

RCRA Compliance Evaluation Inspection Report

1) Inspector and Author of Report

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2) Facility Information

Yamaha Jet Boat Manufacturing USA
2000 Cobia Drive
Vonore, Tennessee 37885
Monroe County

EPA ID No.: TN0001217884

NAICS Code: 336612 Pesticide and Other Agricultural Chemical Manufacturing

3) Responsible Officials

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4) Inspection Participants

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5) Date and Time of Inspection

July 19, 2023, 9:00 a.m.

6) Applicable Regulations

Resource Conservation and Recovery Act (RCRA) Sections 3002 (42 U.S. Code – Annotated U.S.C.A. 6925 and 6927), and 40 Code of Federal Regulation (C.F.R.) Parts 260 - 270, 273, 278, & 279.

Tennessee Hazardous Waste Management Act of 1977, Tennessee Code Annotated (Tenn. Code Ann.) § 68-212-101 *et seq.*, and Chapter 0400-12-01 of the Rules and Regulations of the State of Tennessee (Tenn. Comp. R. & Regs.)

As the State’s authorized hazardous waste program operates in lieu of the Federal RCRA program, the citations of those authorized provisions alleged herein will be to the authorized State program; however, for ease of reference, the federal citations will follow in brackets.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.01(2)(a) [40 C.F.R. § 262.10], a Large Quantity Generator (LQG) is a generator who generates greater than or equal to 1,000 kilograms (2200 lbs) of non-acute hazardous waste in a calendar month.

Pursuant to 40 C.F.R. § 262.17, a LQG may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as required by Section 68-212-108 of the THWMA, Tenn. Code Ann. § 68-212-108 [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in 40 C.F.R. § 262.17 (hereinafter referred to as the “LQG Permit Exemption”).

Pursuant to Tenn. Comp. R. & Regs. 0400-12-03(1)(f)1 [40 C.F.R. § 262.15(a)], a generator may accumulate as much as 55 gallons of non-acute hazardous waste in containers at or near the point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or without having interim status, as required by Section 68-212-108 of the THWMA, Tenn. Code Ann. § 68-212-108 [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with Tenn. Comp. R. & Regs. 0400-12-.03-24 [40 C.F.R. § 262.17(a)], except as required in Tenn. Comp. R. & Regs. 0400-12-01-.03-11 [40 C.F.R. § 262.15(a)(7) and (8)], provided that the generator complies with the satellite accumulation area conditions listed in Tenn. Comp. R. & Regs. 0400-12-.03-11 [40 C.F.R. § 262.15(a)] (hereinafter referred to as the “SAA Permit Exemption”).

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.12(1)(b) [40 C.F.R. § 273.9], a “Small Quantity Handler of Universal Waste” (SQHUW) is a Universal Waste handler who does not accumulate 5,000 kilograms or more of Universal Waste (batteries, pesticides, mercury-containing equipment, or lamps, calculated collectively) at any time.

7) Purpose of Inspection

The purpose of this inspection was to conduct an unannounced compliance evaluation inspection to determine Yamaha Jet Boat Manufacturing USA (hereinafter, “Yamaha” or the “facility”) compliance with the applicable requirements of RCRA and the corresponding Tennessee regulations. This was an EPA lead inspection.

8) Facility Description

Yamaha is a manufacturer of recreational jet boats. The Yamaha facility was originally founded under the name of “Cobia” in 1988 under private ownership. Yamaha purchased the facility in 1993. The facility comprises of manufacturing buildings, storage, and office space. Yamaha employs 731 persons, manufactures 36 to 37 boats per day, and operates on one shift Monday through Thursday.



Yamaha Jet Boats facility Areas

Area 1-Mold fabrication

Area 2-“Kick-off” shed and SAA

Area 3-Hazardous/universal waste building,
CAA

Area 4-Lamination lines and boat assembly

Yamaha is a large quantity generator (LQG) of hazardous waste, primarily from spent solvent and from off-spec product. Yamaha is also a small quantity handler of universal waste and a used oil generator.

HAZARDOUS WASTE STREAMS GENERATED:

The following hazardous waste streams were reported to TDEC for year 2022.

