DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

P095654618

FACILITY: Armaly Brands		**SRN / ID:** P0956
LOCATION: 2005 Easy Street, COMMERCE		**DISTRICT:** Warren
CITY: COMMERCE		**COUNTY:** OAKLAND
CONTACT: Gilbert Armaly , Vice President/COO		**ACTIVITY DATE:** 07/29/2020
STAFF: Kaitlyn Leffert	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** Minor
SUBJECT: FY2020 Scheduled Inspection		
RESOLVED COMPLAINTS:		

On July 29, 2020, Michigan Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) staff Kaitlyn Leffert conducted a scheduled inspection of Armaly Brands, located at 2005 Easy Street, Commerce, Michigan. The source is identified by the Source Registration Number (SRN) of P0956. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); AQD administrative rules; and Permit to Install (PTI) Number 153-18.

On July 27th, I contacted Mr. Gilbert Armaly, Vice President, Armaly Brands, to request the required records and schedule the inspection. While inspections are not typically scheduled ahead of time, current department policy requires inspections to be scheduled when possible due to ongoing concerns related to COVID-19.

On July 29th, I arrived on the site around 12:50pm. While the official address for the building is 2005 Easy Street, the building is labeled 2001 Easy Street. Mr. Armaly informed me that they are still working on updating the building to match the business address. I was greeted by Mr. Armaly at the site and he first led me to his office area, where he provided physical copies of the required records and then took me into the production area of the facility to walk me through the process. Throughout the duration of the inspection, Mr. Armaly and I wore masks and maintained a safe distance from each other.

Armaly Brands manufactures a variety of sponge products, primarily for household use. This facility manufactures non-woven polyester, which is used to make scrubbing sponges. The facility typically operates Monday through Thursday, for approximately 10 hours per day. The first hour or so of the day is for setting up the process and the final hour or two of every day is devoted to shutting down the line and cleaning. Mr. Armaly informed me that the facility maintained regular operation throughout the shut down and that they have been busier than normal, since many have been stocking up on cleaning supplies in response to the COVID-19 pandemic.

According to Mr. Armaly, the company started operating in 2015 and was operating under an exemption. Once resin usage at the facility started going up, they applied for a permit for the facility in 2018. PTI No. 153-18 was approved on February 11, 2019.

Facility Walk Through
The facility has one large production room, with office space in the front of the building. Within the production space, the only piece of emitting equipment is the permitted coating line. Mr. Armaly walked me through the entire coating line, which starts with polyester fibers that are formed into a web. The sheets of the polyester material are then coated with an acrylic latex binder and cured in an oven. Once the polyester sheet exits the curing oven, it then receives a topcoat coating, which is an abrasive-containing acrylic latex binder.

The finished product is cut and rolled, before it is transferred to the building next door for storage. The non-woven polyester sheets are then taken to the neighboring production facility, located at 1900 Easy Street (SRN: N3409), where they are combined with additional polyester material to form the final scrubbing sponge product.

In the facility, there is also a large metallic silo for storing the basecoat resin and plastic drums for storing the topcoat. I noted that all drums were carefully sealed. I also observed that employees were immediately closing empty drums after the material was used in the coating line. Mr. Armaly informed me that empty drums were picked up by a contractor for proper disposal. Wastewater collected from the process was stored in large totes on-site. The wastewater was also collected by a contractor for proper treatment and disposal off-site.

Material Limits
The permit sets daily limits on the quantity of resin used in the process. Specifically, the facility is limited to 2,444

pounds/day of Rhoplex and 181 pounds/day of NW3 Melamine Resin. Mr. Armaly provided daily usage tracking for these chemicals for the everyday that the plant operated in 2019 and so far in 2020. Based on the provided records, Armaly Brands has been operating the coating line in compliance with the permitted material limits. Per the records, usage of Rhoplex was typically around 1,320 to 1,560 pounds per day. The highest amount of Rhoplex Emulsion used in one day was 1,664 pounds/day, which occurred on multiple days over the previous two years. Usage of the NW3 Melamine Resin was typically around 74 to 134 pounds per day, and the highest daily amount used was 134 pounds/day.

Emission Limits

The facility has a VOC emission limit of 1.4 tpy for the coating line, as well as a facility-wide formaldehyde emission limit of 1,730 pounds/year, both determined on a 12-month rolling time period. Mr. Armaly provided records of monthly and 12-month rolling emissions for VOC and formaldehyde, which included the material usage, VOC and Formaldehyde content of the materials, and the emissions calculations for the previous two years.

The provided emissions calculations indicate that the facility is operating in compliance with the permitted emissions limits. The 12-month rolling emissions of VOCs ranged from 1.28 tpy to 1.33 tpy during the 2020 calendar year so far. For formaldehyde, these values ranged from 0.45 to 0.48 tpy (or 900 to 960 pounds). As of June 2020, the 12-month rolling emissions of VOC and formaldehyde were 1.33 tons and 0.48 tons (960 pounds), respectively. It is worth noting that while the VOC emissions are in compliance with the permitted limit, emissions are approaching the permitted limit of 1.4 tpy.

The primary chemical use driving the higher VOC emissions appears to be the topcoat, JDOSS. JDOSS is used as a surfactant in the topcoat to ensure the coating is applied evenly on the surface. According to the recordkeeping, JDOSS is 30% VOC by weight. JDOSS is mostly composed of dioctyl sulfosuccinates, with an alcohol added. The alcohol portion is what contributes to VOC emissions. Mr. Armaly explained that they used to have a formulation with isopropyl alcohol, but due to issues encountered with that during permitting, they switched to a formulation with ethanol. It appears that the calculations are assuming 100% of the ethanol in the surfactant is being emitted as VOCs.

Updated Emission Calculations

On August 20th, 2020, Mr. Armaly sent updated emissions calculations and indicated that the JDOSS is 6% VOC by weight without water. The 30% VOC value previously used had included water in the calculation. During permitting review, the VOC content used for JDOSS was also 6 percent. All other values used in the emission calculations remained the same from those provided during the inspection. Based on these corrected calculations, the 12-month rolling VOC emissions were 0.73 tpy as of June 2020, and 0.72 tpy as of July 2020. The corrected calculations show continued compliance and indicate that the VOC emissions are not as close to the permitted VOC limit as originally indicated.

Conclusion

Based on my review of the records and on-site inspection, the Armaly Brands (SRN: P0956) appears to be in compliance with all conditions of PTI No. 153-18 and all applicable air quality rules and regulations.

NAME Kaitlyn Leffler DATE 10/02/20 SUPERVISOR Sebastian Kallenkal