

# BEST MANAGEMENT PRACTICES

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STORAGE

# Advantages of a Permanent HHW Collection Facility:

- Reduces illegal/improper disposal
- Establishes an ongoing infrastructure (e.g. permanence)
- Complements public education programs
- Improves convenience/accessibility HHW collection center
- Participants' usage is ongoing and avoids high peak loading
- May provide cost advantage over contractor-provided collection events
- Creates opportunity to provide goods/substances that can be re-used by others
- Protects water supplies and water pollution discharge limits while reducing the potential future for Superfund cleanup liability

# Drop-n-Swap programs at HHW storage sites

- *DROP-N-SWAP PROGRAMS* or waste exchange program can be a stand-alone program or held in conjunction with a permanent facility.
- Drop off unwanted hazardous products for reuse, pick up what you need
- Fewer items are disposed, residents save money
- Common exchange items: cleaners, certain pesticides, paints
- Site managers should check to see that items are in saleable condition and are not banned from residential use (e.g. restricted pesticides, etc.)
- Products should be in original re-sealable containers, labels intact, no leaks. Some programs restrict items to unopened products or containers that are at least  $\frac{3}{4}$  full
- Products past any 'use by' date should not be offered

# Drop-n-swap programs



# SITE SECURITY AND ACCESS

- Think about how to limit access if possible -- no specific EPA regulations promulgated
- Consider limiting HHW collection to certain hours & utilizing an acceptance slip
- Outdoor areas: locked, grounded, cement base, fenced area with gates, signage
- Indoor areas: utilize lockers within a building, place in room or closet that has a locking door, limit access, signage
- Think about who should have a key: all Tribal Environmental Program staff? Tribal fire protection representatives? Tribal police?
- Anticipate that tribal members may leave items anonymously, outside of business hours. What should be the practice for checking for abandoned items if regular staff is away? Anything left out is an immediate nuisance and safety hazard.



# HHW Storage: Permanent Facility Options

A facility may be as simple as a metal shed or locker underneath a roof, next to a paved drive where cars can unload but an enclosed building with security and fire protection systems is recommended

## Option 1

Prefabricated modular chemical storage units under a roof, with sloped shelves to direct spills away from containers



## Option 2

Shipping containers under a roof – many companies sell containers specifically for HHW storage = allows for easy shipping



## Option 3

Modular steel buildings can be utilized to safely store HHW; a cost-effective method is to retrofit a building

- Structural options (ex. explosion vents, roll-up doors, separation walls) and other necessities (ex. eyewash areas, shelves) should be included



# HHW Storage: Have A Written Plan

Have a brief storage and disposal plan in place. The plan should outline the collection program, including how long the waste will be stored and how it will be transported and disposed of. Add it to your ISWMP if possible.

Tribal staff may be clear on storage and disposal practices and procedures, but keep a written plan available! The tribe needs to be ready if regular staff are suddenly called away.

Identify whether the waste will be transferred to a hazardous waste landfill, a TSDF, municipal transfer station, or collected and disposed of by a contractor. Your storage and disposal plan should include sections and phone numbers on chemical safety, staff training, and emergency response.

# Best Management Practices – California

HHW Collection Facilities in CA must follow mandated practices for treatment, storage, and disposal. Criteria include:

Containment system is designed & operated to contain a 24-hour, 25-year storm, plus 10% of aggregate volume of all containers

Base underlying container storage & waste handling is impervious

Spills, leaks & accumulated precipitation is removed in timely manner to prevent overflow

These California-only mandates present many optional ideas for tribes to adopt as best practices.



# Best Management Practices – Safety Procedures

- Sorting:
  - only trained staff should sort wastes in a sorting area separate from storage areas. Identify and record labels, markings, characteristics of the waste. Set unknowns aside.
- Signage
  - no smoking signs; facility name, hours, phone number; directional signs to indicate drop-off area; storage placards and NFPA markings



# Best Management Practices - Preparedness & Prevention

- Identify & coordinate with hospitals, emergency responders, and police
- Identify emergency evacuation routes and water sources
- Have emergency plan, proper PPE, and spills kits by each area where waste is stored and managed.
- Ensure there is a communication system (phone and alarm), emergency numbers next to phone, sprinkler system, fire suppression, and spill kit in areas that receive, manage, store, and ship waste.
- Consider secondary containment for each storage and management area.