WS	Name	Generation Process	Waste Codes	Estimated Monthly Max in lb
#3	Waste Armorcoat	Generated intermittently from the disposal of off spec or contaminated material	D001	2,905
#6	Waste Adhesives	Generated intermittently from the disposal of off-spec or contaminated adhesive as well as pour-over remaining residual from containers.	D001	38
#9	Waste Crushed Spent Lamps	Generated from facility's maintenance activities.	D001, D003	10
#11	Waste Thermaclean with Gelcoat, unsolidified	Regularly generated from lamination line tool cleaning	D001	4281
#12	Waste Thermaclean with Gelcoat, Resin	Regularly generated resin "sludge" from Thermaclean decanting	D001	458
#13	Waste Adhesives, DBF Putty with Bags	Discarding of residual putty in bottom of bags	D001	267
#15	Waste Polyester Resin Monomer	Generated intermittently from disposal of off spec or contaminated material.	D001	46
#16	Waste Aerosol Can Residual	Liquids from puncturing cans	D001	382
#17	Waste Resin & Absorbent Spill	Cleanup of Resin Spills	D001	138
#18	Waste Thermaclean with Gelcoat Resin with Absorbent Pads & Debris	Cleaning out process, spray guns, and brushes	D0010	0
#19	Waste Gasoline & Absorbents	Spill clean ups	D001	0
#20	Waste Gasoline	Used gasoline generated intermittently from testing equipment	D001, D018	38
#22	Waste Plexus Activator	Generated intermittently from the disposal of off-spec material	D001	0
#23	Auto-Froth 9300A Isocyanate	Generated intermittently from a tank release clean up	D001	0
#24	Isocyanate	Excess from a tank clean up	D001	38

9) Previous Inspection History

Yamaha was last inspected by TDEC on April 21, 2021. One deficiency involving recordkeeping was observed. The last inspected conducted by EPA was on January 1, 2016. Approximately 18 deficiencies were observed during the inspection which included failure proper use and

management of containers, used oil, universal waste, and recordkeeping. The deficiencies were later corrected, and the facility returned to compliance on March 22, 2016.

10) **Opening Conference**

On July 19, 2023, inspectors from the U.S. EPA and TDEC arrived at 9:00 a.m. at the Yamaha facility. Tasha Roller, Environmental Health & Safety Support personnel received the inspectors and we all moved to David Glover, Manufacturing Manager's Office for the purpose of having an opening conference. We were later joined by Steve Wolfe, Human Resources Manager. The inspectors introduced themselves, showed their credentials, stated the purpose of the visit, and discussed the scope of the inspection.

The inspectors described the anticipated use of equipment a digital camera during the inspection and provided a request for records. The EPA inspector explained that the Small Business Regulatory Enforcement Fairness Act's classification of a "small business" is generally set by the Small Business Administration using the business' SIC/NAICS code and annual receipts or number of employees. A copy of the EPA's information sheet for small businesses can be found at <https://www.epa.gov/sites/production/files/2017-06/documents/smallbusinessinfo.pdf>. The EPA inspector also discussed the company's ability, pursuant to 40 C.F.R. § 2.203, to assert a business confidentiality claim for information submitted to EPA. The facility did not assert a business confidentiality claim.

David Glover, Tasha Roller, and Steve Wolfe provided an overview of the facility's history and the current operations during the opening conference. The inspection participants also discussed health and safety protocols and required personal protective equipment before the facility representative led the inspectors on a tour of the facility operations.

11) **Inspection Observations**

Mold Fabrication and Repair (Area 1):

The inspection began at the Area 1; layers of gelcoat are applied to mold-forms that will later be used as molds in Lamination Lines and Boat Assembly (Area 4) to form boat hulls, decks, and other parts. When cleaning is necessary, sprayer supply-lines are flushed with a product called "Thermaclean" which is a high flashpoint solvent that does not exhibit hazardous characteristics unless it becomes contaminated with a characteristic or listed waste. Used Thermaclean solvent from flushing sprayer-lines is collected in this area and accumulated in the "Kick-off" shed for re-use in Lamination, as described below. According to Steve Wolfe, hazardous waste is generally not generated in this area except for those occasions when a gelcoat product container has exceeded its usable shelf-life and must be disposed of as off-spec waste or contaminated material (WS#3). At the time of the inspection, no hazardous waste was observed in this area.

Kick-off Shed (Area 2)

The Area 2 comprises of a three-sided metal-shed open on the east-facing side where both reusable and waste chemicals generated from the production at Mold Fabrication (Area 1) and at Lamination (Area 4) are accumulated and stored. A spill-kit and fire-extinguishers are kept readily available in the Kick-off Shed. Personnel who work in this area carry facility-issued cell phones for emergency communication.

