



TWO NEW UNIVERSAL
WASTES -
Electronics and Mercury

Nebraska Department of
Environmental Quality

Waste Management Section

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Universal Waste

- ***Alternate*** Management Standards for *Specified* **Hazardous Wastes**
 - If it's not hazardous waste, UW does not apply
 - To be UW, it must be managed as UW
 - Remember – Only some “recycling” is “exempt”
 - Household Hazardous Waste is exempt
- **Goals**
 - Encourage recycling
 - Encourage proper disposal
 - Reduce Haz Waste going to municipal landfills
 - Reduce amount of haz items discarded by small businesses

What is Universal Waste?

- Reference Title 128 – Nebraska Hazardous Waste Regulations
 - Chapter 25
- Note: Two new universal wastes approved by Nebraska Environmental Quality Council in June but not yet in Title 128
 - At Attorney General as of 07/27/04
 - Needs to be signed by Governor
 - Can't use until published in Title 128



What is Universal Waste?

- Used Batteries
- Certain Pesticides
- Spent Hazardous Waste Lamps
- ~~Used Mercury-Containing Thermostats~~
- Mercury-Containing Items
- Electronic Items



What is Universal Waste?

- Remember –

If it's not hazardous waste, UW does
not apply

Batteries



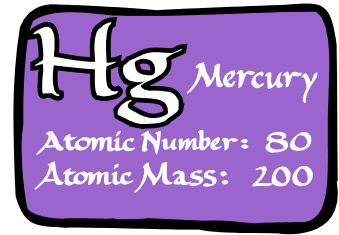
- Examples: Ni-Cad, Mercuric Oxide, Lithium, Magnesium, Silver, Lead-Acid
- Does Not Include Non-Hazardous Waste Batteries
- It Includes Lead-Acid Batteries Managed Under Title 128, Chapter 7
 - But -- check the “dumb meter”

Pesticides



- Recalled
 - Suspended/canceled under FIFRA
- **Unused** Pesticides Collected & Managed As *Part Of A Waste Pesticide Collection Program*

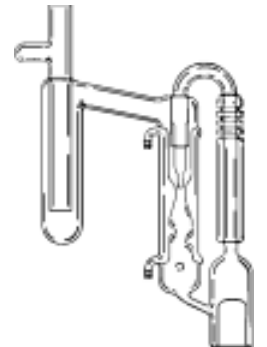
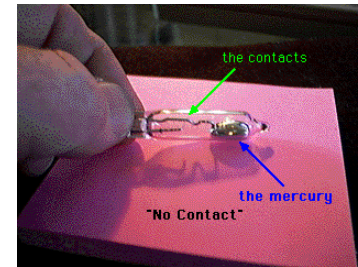
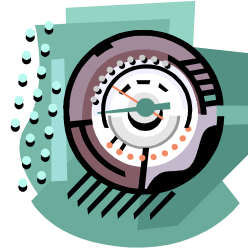
Mercury-Containing Items



- Any electrical, mechanical, or medical product or component (excluding batteries and lamps) containing elemental mercury and the elemental mercury is necessary for its operation where mercury acts as a conductor of temperature, pressure, or electricity or acts as a weight damper.
- Mercury must be housed within an outer metal, glass, or plastic casing.

Mercury-Containing Items

- Includes:
 - Thermostats
 - Electrical switches
 - Gauges
 - Sphygmomanometers
 - Thermocouples
 - Mercury-filled pumps
 - Thermometers



Mercury-Containing Items

- Containerize leaking items or damaged items that could leak
 - Closed & structurally sound
- Ampules Removal
 - Prevent breakage
 - Removal over a containment device
 - Mercury clean-up system readily available
 - Immediately transfer leakage/spill to proper container – that becomes hazardous waste
 - Comply with OSHA mercury levels (ventilate)



Mercury-Containing Items



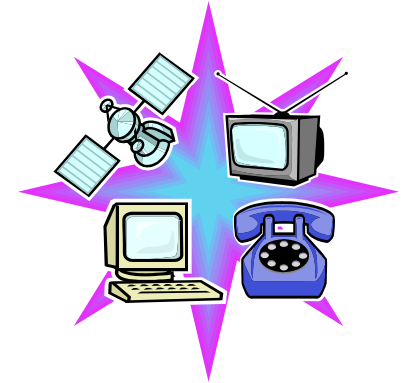
- Ampule Removal (cont)
 - Employee training
 - Store ampules in closed, sound container
 - Pack with material to prevent breakage
 - Waste determination for residues/other wastes
- Mercury Draining
 - Allowed from open ended items
 - Over containment device
 - *Written procedure*
 - Equipment, O &M of equipment, waste management, waste characterization

