open Monday through Saturday 7:30 a.m. to 3:00 p.m.
 - Catalina Transfer Station, 14425 N. Oracle Rd. Open Monday through Saturday 7:30 a.m. to 3:00 p.m.
 - Ryan Field Transfer Station, 6455 S. Continental Rd. Open Thursday through Saturday 7:30 a.m. to 3:00 p.m.

The Tucson/Pima County Household Hazardous Waste Program defines HHW as follows:

- It must be from a household.
- It may be in the form of a liquid, emulsion, paste, powder, crystal or compressed gas (such as an aerosol or propane cylinder) or other form.
- It may be an oxidizer, flammable, poisonous, irritating, acidic, basic material or a combination of these.
- It may consumer gas cylinders (e.g. barbq LPG)
- It may be other wastes such as fluorescent lamps, batteries, used oil, used computers

Household Hazardous Waste is NOT:

- from any commercial or business operation.
- commercial gas cylinders.
- radioactive, infectious, explosive, pyrophoric, shock sensitive, unstable or otherwise unpredictable.
- unused medications.
- biohazardous (anything that comes in contact with your body, i.e. used hypodermic needles,

bandages).

The highest risk of chemical exposure occurs when you are removing items from a participant's trunk. You do not know what is inside, you do not know the condition of the containers, and you do not know what happened during transport. Often the participant may not know exactly what the material is, and participants often mislabel or repackage items. Because of this uncertainty, you must treat all material as potentially hazardous, even those that appear to be nontoxic such as dish soap.

Routes of Exposure

Understanding how chemicals can enter your body will also help you reduce your risk of exposure. There are four main ways chemicals can enter your body.

- **Swallowing or eating (ingestion)** - The swallowing of household hazardous materials is the number one cause of childhood poisonings. Many adults eat chemicals accidentally by touching food products without first washing their hands. Example: Eating a donut without removing your gloves after bulking oil.
- **Touching or direct contact with the skin (absorption)** - Some chemicals seep into the skin quickly while others enter through open wounds. Different parts of your body soak up chemicals more quickly than others. Chemicals can damage tender areas of skin, such as the groin area or stomach, more readily than tougher areas like your hands and feet. Your eyes are extremely sensitive to chemicals. Chemicals can seep into the bloodstream rapidly through contact with the eyes. Example: Having a chemical drip from a leaking container onto your skin.
- **Puncture of the skin (injection)** - Needle pricks from syringes are most commonly thought of when talking about punctures, however, pieces of glass or metal objects can also poke through the skin. Punctures are of great concern because they allow the chemical to immediately enter the bloodstream. Example: Cutting your figure on a piece of glass from a broken mercury thermometer.
- **Breathing into the lungs (inhalation)** - Breathing is the most common way of bringing chemicals into the body, and it is also the easiest to prevent. The danger from breathing chemicals is sometimes a difficult thing to understand because we cannot see or smell many of the chemicals that are most harmful to us. Example: Spraying pesticides without using appropriate respiratory protection.

Symptoms of Exposure

Because of the large variety of HHW brought to collection events, the more specific symptoms of exposure are divided into hazard classes, chemical categories or in some cases when extra care may be needed, specific chemicals. If you wish detailed information about a specific chemical during a collection event, the Site Commander has resources available to provide that information to you.

General symptoms of hazardous chemicals over-exposures may include any of the following: Confusion, Anxiety, Dizziness, Blurred Vision, Skin Color Change, Burns, Cough, Chest Pain, Numbness of Extremities, Nausea, Vomiting, Abdominal Cramps, and similar feelings of being ill.

Volunteers should take the following steps to help prevent chemical exposure:

- Wear all required PPE when at a collection event.

- You may be asked to leave if you do not wear the appropriate PPE.
- Replace your PPE during the collection event if it became damaged or contaminated.
- Frequently replace your gloves, because of the chemical residues that often remain on containers.
- Remove your gloves, vest and apron when leaving the site (including leaving to use the restroom).
- Remove your gloves when eating or drinking in the break area. You may leave your vest and apron on, if not contaminated.
- Smoking is prohibited within x feet of a collection event.
- Chewing tobacco or gum, biting fingernails, eating or drinking are strictly forbidden while collecting, packaging, labeling, transferring, or otherwise handling any HHW.
- Read the labeling on HHW to determine material hazard types.
- Broken or cracked containers can be placed in a plastic bag and taped shut.
- Do not rush your activities even when there is a long line of cars. Stay calm and focused.
- In general, you should take a rest break every hour and eat and drink something. Under extreme heat conditions, you may need to take additional breaks.
- If you become fatigued, notify your Site Commander and take an extended break or leave the collection event. You do not need to stay until the end of the event.

Volunteers should take the additional steps to help prevent fires and explosions:

- Do not play with or test lighters, matches or other ignition sources brought to the collection event by participants.
- Cover all containers to minimize fumes. Broken or cracked containers can be placed in a plastic bag and taped shut.
- Take care when handling electronics and other metal items to minimize sparks.
- Even though gas can be bulked with used oil to raise the BTU content, gas cannot be bulked at a satellite collection event. The used oil drums are not grounded.
- Participants must leave their containers and pick them up at the main facility or the next satellite collection event.

Site Set-Up

The HHWP staff or Volunteer Coordinator will schedule volunteers for each particular collection day. Your participation will be confirmed with an e-mail message. We ask that you be at the site a one-half hour before the site opens (**7:30 am, sites open at 8 am**). This will give you enough time to participate in the Site Safety and Health Meeting, determine task assignments, sign-in and receive personal protective equipment, set up your tables, cones, traffic routes and collection and packaging area. The Site Safety and Health Meeting will be presented by the HHWP staff assigned to your collection site.

All outreach supplies you will ordinarily require will be transported by staff to the site before 7:30 a.m. Included in the supplies is the *Site Safety and Health Plan (SSHP)* specific for your site. The SSHP provides valuable information about classifying waste; setting up your satellite site and it also contains emergency response guidance. The SSHP must be returned with the supplies at the end of the day.

HHWP staff members are assigned to each site. Each site also has a Site Commander. These experienced personnel will direct the activities at the site. First off, set up your a-Frame signs, cones and tables as shown in the SSHP. Find all of the fire hydrants, extinguishers, bathrooms, telephones and other facilities shown on the site map, if any. Set up your waste receiving area and emergency equipment and determine who among you will be greeting the public and who will be handling the chemicals.