Spent Thermaclean solvent from Mold Fabrication is accumulated in a 275-gallon Intermediate Bulk Container (IBC) liquid tote. The spent solvent is removed on an as-needed basis for re-use in Lamination Area. According to facility personnel, semi-solid mass that settles at the bottom of the spent Thermaclean tote is periodically removed and disposed of as hazardous waste (WS #12).

Spent Thermaclean solvent from the 275-gallon tote in the Kick-off Shed is re-used to flush sprayer-lines in the Lamination building, as a result, it becomes hazardous waste because it is contaminated with gelcoat (D001). Waste Thermaclean solvent from Lamination and from the Robo-Sprayer is accumulated in a 55-gallon satellite container (WS #11). At the time of the inspection, the satellite container was closed, in good condition and stored on a secondary-containment pallet. The satellite container was observed to be marked with the words “Hazardous Waste” and with indication of hazards of the contents as “Flammable.” However, because the waste Thermaclean is generated in the Lamination building (Area 4), the SAA container observed in the Kick-off Shed is not “at or near the point of generation where wastes initially accumulate, and nor is under the control of the operator of the process generating the waste” (Photo 1).

Pursuant to Tenn. Comp. R. & Regs. 0400-12-.03(1)(f)1 [40 C.F.R. § 262.15(a)], a generator may accumulate as much as 55 gallons of non-acute hazardous waste in containers at or near the point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or without having interim status, as required by Section 68-212-108 of the THWMA, Tenn. Code Ann. § 68-212-108 [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with Tenn. Comp. R. & Regs. 0400-12-.01-.03(1)(f)1 [40 C.F.R. § 262.15(a)], except as required in Tenn. Comp. R. & Regs. 0400-12-01-.07 and 0400-12-01-.09 [40 C.F.R. § 262.15(a)(7) and (8)], provided that the generator complies with the satellite accumulation area conditions listed in Tenn. Comp. R. & Regs. 0400-12-.03(1)(f)1- [40 C.F.R. § 262.15(a)] (hereinafter referred to as the “SAA Permit Exemption”).

Spent or unusable Bird Song brand semi-solid carpet adhesive and adhesive putty that glues liners to hulls generated in the Assembly Area in the Lamination building (WS #6, WS #13) is collected in another 55-gallon satellite container in the Kick-off Shed. At the time of the inspection, the satellite container was closed, in good condition and stored on a secondary-containment pallet. The container was observed to be marked with the words “Hazardous Waste” and with indication of hazards of the contents as “Flammable.” However, because the waste is generated in the assembly area of the Lamination building (Area 4), the satellite container observed in the Kick-off Shed is not “at or near the point of generation where wastes initially accumulate and nor is under the control of the operator of the process generating the waste.”

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(f)1 [40 C.F.R. § 262.15(a)], a generator may accumulate as much as 55 gallons of non-acute hazardous waste in containers at or near the point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or without having interim status, as required by Section 68-212-108 of the THWMA, Tenn. Code Ann. § 68-212-108 [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with Tenn. Comp. R. & Regs. 0400-12-.01-.0391(f)1 [40 C.F.R. § 262.15(a)], except as required in Tenn. Comp. R. & Regs. 0400-12-01-.07 and 0400-12-01-.09 [40 C.F.R. § 262.15(a)(7) and (8)], provided that the generator complies with the satellite accumulation area conditions listed in Tenn. Comp. R. & Regs. 0400-12-.03(1)(f)1 [40 C.F.R. § 262.15(a)] (hereinafter referred to as the “SAA Permit Exemption”).

After the inspection, Mr. Wolfe stated that Yamaha re-designated the Kick-off Shed as a CAA, marked the used Thermaclean and waste adhesive containers with accumulation start-dates, and added those two containers to the weekly inspection list. Safety equipment and trained personnel required for a CAA were already in place.

Fifteen drums with residual gelcoat were observed, to which residual organic peroxide catalyst collected from ‘empty’ peroxide containers is added to “kick-off” the hardening reaction (Photo 2).

At the time of inspection, there were 10 55-gallon containers undergoing various stages of reaction, the remainder had already solidified. There were at least two reacting containers that had fumes visibly rising from the containers. The containers undergoing solidification treatment are open so that fumes and heat from the containers are released during the reaction.

