



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

Four Penn Center - 1600 John F Kennedy Blvd
Philadelphia, Pennsylvania 19103-2852

Report Title: Clean Air Act Inspection of Foam Fabricators Inc. Erie Plant
Inspection Date(s): September 27, 2023
Regulatory Program(s): SIP

Company Name: Foam Fabricators Inc.
Facility Name: Foam Fabricators Inc. Erie Plant
Facility Location: 6550 West Ridge Road
Erie, PA 16506

Latitude: 42.05398 **Longitude:** -80.22042
County/Parish: Erie County

AFS/ICIS-Air Number: PA000491818
Permit Number: 25-00955
NAICS Code: 326140 **SIC:** 3086
Unique Project #: 3E23CA036A

Facility Representatives:	Point of Contact
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Signature

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Signature

Kristen Hall

Date

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I. Introduction

The United States Environmental Protection Agency (EPA) conducted a Clean Air Act (CAA) inspection at Foam Fabricators Inc. (Foam Fabricators or Facility) to verify compliance with applicable State and Federal regulations. The Pennsylvania Department of Environmental Protection (PADEP) was notified of the inspection on September 11, 2023, via email. On September 22, 2023, EPA notified the Facility of the planned inspection via phone and email. EPA emailed a list of records for review to Dean Viehl, prior to the inspection (see Attachment 1).

The inspection included an evaluation of the Facility's processes and its compliance with the CAA. All information included in this report is the result of statements by the Facility representatives, materials shown to the inspectors by the Facility representatives, and/or documents provided by the Facility representatives to the inspectors at the time of, prior to, or subsequent to, the inspection. In addition, information gathered prior to the inspection from a review of EPA and State records may be included in Section A. Summary of the Facility.

A. Summary of the Facility

The Facility started in the 1960's and is located at 6550 West Ridge Road, Erie, PA 16506. Foam Fabricators is a polystyrene foam product manufacturer with a NAICS code of 326140 and a SIC code of 3086. The company started in 1957 as Foam Fabricators, Inc.; with a single plant located in St. Louis, Missouri. The main portion of the Facility operations are two pre-expanders and fourteen molding machines (molding presses) with custom molds used to expand EPS (expandable polystyrene) beads into finished products. The Facility does not have any generic molds other than standard corners and does not make any molds. The produced products are primarily used in the medical/pharmaceutical and refrigeration/appliance industries but there are some products in other industries.

The Facility received a Synthetic Minor Operating CAA Permit (25-00955) from PADEP issued on February 1, 2022, and revised on March 29, 2023.

Foam Fabricators Inc. is classified as Synthetic Minor for Volatile Organic Compounds (VOC) and a minor source for all other criteria pollutants. The Facility is subject to, or potentially subject to the following federal regulations:

- 40 CFR Part 63 Subpart DDDDD – Industrial, Commercial, and Institutional Boilers and Process Heaters
- 40 CFR Part 63 Subpart JJJJJ – Industrial, Commercial, and Institutional Boilers Area Sources

B. Inspection Opening Conference

At 8:30 AM on Wednesday, September 27, 2023, EPA inspectors arrived at the Facility for a CAA Inspection and conducted a brief opening conference. Foam Fabricators was represented by Dean Viehl and Kent Sibley. Mr. Viehl is the Plant Manager for the Erie Site, while Mr. Sibley represents the corporate office for Foam Fabricators. Dan Brophy and Jared Bowman, inspectors from PADEP, were also present at the opening conference. EPA inspectors, Dean DeLuca and Bruce Augustine, presented their credentials and explained the purpose of the visit was to conduct a CAA inspection to determine compliance with their permit and any applicable regulations. Additionally, EPA informed the facility representatives of their right to claim any confidential business information (CBI). At that time, Kent Sibley did not claim any photos or documentation as CBI.