Mercury-Containing Items



- Mercury Draining (cont)
 - Spill clean-up kit readily available
 - Immediately transfer drained mercury to proper container – that becomes hazardous waste
 - Comply with OSHA mercury levels (ventilate)
 - Employee training
 - Store drained mercury in closed, sound container
 - Document date of accumulation
 - Max accumulation 45 kg (\approx 100 pounds)
 - Waste determination for residues/other wastes

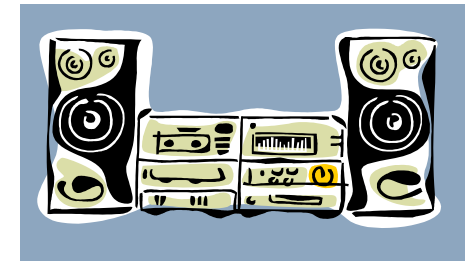
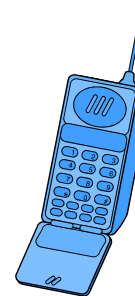
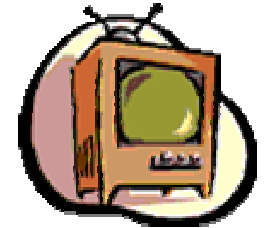
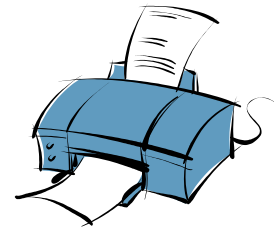
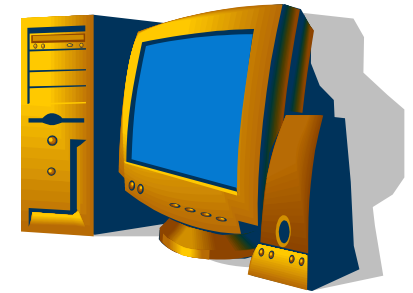
Electronic Items



- Electronic equipment containing one or more electronic circuit boards or other complex circuitry. Does not include discarded household appliances per Title 132, Chapter 1, §024
- Includes components and subassemblies or other parts **derived from the disassembly of electronic devices**
- **If it's not hazardous waste, UW does not apply**

Electronic Items

- Includes:
 - Computer monitors
 - Computers
 - Mouse, keyboard, printer, laptop, scanner, etc.
 - TVs
 - Telephones (cell & wired)
 - Stereo equipment
 - DVD & VCR players
 - Digital cameras
 - Name your poison!



Electronic Items

- Containerize in compatible container

- Disassembly

- Prevent release to environment

- *Written procedure*

- Type of equipment, O & M of equipment, segregation of incompatible waste, proper waste management practices, waste characterization

- Spill clean-up kit readily available

- Immediately segregate & transfer disassembled items to proper container



Electronic Items



- Disassembly (cont)
 - Employee training
 - Maintain a system to ensure compliance with written procedures
 - **Handler** who disassembles or generates waste from disassembly – any handler
 - Do waste determination on disassembled item or waste
 - If hazardous waste:
 - May continue to be managed as Universal Waste **OR**
 - Handler becomes haz waste generator **AND**
 - Accumulation time starts anew at that point
 - If not hazardous waste:
 - Comply with appropriate solid waste regulations

Electronic Items

- Your management options for electronics that are **hazardous waste**:
 - Hazardous waste
 - CESQG – Landfill an option
 - SQG/LQG
 - Refurbishment
 - “Continued Use” criteria – no change
 - Generator responsibility to ensure no sham refurbishment
 - Variance
 - Managed by entity with a specific solid waste variance
 - Universal Waste
 - **If it’s not hazardous waste, UW does not apply**

Electronic Items



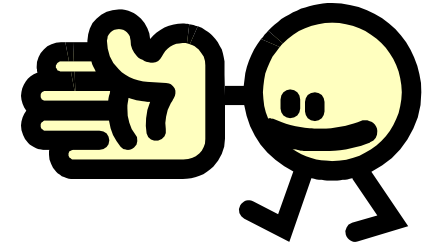
- What's Hazardous Waste?
 - Today
 - Color CRTs (TVs, computer monitors, etc.)
 - Individual circuit boards
 - Tomorrow – pretty sure (items fail TCLP >75% for Pb)
 - Laptop computers (100%)
 - Cell Phones
 - Smoke detectors
 - TV remote control (100%)
 - Mouse (100%)
 - Based on failing standard TCLP
 - Some other devices fail based on a “modified “ TCLP

Hazardous Waste Lamps

- Include:
 - Fluorescent
 - High Pressure Sodium
 - Mercury Vapor
 - Metal Halide
- Must minimize breakage, proper packaging
- Contain broken lamps to minimize releases



