



2015 Hazardous Waste Training



How was the 2014 EEFR?

September 8-12, 2014 NASA Headquarters Energy and Environmental Functional Review (EEFR)

6 Hazardous Waste Findings

- 3 paperwork findings relating to manifesting, biennial reporting, and land Disposal Restrictions
- 1 Fluorescent Bulb Crushing Machine not having an operational counter
- 1 Open Solder Container
- 1 Incomplete Satellite Accumulation Area Inspections Forms at 9 locations



GENERATOR'S INSPECTION RECORD
SATELLITE ACCUMULATION AREA

Site: Greenlee
 Wallops Main Base
 Wallops Island

Point of Contact _____ Building _____ Room _____

Inspection date: Year _____ Inspector _____

Container Conditions
 1. Are any leaks? YES, explain nature and location on back or attached sheet. NO, verify with the owner and date.
 2. Are any containers labeled or marked?
 3. Are any containers heavily soiled?
 4. Are any markings any text?
 5. Are any covers missing?

Container Markings
 6. Are all containers marked with container number and contents address back or attached sheet. NO, verify with the owner and date.
 7. Contents marked on all containers?
 8. Hazardous Waste items on all containers?

Container Storage
 9. Are all containers stored in a regulated area?
 10. Are all containers away from ignition sources?
 11. Are all containers separated?
 12. Are all containers labeled with the name and address of the generator and the date of the inspection?
 13. Are all containers labeled with the name and address of the generator and the date of the inspection?
 14. Are all containers labeled with the name and address of the generator and the date of the inspection?

Satellite Accumulation Area
 15. Are all containers stored in a regulated area?
 16. Are all containers away from ignition sources?
 17. Are all containers separated?
 18. Are all containers labeled with the name and address of the generator and the date of the inspection?
 19. Are all containers labeled with the name and address of the generator and the date of the inspection?
 20. Are all containers labeled with the name and address of the generator and the date of the inspection?

NOTES

XX Form 87-70
 OSHA 29 CFR 1910.120: ALL PREVIOUS EDITIONS ARE OBSOLETE

Where are we on the 2013 EPA Inspection?

July 8 -10, 2013 EPA Hazardous Waste and Clean Water Act

- July 17, 2013 Mailed a corrective action plan to EPA
- January 14, 2014 Received a request for more information
- February 12, 2014 Mailed the response to EPA
- December 19, 2014 Received an Invitation to Settlement from EPA which had additional questions
- February 3, 2015 Mailed response to EPA
- March 11, 2015 met with EPA and explained answers
- March 13, 2015 Mailed response to EPA
- April 2, 2015 EPA stated that they were still reviewing
- April 3, 2015 EPA lawyers had one more question
- April 13, 2015 Emailed response to lawyers

Chemical Storage Lockers



- ❖ Outside sign correct.
- ❖ No compressed gases.
- ❖ No expired chemicals or damaged aerosol cans.
- ❖ No rags or excess paper.
- ❖ All chemicals labeled.
- ❖ All lids secure.
- ❖ All chemicals upright.
- ❖ All compatible chemicals.
- ❖ Three point closing.



HMMS



Return the Sticker



Return the Hazardous Material (HM) inventory sticker when your container is empty!



- Scan and email to WFF-DL-HMMS@mail.nasa.gov
- Or mail to: Code 200C HMMS, F-19
- Or call x1760

Aerosol cans are an exception. All aerosol cans must be turned over to the Environmental Office for evaluation. To dispose of aerosol cans, call the Hazardous Waste Hotline at x1718. Do not remove the yellow sticker on aerosol cans.

Find Safety Data Sheets at <http://hmms.gsfc.nasa.gov>

Details are in GPR 4100.2

An empty hazardous material container has less than 1 inch of residue after all hazardous material has been used through the normal process of pouring, scraping, or draining. To dispose of hazardous material containers with more than 1 inch of residue or to dispose of rags, tech wipes, brushes, or rollers which have come in contact with hazardous materials, contact the Hazardous Waste Hotline at x1718.

Labeling Secondary Chemical Containers

- ❖ Name of Chemical..
- ❖ Warning Words (Flammable, Corrosive, etc).



RCRA

In 1976, Congress passed the Resource Conservation and Recovery Act or RCRA. This directed the Environmental Protection Agency (EPA) to develop and implement a program to protect human health and our environment from improper handling of hazardous waste and unsafe management practices.



Solid Waste

Any solid, liquid, or contained gaseous material that is no longer used, and is either recycled, thrown away, or stored until sufficient quantities are accumulated for treatment or disposal.

Hazardous wastes are currently regulated by both Federal and state environmental laws.



Hazardous Waste

A waste is classified as “Hazardous” in one of two ways:

- ❖ It is specifically listed as hazardous waste in EPA regulations (e.g. F-List, P-List, etc).

OR

- ❖ It exhibits any of the characteristics specified by EPA regulations as hazardous. (ignitable, corrosive, reactive, or toxic).