Try to be ready by 8:00 a.m. sharp. Don't open your site early. Be sure to wear your HHWP hats, shirts, and a big smile. Your professional and courteous presentation has a lot to do with the success of the program. In fact, to the public, **you ARE the program!!**

A site safety meeting for all staff and volunteers needs to be held before the actual collection event. Items to discuss during this meeting include

- Requirements of HHW Guidelines;
- Each person's role in the collection event;
- Location of safety equipment;
- Contingency plans;
- Waste packing guidelines & unacceptable materials;
- Chemical/Physical hazards associated with the wastes and collection activities;
- Personal protective equipment requirements; and
- Safety precautions/work practices.

Site Safety & Health Meeting

This is a mandatory meeting each workday that will take place prior to the opening of the collection. The facility manager or acting supervisor will introduce volunteer(s) to each other and to any HHWP staff members. He/She will then review any site-specific safety procedures that need to be reviewed. The purpose of these safety meetings is to describe the assigned tasks and their potential hazards, coordinate activities, identify methods and precautions to prevent injuries, plan for emergencies, describe any changes in the safety plan, and receive feedback on conditions affecting safety and health and to describe any changes in the standard operating procedures.

- 1. Collection Form:** This form is to be completed by the designated greeting person. It records the number of participants, if they have used the program before, how they heard about the collection and their zip code.
- 2. Volunteer Sign-in Sheet:** All workers at the site are required to complete this document. Each worker at the collection site should sign in, note the time and date, list his or her level of training, and sign out on the page.
- 3. Commercial Waste Rejection Form:** This form is filled out when a party attempts to drop off hazardous waste that is obviously from a business and the transfer of the material is refused.
- 4. Bulk or Unusual Waste Affidavit:** Used when the origin of the hazardous waste is questionable and the party claims that it is not from a business. A request must be made to obtain the signature of the delivering party. Verification of name and address should be made by asking to see their driver's license.

5. Unusual Incident Report: Must be filled out to document any type of occurrence that may require investigation by the County or any other enforcement agency.

6. Waiver Indemnification Form: Enables the HHWP personnel to keep an accurate record of the type and the amount of material that was collected. Any person who elects to take advantage of a recyclable item needed in their home must list the type and approximate weight of the item on this form. No signature is required as this is for collection recording purposes only.

7. Small Business Forms: For use

Traffic Flow

Once you have everything set up and have made your job assignments you are ready to go. Your mission is twofold:

- Obtain information about the waste contributor and, especially, his or her wastes, and
- Package the wastes for safe transport to the main collection facility.

As a mnemonic device we suggest the following scheme:

Greet the public.

Obtain information.

Observe the waste.

Package the waste.

That is, **G.O.O.P.!** We'll now spell out these four steps in greater detail.

Greet the Public

Greeting the public in a prompt, pleasant fashion is vital to the continued success of the HHWP.

- If people are treated well they will spread the information to family and friends and return with more household hazardous waste in the future.
- If they return on collection days regularly they will gradually be reinforced to change their buying habits.
- A good rapport with the waste contributor will allow you to obtain better information about poorly labeled containers.
- If the contributors are pleased with the way they are treated then they will refer other people, increasing the program's impact.

Normally you will want to cover all of these points in your greeting:

- Direct traffic as needed to avoid snarls, confusion and drive outs.
- Approach the contributor promptly, so they do not have to sit in line any longer than necessary.
- Welcome the contributor with something like "Good morning. Thank you for stopping by today. Have you been to one of our collections before?"
- Depending on the contributor's experience with the program, explain the process of dropping off waste. "Basically, you wait here for a moment and help me answer a few quick questions that will help make our program as responsive as possible." You will ask the questions and complete the survey form and say "Please proceed to that lady/gentleman up there who will unload your wastes."

- Give each vehicle/participant our information packet including the bookmark, Safe Alternatives, and other handouts as available.
- Finally, ask her/him if she/he has any questions.

Unloading Vehicles

Obtain Information. There is a lot of valuable information to be gathered during household waste collections. We are interested in information about the waste contributor as well as about the waste itself. You will gather most of your information from the contributor, but you will also be screening the wastes themselves to determine if we have enough information for sorting or processing, and that they are not wastes which are unacceptable by the HHWP.

Have the waste contributor park in your first queue. If the waste is in their trunk or in the back of a station wagon or minivan, ask them to open their vehicle or if they prefer they can provide you with the keys and open it for them. If they wish to open it, have them move carefully to the space, open the space for you, then return to their seat.

Waste Identification. Containers should be clearly labeled with the name of the waste. If labeling is insufficient you must obtain "process knowledge", i.e., ask leading questions to find out how the material was used, where it was stored, etc. This info must be recorded and attached to the container (wired tags are in the supply bins).

Leakers. In the case of leakers have the driver pull up to the receiving area or have your packaging person bring the spill kit over to the vehicle, at your discretion.

Non-Household Waste. If you see any indication that the waste is commercial, such as 6" by 6" yellow HAZARDOUS WASTE labels, containers that are larger than household commodities or several full containers of the same material (such as off-spec retail goods) you must reject the waste. Have a program staff discuss the matter with the contributor. Provide them with the SBWAP brochure. We also provide handouts explaining the options and other contacts for commercial waste disposal.

Prohibited Waste. We cannot accept infectious (including sharps), radioactive, explosive, or commercial compressed gas wastes (this does not include aerosol cans or barbecue type propane cylinders). Discuss the matter with the contributor.

If you even suspect something touchy such as blasting caps, dynamite, grenades or munitions of any sort follow this procedure:

- Detain the driver. This is for safety, not discipline. Have the driver wait away from his or her vehicle.
- Notify your Site Commander or the HHWP staff member immediately.
- Reassure the driver and wait for the professionals (e.g. Tucson Police Department (TPD), TFD or Rural Metro) to arrive.
 - *Bullets and shells are often delivered to outreach sites. Inform the Site Commander before accepting these items. The Site Commander will make the determination to accept these items or refer the driver to TPD or the Pima County Sherriff's Department.*

- Once you and the waste contributor have completed your assignments, direct the driver to move up to the waste receiving area.
- A reminder: try to pay attention to people who may be arriving while you are looking over someone else's waste. Avoid situations in which people are inclined to drop off their waste and drive out.

