



Clean Boating Programs Virtual Training Hazardous Waste (and others) at Marinas

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Hazardous Waste (HW) Generators

- **HW is a solid, liquid or gas that can pose substantial or potential hazard to human health or the environment when improperly managed**
- **HW Generators are facilities that generate HW, e.g., marinas, auto repair shops, fiberglass shops, manufacturing plants, etc.**
- **HW Generator Categories: Very Small Quantity Generator (VQSG), Small Quantity Generator (SQG) and Large Quantity Generator (LQG)**



HW Generators continued

- Most marinas will most likely be a VSQG or an SQG generator of HW. Keep in mind, VSQGs are not required to notify of HW generation, meaning an existing facility may not have a 12-character EPA ID Number, e.g., FLD 123 456 789
- VSQG requirements can be found under 40 CFR 262.14 and SQG requirements can be found under 40 CFR 262.15 & 262.16
- **ALL generators of HW** must conduct hazardous waste determinations and maintain records in accordance with 40 CFR 262.11



HW Found at Marinas

Spent blasting media; fuel filters; mercury-containing bilge pump float switches; paint waste; expired and/or damaged retail products; solvent-contaminated wipes; spent non-empty aerosol cans; spent solvents from painting, chemical stripping and/or parts washers; waste distress signal flares, etc.





HW Generator Categories

- VSQG - generates ≤ 100 kg (220 lbs.) of non-acute hazardous waste OR ≤ 1 kg (2.2 lbs.) of acute hazardous waste per month. May not accumulate more than 1,000 kg (2,200 lbs.) of non-acute HW on-site at any one time
- SQG - generates between 100 kg (220 lbs.) and 1,000 kg (2,200 lbs.) of non-acute hazardous waste per month. May not accumulate more than 6,000 kg (13,200 lbs.) of non-acute HW at any one time. May not accumulate HW for more than 180 days
- *NOTE: > 1 kg (2.2 lbs.) of acute hazardous waste per month is an LQG by default



Kg-to-lbs.-to-containers

- **VSQG – No more than half a 55-gallon (220 lbs. ~ 25 gallons) drum of non-acute HW per month**
- **SQG – Between half a 55-gallon drum and five 55-gallon (2,200 lbs. ~ 275 gallons) drums of non-acute HW per month**
- ***NOTE: Non-acute HW exhibits a characteristic(s), i.e., ignitability, corrosivity, reactivity and/or toxicity. Acute HW is listed HW, i.e., F, K, P and U waste codes, that comes from a non-specific or specific source**



Non-acute HW

Characteristic wastes (majority of what marinas will most likely generate)

- **Characteristic**

- **Ignitability (D001)** – liquids with a flashpoint < 140 °F; ignitable compressed gases, oxidizers and non-liquids that can cause fire through absorption of moisture, friction or spontaneous combustion, e.g., expired alcohol
- **Corrosivity (D002)** – aqueous solution with a $\text{pH} \leq 2.0$ or ≥ 12.5 ; or liquid that corrodes steel (SAE 1020) at 0.25 in. per year at 130 °F [Method 110A in SW-846], e.g., spent naval jelly and spent stripper
- **Reactivity (D003)** – normally unstable and readily undergoes violent changes; water reactive; potentially explosive when mixed with water; generates toxic gas when mixed with water, cyanide or sulfide waste; forbidden explosives, e.g., airbags, spent aerosol cans and waste lithium batteries
- **Toxicity (D004-D043)** – *NOTE: NOT a complete list. Arsenic, barium, benzene, cadmium, methyl ethyl ketone, e.g., waste paints containing heavy metals, spent blasting media and waste thermometers



Acute HW

Listed wastes

- **Listed**

- **F List (F001-F039)** – wastes from common manufacturing and industrial processes, e.g., spent solvent wastes, petroleum refinery wastewater treatment sludges and wood preserving wastes
- **K List (K001-K151)** – wastes from specific sectors or industry and manufacturing and are considered source-specific wastes, e.g., organic chemicals, pesticides manufacturing, petroleum refining and iron and steel production
- **P List (P001-P123)** – wastes that are discarded chemical products, e.g., Warfarin & salts, Aldrin, carbon disulfide, Epinephrine and heptachlor
- **U List (U001-U411)** – wastes are also discarded chemical products, e.g., acetone, acetonitrile, chloroform, hydrofluoric acid and xylene