Hardening is accomplished by adding the appropriate amount of organic peroxide catalyst into the open gelcoat drums, which is then stirred manually by an employee using a paddle to mix catalyst into the gelcoat. The entire solidification process takes 24 hours to complete. Once the treatment is completed, the hardened gelcoat is disposed of as a special waste pursuant to TDEC solid waste regulations along with paper floor sheets and air filters from Lamination, and the fiberglass scraps from the Deck Hole-cut.

Steve Wolfe later explained that these containers come from Mold Fabrication (Area 1) and the Lamination (Area 4) where they are ‘generated’ as follows: gelcoat sprayers in Area 1 and Area 4 draw directly from a full drums of gelcoat product, but when a gelcoat drum is near-empty it is replaced with a full drum. The near-empty drum is transferred to the Kick-off Shed (Area 2) for the hardening process; this removal is done for fire safety purposes according to the previous inspections.

Gelcoat residue containers were handled as though they were not waste because of the definition of “empty container” under RCRA and because they are handled in the Kick-off Shed as a best management practice according to recommendation from the fire department, as stated to the inspectors during previous site inspections.

Steve Wolfe stated that waste gelcoat from the robot spray booth in Lamination does not undergo the addition of peroxide catalyst in the Kick-off Shed because catalyst is introduced at the robo-sprayer tip, so it hardens from the point of generation at the robo-spray booth.

Central Accumulation Area (Area 3)

This CAA is in a small building beside the Kick-off Shed. An aerosol can puncture device mounted to a 55-gallon steel drum serves as a Satellite Accumulation Area (SAA) for the spent aerosol residue (WS #16) is stationed under a shed-roof next to the door into the CAA building. At the time of the inspection, this container was in good condition, closed, stationed on a secondary-containment pallet, marked “Hazardous Waste” and “Flammable.” According to Mr. Wolfe, spent aerosol cans are recycled. Current emergency contact information is posted on a wall nearby, and a spill-kit is stationed next to the container.

Used oil generated from on-site equipment maintenance activities is collected and stored in the same exterior area as the aerosol residue, in a 55-gallon steel drum stored inside a containment locker. The drum was closed and labeled “used oil,” and free from evidence of spillage and leakage.

Inside the CAA building, ten 55-gallon drums of hazardous waste were observed (Photo 3). All containers were closed, on secondary-containment pallets, in good condition, marked “Hazardous Waste,” “Flammable” or other applicable hazard-indication. The containers were also marked with an accumulation start date (“ASD”) of which the oldest was March 3, 2023. There was adequate aisle-space and there were no leaks or spills observed in the CAA. The storage area is equipped with spill equipment, fire extinguisher, and a current list of emergency contact information is posted on the wall. Personnel who work in this area carry facility-issued cell phones for emergency communication.

Universal waste lamps and batteries are collected for storage in this area. One 4-foot box and one 8-foot box of lamps were observed, both were labeled, closed, and marked with ASDs of June 15, 2023, and April 14, 2023, respectively.

Also, within the CAA, universal waste batteries and universal waste high-intensity metal-halide lamps are accumulated in five-gallon plastic buckets stored inside a rectangular lidded box (Photo 4); these containers were closed, in good condition, marked “universal waste batteries” or “lamps” as appropriate, and marked with ASDs of October 3, 2022, and January 13, 2023, respectively.

One five-gallon plastic bucket labeled “lead-acid” was inside the rectangular lidded box. These batteries are small, sealed lead-acid batteries used for emergency lights and exit signs, etc., and are handled under the lead-acid battery reclamation exemption (7)(a)1.(ii) of Tenn. Comp. R. & Regs Rule 0400-12-01-.09.

Inside the rectangular lidded box, there was a five-gallon plastic bucket serves as a satellite accumulation container for broken fluorescent lamps (WS #9). This container was closed, labeled “Fluorescent Bulbs, Crushed” and “Hazardous Waste,” but there was no indication of the

hazards of the contents on the container (Photo 5). The word “toxic” was immediately marked on the side and the top of the five-gallon container (Photo 6).

Pursuant to 40 C.F.R. § 262.17, a LQG may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as required by Section 68-212-108 of the THWMA, Tenn. Code Ann. § 68-212-108 [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in 40 C.F.R. § 262.17 (hereinafter referred to as the “LQG Permit Exemption”).

Pursuant to Tenn. Comp. R. & Regs Rule 0400-12-01-.03.24 [40 C.F.R. § 262.17(a)(5)(i)], which is a condition of the LQG Permit Exemption, a generator must mark or label its containers with the following: the words “Hazardous Waste”; an indication of the hazards of the contents; and the date upon which each period of accumulation begins clearly visible for inspection on each container.