# Best Management Practices - Segregation

- **Store corrosive, flammable, reactive and toxic products in separate areas.** Separate by chemical types, such as acid liquids and solids, base liquids and solids.
- If a product has more than one hazardous property, store it according to the hazard classification other than toxic. For example, paint thinner is both toxic & flammable - it should be stored with other flammables. If unsure about the properties of a product, store it separately.
- **Incompatibles** - be sure to separate acids and bases – If possible, store incompatibles in separate rooms with concrete dividers.
- **Ignitables** – store in cool, dry area. Keep away from ignition sources. Store in a grounded flammables cabinet. Store 50 ft. from property line.
- **Water Reactives** – store in cool, dry, water-tight area. Keep away from water sources. Ensure proper clean-up material in this area.

# Simple storage lockers



# GENERAL HHW STORAGE GUIDELINES

- **Make sure all products are clearly labeled before storing them.** Leave products in their original containers with the contents clearly identified on the labels.
- **Write the date of purchase on products before storing them in order to keep track of the age of each product.** Dispose of expired chemicals quickly, as properties can sometimes change over time.
- **If you are storing products on shelves, be sure the shelves are firmly secured to the walls or are in sturdy structures.** The best type of shelf for storing hazardous products has an anti-roll lip.
- **Store hazardous products at or below eye level.** This will help prevent dangerous spills that could occur when retrieving a product.
- Avoid storing products more than two-deep on a shelf.

# GENERAL HHW STORAGE GUIDELINES

- Avoid storing hazardous products on the floor to prevent containers from accidentally being knocked over.
- Storage should be unobstructed and ensure adequate aisle space
- Keep containers closed at all times
- Do not allow products to spill or mix together. Toxic or explosive reactions may result. For example, chlorine bleach and ammonia can combine to form a poisonous gas. Dangerous situations can occur if fertilizers containing ammonium nitrate become contaminated with a petroleum product, such as motor oil or kerosene.



# GENERAL HHW STORAGE GUIDELINES



- **Do not store a hazardous product in a container that was previously used for a different hazardous product.**
- **Check the hazardous product containers periodically for deterioration.** Ensure that lids are tightly closed.
- **Use aluminum roaster pans to hold small containers of pesticides to contain any spills or leaks.** Store larger containers in a plastic storage bin or bucket.
- **Keep containers dry to prevent corrosion.** (If a container begins to corrode, there are practices for addressing that problem)
- **If needed for longer-term storage, place waterproof transparent tape over product labels to prevent labels from falling off or becoming unreadable.**

# HHW storage recordkeeping

Keep an inventory log to record wastes upon receipt. Complete a storage inventory at the end of each collection day.

Prevent uncontrolled stockpiling of wastes. Place an adhesive label on the container with presumed contents and date storage began

Inventory and labeling helps you know whether your tribe has been stockpiling items for years at a time. Can also save \$ from duplicate purchasing.



# Hazardous Waste Management Grant Program for Tribes

- Assists tribes and inter-tribal consortia to develop hazardous waste management programs
- Building capacity to improve and maintain regulatory compliance
- Develop solutions to address hazardous waste management issues
- Supports collection events and storage needs
- Solicitation usually issued in the spring – grants awarded around September 1<sup>st</sup> each year

# Special Waste/Universal Waste Storage

- HHW collection centers vary re: what they collect. Verify before you start accepting these materials from tribal members
- Storage of Fluorescent tubes: do not stack! Do not tape together. Keep the boxes that the tubes arrived in and use those.
- Batteries, thermostats, CRTs?
- Mercury light switches removed from vehicles
- Electronics