

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

N307859893

FACILITY: Michigan Foam Products LLC		SRN / ID: N3078
LOCATION: 1820 Chicago Dr SW, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Brian Anderson , Plant Manager		ACTIVITY DATE: 08/05/2021
STAFF: Michael Cox	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled unannounced inspection		
RESOLVED COMPLAINTS:		

Air Quality Division (AQD) staff Michael Cox (MTC) arrived at the Michigan Foam Products LLC facility located in Wyoming, MI at 8:30 am on August 5, 2021, to complete a scheduled, unannounced inspection. Prior to entering the facility, offsite odor and visible emission observations were completed. No odors or visible emissions were noted.

Facility Description

Upon arrival, AQD staff MTC met with Mr. Brian Anderson, Plant Manager, who provided all applicable records and a tour of the facility. Michigan Foam Products LLC is an expanded polystyrene (EPS) foam manufacturing company. The facility is in operation with Renewable Operating Permit (ROP) MI-ROP-N3078-2021 and is a major source of volatile organic compounds (VOCs). During the initial discussion it was concluded that no significant changes have occurred to the facility since the issuance of ROP MI-ROP-N3078-2021.

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This emission unit includes the Preex 9000 vacutrans batch-type resin preexpander, canvas holding bags, Hirsch-Gruppe adjustable wall mold, hot room, wire cutting operations including one (1) GP-11000 Autowire slabbing system*, embossing area, and other polystyrene foam producing operations. This emission unit is limited to VOC emissions of 115 tons per year (tpy) on a 12-consecutive month rolling basis. VOC emissions are also limited to 1,909.0 pounds per 8-hours (lbs/8hr).

The EPS foam process was observed during the facility walk through. During operations steam is generated from the boiler and pumped into a wet accumulator. The boiler was installed in 1999, is 150 Horsepower and approximately 5.02 MMBtu/hr in size and utilizes only natural gas. Based on the size of the boiler it is not subject to New Source Performance Standards. Additionally, the boiler appears to be exempt from air permitting per Rule 282(2)(b)(i).

EPS beads are loaded into the pre-expander and steam heated to expand the beads. Following this, the expanded beads are placed in holding bags before being steam molded to the appropriate shape. Following the mold area, one hot room was observed where foam products are stored to allow stabilization of the blocks and remaining water to evaporate. The cutting and embossing area was also observed. Emissions from operations observed here were not venting externally. In 2011 a memo was provided by Michigan Foam Products LLC stating the replacement of the mold area equipment and using a lower VOC content containing bead to be exempt per Rule 285(2)(b).

A regrind area was observed where foam material waste is reground. Emissions from this area are not vented externally. Materials reground are either shipped to customers as is or sent back to the molding process to be reused. The regrinding area appears to be exempt per Rule 285(2)(l)(vi)(B).

Records required by MI-ROP-N3078-2021 were requested and provided for the time period of January 2020 through July 2021. Per Special Condition SC I.1, the facility is limited to 115 tpy of VOC emissions per 12-month rolling time period. The highest 12-consecutive month VOC emission occurred during the 12-month period ending in February 2021 when 175,137 lbs (87.57 tons) of VOC was emitted. The VOC emissions and throughput were reviewed and appear to be calculated as required, by using the formulas specified in SC.II.2 and SC.II.3.

Per SC.II.1, VOC content of the EPS beads shall not exceed 6.3 pounds per 100 pounds of EPS beads based on a 12-month rolling total. The highest VOC content was noted to be 4.42 pounds per 100 pounds EPS beads during the 12-consecutive month period ending in February 2021.

Per SC I.3, VOC emissions are limited to 1909.0 per 8 hours of operation. Michigan Foam is keeping track of the 8-hour VOC emission limit as required. Based on the review of these records Michigan Foam did not exceed the specified 8-hour VOC emission limit.

Records were provided at the time of the inspection for the EPS bead samples tested during the 2021 reporting year. For the 2021 reporting year the pentane retention for the five samples taken was noted to be 0.40% pentane retention by weight, 0.45% pentane retention by weight, 0.54% pentane retention by weight, and the final two bead types were noted to be 1.10% pentane retention by weight. From the records, the samples tested were conducted during the first quarter of the reporting year as required. Based on the review of the records it appears that Michigan Foam is complying with the testing and sampling requirements of MI-ROP-N3078-2021.

Additional Observations

- A second building was observed during the inspection. The building is only used for storage.

Conclusion

Based on the review of the records provided and the facility walk through, Michigan Foam is in compliance with Renewable Operating Permit No. MI-ROP-N3078-2021.

NAME Michael T. Cox

DATE 9/16/2021

SUPERVISOR HH