II. Site Activity/Process Description

The company started in 1957 as Foam Fabricators, Inc. as a single plant in St. Louis, Missouri. This Facility began operation in the 1960's and is located at 6550 West Ridge Road, Erie, PA 16506. This Facility has thirteen full time employees, typically operates four ten-hour shifts on Monday-Thursday, and has 41,200 sq. ft. under roof including the office. In February 2018, Foam Fabricators was purchased by Compass Diversified Holdings (NYSE: CODI). In July 2020, Foam Fabricators, Inc. acquired Polyfoam Corporation. After entering into a strategic partnership with Rational Packaging, the group was rebranded as Altor Solutions; Altor Solutions is a dba (doing business as) for Foam Fabricators. Foam Fabricators acquired Plymouth Foam in October 2021. After these acquisitions, the Altor Family now has 19 locations throughout North America. Facility representatives stated that the Facility is scheduled to shut down in a couple months, by December 1, 2023. The operations will be moved to Foam Fabricators' Bloomsburg, PA facility.

The only raw materials are EPS beads, which are trucked to the Facility as there are no rail lines. There are three sizes of beads categorized as A, B, and C with A being the biggest bead size. The Facility only uses B beads (34RBLV made by Styropek/BVPV) and the LV in the product name stands for low volatility. The EPS beads are entrained with about 4%-5% pentane. According to PA DEP No. 25-00955, 85% of the pentane is emitted during the process leaving 15% entrained in the final product. There are no VOC emission controls located at the Facility to limit the emissions of VOC to the atmosphere.

The process begins with raw materials (EPS beads) being put into one of the two pre-expanders (Pre-expanders C & D), where they are expanded using steam. Expanded beads are then sent to a dryer to remove moisture and placed into one of the seventeen storage bags, which vary in size but are approximately 1,000 cubic feet. The expanded EPS finishes curing and cools in the storage bags. EPS is stored for a minimum of eight hours of storage time in the bags before being sent to a molding machine. After molding, some of the products are sent to a drying room while the remainder are sent to storage. Eventually, all products are trucked from the site.

The larger pre-expander C has a capacity of about 1,000 lbs/hr and utilizes a vacuum dryer to remove moisture from the beads and the smaller pre-expander D has a capacity of about 350 lbs/hr with a fluidized bed dryer but both vary by the density of the product. Pre-expander C is used for the 34RBLV white beads while the smaller pre-expander D is used for gray Neopor EPS beads. The storage bags are also separated by bead color with fourteen being used for white beads and three being used for gray beads as the Facility stated it is very difficult to ensure removal of all beads if a different color is used.

The Facility is able to reuse a portion of products which do not meet specifications. The percentage of raw materials that can be reused materials varies by product but can always be at least 10%. Foam Fabricators does not reuse Neopor beads because of the colors not matching. Therefore, the Facility uses a densifier before shipping these Neopor beads as waste.

Other than the pre-expanders and the molding process, there are a few other air emission points located at the Facility. The Facility creates steam from an on-site 8.4 MMBtu/hr natural gas fired boiler. The steam created in the boiler is used in the EPS expansion and molding process. The Facility also has a parts washer, which is minimally used, an electric MIG welder which is only occasionally used, and a non-contact cooling tower. There are also space heaters which are listed in their PA DEP permit #25-00955 as trivial/insignificant activities.

The opening conference concluded at 9:56 AM.

III. Observations

EPA inspectors were led on a walkthrough of the Facility at 10:06 AM by Kent Sibley and Dean Viehl of Foam Fabricators and Dan Brophy and Jared Bowman of PADEP were also present for the walkthrough. EPA inspectors noted photos would be taken during the Facility walkthrough (Attachment 2). The weather was cloudy and in the low 60's at the time of the inspection.

The first process observed was the pre-expander C. This unit was not in operation at the time of the inspection and had a total hour meter showing 3506.7 hours. Pre-expander E has been removed from service for years and has been locked out but was located near pre-expander C. The Facility representatives stated the Neopor product is approximately a 10% better insulator than the white EPS beads and some graphite accounts for its gray color. EPA observed propane forklifts, which Foam Fabricators uses to move product around the facility.

Pre-expander D has a batch size of approximately twenty pounds; however, a new batch is injected into the expander as soon as the previous batch is finished, making the same product near continuous from one batch to the next. The batch time for the product being made during the inspection was set to 57.3 seconds for steaming, 17.0 seconds for discharging, and 10.0 for emptying (vacuuming). Pre-expander D was manufactured in 1997 and has a capacity of 700 liters. There was a fan located above the open bin for the raw EPS beads. The Facility representatives stated pentane is heavier than air and there is a LEL (lower explosive limit) fire risk, so the fan stays on all the time to disperse the pentane vapor laden air. As the inspection

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team was outside observing the exhaust stack for the pre-expander D, there was an odor noted when the wind blew the exhaust toward the inspection team. Steam was also observed from the exhaust stack.

