

RCRA Inspection Report

1) Inspector and Author of the Report

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2) Facility Information

Diversified Structural Composites
1512 Interstate Drive
Erlanger, Kentucky 41018
EPA ID Number: KYD000051573

3) Responsible Official

Tim Goff, Plant Manager
(859) 802-2472
tim.goff@exelcomposites.com

4) Inspection Participants

Tim Goff	Diversified Structural Composites, Inc.
Dustin Holt	Diversified Structural Composites, Inc.
Brandon Robinson	Diversified Structural Composites, Inc.
Leslie Carr-Polly	KDEP–Frankfort Central Office
Shelby Sebastian	KDEP–Florence Field Office
Alan Newman	EPA Region 4

5) Date of Inspection

September 16, 2021 8:05 a.m.-12:00 pm

6) Applicable Regulations

Sections 3002, 3005 and 3007 of Resource Conservation and Recovery Act (RCRA) 40 Code of Federal Regulations (C.F.R). Parts 260 through 268, 270, 273 and 279 Rules Governing Hazardous Waste Management Title 401 of Kentucky Administrative Regulations (401 K.A.R.) Chapters 30 through 40 and 44 Kentucky Department for Environmental Protection.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17], an LQG may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as

required by KRS 224.46-520(1) [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17] (hereinafter referred to as the “LQG Permit Exemption”).

Pursuant to 401 KAR 39:080 Section 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 KRS 224.46-520(1) [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with 401 KAR 39:080 Section 1 [40 C.F.R. § 262.16(b) or §262.17(a)], except as required in 401 KAR 39:080 Section 1 [40 C.F.R. § 262.15(a)(7) and (8)], provided that the generator complies with the satellite accumulation area conditions listed in 401 KAR 39:080 Section 1 [40 C.F.R. § 262.15(a)] (hereinafter referred to as the “SAA Permit Exemption”).

Pursuant to 401 KAR 39:080 Section 3(1) [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**

To conduct an unannounced EPA lead compliance evaluation inspection and determine the facility's compliance status with the applicable regulations and permit.

8) **Facility Description**

Diversified Structural Composites, Inc. (DSC) is a large quantity generator of hazardous waste, a small quantity handler of universal waste, and a used oil generator. DSC began operations in 1990 as Diversified Fabrication, Inc. In 2002, the name changed to Diversified Composites, Inc. In 2008, the assets of Diversified Composites were purchased by Toho Tenax America, Inc of Rockwood, TN. In 2010, the company moved to its present location. In 2018, the company was sold to Excel Composites of Finland.

Diversified employs 120 workers at the Erlanger facility. Four production crews rotate two 12 hour shifts per day 6:00 am/6:00 pm; seven days a week; Monday through Sunday. Office hours are 8:00 am to 5:00 pm, Monday through Friday. Diversified manufactures fiberglass or carbon fiber-reinforced composite sheet, bar, rod, and tube stock used in construction, sporting goods, and other industries (pilings, stiffeners, rebar, arrow shafts, fishing rod shafts, trolling motor shafts, etc.). Raw materials include fiberglass and carbon fiber, polyvinyl esters, epoxies, styrenes, dyes, pigments, organic peroxides, and acetone.

In the mixing room, polyester or epoxy resins are mixed as required for the finished product desired. The liquid resin mix is then taken to the appropriate pultrusion line. At the pultrusion line, fiberglass or carbon fibers are pulled (hence “pultrusion”) from rolls through a resin bath to coat/impregnate them with liquid resin. They are then woven as required for the product manufactured. Additional resin may be applied, as required.

Next the coated/impregnated fibers are then pulled through a heated mold or die to establish the shape and cure the resin. Once hard, the product is cut to the desired length, inspected, and packaged for shipment. The facility has twenty pultrusion lines; all can run carbon fiber or fiberglass. The lines are capable of pulling up to ninety inches of product per minute, but average twelve to twenty-four inches per minute for the products currently being produced. Hazardous wastes are generated in the mixing room and on each pultrusion line.

Hazardous waste generated in the mixing room includes waste solvents, old or off-spec raw materials, residues from the clean-up of raw material spills, and rags contaminated with solvent/resins/raw materials. Organic peroxides are added to the resins when mixed, to ensure any resin left over at the end of a run solidifies before disposal as non-hazardous waste. One central accumulation area is in the mixing room.