Observe the Waste

Observation of the waste has two purposes. The first is to double check that you don't have leakers or prohibited wastes and the second is to make sure that we have enough information on the container so that the HHWP staff will be able to make the best determination on handling. Use the following:

- As a waste contributor drives up to the waste receiving area, direct them with hand signals as needed.
- Greet the person and ask if they have been asked the survey questions. If they haven't, quickly go over the questions. Be careful not to cause traffic to back up.
- Double check for leakers, commercial waste, prohibited waste or explosive waste. If you think you have waste in one of these categories respond as described on the previous page.
- Observe the labeling, or lack thereof, on the waste containers.
 - If the waste is in its original container and the labeling adequately names the waste without using obscure trade names or symbols, accept it as is.
 - If the waste is in its original package and has additional information written on it, such as the shelf date or any of the words "waste," "used," "old" or "bad," accept it as is.
 - If the waste is in a package other than its original package, but has sufficient additional information to indicate what it is, accept it as is.
 - If the waste is without sufficient labeling (partial label or none), determine what the material is or is most likely to be by asking the waste contributor. Sometimes the appearance of the material may be enough for you to determine its general classification. Do not attempt to smell the material to determine its nature. Label the container with what ever you know about the waste and accept it. Use a permanent marker available in the label box to mark the container.
 - You will occasionally see materials that are clearly household wastes, but about which nothing is known. We can take these and staff will categorize them using the HAZCAT equipment available at each collection site. Label the container with whatever information you have and accept it.

Material Handling

The highest risk of chemical exposure occurs when you are removing items from a participant's trunk. You do not know what is inside, you do not know the condition of the containers, and you do not know what happened during transport. Often the participant may not know exactly what the material is, and participants often mislabel or repackage items. **Because of this uncertainty, you must treat all material as potentially hazardous, even those that appear to be nontoxic such as dish soap.**

- Before removing items from a car, ask the participant what they have brought to the collection event.
- Observe the waste, look at the condition of the containers, look for signs of spillage and look for prohibited waste.

- Carefully remove the waste and place it on a cart for transport. Using the carts to transport materials to the sorting table or appropriate packaging area reduces the chances of a spill as well as reducing volunteer fatigue and possible injury associated with frequent lifting.
- When lifting containers use two hands. When possible place one hand on the bottom of the container.
- Do not lift a container solely by a handle or the neck if possible. Handles often break off causing the container to fall. Many containers are fragile and break or crack when carried.
- Do not carry waste containers directly next to your body. This transfers any residues to your apron or your clothing or skin if it is not protected.
- If you see a precipitate or crystals around the cap of a container, do not further handle the container and immediately notify the Site Commander.
- When sorting materials, check the container labeling before placing the item in the appropriate drum or tote for transport, even if you believe that you are very familiar with the material.
- Be aware of your surroundings. If you hear hissing, feel heat, or see fumes or spilled material, immediately notify the Site Commander.
- Do not handle any waste that you are uncomfortable with. Instead notify the Site Commander.

Sorting and Packaging the Wastes

SORTING

All that is left at this point is to get the wastes out of the contributor's vehicle and package them for safe transport to the main collection facility. However, we cannot safely transport the wastes if we package incompatible wastes in the same containers. Therefore you will need to sort the materials into some very fundamental groups.

- Once you are satisfied that the wastes are labeled and understood, carefully remove them from the contributor's vehicle and place the wastes on your table.
- If they have a secondary container, such as a tub, box or pail, return it to them. The exception to this would be if the container had been contaminated by a leaker.
- Thank the contributor for taking the time to stop by and encourage them to continue to participate in the program. Try not to keep them sitting in line for too long.
- Next you will sort the wastes. If you have a surge of customers you will need to sort and package quickly.

There are four general categories of wastes:

Oxidizers.

Oxidizers are materials which promote combustion of other materials. Since they react with so many diverse compounds we would like to isolate them first. In most cases they are not too dangerous by themselves. The simplest of these is oxygen gas, but we will usually be seeing oxidizers that are solid.

Examples commonly seen at collection events:

- calcium hypochlorite (swimming pool chlorine)
- ammonium nitrate (35-0-0 fertilizer); potassium nitrate
- "solid-ox" (a chemical heating agent)
- hydrogen peroxide, >8% (household type is usually 3%)

- epoxy or fiberglass hardeners (not the resins)
- methyl ethyl ketone peroxide (MEKP)
- concentrated nitric acid, >40%
- chromic acid (solid only, bright orange crystals)
- any nitrates, chlorates, perchlorates, peroxides
- some cosmetics, drugs and tree killing solids

Flammables.

There are many flammable household products. Of these, quite a large number are poisonous and can cause respiratory tract irritation, anesthesia and dermatitis.. Since flammable liquids tend to spill and find sources of ignition, we will generally be concerned about a waste's flammability before its toxicity.

Examples commonly seen at collection events:

- automotive fluids: oil, antifreeze, brake fluid, tranny fluid
- oil based stains, paints, thinners and some paint strippers
- lighter fluid, lighters, "Coleman" fuel
- kerosene, turpentine, naphtha, petroleum distillates
- methyl ethyl ketone, ethanol, methanol, propanol, isopropanol
- butane and propane cylinders (small disposable only)
- aerosol paints, adhesives, strippers, preservatives
- floor wax, furniture polish, spot remover
- solvent based pesticides, tree sealant
- epoxies, body filler, oil treatment, some carburetor cleaners
- aerosol disinfectants, deodorants, etc.

NOTE ABOUT AEROSOLS: We package the aerosol cans as received; buttons are not pulled off. The chance for discharge is small, and by leaving the buttons on the cans, we may divert some to recycling rather than to disposal.

Corrosives.

Corrosives are chemicals with extreme pH's, that is, they tend to **corrode** other materials, such as steel, glass, your skin, etc. Some bases react wildly with other bases (ammonia and chlorine). Acids and bases can seriously burn body tissue on contact as well as cause dermatitis and eye damage. Exposure to vapors or mists can affect the respiratory tract and mucous membranes. Many corrosives may cause delayed injury, particularly bases. The absence of immediate symptoms may prolong exposure and as a result, cause even more severe injuries. Because some corrosives react violently with others we must further segregate corrosive materials into **acids** and **bases**.