Characteristic Hazardous Waste

D001 Ignitable (flashpoint < 140F)

D002 Corrosive ($\text{pH} \geq 12.5$, $\text{pH} \leq 2$)

D003 Reactive (unstable, reacts violently with water, explosive)

D004 Arsenic

D005 Barium

D006 Cadmium (nickel cadmium batteries)



Characteristic Hazardous Waste

D007 Chromium (zinc chromate spray paint)

D008 Lead (tin lead solder scraps)

D009 Mercury (broken thermometers)

D011 Silver (x-rays)

D018 Benzene (gasoline fuel filters)

D035 Methyl ethyl ketone (paint thinner)

D039 Tetrachloroethylene



Listed Hazardous Waste

Example -Hazardous waste from non-specific sources

F003 The following spent non-halogenated solvents:
xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol;

all spent solvents mixtures/blends containing, before use, only the above spent non-halogenated solvents;

and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and a total of ten percent of F001, F002, F004, and F005.



Listed Hazardous Waste

Acute

- P001 - Warfarin (rat poison)
- P015 - Beryllium
- P042 - Epinephrine

Commercial Chemical Products

- U165 - Naptha
- U220 - Toluene
- U080 - Methylene Chloride



Identify Hazardous Waste

- ❖ Identification
- ❖ Hazardous Ingredients and Components
- ❖ Physical & Chemical Characteristics
- ❖ Fire & Explosion Hazards
- ❖ Reactivity Data
- ❖ Health Hazard Data
- ❖ Spill/Leak Procedures
- ❖ Special Protection
- ❖ Special Precautions



<http://hmms.gsfc.nasa.gov/>



Is this a Hazardous Waste?

SHERWIN-WILLIAMS CO -- G2 AEROSOL SPRAY LINE-2 (PAINTS), G2A156 DARK GRAY -- 8010-00N070920

===== Fire Fighting Measures

Flash Point:<21F,<-6C

Lower Limits:0.5%

Upper Limits:12.0% Extinguishing

Media:USE CARBON DIOXIDE, DRY CHEMICAL, FOAM.

Fire Fighting Procedures:WEAR NIOSH/MSHA APPRVD SCBA & FULL PROT EQUIP .

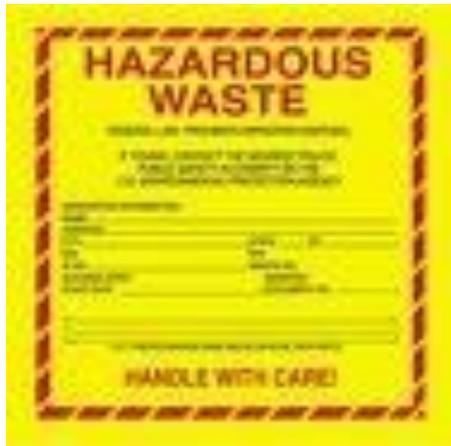
WATER SPRAY MAY BE INEFFECTIVE. IF WATER IS USED, FOG NOZZ ARE PREF. WATER MAY BE USED TO COOL (SUP DAT)

Unusual Fire/Explosion Hazard:KEEP CONTRS TIGHTLY CLSD. ISOLATE FROM HEAT, ELEC EQUIP, SPARKS & OPEN FLAME. CLSD CONTRS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT. APPLICATION TO HOT (SUP DAT)



Label Hazardous Waste

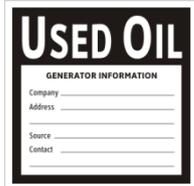
- HW labels
- must:



- ❖ Identify or Name the Chemical,
- ❖ Include the words: “Hazardous Waste,” and
- ❖ Not dated unless 55G or 1 qt acute hazardous waste.



Label Regulated Waste



Petroleum products

- ❖ Label with the words “Used Oil.”



Universal waste

(fluorescent lamps, thermostats, batteries)

- ❖ Label with the words “Universal waste lamps, batteries, etc.” and start date.



Other nonhazardous waste

- ❖ Label with container contents.



Universal Waste Reminder Signs

**UNIVERSAL
WASTE**

SHIPPER _____

ADDRESS _____

CITY, STATE, ZIP _____

CONTENTS: Batteries

ACCUMULATION START DATE 3/1/2013

- ✓ Date the label when the first battery is added to the container.
- ✓ Check the date.
- ✓ Call 1718 if the date is 9 months old.
- ✓ Keep the container closed.



Universal Waste Batteries

Please **TAPE**
contact ends of
Lead acid, Nickel
Cadmium, Nickel Metal
Hydride, Lithium,
Silver, Mercury, etc.)



SAA



The Satellite Accumulation Area (SAA) is:

- ❖ Designated HW storage point (Environmental Office),
- ❖ Near the point-of-generation (work area),
- ❖ A centralized storage area for one or many points-of-generation,
- ❖ Capable of being locked,
- ❖ In compliance with regulatory requirements, and
- ❖ Managed by a designated point-of-contact who is responsible for upholding and enforcing all requirements.



SAA Requirements

- ❖ Spill kit
- ❖ Emergency Communication
- ❖ Secondary Containment (liquids)
- ❖ Storage aids
- ❖ Sign with contact numbers
- ❖ Inspection sheet
- ❖ SDS

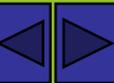


Store Hazardous Waste

Containers must be :



- ❖ In good condition (no holes, dents),
- ❖ Within secondary containment (liquids),
- ❖ Compatible,
- ❖ Closed wrench tight, Upright,
- ❖ Sturdy, and with
- ❖ 3-5 inches of headspace.