EPA walked through an adjacent building which had no processes but was dedicated to storage and truck loading/unloading.

The expanded EPS beads from both pre-expanders are sent to the EPS storage bags as mentioned earlier. At the end of the storage bag area, there was a pulse-jet baghouse for the regrinder which exhausts into the building. The regrinder is used to reduce the sized of off-specification products so it can be returned to the process. The Facility representatives stated the bags for the baghouse are replaced once a year as a preventative measure and there was no pressure gauge observed. The baghouse has a densifier at its base which compacts the collected material and can make the waste product 20-25 times denser before being shipped off site. Adjacent to this area, EPA observed a drying room where some finished product is placed in a heated room to finish the curing process.

Located outside to the rear of the main building, EPA observed a cooling tower, a separate storage shed used for storing molds, and what appeared to be a stagnant pond. It was unclear if the pond is used for stormwater runoff.

The inspection team re-entered the production room where the molding machines were located. EPA observed a sump pit, which the Facility stated is used to collect the water and other materials from the production floor. The Facility representatives stated the beads floating on the surface of the sump were skimmed off the surface at the end of each shift. This water is then pumped to a pair of other sump pump pits and mixed with all wastewater before exiting to the public sewer line at the property line. Most of the employees the inspection group observed were located in the mold press room. There was a total of fourteen presses, five of which were operating at the time of the inspection. The Facility representatives stated the Facility typically shuts down annually between the Christmas and New Years holidays during which maintenance is done for the boiler and other on-site equipment.

EPA observed the North American process boiler nameplate which indicated a capacity of 8.4MMBtu/hr and a manufacture date of 1971. A steam accumulator was also located in the same room as the boiler. In a smaller maintenance room, there was a Safety Kleen parts washer using non-halogenated mineral spirits.

The walkthrough concluded at 11:38 AM.

IV. Records Review

EPA conducted only a short on-site record review immediately after the plant walkthrough at 11:40AM. Foam Fabricators provided EPA with many of the documents requested in the September 22, 2023, email to Dean Viehl (see Attachment 1) the afternoon before the inspection. Records were provided the day before the inspection and at the time of the inspection by Kent Sibley and/or Dean Viehl. The Facility uses a database to track all product usages, this includes Unique Project #: 3E23CA036A

raw materials purchased and finished EPS product each month. The system then calculates pounds of VOC emitted each day based on the products and quantity of EPS used. The Facility then exports information from the system for emission estimates and report preparation. The Facility stated there are a couple months with a small difference in throughputs and related emission numbers for April and May 2022 because of how the off-specification materials were counted. In addition to the original records requested, EPA requested the following records while onsite:

1. SDS for 34RBLV product
2. SDS for Neopor product

V. Closing Conference

After the records review, EPA inspectors and Kent Sibley and Dean Viehl of Foam Fabricators had a brief closing conference to ask additional questions and discuss observations. PADEP was not present for the closing conference. The EPA inspectors noted that the investigation is on-going, and any areas of concern identified in the final report do not necessarily reflect a violation or deviation, rather, they are areas that will require further investigation. EPA also noted that they would issue an inspection report within in 60 days, with a copy to the State. Simultaneously, EPA will perform a detailed review of records and may have additional questions. The inspection concluded at 12:22 PM.

The following have been identified as *potential* issues during the inspection. They are issues that require either further investigation by EPA or additional information or explanation by Foam Fabricators.

- EPA is reviewing the raw material and product data provided by Foam Fabricators, as well as the VOC emission calculations used to report annual VOC emissions to PADEP. Foam Fabricators is currently classified as a synthetic minor source for VOC and has an emission limit of 49.5 ton/yr VOC.
- During the inspection, Foam Fabricators representatives stated that production from this site will be shifted to the site in Bloomsburg, PA. Additional information may be needed to determine what, if any, impact the production shift will have on the permitting and emissions of VOC at the Bloomsburg Site. Further discussion with PADEP may be necessary.

