

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

N340966815

FACILITY: ARMALY SPONGE COMPANY		SRN / ID: N3409
LOCATION: 1900 EASY ST, WALLED LAKE		DISTRICT: Warren
CITY: WALLED LAKE		COUNTY: OAKLAND
CONTACT: Mr. Gilbert C. Armaly , VP		ACTIVITY DATE: 03/22/2023
STAFF: Robert Joseph	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled inspection of polyurethane foam facility.		
RESOLVED COMPLAINTS:		

On March 22, 2023, I, Michigan Department Environment, Great Lakes, and Energy-Air Quality Division staff, Robert Joseph, conducted a scheduled inspection of Armaly Sponge Company (also referred to as "the facility") located at 1900 Easy Street, Walled Lake, MI, 48390. The purpose of the inspection was to determine the facility's compliance with the requirements of the Federal Clean Air, Act Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451; and the Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) Administrative Rules, and conditions of the facility's Permit to Install (PTI) 307-92A.

General Facility Information

I arrived at the facility shortly after 1:30 p.m. and was introduced to Gilbert Armaly, facility owner. I stated my name, the purpose of my visit as a civil service AQD employee of the state, and presented my credentials. I asked Gilbert to provide me some background information regarding the facility. He stated the facility specializes in polyester sponges, which includes the Brillo line of products. He stated the facility moved to its current location in 1983 and operates weekdays, typically from 6 a.m. - 2:30 p.m. employing approximately 15 employees on staff. The facility is subject to the National Emission Standards for Hazardous Air Pollutants, 40 CFR 63, Subpart OOOOOO, Flexible Polyurethane Foam Production and Fabrication Area Sources.

The facility was issued PTI 307-92A in June 2007 due to a revision to its Hazardous Air Pollutants (HAPs) limit. The facility was able to avoid being a major pollutant source due to the restricted limits in its permit - thus operating as an opt-out source. Major sources are defined as those that emit or have the potential to emit at least 10 tons per year of any single HAP or 25 tons per year of any combination of HAPs. Non-major sources are defined as those that emit or have the potential to emit annual emissions less than 10 tons of any single HAP and less than 25 tons of all HAPs combined. I requested that Mr. Armaly provide me a tour of the facility's processes.

Facility Tour

The facility's processes are comprised of primarily two operations, the Flexible Polyurethane Foam Production Process and the Foam Fabrication process which includes cutting and trimming of foam pieces. All particulate matter is released to the in-plant environment. The particulate matter produced from the cutting of the foam is controlled via a dust hopper within the general plant environment and the process is exempt from a PTI per Rule 285(I) (vi)(B). The manufacturing process of the foam also consists of a chemical storage room where the resins and catalysts in the foam production process are delivered and stored in 55-gallon drums. There are also three resin tanks and six tanks in which the mixing of resins and catalysts occur. In addition, there are large vats - each approximately 6,000 gallons which contain toluene diisocyanate (TDI), which is a compound primarily used for

the production of polyurethanes for flexible foam applications. All drums were observed secured closed with a lid.

Upon mixing of the resins and catalysts, the material is laid out on a conveyor belt where it is then removed and allowed to cool before cutting. Soap and denatured alcohol are used to clean the equipment and tools. The facility also houses carbon canisters to aid in the removal of VOC and HAP emissions which vent to the atmosphere, and its capacity is monitored yearly. Despite the release of heat that occurs in the adsorption process, the facility's carbon canisters typically do not require replacement for years - possibly due to the low VOC concentrations that are captured.

PTI 307-92A

Attachment A - General Conditions

There were no concerns regarding these conditions at the facility. No visible emissions were observed, no malfunctioning equipment, and no modifications of the facility's equipment was observed.

FG - FACILITY

Emission Limits

Pollutant	Limit	Time Period
Total HAPs	5 tons/year	12-month rolling

The facility HAPs emissions range between 0.18 - 0.62 tons the last two years with the highest 12-month rolling emission total occurring in July and August 2021.

Material Usage Limits

The facility's 12-month rolling total of linear feet of slab stock produced has ranged between 128,500 - 159,100 feet the last two years with the highest 12-month rolling total occurring in August 2021, all below the 788,400 ft limit. The facility's 12-month rolling total catalyst usage has ranged between 11,000 - 15,000 feet the last two years with the highest 12-month rolling total occurring in April 2021, all below the 473,040 pound limit. The SDS of the cleaning material used, ethy alcohol, references two HAP compounds, methanol at 3.7%, and 2-pentanone 4-methyl 1.91, each by weight. The limit is 5% HAP by weight, therefore, it meets the permit limit as this is interpreted as 5% per individual HAP rather than an aggregate HAPs concentration.

The facility's 12-month rolling total cleaning material usage has ranged between 98 - 1800 lbs the last two years with the highest 12-month total occurring in January 2021. This exceeds the limit of 1,620 lbs, however, per previous communication with AQD, the facility at that time stated the material was used for general facility housecleaning due to the lack of cleaning materials available due to the COVID-19 pandemic. Given that the AQD did not consider this to be a violation at that time due to the permit's usage is limited to the cleaning of equipment for production purposes - the AQD will not consider this to be a violation now based on that usage.

Recordkeeping/Reporting/Notification

The facility maintained monthly HAP emission rates but did not have 12-month rolling totals calculated at the time of inspection. Given that monthly totals were available, the facility was advised to maintain 12-month rolling total calculations and was instructed to provide them to the AQD within two business days. The facility employs GZA Environmental to maintain the facility's recordkeeping. I spoke with Jennifer Calnen, Senior Project Manager, GZA, and she provided the records. The facility stated they were unaware that 12-month rolling totals were required. I informed Mr. Armaly and Jennifer to fully review the permit's conditions.

Monthly HAP emissions range between 0.01 - 0.06 tons the last two years with the highest HAP emissions occurring in February 2021. Monthly linear feet of slab stock produced ranges between 8,600 - 16,100 feet the last two years with the highest produced occurring in March 2021. Monthly catalyst usage ranges between 700 - 1,500 lbs the last two years with the highest usage occurring in August 2021. The facility provided the SDS literature for the denatured alcohol cleaner. Monthly cleaning material usage ranges between 7 - 33 lbs the last two years.

12-month rolling totals were all detailed under Material Usage.

Stack/Vent Restrictions

There did not appear to be any obstructions or concerns with the facility's stacks.

Conclusion

As previously noted, the facility was advised to maintain 12-month rolling totals for production and usage materials available upon request. Given that this concern was addressed by the facility and provided, Armaly Brands is determined to be in compliance with the aforementioned air quality requirements and the facility's PTI 307-92A.

NAME Robert Joseph

DATE 04-05-23

SUPERVISOR Joyce