Hazardous Waste Quantity

Maximum Quantity

55

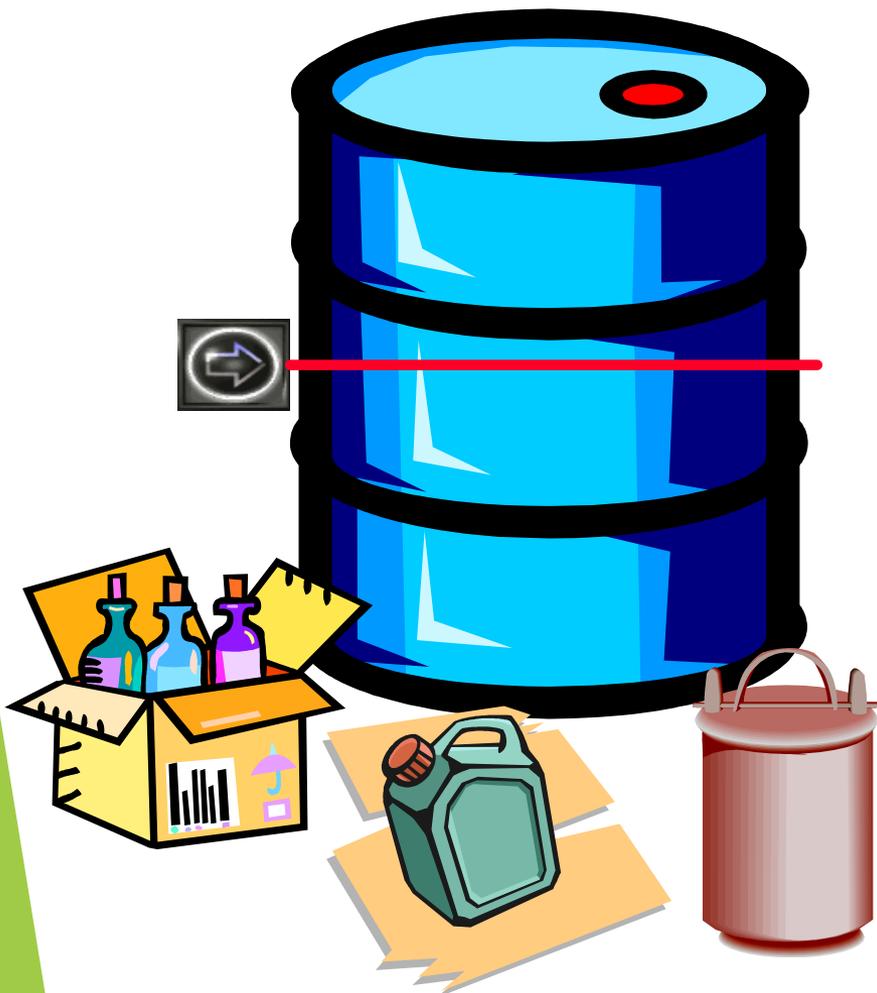
55

55

- ❖ 55 Gallons of HW or 1 Quart of Acute HW (P-list example P042 epinephrine).
- ❖ 55 gallon limit includes:
 - ❖ All points of generation within the SAA.
 - ❖ All types of HW in the SAA.



Hazardous Waste Reminder Signs



- ✓ Add gallons in each waste container together.
- ✓ Total waste in all containers must be less than 55G.
- ✓ Check the line on the drum.
- ✓ When waste reaches the line on the drum, total waste in SAA may equal 55G.
- ✓ Call 1718 when waste reaches line on drum or before waste exceeds 55G.



Control Hazardous Waste

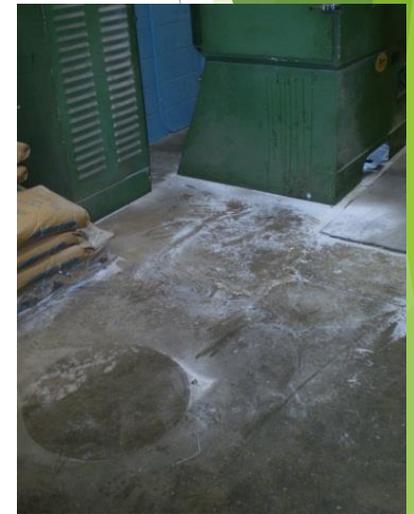


- ❖ SAA is to be under the control of the operator of the process.
- ❖ POC is responsible for SAA.
- ❖ The SAA must be inspected at least monthly if it contains Hazardous Waste.



Inspecting the SAA

- ❖ All containers closed.
- ❖ Containers not leaking or bulging.
- ❖ All containers labeled.
- ❖ Less than 55 gallons hazardous waste.
- ❖ SAA sign and inspection sheet updated.
- ❖ Liquids stored on secondary containment.
- ❖ All people trained.
- ❖ Good Housekeeping.



Turn-In Procedures

- ❖ Fill out Hazardous Waste Disposal Inventory Form (GSFC 23-54).
- ❖ Call the HW Line at 1718.
- ❖ While awaiting pickup, keep chemicals:
 - Segregated,
 - Packaged to avoid breakage,
 - Liquids on secondary containment,
 - Labeled, and
 - Do not date the label unless 55G.