Universal Waste Handlers



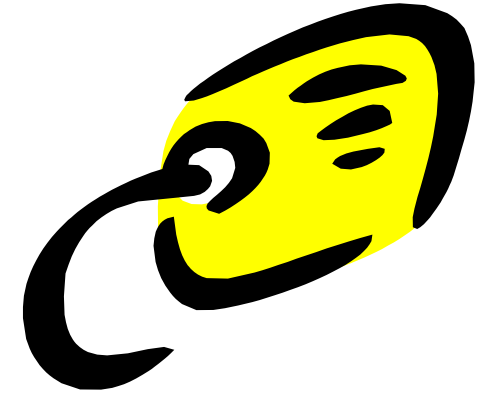
- Note difference between **HANDLER** & **GENERATOR**
 - Handler -- Universal Waste
 - Generator -- Hazardous Waste
- Small Quantity *Handler* of Universal Waste
 - < 5,000 kg (11,000 lbs)
- Large Quantity *Handler* of Universal Waste
 - > or = 5,000 kg (11,000 lbs)

Accumulation



- No Longer Than One Year
- Must Be Able To Demonstrate Time Length
 - Mark container with earliest date UW received in container became UW, or
 - Mark each item, or
 - Inventory system (earliest/each), or
 - Accumulation area earliest date, or
 - Another method

Labeling/Marking

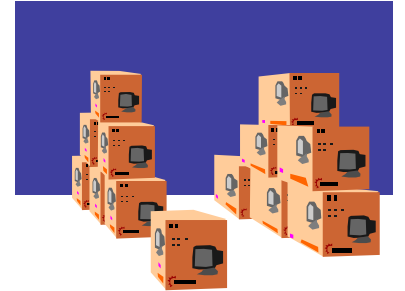


- “Universal Waste -- XXXX”, or
- “Waste XXXX”, or
- “Used XXXX”

XXXX = Batteries, Mercury-Containing Items, Electronic Items, or Lamps

Term “*Used Pesticides*” not allowed

Shipping



- To Another UW Handler, Destination Facility
- DOT Rules Apply
- No Hazardous Waste Manifest -- But:
 - Non UW States will need a haz waste manifest
 - Comment in Line 15: “Managed as Universal Waste in Nebraska per Title 128, Chapter 25”
- Self-Transport OK -- Comply with Chapter 25 UW Transporter Requirements

Shipping (Cont)



- Tracking
 - Small quantity handler -- Not required
 - Large quantity handler -- Required
 - Record *receipt* of shipments
 - Name & address, amount , type, date
 - Record *off-site shipments*
 - Name & address, amount, type, date
 - Log, Invoice, Bill of Lading, Manifest
 - Keep three (3) years

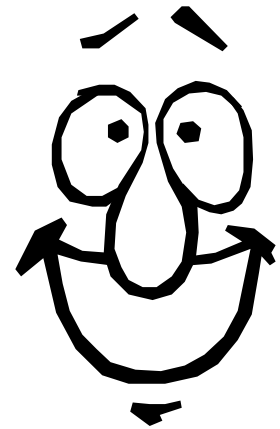
What Universal Waste Means To You

- Reduced Regulatory Burden
 - Can accumulate on-site with reduced labeling, notification, accumulation time, training
 - Large Quantity **Handlers** of UW must obtain a NDEQ ID Number (if they don't already have one)
 - Large Quantity **Handlers** must train
 - Easier transportation and tracking
 - Common carrier
 - No hazardous waste manifest
 - Can move between UW handlers



What Universal Waste Means To You

- “Counting”
 - Can generate & accumulate Universal Waste without having to include these wastes when counting hazardous waste generation weights
- Storage Time
 - Can accumulate up to one year vice 90 or 180/270 days

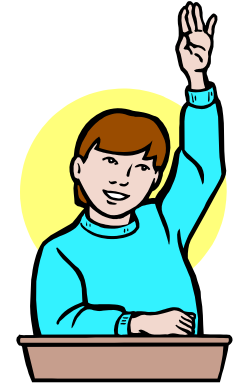


Common Questions



- All In or All Out!
- CESQGs
 - UW Management versus Hazardous Waste Management
 - “Da Scam”
- Alkaline, Carbon Zinc, NiMH Batteries -- OK for normal disposal

Common Questions



- Containers Closed?
 - Yes, **if** the UW shows evidence of “leakage,” etc. except for electronic items
 - Yes, **if** a UW pesticide or lamps (broken or unbroken)
 - No container required, **if** non-damaged batteries or mercury-containing items
 - No for electronic items

When Does Accumulation Time Start For Shipment Receipt?

- When it is accepted.

Assistance



- Jim Harford
- RCRA Compliance Assistance
 - On-site visits -- not inspections
 - General and specific questions - call
- (402) 471-8308/4217
- jim.harford@ndeq.state.ne.us
- *Web Site: www.deq.state.ne.us/*