At each pultrusion line, acetone is used to clean various machine parts between product runs and to clean the product during inspection and packaging. Spent acetone is collected in 5-gallon satellite containers and taken to the mixing room at the end of each shift. It is emptied into a central accumulation area (CAA) there. Contaminated rags/wipes are collected in satellite containers at the pultrusion lines and are emptied into a CAA container at the end of each shift.

Used oil is generated from equipment service and stored in labeled drums. It is recycled through Environmental Enterprises. To reduce hazardous waste, pultrusion line parts (dies, heaters, spinners, etc.) are now cleaned in a nonhazardous parts washer, eliminating some hazardous waste solvent generation. Hazardous waste is transported by Midwest Environmental Transport and shipped to Environmental Enterprises, a TSD in Ohio.

The property consists of 97,000 ft² of manufacturing, office, and support space in an office park. The primary NAICS code for the facility is 326199. The facility wastes included the following EPA waste codes: D001, D035, F003, and F005. DSC last notified on July 7, 2021 as an SQG.

9) **Previous Inspection History**

KYDEP conducted a compliance evaluation inspection (CEI) at the facility on January 16, 2019, citing failure to close containers of hazardous waste, failure to mark containers with the words hazardous waste, the accumulation start date, and the indication of the hazards; and February 4, 2016, citing failure to conduct inspections, failure to make hazardous waste determinations, failure to label satellite accumulation containers, and failure to close containers of hazardous waste. KDEP resolved the violations from both CEIs with informal enforcement.

10) **Findings**

On September 16, 2021, Alan Newman, along with Shelby Sebastian and Leslie Carr-Polly with the Kentucky Department of Environmental Protection (KDEP) conducted an unannounced CEI at DSC. This was an EPA-lead inspection. Inspectors arrived at DSC at 8:05 a.m. and were greeted by Tim Goff, Plant Manager. Inspectors conducted an entrance briefing where they showed credentials and explained the purpose of the visit.

- Production Floor

DSC operates twenty (20) production lines; four are new lines. On the day of the inspection, the inspection team noted 20-gallon flip-top yellow containers and open top 40-gallon lined black containers on the production lines (Photos 1-3). The facility representative stated that the yellow containers were for oily waste rags and the black container was accumulating trash including packaging material. There were no issues noted in the production areas.

- Solvent Recovery Systems

DSC was operating two Sidewinder Model M-2 solvent recovery system units (Photos 4-9). These units recover acetone generated on the production lines and accumulated in 5-gallon black metal buckets. This waste stream is being managed as a hazardous secondary material destined for reclamation onsite. DSC notified that they manage hazardous secondary material on their annual notification to KDEP. A facility representative stated that the recovered acetone is reused in the process instead of purchasing new acetone. At the time of the inspection, there were ten 5-gallon black containers waiting to be distilled at unit 1 (Photo 4). This area showed some signs of un-remediated spills of waste (Photos 5-6); the inspection team considered this to be an area of concern. Spills of hazardous secondary material should be managed as spills of hazardous waste. There were ten 5-gallon black metal buckets awaiting processing at unit 2 (Photos 8-9 and 28).

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.251], and is a condition of the LQG Permit Exemption, a generator is required to maintain and operate its facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

- Mix Room

DSC formulates batch chemicals in the mix room as requested by customers. DSC was operating a CAA which was storing eight 55-gallon metal containers (Photos 10-24). These containers did not have adequate aisle space between the containers. These containers were not labeled with accumulation start dates. This is a repeat deficiency. A safety shower and fire extinguisher were located near the CAA (Photos 19-20). The spill kit for the mix room was located on the production floor just outside the mix room door (Photo 21). Facility personnel use cell phones as the main communication device in this area. The inspection team recommends that a spill kit be located inside the mix room to have adequate emergency equipment on hand. The Emergency Contact List, Spill/Release Reporting Requirements, and the Emergency Evacuation Plan were posted near the CAA (Photos 22-24).

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.255], and is a condition of the LQG Permit Exemption, a generator is required to maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(5)(i)(C)] Labeling and marking of containers and tanks, which is a condition of the LQG Permit Exemption, an LQG must mark or label its containers with the following: (C) the date upon which each period of accumulation begins clearly visible for inspection on each container.