Acids - Examples commonly seen at collection events:

- muriatic acid (concrete cleaning, pool chemical)
- "Naval Jelly" (phosphoric acid)
- household batteries, not alkaline, only if leaking
- acetic acid (photochemical)
- scale removers, lime deposit removers
- some hobby chemicals

NOTE: Although car batteries contain sulfuric acid, they are packaged directly on the transport truck.

HAZARD NOTE: Hydrofluoric Acid (HF of Hydrogen Fluoride)

- Participants bring hydrofluoric acid to collection events from time to time. Hydrofluoric acid goes easily and quickly through the skin and into the tissues in the body where it damages the cells and causes them to not work properly.
- Skin contact causes severe burns that develop after several hours and form skin ulcers. Often workers exposed to low concentrations of hydrofluoric acid on their skin do not show effects right away. Severe pain at the exposure site may be the only symptom for several hours. Visible damage may not be shown until 12 to 24 hours after the exposure.
- Exposed individuals must seek medical treatment as soon as possible. Your doctor may recommend or use products to help neutralize the effects of poisoning. Calcium gluconate (a calcium sugar) gels, solutions, and medications are used to neutralize the effects.

Bases - Examples commonly seen at collection events:

- lye, sodium hydroxide, potassium hydroxide
- lime, plaster of paris
- ammonia containing cleaners
- bleach (laundry bleach, bathroom cleanser)
- alkaline batteries, if leaking
- oven cleaners
- "Drano" and others (crystal and liquid)
- "Nair" hair removers
- most cyanide compounds (some jewelry cleaners)

HAZARD NOTE: *Do not package ammonia and chlorine products together. The resulting reaction produces poisonous gas. NEVER package cyanide compounds with acids!*

Poisons (also known as toxics)

Whatever is left should be treated as a poison. It may have acute toxic effects, such as parathion, or it may have long-term health consequences, such as kidney failure from chlorinated solvents. If you have any unclassifiable organic materials left, this is also the place to put them, as most of the highly reactive classes have been eliminated.

Examples commonly seen at collection events:

- thermometers, liquid mercury
- chlorinated benzene or phenol derivatives
- noncorrosive photochemicals
- disinfectants (e.g. "Lysol")
- rug and upholstery cleaners, dry cleaning solvent
- mothballs, flea collars, fly paper
- products containing any of the following metals: arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, zinc

HAZARD NOTE: Benzene

Participants bring benzene to collection events from time to time. Benzene is a known carcinogenic and has a relatively short latency period (the interval between exposure to a carcinogen and the clinical appearance of disease). Chronic exposure to a low concentration of benzene may damage the bone marrow.

HAZARD NOTE: Organic Solvents (*aromatic hydrocarbons, aliphatic hydrocarbons, freons, alcohols, ethers, ketones*)

- Repeated skin contact with a solvent can cause the skin's protective fats and oils to dissolve, resulting in reddening, itching, blistering, and pain.
- Some solvents can also be readily absorbed through the skin, producing systemic toxic effects.
- In addition to irritation of the respiratory tract and mucous membranes, inhalation can cause dizziness, drowsiness, headache, lack of coordination and nausea.
- Exposure over a prolonged period of time may result in damage to the liver, kidneys, lungs, blood, nervous system, and other organs. Carcinogenic, mutagenic and teratogenic effects are not uncommon.
- Some of the chlorinated solvents are strong systemic poisons which damage the liver, kidneys, nervous system, and other organ system.
- Many organic solvents are flammable.

HAZARD NOTE: Chlorinated Solvents (*methylene chloride, chloroform, trichloroethylene*)

- Most of these compounds have an anesthetic or narcotic effect, causing people to feel intoxicated if overexposed.
- All chlorinated solvents can cause dermatitis (chapping, drying, rashes) on repeated contact with the skin, since they remove the protective fats and oils.
- Many of the compounds are highly irritating to the membranes around the eyes, and in the nose, throat, and lungs.
- With few exceptions, most of the chlorinated hydrocarbons are non-flammable.

PESTICIDES (suffix= 'cide), such as: DDT; 2,4-D; 2,4,5-T; Silvex; arsenates; pyrethrins; rotenone; nicotine; carbaryl; sevin; temik; aldicarb; carbofuran; baygon; aldrin; endrin; lindane; dieldrin; kepone; heptachlor; chlordane; malathion; parathion; methyl parathion; diazinon; dichlorvos; chlorpyrifos; toxaphene; pentachlorophenol; penta and many others.

NOTE ON PESTICIDES: Other language on the container may tell you that this material is toxic; usually the chemical names for pesticides are a good clue, as they can get very long.

PACKAGING

Once you've separated the wastes according to their basic hazards you are ready to package them for the trip across town. A number of drums and containers will be available to package these materials. These will be 55-gallon drums, interlocking plastic totes, 5-gallon buckets, and cardboard boxes for fluorescent lamps. A drum of vermiculite will also be available, a packaging material which absorbs shock and is

absorbent of liquids.

Open top drums or containers will be set-up and labeled for the hazard which you are packing, e.g., FLAMMABLE LIQUID. Under ideal conditions, vermiculite absorbent will be provided for soaking up any spills or broken containers in the drum; individual containers are thereby separated by the vermiculite to insure safe transport. This is known in the industry as "lab-packing". Be sure that all container lids are **secure**, and won't spill if tipped over!

When a container is full close it and place it aside or on the transport vehicle. Only staff or volunteers with steel-toed shoes are allowed to handle full drums or containers.

The following guideline will describe how the wastes should be packaged for the trip across town to the permanent facility. These guidelines will be posted at the outreach sites during all collections. If you have any questions about where to put items, ask the Site Commander or one of the HHWP staff members on site.

WE NEED YOUR HELP! We have to be careful when packaging items at the Outreach sites. The HHWP staff unloads the drums at the main site on Saturday after the collection, but we do not start to go through the containers until the following Wednesday. If materials have been packed with incompatibles or if containers are leaking, they may not be dealt with until the next Wednesday. We need to ensure that all materials are safely contained for their trip to the facility and until they are processed. If you are not sure of how to package a container, please ask for help.