Hazardous Waste Disposal Inventory Form

Hazardous Waste Disposal Inventory/Greenbelt/Wallops



Generator Information										
Name:					Date:			Phone:		
Code:			Building:			Room:				
Waste Inventory										
Item	WASTE DESCRIPTION <i>Describe material to be collected by its specific chemical constituents or by trade name.</i>	WASTE ID OR CONTAINER # <i>(Provided by the Environmental Office).</i>	GENERATING PROCESS <i>Describe the work process that made the waste, e.g., expired shelf life, cleaning paint brushes.</i>	CONTAINERS			STATE			WASTE TRAIT
				No.	Size	Type	Gas	Liquid	Solid	Trait
1.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CA - Corrosive Acid (pH<2) CB - Corrosive Base (pH>12.5) F - Flammable (Flashpoint <140F) NR - Non-Regulated Ox - Oxidizer Px - Peroxide R - Reactive (H ₂ O, air or otherwise sensitive) T - Toxic Other (Specify)
2.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Generator Comments										
Have you received Resource Conservation and Recovery Act (RCRA) generator training within the last 12 months?					Yes <input type="checkbox"/>			No <input type="checkbox"/>		
Have you made a good faith effort to minimize your waste generation by considering substitutes or alternatives?					Yes <input type="checkbox"/>			No <input type="checkbox"/>		
Comments - Indicate special requirements (if any) for collection of the waste material, e.g., restricted access to an area, appointment needed, generator wishes to monitor collection, etc:										
Generator Certification										
<input type="checkbox"/> I hereby declare that the contents of this inventory are fully and accurately stated as described by their waste, process, and container parameters.										
Printed Name:			Signature:			Date:				
Date Received:			Date Collected:			Initials:				

At Greenbelt, when ready for pickup, you may e-mail the completed form to gsfc-hazwaste@lists.nasa.gov, or fax it to 6-0368. Coordinate waste pickup by dialing 6-9233. At Wallops, when ready for pickup, fax completed form to x1819. Coordinate waste pickup by dialing x1718.

GSFC Form 23-54 (February 2012) Previous editions are obsolete.



HW Flow



Only HW in process of being generated shall be at the point of generation.

At the end of the shift or when a process is complete, waste containers should be returned to the SAA.

Chemicals which have been declared a waste should be kept in the SAA.



Empty Containers

Hazardous waste containers or liners are empty when:

- all wastes have been removed which can be removed, and
- no more than 1 inch of residue remains on the bottom, or
- no more than 3% by weight of total capacity remains (containers <110 gal).



Aerosol Cans

New Policy - Aerosol Can Disposal

The Environmental Office will now be COLLECTING ALL AEROSOL CANS. No aerosol cans should be placed in the trash, even if they are empty.

This is a change from what was discussed in the annual Hazardous Waste training you attended in April and May 2013.

If you need a container to collect empty and discarded aerosol cans, please call the Hazardous Waste Hotline at x1718.

If you infrequently empty a can, just call 1718, and we will pick up that can.

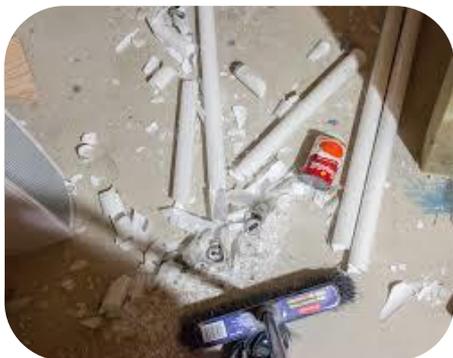


If you have questions, please call Marianne Simko at x2127 or Shane Whealton at x1090.



Top EPA Findings

Top EPA findings - lightbulbs in corners, not in closed boxes, universal waste labels not dated, open HW containers, old chemicals

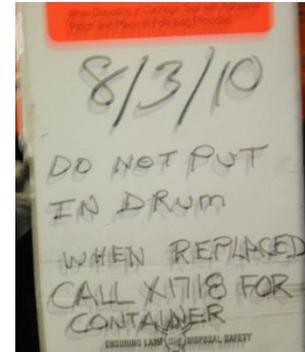


UNIVERSAL WASTE	
SHIPPER	_____
ADDRESS	_____
CITY, STATE, ZIP	Batteries
CONTENTS	_____
ACCUMULATION START DATE	3/1/2013



Continual Improvements

- One container for collecting both hazardous waste and oily rags
- Fluorescent tube crusher
 - Note placed on filter to remind operators to dispose of filter in a separate container
 - Work order entered in Maximo to remind operators to change filter before it reaches the end of its life.



- Solder waste cans standardized and hazardous waste training incorporated into annual solder training



Continual Improvements

- Reduced the size of hazardous waste collection containers.



- Collect all aerosols and manage as hazardous waste



Continual Improvements

- Label all containers In-Use rather than waste, if the chemical is intended to be used again.



- Don't scratch out dates.