- Gel Resin Cook Off Area

DSC operates one blue box cook off area to allow waste resins to cure. The emissions from this curing process are directed outside the building (Photo 25-27). There is no heat or catalyst added to these containers to assist in the curing process which takes between a few days and a couple of weeks. Adjacent to this area the inspection team noted four containers on a yellow spill pallet (Photo 28-30). Two white metal containers with red flip top lids were labeled, closed, and in good condition. The other two containers were open, labeled, and in good condition. There were production pots upended on top of these two open containers to drain out the wastes from the pots. It was unclear how long these pots take to drain into the open containers. Facility representatives stated that these pots would be in high use throughout the facility and would not be here long. However, there were no workers in this area monitoring the transfer of the wastes for the duration of the inspection. This material must be managed as a hazardous waste until it has completed the curing process and has completely solidified. These containers were not labeled with accumulation start dates. There was a third white container with a red lid with resin curing inside. This container was not labeled with an accumulation start date (Photo 32). Postings for container labeling and SOPs were also observed (Photos 31 and 33-36).

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(5)(i)(C)] Labeling and marking of containers and tanks, which is a condition of the LQG Permit Exemption, an LQG must mark or label its containers with the following: (C) the date upon which each period of accumulation begins clearly visible for inspection on each container.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(1)(iv)], which is a condition of the LQG Permit Exemption, (A) a container holding hazardous waste must always be closed during accumulation, except when it is necessary to add or remove waste; and (B) A container holding hazardous waste must not be opened, handled, or stored in a manner that may rupture the container or cause it to leak.

- Mable Matic Pot Washer machine

The Mable Matic pot washer machine was used to clean to clean gel resin out of pots utilizing reservoir of solvent using S280 super flush. The inspection team requested the MSDS and waste profile for the spent S280 super flush during the inspection. This information has not been submitted. DSC has previously determined that this was a non-hazardous waste. On occasion this material has been reassessed at the receiving TSD as a hazardous waste.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.11], a person who generates a solids waste as defined in 40 C.F.R. § 261.2, must determine if that waste is a hazardous waste.

- Used Oil Area

There were three 55-gallon containers of new oil and three of used oil (Photos 37-39). The used oil containers were not labeled with the words “Used Oil.”

Pursuant to 401 KAR 39:080, Section 4(1) [40 C.F.R. § 279.22(c)(1)], containers and aboveground tanks used to store used oil at generator facilities must be labeled or marked clearly with the words “Used Oil.”

- Universal Waste

DSC was using a box to store used batteries. The box was labeled but not dated, and DSC did not track how long these batteries had been in storage another way (Photos 40-41).

Pursuant to 401 KAR 39:080 Section 3(1) [40 C.F.R. § 273.15(a) and (c)], a SQHUW may accumulate universal waste no longer than one year and must be able to demonstrate the length of time that the universal waste has accumulated from the date that it became a waste or was received.

The QC laboratory generates spent acetone wipes however, DSC does not accumulate them in a container but places them in the general trash.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.11], a person who generates a solids waste as defined in 40 C.F.R. § 261.2, must determine if that waste is a hazardous waste.

- Record Review

The inspection team reviewed outbound and inbound manifests for 2019 and 2020, land disposal restriction forms, and weekly and daily inspection forms for. The team also reviewed annual reports along with proof that they had been copied to the local county judge executive for 2019, and 2020, personnel training and job descriptions and the contingency plan. Waste profiles are updated annually or when they change.

After reviewing the manifests from the past several years, it appears that DSC is periodically operating at the large quantity generator level (>2200 lbs per month). DSC ships out waste monthly.

Date	Waste	Amount (lbs)
9/16/2021	D001/F003	3,200
8/24/2021	D001/F003	2,000
7/13/2021	D001/F003	3,200
6/1/2021	D001/F003	2,400
4/27/2021	D001/F003	400
3/23/2021	D001/F003	2,854
2/2/2021	D001/F003	4,100
Total		18,154

DSC shipped off universal waste lamps and batteries on 2/18/2020 and universal waste lamps on 7/14/2020. There were no universal waste lamps noted in storage at the time of the inspection.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.18(d)(2)], a LQG must re-notify EPA by March 1 of each even-numbered year thereafter.

Since the facility was operating at the large quantity generator status, it would have needed to maintain a contingency plan.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.260], and is a condition of the LQG Permit Exemption, a generator must have a contingency plan for the Facility.