Packaging and Transportation Guidelines

Important Definitions:

- **Bucket or Pail:** When we use the term bucket or pail we mean a 5-gallon plastic pail with a snap on lid.
- **Bulk:** When we use the term bulk we mean placing a liquid material directly into a container, like pouring oil into a drum. Normally the only materials that are bulked at an outreach collection are waste oil and antifreeze. Only one class of material is bulked in each package.
- **Consolidation pack:** When we use the term consolidation pack we mean placing containers into a bucket, tote or drum, and adding some packing material to protect the containers.
- **Containers:** When we use the term container we mean what the material is in. Containers may be a spray can, a milk jug, a box, bag or some other kind of container. We may either bulk the contents of a container or lab pack the entire container to be transported to the main facility.
- **Lab Pack:** When we use the term lab pack we mean a packaging meeting the requirements of 49 CFR 173.12 (b) where several containers of compatible products are packaged together in a single outer DOT specification package.
- **Loose Pack:** When we use the term loose pack we mean placing containers into a bucket, tote, drum or basket. Examples of loose packs are; placing household batteries into a 5 gallon bucket, or stacking paint cans in a pallet basket.
- **Package:** When we use the name package or packaging we are talking about the entire package with the collected containers in it. Packaging includes the drum, pail, tote or basket and all of the containers, absorbent and labels, which are required before the package can be shipped to the

main site. Examples of a package are; a 55 gallon drum filled with waste oil; a bucket filled with meds or; a tote filled with Soaps & Waxes.

- **Pallet Basket:** When we use the term pallet basket, we mean a wire basket designed to be handled with a forklift.
- **Specification Container or Package:** When we use the term specification or spec container or package, we mean a container or packaging, which meets Department of Transportation (DOT) standards.
- **Tote:** When we use the term tote we mean a plastic box with attached interlocking lid.

General Packaging Guidelines

It is important to package materials so that they will not be creating a hazard to the driver of the transport vehicle, the public or to the program staff who eventually unpack the material. To ensure that collected materials are loaded and transported safely please follow the “General Packaging Guidelines” for all materials collected, as well as the “Specific Packaging Guidelines” for the particular material. The general packaging guidelines are listed below. The guidelines apply to all materials collected and transported by program staff or volunteers.

PLEASE ENSURE THAT EVERY PACKAGE IS LABELED

- All packages must be strong, tight and not leak.
- Incompatible materials shall not be placed together in the same package.
- Check all containers to make sure that they are not leaking.
- If a container is leaking, package it separately in a 5-gallon bucket, a tote, or other appropriate container as directed by program staff.
- Place liquid containers upright in the package.
- Lab packs containing liquids shall be marked with a “**This Side Up**” label on two opposing sides of the package.
- All packaging must be labeled to indicate the contents.
- Generally, exception for Poisons and Soaps & Waxes, do not package wet and dry materials into the same container. Additional buckets, totes, or drums are available at each site for this purpose.
- Adequate compatible absorbent shall be added to the packaging.
- Containers of 55 gallons or larger may go directly on the transport vehicle if they are labeled and the container is strong, tight and not likely to leak.
- Bag, tape or wrap weak or leaking containers when practical before packaging.

Although these guidelines try to address every reasonable waste type that might be accepted during a collection, materials may be collected that are not addressed by this procedure. In those cases the program staff will use their best judgment in providing packaging that will ensure the safe transportation of the collected materials. If you are not sure of how to safely package any material, please ask for help from the HHWP Staff.

The following materials will not be transported by program volunteers or staff:

- Unknown materials that have not been classified
- Reactive or unstable materials (reactive materials can be transported if stable and lab-packed)

- Explosives
- Radioactive Materials
- Commercial Hazardous Waste
- Any materials designated as “Forbidden” by 49 CFR 172.101 (Hazardous Materials table)
- Compressed gas cylinders (exceptions: 1-pound camp propane bottles, torch cylinders, BBQ propane canisters, helium canisters, and oxygen cylinders)
- Poison gasses (except for aerosol cans of household pesticides)

Miscellaneous Waste Streams

Unknowns

Only Program staff shall sort unknowns. Do not attempt to identify unknown materials by touching or smelling the material. Unknown materials must be classified before they are packaged for shipment. Field classification kits are used to establish a DOT classification. Unknowns are packaged as indicated on the Field Classification Form. If for some reason you are unable to determine the DOT classification, then package the material in the most appropriate container available and label the package with a DOT Poison label and a label reading, “Unknown Liquid” or “Unknown Solid.” The Field Classification Form, if utilized, shall accompany unknown materials. Place this form in the package and when practical attach it directly to the container of unknown material. Trained volunteers or program staff shall only conduct field-testing.

Paints

Latex and oil based paint and other paint related materials such as stains, varnish and primers and containers which are not leaking, shall be loose packed into wire paint baskets on the transport vehicle. When large quantities of paint related materials are collected during a collection event, it may be appropriate to sort the different paints into separate baskets. If a paint container is weak or leaking, it shall be placed in a plastic bag, tote or bucket.

Lead Acid Batteries

Non-leaking: Non-leaking lead acid batteries shall be loose packed into a battery box on the transport vehicle. Protect the batteries against short-circuiting by arranging the batteries so that the terminals will not touch other terminals. If necessary, place duct tape over battery top or side terminals to protect them from contacting metal objects or the terminals of other batteries. Place cardboard between layers in the battery box. Battery terminals must not be relied upon to support the weight of other batteries.

Leaking: Leaking lead acid batteries shall be consolidation packed into a tote or bucket.

Label the package as indicated below.

Batteries, wet, filled with acid UN 2794 (Lead Acid Batteries)

Dry Batteries

Loose Pack dry batteries into a 5-gallon plastic bucket.

Label the bucket with a label stating “Dry Batteries.”

Waste Oil

Bulk waste oil into a 55-gallon metal waste oil drum. Waste oil drums are normally pre-labeled. If a waste

oil drum does not have a label, please add a label reading "USED OIL ONLY." Containers of waste oil which are suspected of containing solvents, or other contaminants shall be package separately or with the flammable liquids. Bulk cooking oil into the waste oil drums unless directed differently by the Site Commander.

Antifreeze

Bulk waste antifreeze into a waste antifreeze drum. Antifreeze drums are normally pre-labeled. If an antifreeze drum does not have a label, please add a label stating "USED ANTIFREEZE ONLY."

Road Flares (Highway Fusee)

Road flares shall be placed into a tote or pail.

Label the package as indicated below.