Continual Improvements

Paint Booth Signs

Paint Booth Operators shall:

Paint Booth X-30

1. Clean spray guns into the approved container not into the booth filter media.
2. Transfer residue from cleaning spray guns into a Hazardous Waste labeled container and completely close the container.
3. Contact the Environmental Office for pick-up of hazardous waste as needed (extension 1718).
4. Record coating media (paint), thinner, and solvent use in the log book. This includes solvents used for cleaning equipment. Completely describe the products used by brand name, quantity, and unit of measure.
5. Maintain Safety Data Sheets, Certified Product Data Sheets, or other vendor information as approved by the Virginia Department of Environmental Quality showing the VOC content and solids content for all non-thinned coatings, thinners, and solvents used.
6. Limit coating media used to less than 346 gallons per year.
7. Limit coating media used to less than 3 pounds per hour and 15 pounds per day.
8. Ensure that the oil level in the paint booth manometer reads at least zero when not in use. If different, contact Marv Bunting (extension 2030).
9. Dispose of coating media, thinners, and solvents in a manner that minimizes emissions. These substances shall not be intentionally spilled, discarded in sewers which are not connected to a treatment plant, or stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution practices for minimizing emissions.
10. When the gauge indicates a pressure differential of greater than 1 inch, the filters should be replaced. Call extension 1718 to dispose of used filters. Used filters should remain at the paint booth until collected by Environmental.

Continual Improvements

Sign on Container for Cleaning Spray Guns

Clean spray guns into this container.
Not into the filter media.

Pour the contents of this container into
the labeled Hazardous Waste
container after each cleaning.

Be sure that the lid on the Hazardous
Waste container is closed.

Call extension 1718 for pick up of
Hazardous Waste.

Continual Improvements

Audit Techniques

1. **Positive Approach** – Do have a positive and cooperative attitude.
2. **Speed** – Do quickly respond when called upon for help.
3. **Interpretation** – Do make sure you understand the question.
4. **Honesty** – Don't provide inaccurate data. Don't guess. If you don't know the answer say so.
5. **Diplomacy** – Don't argue with the interviewer.
6. **Objectivity** – Don't be on the defensive or apologetic, don't complain or be negative.
7. **Tact** – Don't be critical of your organization or management.
8. **Communication** – Don't discuss work outside your area.
9. **Consideration** – Do consider to the position of the auditor.
10. **Simplicity** – Do answer only the question asked.



Dos and DON'Ts of Audit Conduct

11. **Ownership** – Don't blame your performance or problems on others.
12. **Preparedness** – Do anticipate questions concerning problem areas and have the answers ready.
13. **Accuracy** – Do let the escort know if you have provided information to the auditor inadvertently.
14. **Confidentiality** – Do show only normal business files and records.
15. **Sensitivity** – Don't release inappropriate information.
16. **Self-Confidence** – Don't be concerned if you must contact someone for help with the audit or authority to release data.
17. **Teamwork** – Do inform your manager of the details of the interview immediately after.
18. **Documentation** – Do be aware that documents and procedures are available and their location.
19. **Integrity** – Do nothing that would compromise GSFC.
20. **Closure** – Do fix any simple problems immediately. Assure the root cause is identified and eliminated.



Typical Audit Questions

How do you use this chemical?

(Auditors are looking to see if you wipe the chemical on a rag or techwipe and what you do with the techwipe.)

When was the last time you used this chemical?

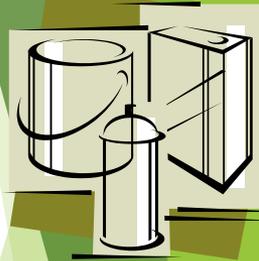
(Auditors are looking to see if this chemical should be considered a waste.)

Where do you put this shop towel when you are finished with it?

(Auditors are looking to make sure you put it in the HW container.)

What do you do with your fluorescent bulbs?

(Auditors are looking to make sure that you don't store them unlabeled in an open box somewhere)



Typical Audit Questions

How do you know what you put on the HW label?

(Auditors are looking to see if you understand the HW portion of your job.)

What do you do with your waste solder sponges?

(Auditors will be looking to see that you put them in the HW container and do not transfer them to another container.)

Describe what you do?

(Auditors are looking for a waste generation processes.)

Be prepared for auditors to ask you the same question several times or restate your answer

Not for the dumpster....

Some unacceptable wastes:

- ❖ Hazardous waste (includes contaminated rags);
- ❖ Asbestos, and medical waste;
- ❖ Non food liquid;
- ❖ Closed drums;
- ❖ Improperly prepared containers such as paint cans and pesticide containers;
- ❖ Unapproved industrial process waste or sewage sludge;
- ❖ Damaged spray cans.



Recycling at WFF

The following items are recycled at WFF as part of the single stream program:

- ❖ Cardboard, newspapers, magazines, paperboard,
- ❖ White and colored paper,
- ❖ Aluminum and bi-metal cans, and
- ❖ #1 and #2 plastic bottles and glass bottles

Toner cartridges are also recycled by calling the Help Desk



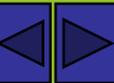
Waste Prevention Tips

- ❖ Reduce, Reuse, Recycle.
- ❖ Pursue environmentally friendly alternatives.
- ❖ Perform regular maintenance and housekeeping.
- ❖ Order what you need - avoid surplus inventory.
 - ❖ Turn-in unexpired chemicals for reuse.
- ❖ Purchase recycled products.