At the time of the inspection, it was noted that Brandon Robinson and Dustin Holt did not have updated training records.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(7)], which is a condition of the LQG Permit Exemption, (iii) Facility personnel must take part in an annual review of the initial training required by this section; and/or (iv) the generator must maintain training records that include, among others: the job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job; a written job description for each position; a written description of the type and amount of both introductory and continuing training that will be given to each person filling a position; and records documenting that the training required has been given to and completed by Facility personnel.

The facility was conducting inspections at its hazardous waste container central accumulation areas. There was an extended gap between weekly inspections from 5/16/2020 to 5/25/2020 (9 days). Upon further review it was noted that all inspection documentation were copies of a single form including the check marks for the observations. Only the dates of the forms had been changed. Due to the number of labeling issues noted during the inspection, it appears that these inspections were ineffective.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(1)(v)], which is a condition of the LQG Permit Exemption, a generator is required to, at least weekly, inspect central accumulation areas looking for leaking containers and for deterioration of containers caused by corrosion or other factors.

11) Closing Conference

The inspectors conducted the exit meeting at 11:30 a.m. with Tim Goff from DSC and Leslie Carr, Shelby Sebastian from KDEP. During this meeting, the inspectors stated their preliminary conclusions of the inspection.

12) Inspection Findings

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.11], a person who generates a solids waste as defined in 40 C.F.R. § 261.2, must determine if that waste is a hazardous waste.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(1)(iv)], which is a condition of the LQG Permit Exemption, (A) a container holding hazardous waste must always be closed during accumulation, except when it is necessary to add or remove waste; and (B) A container holding hazardous waste must not be opened, handled, or stored in a manner that may rupture the container or cause it to leak.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(1)(v)], which is a condition of the LQG Permit Exemption, a generator is required to, at least weekly, inspect central accumulation areas looking for leaking containers and for deterioration of containers caused by corrosion or other factors.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(5)(i)(C)] Labeling and marking of containers and tanks, which is a condition of the LQG Permit Exemption, an LQG must mark or label its containers with the following: (C) the date upon which each period of accumulation begins clearly visible for inspection on each container.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.251], and is a condition of the LQG Permit Exemption, a generator is required to maintain and operate its facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.255], and is a condition of the LQG Permit Exemption, a generator is required to maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

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Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(7)], which is a condition of the LQG Permit Exemption, (iii) Facility personnel must take part in an annual review of the initial training required by this section; and/or (iv) the generator must maintain training records that include, among others: the job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job; a written job description for each position; a written description of the type and amount of both introductory and continuing training that will be given to each person filling a

position; and records documenting that the training required has been given to and completed by Facility personnel.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.18(d)(2)], a LQG must re-notify EPA by March 1 of each even-numbered year thereafter.

Pursuant to 401 KAR 39:080 Section 3(1) [40 C.F.R. § 273.15(a) and (c)], a SQHUW may accumulate universal waste no longer than one year and must be able to demonstrate the length of time that the universal waste has accumulated from the date that it became a waste or was received.

Pursuant to 401 KAR 39:080, Section 4(1) [40 C.F.R. § 279.22(c)(1)], containers and aboveground tanks used to store used oil at generator facilities must be labeled or marked clearly with the words "Used Oil."

11) **Signed**

Alan Newman
Environmental Engineer

Date

12) **Concurrence**

Araceli B. Chavez
Chief
RCRA Enforcement Section

Date

Photographs

Photos taken on September 16, 2021

Photos taken by Shelby Sebastian (KDEP)

Camera: iPhone



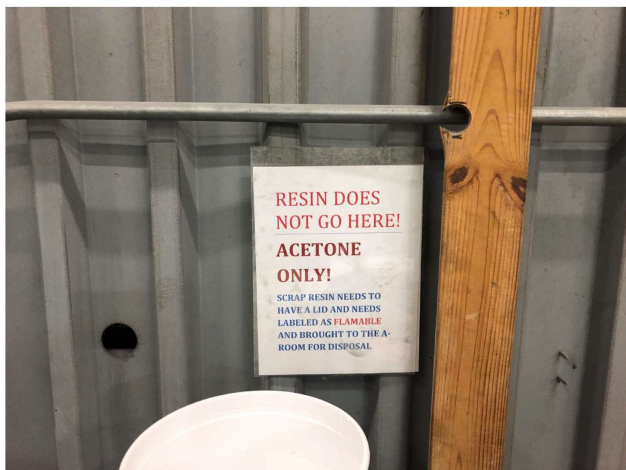


Photo 7: Solvent Recovery System 1.