Fusee NA 1325

Mercury

Containers of elemental mercury, including mercury containing thermometers and thermostats, shall be packed together in the same bucket. Label the packaging as indicated below.

Mercury UN 2809

on two opposing sides

Smoke Detectors

Smoke detectors are not accepted through the program. However, if smoke detectors are dropped off, distribute them throughout the trash containers at the site.

Medicines

Medicines are not accepted through this program. Special Dispose-A-Med collection events are scheduled periodically by a law enforcement agency in conjunction with HHW collection events.

Fluorescent Lamps

Fluorescent lamps (4' or 8' tubes) shall be placed in cardboard cylinders or lamp boxes and placed on the transport vehicle. Take care when placing fluorescent lamps to ensure they do not break. Smaller fluorescent lamps shall be placed into a bucket or pail.

Label fluorescent lamp containers with a "UNIVERSAL WASTE" label with "Fluorescent Lamps" written on the label.

Computers

Computers and computer peripherals (processing unit, monitor, printer, scanner, key board, mouse, etc.) will be collected as long as they are from residents, no business computers will be collected at the sites. Televisions, DVD/VCR players and other electronics are not accepted through this program. Computers will be loaded on to the transport vehicle and loaded into wire baskets.

Ink & Toner Cartridges

Ink or toner cartridges shall be placed into a bucket or tote.

Label ink cartridge containers with a “NON-REGULATED” label with “Ink Cartridges” written on the label.

Oil Filters

Oil filters shall be placed into a bucket or tote.

Label oil filter containers with a “NON-REGULATED” label with “Oil Filters” written on the label.

Photo Chemicals

Liquid photo chemicals can be packaged in the Liquid Acids General (Fixers & Stop Bath) container or Bases General (Developer) container if a pH determination is made. However, when large amounts of these materials are received photo chemicals can be packaged separately into a bucket or tote.

Label photo chemical containers with a “NON-REGULATED” label with “Photo Chems” written on the label.

Aerosol Cans & Flammable Gas

Aerosols, like paints, spray lubricants, aerosol poisons and oven cleaners shall be loose packaged into a tote or drum. Arrange the cans so that they will not discharge during transportation.

We do not accept compressed gas cylinders larger than small propane bottles or BBQ size canisters.

Do not remove the caps or tips from aerosol cans.

Generic types of Aerosols received:

- Spray Paint
- Oven Cleaner
- Carburetor Cleaner
- Starter Fluid
- Window Cleaner
- Spray Lubricants
- Lacquer Spray
- Hair spray
- Brand Names:
- Rustoleum
- Clear Coat
- Easy Off Oven Cleaner
- WD 40
- Krylon
- Shoe Glow
- Raid

Label the drum or tote as indicated below.

AEROSOL UN 1950 (Flammable, Non-flammable, Corrosive, Poison) INSIDE CONTAINERS COMPLY WITH PRESCRIBED REGULATIONS

Acids and Acid Salts Special

Package the following four acid groups by themselves: For lab pack liquids place orientation labels on two opposing side:

- Nitric, Chromic, Picric Acids. Lab pack into a bucket. Vermiculite shall be added to the bottom of

the package and between the containers and layers. Use enough vermiculite to protect the containers. Label the package with the DOT labels and name as indicated below.

Corrosive Liquid, oxidizing n.o.s. UN 3093 (Nitric Acid)

- Hydrofluoric Acid. Lab pack into a bucket. Vermiculite shall be added to the bottom of the package and between the containers and layers. Use enough vermiculite to protect the containers. Label the package with the DOT labels and name as indicated below.

Hydrofluoric Acid, solution UN 1790

- Chloric, Perchloric Acid. Lab pack into a bucket. Vermiculite shall be added to the bottom of the package and between the containers and layers. Use enough vermiculite to protect the containers. Label the package with the DOT labels and name as indicated below.

Corrosive Liquid, oxidizing n.o.s. UN 3093 (Chloric & Perchloric Acid)

Dry Acids or Acid Salts (Acetic Acid dry, Oxalic acid and Sodium Bisulfate).

Label the package with the DOT label and name as indicated below.

Corrosive Solid, Acidic Organic, n.o.s. UN 3261

Corrosive Solid, Acidic Inorganic, n.o.s. UN 3260

Liquid Acids General

Liquid acids shall be loose packed together in totes or buckets with secured lids. Package organic and inorganic acids in separate containers. Solid acids are packaged separately. See "Acid and Acid Salts Special."

Note: Nitric, Nitrous, Hydrofluoric, Perchloric and Dry Acids or Acid Salts see "Acids and Acid Salts Special."

Generic types of Acids received:

- Inorganic Acids
- Sulfuric Acid
- Muriatic Acid
- Hydrochloric Acid
- Sodium Bisulfate (in solution only)
- Organic Acids
- Photographic Fixer (in solution only)
- Acetic Acid Solution
- Photographic Stop Bath
- Brand Names:
- Glacial Acetic Acid
- Kodak Stop Bath
- Mister Plumber (if it contains sulfuric acid)
- Pool Time

Label the packaging as indicated below.

For lab pack liquids place orientation labels on two opposing sides.

CAUTION BE EXTRA CAREFUL WHEN HANDLING CORROSIVE MATERIALS. IF CONTAINERS ARE IN POOR CONDITION OR LIKELY TO LEAK, THEN PACKAGE THEM SEPARATELY.

Solid Acids General

Solid acids shall be loose packed together in totes or buckets with secured lids. Package organic and inorganic acids in separate containers. Solid acids are packaged separately. See "Acid and Acid Salts Special."

Note: Nitric, Nitrous, Hydrofluoric, Perchloric and Dry Acids or Acid Salts see "Acids and Acid Salts Special."

Generic types of Acids received:

- Photographic Fixer
- Cyanuric Acid
- Oxalic Acid
- Potassium Carbonate
- Sodium Bisulfate
- Sodium Acetate
- Brand Names:
- Chlorine Stabilizer
- Kodak Photo Fixer
- Vanish (may be a solid acid)
- PH Minus or Decreaser
- Saniflush (may be a solid acid)
- PH Down

Label the packaging as indicated below.

Corrosive Solid, Acidic Organic, n.o.s. UN 3261

Corrosive Solid, Acidic Inorganic, n.o.s. UN 3260

Liquid Bases General

Caution: Bases have poor skin contact warning properties.