Phase Out These Chemicals

- Benzene
- Cadmium
- Carbon Tetrachloride
- Chloroform
- Chromium
- Cyanide
- Dichloromethane
- Lead
- Mercury
- MEK
- MIBK
- Nickel
- Tetrachloroethylene
- Toluene
- 1,1,1 Trichloroethane
- Trichloroethylene
- Xylene
- Methylene Chloride



Request Recycled Content Items

Federal agencies or their contractors that buy any of the EPA designated products, must buy them with recycled content.

A complete list of designated products, recovered material content levels, and vendors can be found at www.epa.gov/cpg/



Use BioPreferred Products

USDA Designated Products as part of the Farm Act of 2002

<http://www.biopreferred.gov/Default.aspx>

- Mobile equipment hydraulic fluids
- Urethane roof coatings
- Water tank coatings
- Diesel fuel additives
- Penetrating lubricants
- Bedding, bed linens, and towels

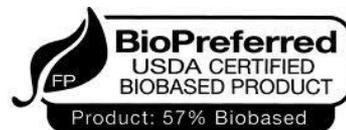


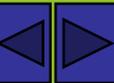
Figure 1. Label, with Biobased Product Statement, for a Product that is Within a Designated Item



Waivers

Any time a product must be purchased and it is not available with recovered or biobased content, a waiver must be signed by the Environmental Office.

Contact Joel Mitchell x1127



Spill Procedures

WFF has established procedures to ensure protection of human health and the environment.

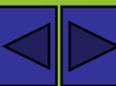
- ❖ WFF's Integrated Contingency Plan (ICP)
- ❖ WFF ICP Training



Emergency Procedures



- Emergency Number:
- **911 or 757-824-1333**
 - Name and code of reporting party,
 - Type/name of material spilled,
 - Location of spill,
 - Cause of spill,
 - Estimated quantity and flow rate of spill,
 - Time of spill.

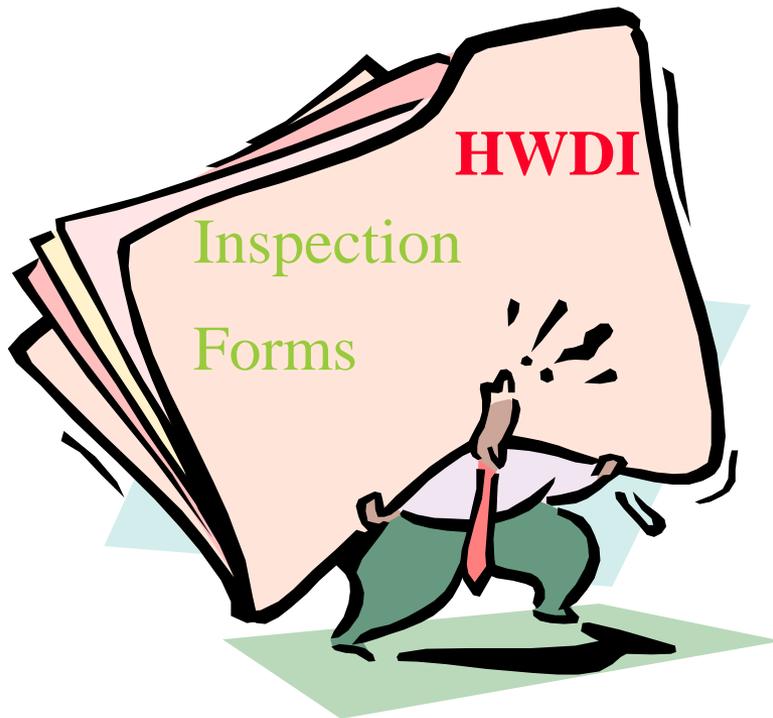


Hurricane Procedures

- WE WILL CHECK/CALL ALL SAA.
- WE WILL PICK UP HW.
- DO NOT BRING HW TO US.
- DO NOT DROP OFF HW OUTSIDE OF N-223,
U-81, or
B-29.
- DO NOT LEAVE A
CONTAINER UNLABELED.



HW Forms



- ❖ Environmental Office (x1718)
- ❖ GDMS (Forms 23-54 and 23-63)
<http://gdms.gsfc.nasa.gov/gdmsnew/home.jsp>
- ❖ Code 250 website
<http://sites.wff.nasa.gov/code250/forms.html>