Photo 10: Mix Room CAA.



Photo 8: Solvent Recovery System 2.



Photo 11: Mix Room CAA.



Photo 9: Solvent Recovery System 1.



Photo 12: Mix Room CAA.



Photo 13: Mix Room CAA.



Photo 16: Mix Room CAA.



Photo 14: Mix Room CAA.



Photo 17: Mix Room CAA.



Photo 15: Mix Room CAA.



Photo 18: Mix Room CAA.

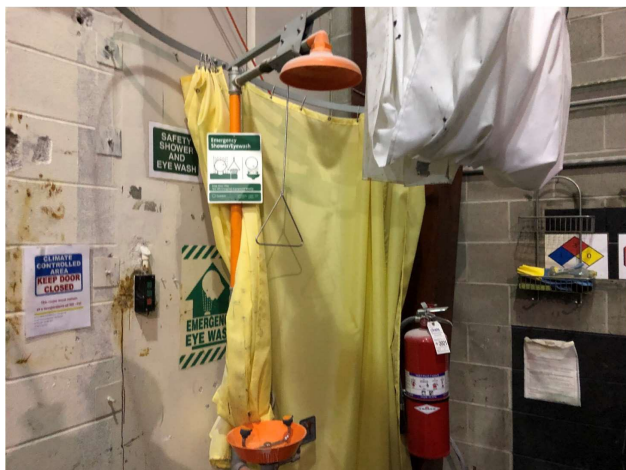


Photo 19: Safety Shower.

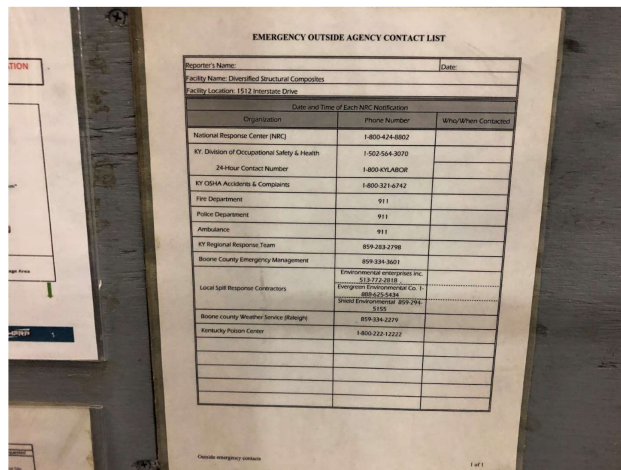


Photo 22: Posting for SQG.



Photo 20: Fire Extinguisher.

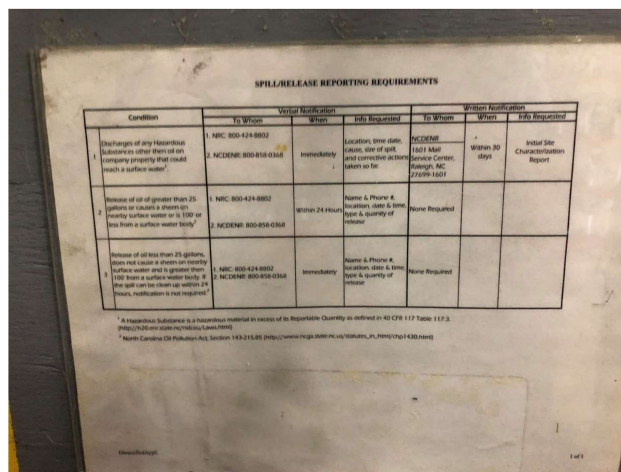


Photo 23: Posting for SQG.

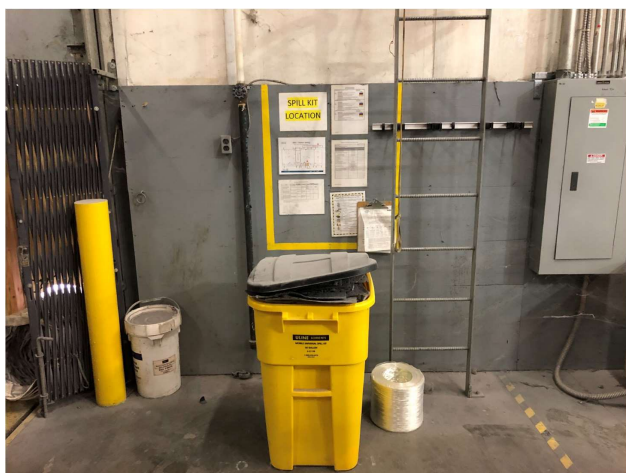


Photo 21: Spill Kit.