VI. List of Attachments

- Attachment 1: Email correspondence to Dean Viehl of records requested to review during inspection
- Attachment 2: Photo Log

Deluca, Dean

From: Deluca, Dean
Sent: Friday, September 22, 2023 11:05 AM
To: dviehl@altorsolutions.com
Cc: Augustine, Bruce; Brophy, Daniel
Subject: EPA Inspection of Foam Fabricators

Good morning Dean,

Per our conversation this morning, EPA is going to conduct a Clean Air Act inspection of Foam Fabricators on Wednesday, September 27, 2023. EPA will have two inspectors onsite to conduct the inspection, which will include an opening conference, site walkthrough (including photos), and record review/closing conference. You have the right to claim confidential business information so please inform us if anything is being claimed as confidential. EPA and PA DEP should arrive at the facility on the morning of 9/27/23 at about 8:30AM. Please see the below list of records EPA would like Foam Fabricators to provide. I will include a separate email with a link for Foam Fabricators to upload documents using EPA's goanywhere file sharing site. As I mentioned on the phone and in number 1 below, I would like to have a hardcopy of the facility plot plan available at the time of the inspection. You indicated Foam Fabricators does not currently have a plot plan so we can discuss at the opening conference. You indicated that the required PPE for the facility includes safety glasses and hearing protection. Let me know if you have any questions about the inspection or record request.

Can you please prepare the documents and/or answers to the following items?

1. Provide a plot plan of the facility available in hardcopy for the inspection opening conference which identifies each processing unit, control device, storage vessels, etc. for the facility.
2. Provide a detailed process description which includes all process units and emission points currently operational at the site.
3. Provide potential to emit for VOCs (volatile organic compounds), total HAPs (hazardous air pollutants), pentane, SOx (sulfur oxides), and NOx (nitrogen oxides).
4. Provide the two most recent annual emissions inventory statements as well as any calculations and emissions factors used to calculate emissions for each pollutant and the origin of each emission factor.
5. Provide the date the facility commenced operations and the date(s) of any ownership change, if applicable.
6. Provide the address of any other locations owned and/or operated by Foam Fabricators or any parent company.
7. Provide Foam Fabricator's net worth as well as that of any parent company.
8. Provide the details on any process, equipment, or material changes which increased or decreased emissions since the last permit issuance in 2022.
9. Provide rolling 12-month total VOC emissions from January 2019 – August 2023.
10. Provide quarterly reports submitted as required by D.V for A1C (Pre-expander C), A1D (Pre-expander D), for usages from January 2019 – June 2023.
11. What is the heat input of your boiler?
12. For each fire pump, generator, or engine located onsite, if any, provide:
 - The make and model of the unit;
 - The size of the unit (HP and displacement (L));
 - Fuel amount and type combusted monthly (gallons) from January 2019-present;
 - Hours of operation monthly from January 2019-present.

Thanks, Dean

Dean DeLuca
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Enforcement & Compliance Assurance Division (ECAD)
U.S. Environmental Protection Agency, Region III
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Attachment 2: PHOTO LOG

Facility: Foam Fabricators Inc.

Location: 6550 West Ridge Road, Erie, PA 16506

Inspection Date: September 27, 2023

EPA Inspector(s): Dean DeLuca and Bruce Augustine

Photographer: Bruce Augustine



Photo Number: 1

Photo Description: Pre-Expander C (not operating)



Photo Number: 2

Photo Description: Pre-Expander E (removed from service)