Lamination (Area 4)

Watercraft production occurs in the large area with multiple lamination/fiberglass production areas collectively referred to as “Lamination.”

Robo-spray gelcoat hull:

Gelcoat layers for the largest hull- and deck-molds are sprayed by an automatic robo-sprayer, prior to applying layers of epoxy and fiberglass. When it is necessary to flush the sprayer supply lines, waste gelcoat mixed with hardening-catalyst is collected from the sprayer; this spent material is allowed to fully harden and is disposed of under a special waste permit. No hazardous waste is generated or stored in this area.

Lamination production lines:

Hulls, decks, and smaller boat-component molds are sprayed with gelcoat followed promptly by layers of epoxy and chopped fiberglass in four Lamination production lines. Each line has a separate air filter; spent air filters from these lines are disposed of under a special waste permit. Roller tools used in laminate production are kept clean by storing in buckets of Thermaclean that has been collected from the 275-gallon IBC tote of used Thermaclean in the Kick-off Shed mentioned previously in this report. Spent Thermaclean from the Lamination production lines is accumulated in another container in the Kick-off Shed as hazardous waste, also as described previously in this report. No hazardous waste is accumulated or stored in these areas.

Deck Hole-cut area:

Holes and cut-outs are added to the decks from Laminate production in the Deck Hole-cut area. No hazardous waste is generated, accumulated, or stored in this area.

Assembly Area:

Finished decks, hulls, and other parts are assembled with controls, carpet, cabinetry, upholstery, wiring, tanks, and engines in the Assembly Area. An aerosol can puncture device mounted to a 55-gallon steel drum that serves as a SAA for spent aerosol residue (WS #16) was observed in the Assembly Area; at the time of the inspection, this container was in good condition, closed, stationed on a secondary-containment pallet, marked “Hazardous Waste” and “Flammable.” No other hazardous waste is generated, accumulated, or stored in this area.

11) **Record Review**

The records review included the following:

- 2020, 2021, 2022 and 2023 Hazardous waste manifests and associated LDR notifications
- 2020, 2021 and 2022 Hazardous waste annual report
- 2022 and 2023 CAA Weekly inspection logs
- 2023 Contingency plan also known as Emergency Action and Fire Prevention Plan revised March 9, 2023
- Hazardous Waste Profiles
- Correspondence indicating arrangements with local authorities.
- 2022, 2023 Hazardous Waste Training records

Additional documents based on recommendation made during the inspection and after the inspection included updated correspondence with local authorities including local hospitals, updated quick reference guide and contingency plan and copies of the update RCRA training curriculum were provided via email on September 6, 2023.

Based on the review of the records, the records were observed to be complete.

12) **Closing Conference**

An exit meeting was conducted at the conclusion of the inspection. Tasha Roller, Steve Wolfe, Becky Davis with Yamaha along with the inspectors participated in the exit briefing. The observations made during the inspection were discussed and the meeting was concluded.

13) **Signed**

RAJAGOPAL AIYAR

Digitally signed by RAJAGOPAL

AIYAR

Date: 2023.09.19 08:14:56 -04'00'

Raj Aiyar
Environmental Engineer

Date

14) **Concurrence**

ARACELI CHAVEZ

Digitally signed by ARACELI CHAVEZ

Date: 2023.09.19 10:37:23 -04'00'