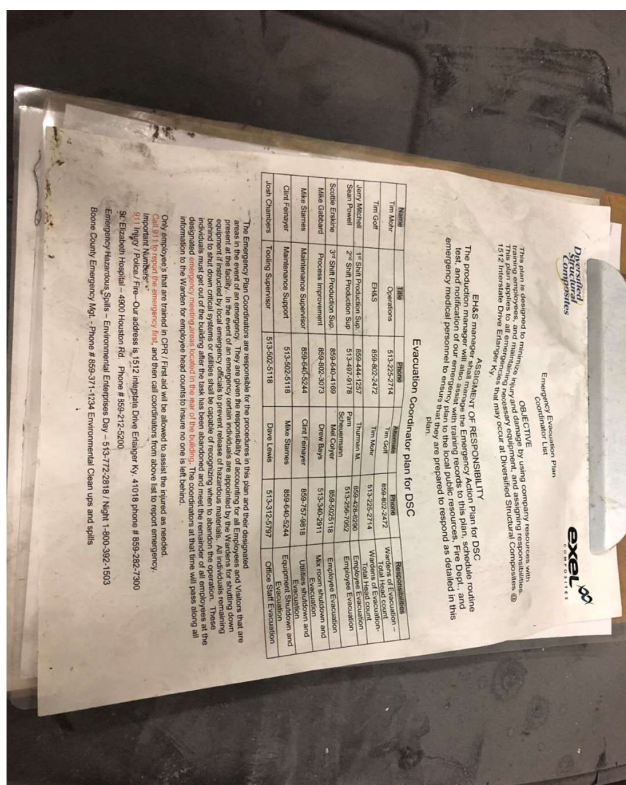


Photo 24: Posting for SQG.



Photo 25: Cook Off Area.

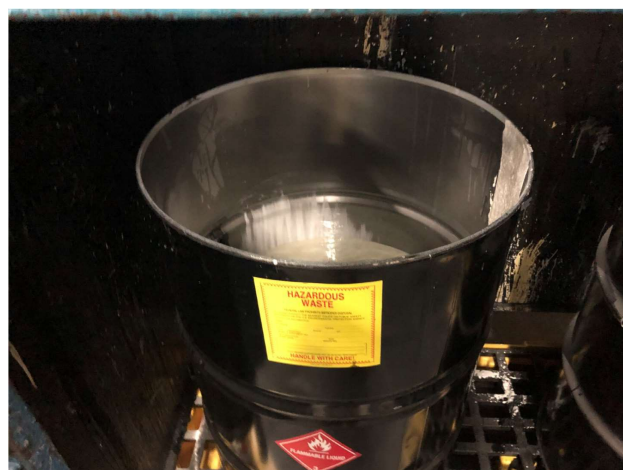


Photo 26: Cook Off Area container.

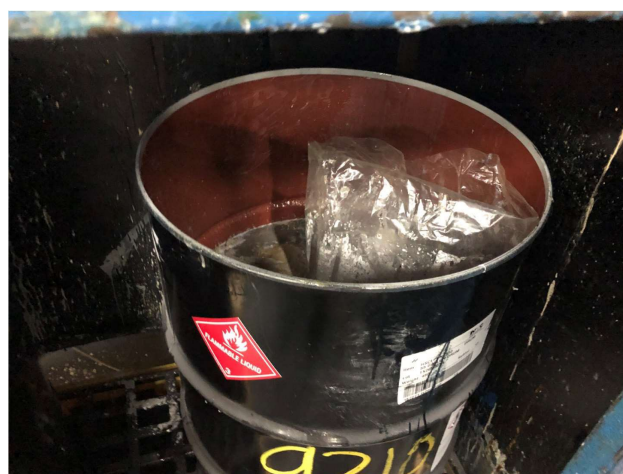


Photo 27: Cook Off Area container.



Photo 28: Solvent Recovery System 2 and Pots draining into containers.



Photo 29: Pots draining into containers.



Photo 32: Posting.



Photo 30: Waste Gel containers.