Photo Number: 3

Photo Description: Pre-Expander D

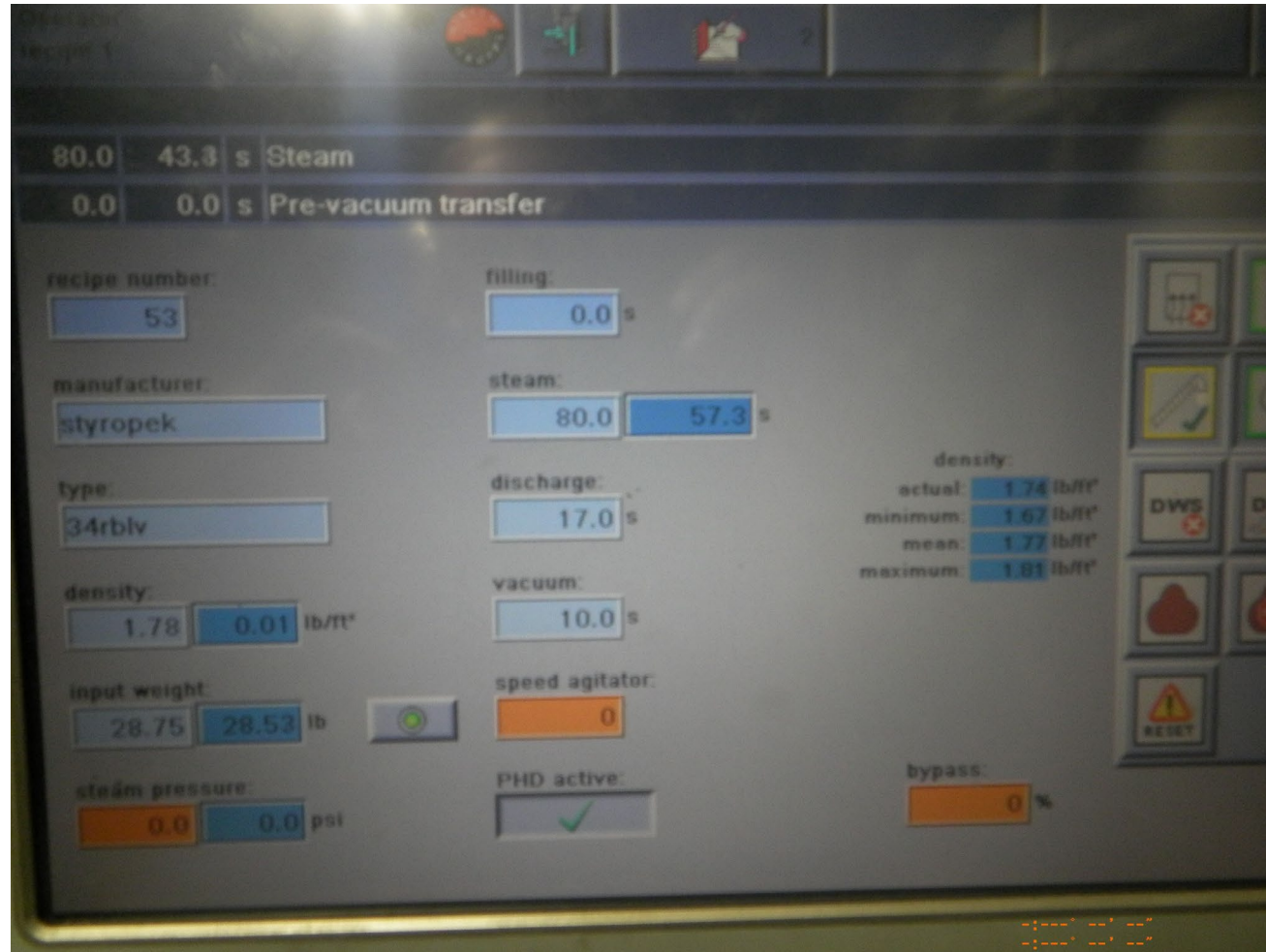


Photo Number: 4

Photo Description: Pre-Expander D Production Screen



Photo Number: 5

Photo Description: Pre-Expander D Exhaust Stack



Photo Number: 6

Photo Description: Pre-Expander D Nameplate (blurry)



Photo Number: 7

Photo Description: Finished Neopor Product



Photo Number: 8

Photo Description: Expanded EPS Storage Bags



Photo Number: 9

Photo Description: Finished Product (pharmaceutical)