The following base materials require special handling:

◆ For Cyanide and Cyanide Compounds see Poisons

◆ For Chlorine and Chlorine Compounds see Oxidizers

Package aerosol bases, like oven cleaners, with the other Aerosols Wet and dry bases shall be packed separately in totes or buckets. Lab pack liquid bases and loose pack solid bases. Vermiculite shall be added to the bottom of the package and between the containers and layers. Use enough vermiculite to protect the containers.

Generic types of Bases received:

- Ammonia
- Ammonium Hydroxide (in solution)
- Drain Opener
- Floor Stripper
- Wax Stripper
- Lye (in solution)
- Sodium Hydroxide (in solution)
- Sodium Silicate (in solution)
- Trisodium Phosphate (TSP)

- Brand Names:
- Sani-flush
- Drano
- Zep floor stripper

For lab pack liquids place orientation labels on two opposing sides

Label the packaging as indicated below for solid (dry) or solutions (liquid).

CAUTION - Do not pack wet and dry bases in the same container.

Corrosive Liquid Basic Inorganic n.o.s. UN 3266 or

Corrosive Liquid Basic Organic n.o.s. UN 3267

Solid Bases General

Caution: Bases have poor skin contact warning properties.

The following base materials require special handling:

- ◆ For Cyanide and Cyanide Compounds see Poisons
- ◆ For Chlorine and Chlorine Compounds see Oxidizers

Package aerosol bases, like oven cleaners, with the other Aerosols Wet and dry bases shall be packed separately in totes or buckets. Lab pack liquid bases and loose pack solid bases. Vermiculite shall be added to the bottom of the package and between the containers and layers. Use enough vermiculite to protect the containers.

Generic types of Bases received:

- Sodium Carbonate
- Ammonium Hydroxide
- Caustic Soda
- Sodium Hydroxide
- Sodium Bicarbonate
- Sodium Hydrogen Carbonate
- Lye
- Sodium Silicate
- Trisodium Phosphate (TSP)
- Brand Names:
- PH plus
- PH up
- Alkalinity Up
- Alkalinity Increaser
- Soda Ash
- Photo Developer
- Drano

Label the packaging as indicated below for solid (dry) or solutions (liquid).

CAUTION - Do not pack wet and dry bases in the same container.

Corrosive Solid Basic Inorganic n.o.s. UN 3262 or Corrosive Solid Basic Organic n.o.s. UN 3263

Liquid Oxidizers

Caution: Treat contaminated Oxidizers as potentially reactive.

Do not pack wet and dry Oxidizers in the same container.

Package pool chemicals, which are oxidizers separately from other oxidizers, Chlorine and Chlorine Compounds which are not Oxidizers: Lab pack into a bucket or tote. For liquid chlorites vermiculite shall be added to the bottom of the package and between the containers and layers. Use enough vermiculite to protect the containers. Label the package with the DOT label and name as indicated below for solid (dry) or solutions (liquid).

Oxidizing Liquid, n.o.s. UN 3139

Chlorites Solution (Liquid Chlorine) UN 1908

If at all possible package oxidizers into five gallon buckets or totes. Lab pack into a bucket or totes. Vermiculite shall be added to the bottom of the package and between the containers and layers for liquid lab packs and as needed for solid lab packs. Use enough vermiculite to protect the containers.

Generic types of Oxidizers received:

- Calcium Hypochlorite
- Chlorine
- HTH
- Silver Nitrate (in solution)
- Potassium Nitrate (in solution)
- Sodium Hypochlorite

For lab pack liquids place orientation labels on two opposing sides

Label the package with the DOT label and name as indicated below for solid or liquid oxidizers.

Chlorite Solution, UN 1908 or Oxidizing Liquid, n.o.s. UN 3139

Solid Oxidizers

Caution: Treat contaminated Oxidizers as potentially reactive.

Do not pack wet and dry Oxidizers in the same container.

Package pool chemicals, which are oxidizers separately from other oxidizers, Chlorine and Chlorine Compounds which are not Oxidizers: Lab pack into a bucket or tote. For liquid chlorites vermiculite shall be added to the bottom of the package and between the containers and layers. Use enough vermiculite to protect the containers.

Label the package with the DOT label and name as indicated below for solid (dry) or solutions (liquid).

Chlorites, Inorganic, n.o.s. (Solid) UN 1462

Oxidizing Solid, n.o.s. UN 1479

If at all possible package oxidizers into five gallon buckets or totes. Lab pack into a bucket or totes. Vermiculite shall be added to the bottom of the package and between the containers and layers for liquid lab packs and as needed for solid lab packs. Use enough vermiculite to protect the containers.

Generic types of Oxidizers received:

- Bromine
- Calcium Hypochlorite
- Dry Bleach
- HTH
- Potassium Dichromate
- Potassium Nitrate
- Stump Remover

- Sodium Hypochlorite

Label the package with the DOT label and name as indicated below for solid or liquid oxidizers.
Oxidizing Solid n.o.s. UN 1479 or Chlorites, Inorganic, n.o.s. (Solid) UN 1462

Flammable Liquids

Chlorinated and Non-Chlorinated Flammable Liquids shall be loose packed together in drums or buckets.

Generic types of Flammable Liquids received:

- Brake Fluid
- Carburetor Cleaner
- Gasoline
- Kerosene
- Lacquer Thinner
- Paint Thinner
- Spot Removers
- Acetone
- Nail Polish Remover
- Lighter Fluids
- Camping Fuels

Label the packaging as indicated below.

Flammable Liquid n.o.s. UN 1993

Liquid Poisons & Pesticides

Package aerosol poisons with the other Aerosols

Note for Cyanide and Cyanide Compounds: Lab pack or loose pack into a bucket or tote. These materials shall be transported on a truck that is not transporting acids.

Label the package as indicated below.

Cyanide Solutions, n.o.s. UN 1935

Pesticides shall be loose packed into a Drum, tote or bucket. Vermiculite shall be added to the bottom of the package.

Generic types of Pesticides received:

- Ant Traps
- Fertilizers
- Pyrethrins
- Root Stimulator
- Systemic
- Herbicides
- Insect Spray
- Weed Killers
- Algae control
- Brand Names:
- Raid
- Black Flag

- Doomsday
- Round-up
- Weed-B-Gon
- Weed & Feed
- Baygon
- Kilz-All
- Sevin Dust
- Chlordane

For lab pack liquids place orientation labels on two opposing sides

Label the package as indicated below.