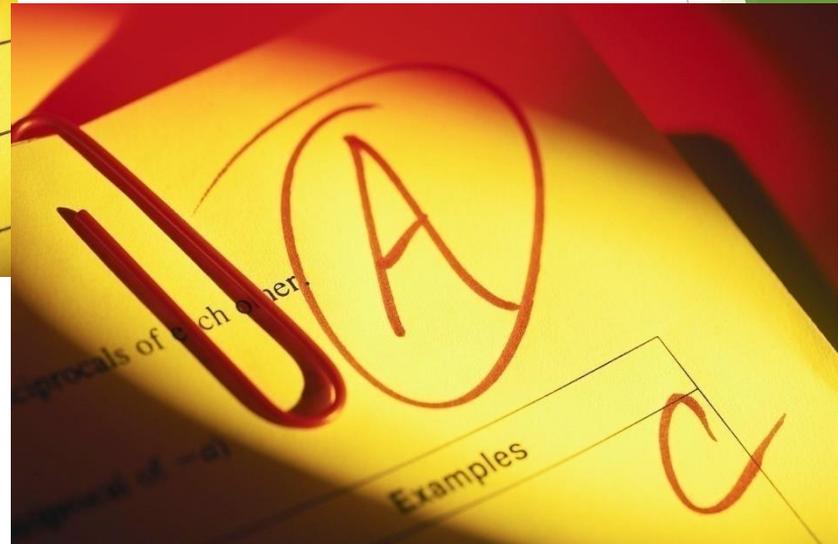
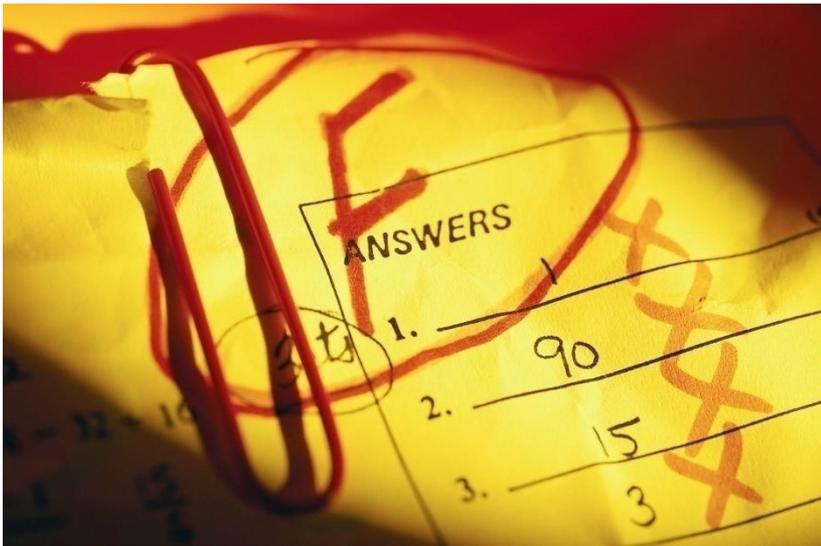
Follow-up



- Inspect SAA container integrity *monthly*.
- Think about areas where processes or chemicals can be changed to reduce waste.
- Call the Environmental Office to dispose of items which are no longer used or have expired (x1718).



Final Exercise



Review Questions

1. Circle the items which could be placed in a container labeled:

Hazardous Waste Rags contaminated with acetone, alcohol, paint thinner.



Review Questions

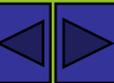
2. This bottle contains paint remover. Use the picture of the original container to label the bottle correctly



Review Questions

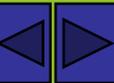
3. This alcohol was poured into a tub where stainless steel bolts, lead soldered metal joints, and copper pipe were soaked to remove machine oil. After the parts were removed, the alcohol still looked clean. It was poured back into the bottle to be used for cleaning parts next week. Add a label to the bottle so that bottle of alcohol is not mistaken for new alcohol. Write on the line below what you would write on the bottle.

Alcohol In-Use



Review Questions

4. The next week the same parts are cleaned again, but now the alcohol is too dirty to use again. After you call the Hazardous Waste Hotline at extension 1718 for a pickup, you fill out the Hazardous Waste Disposal Inventory on the next page remembering to describe the generation process. Please fill out the HWDI.



Review Questions

Hazardous Waste Disposal Inventory/Greenbelt/Wallops



Generator Information											
Name: <u>John Doe</u>					Date: <u>5/14/14</u>		Phone:				
Code: <u>810</u>			Building: <u>F10</u>		Room:						
Waste Inventory											
Item	WASTE DESCRIPTION <small>Describe material to be collected by its specific chemical constituents or by trade name.</small>	WASTE ID OR CONTAINER # <small>(Provided by the Environmental Office)</small>	GENERATING PROCESS <small>Describe the work process that made the waste, e.g., expired shelf life, cleaning paint brushes.</small>	CONTAINERS <small>Type - Describe type, e.g., drum, plastic bottle, sealed bucket, etc.</small>			STATE <small>Check appropriate block:</small>			WASTE TRAIT <small>Insert appropriate code.</small>	
				No	Size	Type	Gas	Liquid	Solid	Trait	Code
1.	<u>Alcohol, machine oil</u>		<u>soaking ss bolts, lead solder joints and copper pipe to remove machine oil</u>	<u>1</u>	<u>GAL</u>	<u>bottle</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>F</u>	<u>CA - Corrosive Acid (pH<2)</u>
2.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<u>CB - Corrosive Base (pH>12.5)</u>
3.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<u>F - Flammable (Flashpoint <140°F)</u>
4.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<u>NR - Non-Regulated</u>
5.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<u>Ox - Oxidizer</u>
6.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<u>Px - Peroxide</u>
7.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<u>R - Reactive (H₂O, air or otherwise sensitive)</u>
8.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<u>T - Toxic</u>
9.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<u>Other (Specify)</u>
10.							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Generator Comments

Have you received Resource Conservation and Recovery Act (RCRA) generator training within the last 12 months? Yes No

Have you made a good faith effort to minimize your waste generation by considering substitutes or alternatives? Yes No

Comments - Indicate special requirements (if any) for collection of the waste material, e.g., restricted access to an area, appointment needed, generator wishes to monitor collection, etc:

Generator Certification

I hereby declare that the contents of this inventory are fully and accurately stated as described by their waste, process, and container parameters.