Photo Number: 10

Photo Description: Heated Drying Room



Photo Number: 11

Photo Description: Molding Machines (Presses) #6 and #7



Photo Number: 12

Photo Description: Non-Contact Cooling Tower



Photo Number: 13

Photo Description: Recycled Water Sump with EPS Floating



Photo Number: 14

Photo Description: North American Process Boiler



Photo Number: 15

Photo Description: Steam Accumulator

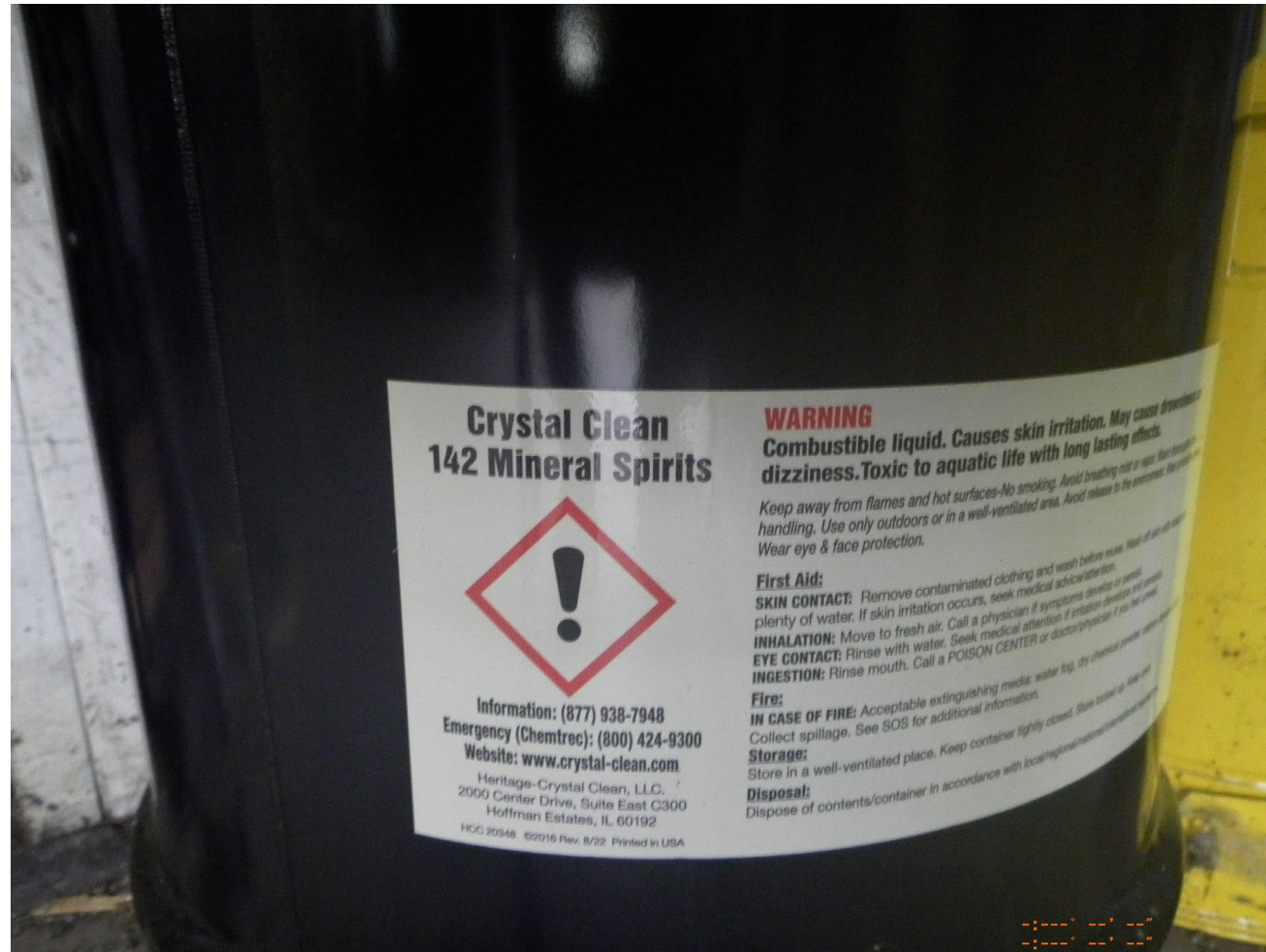


Photo Number: 16

Photo Description: Crystal Clean 142 Label for Parts Washer



Photo Number: 17

Photo Description: Parts Washer



Photo Number: 18

Photo Description: Sump Pit