Pesticides, Liquid, toxic n.o.s. UN 2902

Solid Poisons & Pesticides

Package aerosol poisons with the other Aerosols

Note for Cyanide and Cyanide Compounds: Lab pack or loose pack into a bucket or tote. These materials shall be transported on a truck that is not transporting acids.

Label the package as indicated below.

Cyanides, Inorganic, Solid n.o.s. UN 1588

Pesticides shall be loose packed into a Drum, tote or bucket. Vermiculite shall be added to the bottom of the package.

Generic types of Pesticides received:

- Ant Traps
- Fertilizers
- Pyrethrins
- Rodent Bait
- Rose Food
- Systemic
- Herbicides
- Weed Killers
- Boric Acid
- Brand Names:
- Raid
- Black Flag
- Scotts Brand
- Weed-B-Gon
- Weed & Feed
- Baygon
- Kilz-All
- Sevin Dust
- Chlordane Dust

Label the package as indicated below.

Pesticides, Solid, toxic n.o.s. UN 2588

Soaps and Waxes

Soaps and Waxes shall be loose packed in their original containers together in drums, totes or buckets. Vermiculite shall be added to the bottom of the package and between the containers and layers. Use enough vermiculite to protect the containers.

Generic types of Soaps and Waxes received:

- Auto Wax and Polish
- Floor Wax
- Laundry Detergents
- Polishes
- Rug Shampoo
- Window Cleaners
- Soap
- Creams
- Brasso
- Naval Jelly
- Aluminum Jelly
- 409
- Mr. Clean
- Spic-n-span

Site Breakdown

Depending on how busy the site is, you may start putting materials away in the transport vehicle. After 12:00 p.m. the crew will complete the packing, fill out shipping papers, and prepare for departure. Packing into the truck includes the tables, cones, spill equipment, other supplies and any remaining drums of waste. If you are really busy just before 12:00, be sure to cordially close up shop. Traffic cones across the site entrance make it very clear the site is closed.

Bag and load all PPE gear used, especially reusable items like safety glasses, goggles, and heavy gloves. Make sure that the site SSHP is with the materials being picked up, as well as all waste surveys for the day. If you had to discharge a fire extinguisher, use the first aid kit or the spill emergency kit, please place a clear note to that effect on the item. This will ensure that it is replaced/recharged in a timely fashion.

HHWP staff or the Volunteer Coordinator will contact volunteers monthly about availability. If you have preferences (e.g. times, days, months, sites), make them known.

Your help with making our environment safe and clean is tremendously appreciated, not only by the City, County and HHW program, but by all the participants. Sometimes people can be "grumpy" after waiting years to dispose of their garage or shed contents, and a while in line. Remind them that you are volunteers!! Most people **do** appreciate what you're doing for the environment.

IX. What Happens to Collected Material?

The focus will be on **recycling** as many of the collected wastes as possible. Used oil, antifreeze, and paint thinner are easily recycled. Some products, such as paints will be selected for recirculation within

the community. Some recycling technologies are only recently being commercially developed, however.

Items such as lead acid batteries, photochemical solutions and broken thermometers can be processed to **reclaim** the metals within. Reclamation processes usually use far less energy than obtaining the metal from raw feedstocks and reclamation doesn't require more mining.

Some simple acids and bases may be neutralized by combining them to form salt solutions. After **neutralization** these materials don't pose a threat to the integrity of the sewer lines or the health of wastewater treatment facility workers.

There will be some products for which no commercial recycling or reclamation is available or appropriate. In these cases **disposal** will be by the best and most reliable means available to industry. For example, old pesticides, spot remover, and wood preservatives may most safely be disposed of in a licensed incinerator. Use of lined chemical landfills is a last resort under this program. Deep well injection or land applications are not considered viable options.

X. Education and Outreach During Collection Events

As volunteers for the HHWP you will be meeting a great number of Pima County and City of Tucson citizens. Many of them will look to you for advice and for further information. Here are some resources for use reduction of household hazardous materials.

Buy only what you need.

- Read and follow labels.
- Store properly and in labeled containers.
- Take leftover quantities to the program.
- Use safer alternative products when possible.

Give people **your personal advice**. Tell them about what you have done to reduce the use of household hazardous materials.

Tucson Clean and Beautiful periodically publishes a **recycling directory**, which contains all sorts of valuable information including recycling options.

A Safe Alternatives handout is available for distribution, which has a variety of useful and safe alternatives to existing chemical usages.

HHWP publishes a series of brochures about handling household hazardous waste. The series is *How to Handle....* and includes pamphlets about automotive products, paints and solvents, pesticides, and pool chemicals.

XI. Small Business Waste Assistance Program

Call the Program Coordinator at 6903-5749 or the Fire Prevention Center at 791-4014 for information about the *Small Business Waste Assistance Program (SBWAP)*. Small businesses may be eligible to use this program. The SBWAP is a fee-based program.

We do not accept waste from commercial sources, including home businesses, closed/failed businesses, etc., at the same time as the household collection or for free by the guidelines, which establish this program. SBWAP requires tracking of materials in accordance with Federal and State laws, which spell out very specific handling procedures for "generators of hazardous waste." If we do not observe our tracking requirements for commercial waste we would run the risk of becoming a "storage facility" of hazardous waste: a designation requiring elaborate permits. It would also be inequitable to use tax dollars to subsidize waste disposal costs for some but not all commercial generators. The SBWAP provides an economical alternative to small businesses without viable options. Call the SBWAP Coordinator at 690-5749 for more information about this program.

APPENDICES

ABBREVIATIONS

ABBREVIATION	MEANING
ABOP	Antifreeze, Batteries, Oil and Paint
City	City of Tucson
Collection Event	An outreach collection event not held at the main facility
HHW	Household hazardous waste
HHWP	The City of Tucson/Pima County Household Hazardous Waste Program
IGA	Intergovernmental Agreement
SBWAP	Small Business Waste Assistance Program
DOT	Department of Transportation
Program	The HHWP
SOP	Standard Operating Procedure
Steering Committee	The City of Tucson/Pima County Household Hazardous Waste Steering Committee

Reference:

United States. Federal Emergency Management Agency. Course Number, Course Name. Emmitsburg: Emergency Management Institute, date.