Printed Name: John Doe Signature: John Doe Date: 5/14/14

Date Received: _____ Date Collected: _____ Initials: _____

At Greenbelt, when ready for pickup, you may e-mail the completed form to gsfc-hazwaste@lists.nasa.gov, or fax it to 6-0368. Coordinate waste pickup by dialing 6-9233. At Wallops, when ready for pickup, fax completed form to x1819. Coordinate waste pickup by dialing x1718.

GSFC Form 23-64 (February 2012) Previous editions are obsolete.

Review Questions

5. What type of label will you put on the alcohol bottle while you are waiting for the container to be picked up by Environmental? Choose the appropriate label and then fill out the required fields.

HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND, CONTACT THE NEAREST POLICE,
PUBLIC SAFETY AUTHORITY OR THE
U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERATOR INFORMATION:
NAME WFF
ADDRESS _____
CITY _____ STATE _____ ZIP _____
EPA ID NO. _____ WASTE NO. _____
ACCUMULATION START DATE _____ MANIFEST DOCUMENT NO. _____

Alcohol contaminated with
Lead and Chromium
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX

HANDLE WITH CARE!

Review Questions

6. If you were unable to find a preprinted label, what 2 words would you write on the container instead?

HAZARDOUS WASTE

7. On Saturday, your work area plans to drain the Diesel Fuel from a generator to make repairs. The generator holds 200 gallons. The diesel fuel cannot be returned to the generator. What should you do to prepare for the waste that will be generated?

Call Haz Waste Hotline @ X1718 to request containers and plan for pickup of HW on Monday



Review Questions

8. In your Satellite Accumulation Area you have the following full containers:

- ▶ 1 55-gallon drum of oily rags,
- ▶ 1 5-gallon pail of alkaline batteries,
- ▶ 1 5-gallon pail of nickel cadmium batteries dated April 22, 2010,
- ▶ 3 5-gallon pails of phosphoric acid,
- ▶ 3 8-gallon pails of paint thinner,
- ▶ 1 55-gallon drum of #2 diesel fuel rags.

Does anything need to be done at this Satellite Accumulation Area?

Call x1718 for a pickup. Date the 55 gallon drum with today's date, since there is more than 55 gallons.



Review Questions

9. How must used fluorescent tubes be stored?

In a closed box. Labeled UNIVERSAL WASTE LAMPS
Dated with the date the first lamp enters the container.

10. What words should appear on an oil collection container?

USED OIL

11. When is a non-aerosol container empty?

When there is less than 1 inch of residue and the container has been emptied by the normal means of pouring or scraping



Review Questions

12. What is the emergency number at WFF?

911

13. What are two places to look for information to determine if a waste container is a hazardous waste?

Product Label and SDS

14. What is the maximum amount of time that batteries can be accumulated?

1 Year

15. What is the maximum amount of hazardous waste that can be accumulated in a SAA?

55 Gallons



Review Questions

16. If a waste container has a flashpoint less than 100 degrees or the container label says Flammable, should it have a hazardous waste label?

YES

17. If an auditor asks you a question, and you don't know the answer what should you do? (Look at the answers below. Cross out the wrong answer and circle the best answer.)

▶ Make up ~~an~~ answer.

 Tell the auditor that you call the Hazardous Waste Hotline or the Environmental Office when you have a question.

▶ Tell the auditor that you don't know the answer.

▶ Tell the auditor that you would ask your supervisor.



Review Questions

18. Should the solder in your hazardous waste solder can be transferred to the another hazardous waste solder can in the room? NO Should the Jet Fuel or acetone rags in your hazardous waste rag can be transferred to the another hazardous waste rag can in the room? NO (Hint: Same answer for both)

19. If you have an aerosol spray can that you no longer need, what should you do?

Label the can Hazardous Waste or place it in a labeled HW container and call 1718 for a pickup.



Review Questions

20. A satellite accumulation area should be in the line of sight of the operator and in the same room as where the hazardous waste is generated. True or False

TRUE

21. Sure tech wipes soaked in alcohol on the floor, or bits of lead solder all over the desk, or sandblast grit covering the floor look messy and can give an auditor a bad impression of the work area, but is that the only problem? NO Why?

These items are Hazardous Waste and must be kept in a Closed Container

22. List your Building and room number or shop below and the type of waste you most commonly generate.



Review Questions

24. Circle the items and words below which would be used to store the batteries in your Satellite Accumulation Area

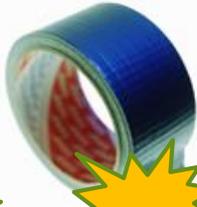


Date of first Battery in container

Batteries

Lamps

Thermostats



Review Questions

25. What is the number for the Hazardous Waste Hotline

1718