Poor HW Management

HW Determination - Violation of Rule: **40 CFR 262.11**





Proper HW Management

HW Determination - 40 CFR 262.11 – Records the facility should produce for the waste stream upon request:

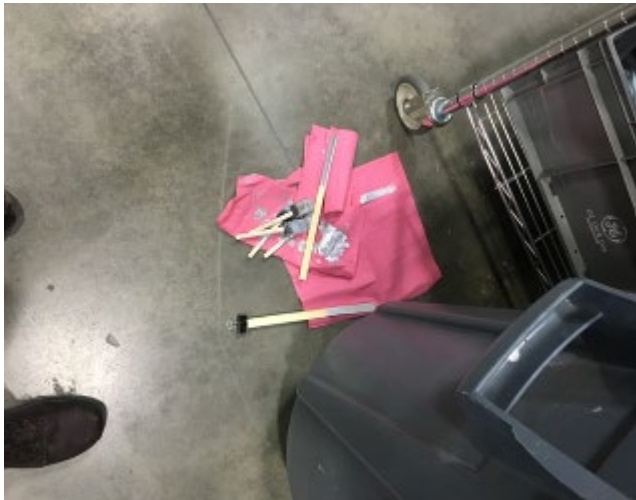
- NELAP-certified laboratory analysis, e.g., Toxicity Characteristic Leaching Procedure (TCLP) RCRA Metals, RCRA Volatiles, pH, Flashpoint, etc.
- Waste profiles
- Safety Data Sheets (SDS)
- Generator knowledge of process that generate waste

*NOTE: The waste determination, such as a TCLP analysis, is what the facility uses when claiming a waste is non-hazardous or verifying that it is hazardous



Poor HW Management

HW Disposal - Violation of Rule: **40 CFR 262.14(a)(5) (VSQG)** or **40 CFR 262.20(a) (SQG)**





Poor HW Management

Container Management - Violation of Rule: 40 CFR 262.16(b)(8)(i)





Proper HW Management

Container Management - 40 CFR 262.16(b)(8)(i)



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Universal Waste (UW) Found at Marinas

- **Batteries, lamps and aerosol cans**
- **UW regulations are under 40 CFR 273. Keep in mind UW is not managed under HW requirements, if proper UW management is followed.**



Poor UW Management



Violation of Rule: **40 CFR 273**
(multiple)





Proper UW Management



40 CFR 273





Other Wastes Found at Marinas

- **Used Oil (UO), Used Oil Filters (UOF) and Spent Antifreeze**
- **UO and UOF regulations are under 40 CFR 279 and 62-710, FAC. In Florida, UO and UOF are not HWs, but must be managed in accordance with federal and state regulations.**
- **Spent Antifreeze is not a HW if it is recycled. If spent antifreeze is not recycled by the facility, it must undergo a hazardous waste determination in accordance with 40 CFR 262.11 and be managed as applicable.**



UO Requirements

- **Must be stored in containers or tanks that are in good condition**
- **Containers or tanks must be clearly labeled as “Used Oil”**
- **Secondary containment: must be stored in a structure, closed, covered or otherwise protected from weather; if tanks are not double-walled, they shall be stored on an oil impermeable surface; and must have secondary containment which has the capacity to hold 110% of the volume of the largest container or tank in the area**
- **Facility must respond immediately and properly to releases**
- **Records should be maintained for at least three years**





UOF Requirements

- **Cannot be commingled with other solid waste for disposal**
- **Must be stored containers that are in good condition**
- **Containers must be clearly labeled as “Used Oil Filters”**
- **Containers must be sealed or otherwise protected from the weather and stored on an oil-impermeable surface**
- **Records should be maintained for at least three years**





Poor UO and UOF Management



Violation of Rule: **40 CFR 279; 62-710, FAC (multiple)**



Proper UO and UOF Management

40 CFR 279; 62-710, FAC





Used Antifreeze



- Any facility generating used antifreeze becomes a used antifreeze generator
- **Remember:** Used antifreeze must be recycled (either on-site or off-site) or characterized pursuant to 40 CFR 262.11 to determine if it is a hazardous waste and be managed as applicable
- Used antifreeze releases must be addressed immediately



Thank you!

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