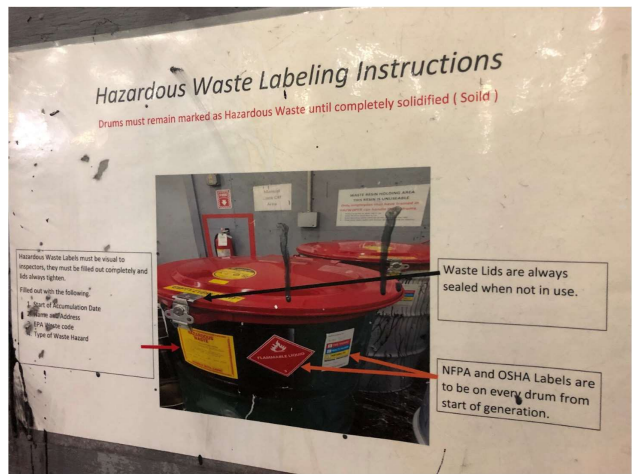


Photo 33: Posting at SAA.

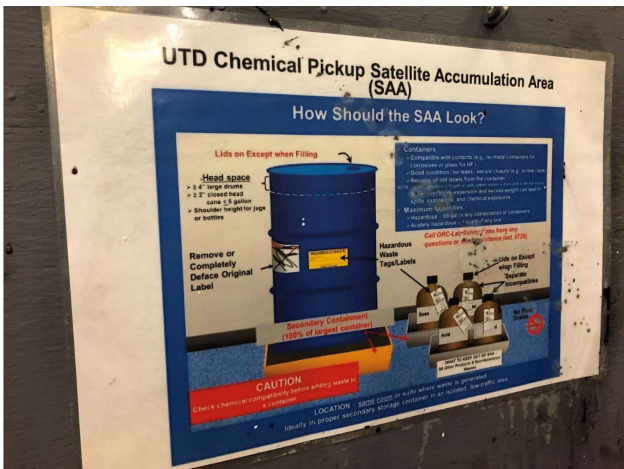


Photo 31: Posting at CAA.

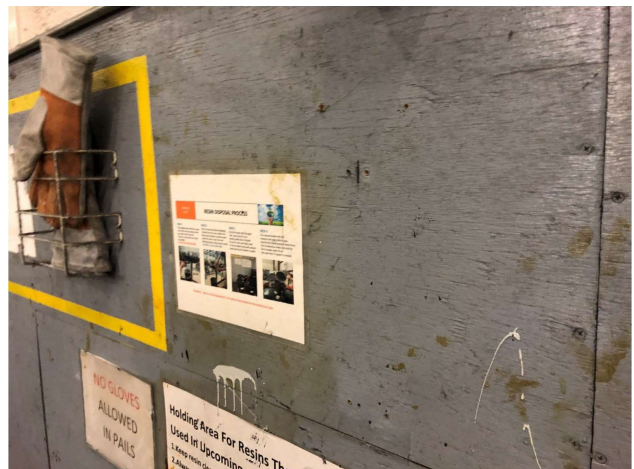


Photo 34: Posting at SAA.

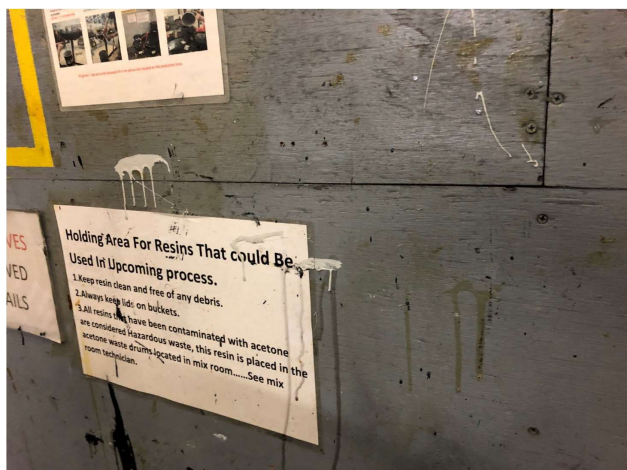


Photo 35: Posting at SAA.



Photo 38: New and Used Oil.



Photo 36: Pot washer machine with solvent reservoir.



Photo 39: New and Used Oil.



Photo 37: New and Used Oil.



Photo 40: Universal Waste Batteries.



Photo 41: Universal Waste Batteries.