Araceli B. Chavez
Chief
RCRA Enforcement Section

Date

Attachment A

Yamaha Jet Boat Manufacturing USA

EPA ID # TN0001217884

July 19, 2023

Photos taken by the TDEC Inspector



Photo 1, SAA container for spent Thermaclean,
Kick-off Shed



Photo 2, Drums of gelcoat residue hardening,
Kick-off Shed



Photo 3, Hazardous Waste Containers in the CAA Shed

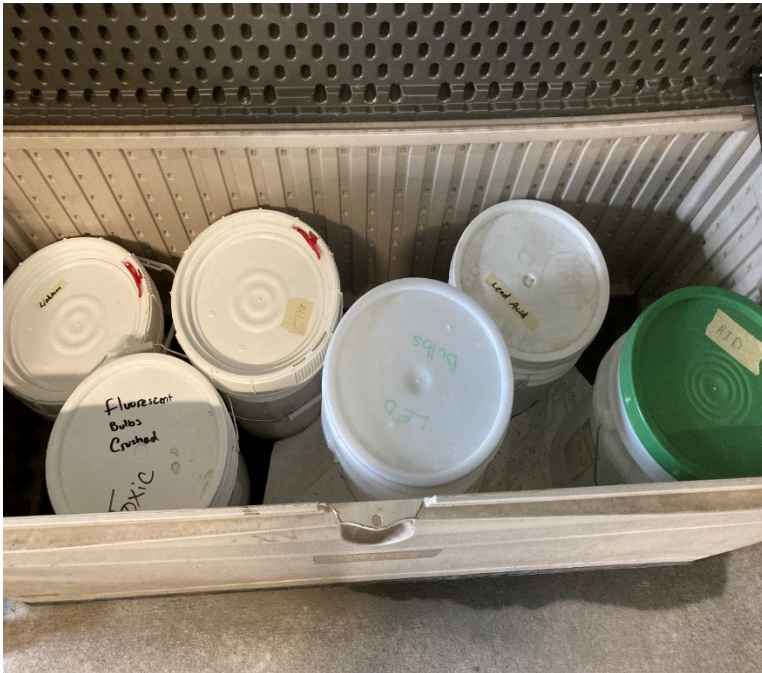


Photo 4, Rectangular lidded box for five-gallon plastic buckets of universal waste, hazardous waste, and waste lead-acid batteries

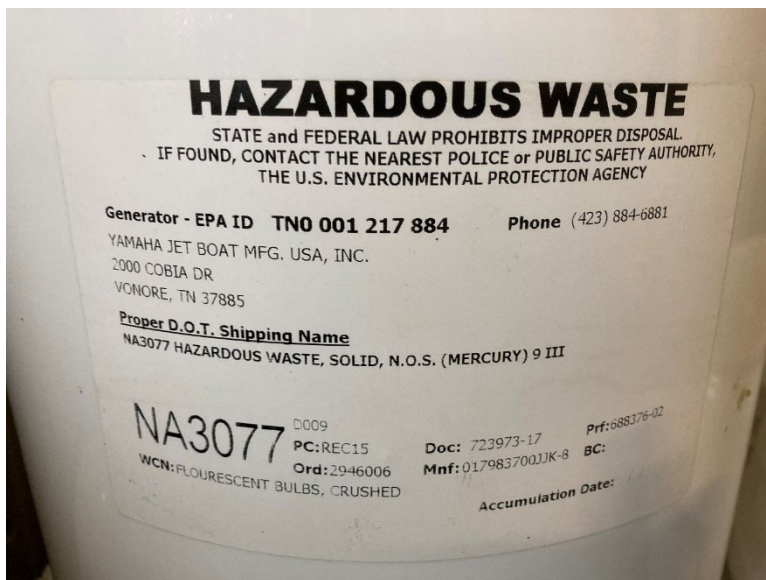


Photo 5, Five-gallon bucket of hazardous waste, crushed, fluorescent bulbs without hazard indication

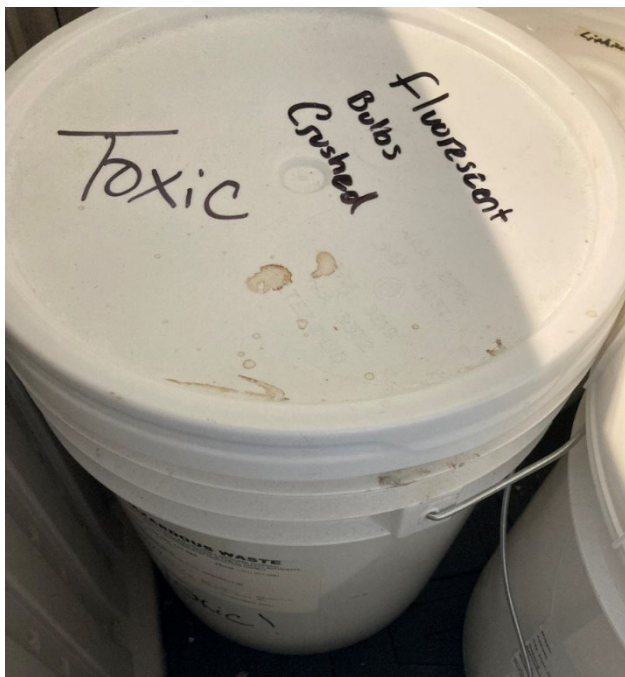


Photo 6, Five-gallon bucket of crushed fluorescent bulbs, with the word “toxic” added to indicate the hazard