

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

N307834949

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: 05/25/2016
STAFF: April Lazzaro	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Unannounced, scheduled inspection.		
RESOLVED COMPLAINTS:		

Staff, April Lazzaro arrived at the facility to conduct an unannounced, scheduled inspection and met with David Keyworth, Manufacturing Manager and Brian Anderson, General Manager. They were presented with the DEQ Environmental Inspections: Rights and Responsibilities brochure and its contents were briefly discussed. I also met with Kevin Koonmen, Plant engineer who maintains the emissions spread sheets.

FACILITY DESCRIPTION

Michigan Foam Products, LLC is a polystyrene foam block manufacturing facility that operates pursuant to Opt-out PTI No. 211-02B. Polystyrene beads are received in 2,205 pound totes. Then they are placed in a pre-expander where steam is introduced to the beads which cause them to expand. Emissions of VOC as pentane are released as the beads expand. The expanded beads are then placed in holding bags sorted by bead brand to cool. The beads are then transported to the mold, where high pressure steam is introduced from the steam surge tank and the individual beads are molded together to form a block of expanded polystyrene (EPS). Currently, the hot room is not being used. Following expansion, the blocks are cut via one of 9 wire cutters to the correct size and/or dimensions. The permit identifies a specific calculation to be utilized to calculate emissions from this process, included in Special Condition 1.3 and Appendix A.

COMPLIANCE EVALUATION

The permit consists of EUPLASTICRESIN, with an emission limit for FGFACILITY of 64 tons of VOC. The underlying applicable requirement of the 64 ton VOC limit is Rule 205 and 702. This means that it is an enforceable Title V Opt-out and BACT condition. Review of the records indicates VOC emissions through May 2016 are 60.67 tons of VOC. However, the VOC content of the beads are being determined by using the average VOC content of the bead, based on the range of possible VOCs contained in the bead. This is not consistent with how AQD generally requires VOC content to be evaluated. Mr. Anderson indicated that he contacted another bead manufacturer in Grand Rapids, and they have been allowed to use the average content also. I contacted Paul Schleusener of the AQD permit section to ask his thoughts on this approach. Mr. Schleusener wrote the calculation that is used in the permit to identify the approach to demonstrate compliance. Mr. Schleusener stated that it is expected that the company determine VOC content per shipment (represented as "lot i" in the PTI emissions equation) and input that into the records. Additionally, Mr. Schleusener clarified that the testing is to be done to determine VOC retained in the final product, not testing of the raw bead. It appears that there was miscommunication with the facility as to the reason of the test, as it was believed to be a raw bead test. The final product is tested to determine VOC retained and that is the input of P_w of the calculation of emissions. Currently, the company has been assuming a 15% VOC retention. I looked at other company's VOC retention and it varied from 13%-31%.

This has been clarified on the phone with Mr. Anderson, who was also informed that a Violation Notice will be issued for failure to conduct testing, since the last bead test (while incorrect) was conducted in 2013, and it should have been done in 2014 and 2015. An expected response will include the results of testing of the product from EUPLASTICRESIN, and updated records to demonstrate compliance with the emission limit with the VOC bead content identified per bead type and the VOC retention value per bead type. A different Grand Rapids District Office bead expansion/molding facility has used Trace Analytical Laboratories and used South Coast Air Quality Monitoring Department Method 306.91, "Analysis of Pentanes in Expandable Styrene Polymers". Additionally, the facility needs to input the VOC content of the bead on arrival per the Certificate of Analysis, not an average VOC content based on the range from the MSDS.

I explained to Mr. Anderson, that the response to the VN should include a plan for the sampling of the final product, as well as a time frame for submittal of updated records with the correct VOC data in it.

Additionally, the facility replaced the mold in 2011 and sent a letter written by Advanced Environmental Management Group identifying an exemption. The demonstration was lacking emissions information, and the mold was previously known to be the emission unit bottleneck. No size comparison of the two units, throughput or emissions information was provided in the demonstration. It is suggested that this be reevaluated. Based on MAERS data, actual emissions and throughput have increased from 26.23 tons in 2010 to 61.6 tons in 2015. This is near the 40 ton actual increase in emissions that would trigger significance levels defined in Rule 119.

MATERIAL LIMITS

At this time, it is unclear whether or not the material limits have been met, this will be verified when the final product information and the actual bead VOC content is entered into the spreadsheet.

TESTING

The required testing to determine the VOC content, as shipped, of product from EUPLASTICRESIN has not been conducted. A VN will be issued as indicated above. Now that the proper testing of the finished product has been identified; the facility shall submit a new formal sampling schedule for approval. A date for submittal of the schedule should be included in the VN response.

RECORDKEEPING/REPORTING/NOTIFICATION

It appears as though while the calculation approach is different, the 12-month rolling information is being completed, and the formulas appear correct.

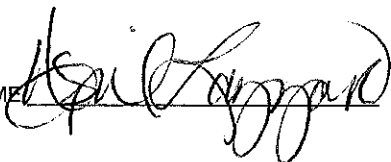
In the VN, AQD will request that the facility submit a timeline for updating the records with the correct P_w value and lot i value. At that time, compliance will be reevaluated. It is likely that the VOC retention of the product, as shipped, is different than the 15% assumption currently being used.

STACK/VENT RESTRICTIONS

There are no observable stacks at any of the nine hot wire cutting units.

CONCLUSION

The facility was in non-compliance at the time of the inspection.

NAME 

DATE 6-14-16

SUPERVISOR PAB