

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Self Initiated Inspection

N732152324

FACILITY: ROSLER METAL FINISHING USA, LLC		SRN / ID: N7321
LOCATION: 1551 DENSO RD., BATTLE CREEK		DISTRICT: Kalamazoo
CITY: BATTLE CREEK		COUNTY: CALHOUN
CONTACT: Ross Jones , Operation Manager		ACTIVITY DATE: 01/24/2020
STAFF: Amanda Chapel	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

On January 24, 2020, Air Quality Division's (AQD) Amanda Chapel (staff) arrived at Rosler Metal Finishing USA, LLC (facility) located at 1551 Denso Road Battle Creek, Michigan at 1:45 pm to conduct an unannounced air quality inspection. The purpose of the inspection was to determine compliance with the Permit to Install (PTI) 125-08A and 27-11 and all applicable state and federal air regulations. The following will summarize plant operations and facility compliance status.

The facility is a German owned company that manufacturers and repairs polyurethane lined vibratory tubs as well as the abrasive media used in the metal finishing equipment. They were last inspected on March 9, 2016 and were determined to be out of compliance on a number of occasions with the oven batch limit of 878 pounds of polyurethane linings processed per batch. The facility is permitted as a synthetic minor source for hazardous air pollutants (HAPs).

Staff drove around the facility before entering and did not observe visible emissions or note any odors present. When I entered the building, I made contact with the receptionist and asked for the environmental contact or Ms. Shannon Visger, CFO who was the contact during the last inspection. The receptionist stated that neither Mr. Lane Brumm, the environmental contact or Ms. Visger were in the building. She put me in contact with Mr. Ross Jones, Chief Process Officer.

Mr. Jones seated me in a conference room, and I informed him of the purpose of my visit. He was able to provide me with Mr. Brumm's contact information for any questions related to records. The facility retains Mr. Bruce Connell, Environmental Partners as their environmental consultant. Mr. Jones was able to walk me around the facility and answer my questions about the processes at the facility.

Mr. Jones first showed me the testing lab. This is the area of the facility where finished products are tested and demonstrated for the customer. Next, we walked into the ceramics area. Here, raw materials come in, are sent to the press to remove excess moisture, then sent to the mixer to be made according to the required recipe. They are then extruded and run through the dryer which has one stack venting outside. Next, the dried products are run through the kiln which takes about 12-15 hours to fully cure the products. The finished product are the ceramic abrasive materials which are used in the polyurethane finishing equipment. The kiln has a heat input capacity of 5.896 MMBtu/hr. The heat from the kiln is piped internally and is used as the heat for the dryer before being exhausted vertically upwards. This process appears to be exempt under the Rule 282(2)(a)(iii) exemption for kilns for firing ceramic ware.

Next, we walked into the room which contains the oven (EUPyrolysis) which was not in operation at the time of the inspection. The oven is permitted under PTI 27-11. EUPyrolysis is a natural gas fired oven rated at 2 MMBtu/hour with two 1.2 MMBtu/hour thermal oxidizers. The oven is used to remove old polyurethane liners from used vibratory tubs or other machines so they can be relined with new material. The oven control panel showed the oven was not in operation. Based on the circle chart which is mounted on the other side of the control panel and changed daily, the operation of the last cycle was about 550 degrees F for the oven and 1600 degrees F for the afterburners. Test stickers for thermocouple calibrations, which is done monthly, were on the front of the control panel. Consolidated Controls calibrated them earlier that day on 1/24/2020.

Based on a 2011 inspection and testing, the oven is equipped with safety features such as water sprays to quench the part to retard flame formation and has an interlock system to shut down the primary oven burners if the thermal oxidizers malfunction or drop below 1560 degrees F. Mr. Jones confirmed the presence of the interlock system. Testing done in December 2011 showed compliance with the HCl limit of 3.8 pph and the Hydrogen cyanide limit of 0.15 pph.

The facility conducts durometer hardness testing on the old linings before they are put in the oven to comply with permit requirements. This is done to determine what the lining is made of. They weigh the piece before it is put in the oven, fired in the oven, and weighed again. The end weight is subtracted from the start weight to determine the weight of the pieces fired and weight of the lining.

There is a large paint spray booth in the facility which is used to paint the assembled machinery. There were large filters installed from floor to ceiling. The filters at the bottom, up to about 4 feet off the floor were double lined with extra filters. The booth was not in use at the time of the inspection. Mr. Jones said the booth is used daily and paint usage is tracked and recorded. Records were reviewed for the paint booth. The highest usage month in 2019 was February with 35 gallons of paint sprayed in the booth. HAPs are also being tracked in these records for the facility wide HAP limit. This operation appears to be exempt under Rule 287(2)(c).

A paint gun cleaning area is installed along the wall behind the paint booth. It was not in operation during the inspection. This area vents into the paint booth. It is a Safety Kleen system and the model number is 1055. Safety Kleen maintains the system for the facility. Records show that the facility produces 3.74 pounds of non-carcinogenic and 1.2 pounds of carcinogenic emissions per month. This is below the 1000 pounds and 20 pounds limit, respectively. All HAPs are tracked in this sheet as well. Based on the records, this process is exempt under Rule 290.

A shot blast booth is used to prep finishing equipment surfaces after it has been processed in the oven. The booth is routed to a collector outside of the building and vents back inside the building. There is also a sand blasting area that vents to an internal dust collector before the clean air is vented externally. These operations appear to be exempt under Rule 285(2)(l)(vi)(B).

The assembly area contains the shot blast booth but also a plastic and water blast area, a welding area, polyurethane pouring, and various machining operations. The welding areas are all equipped with a system to draw away the fumes, which is vented internally. This appears to be exempt under Rule 285(2)(i). The machining operations appear to be exempt under Rule 285(2)(l)(vi)(B).

The polyurethane pouring area is the part of the facility where the tubs are relined. There are both hot cure pouring and room temperature pouring options. The tubs are then placed into a hot box type area to cure for 24 hours. The box helps maintain the heat from the reaction longer, to decrease curing time, than if they were not in the box. The polyurethane pouring appears to be exempt under Rule 286(2)(e).

This main building also has three small Rheos boilers which provide the hot water for the building. These are exempt under Rule 282(2)(b)(i). The main building has a 80KW diesel powered generator with a 128 bhp engine (0.71 mmbtu/hr). The generator was installed under the Rule 285(2)(g) exemption. I did not verify whether the engine is equipped with a non-resettable hours meter as required by 40 CFR Part 63, Subpart ZZZZ.

We then proceeded to walk over to the plastics building, located to the north of the main building, where the plastic abrasive rocks are manufactured. This building and operations are permitted under PTI 125-08A and includes 2 sealed polyester resin storage tanks, 1 bag breaking station w/ dust collector, 1 weigh hopper, 7 large (6,000 lb/each) and 2 small (3,000 lb/each) mixing tanks w/ dust collector, 3 molding conveyor lines w/ catalyst injection stations and enclosed curing chamber, 2 mat tables, 3 tumblers, 1 off-line tumbling station, 2 bag-out areas, purge and cleanup activities.

The operation was not running at the time of the inspection. There were strong styrene odors noted inside the building, but none were detected outside of the building. The ingredients are stored in the resin tanks or in bags until they are needed for a recipe. The bags are broken at the bag breaking station which has an internal dust collector attached to it. The dust collector at plastics has an automatic forced air pulse that cleans the dust collector filters. The filters are changed depending on workload.

The ingredients are added into the weigh hopper and mixed in one of the 9 mixing tanks. The tanks vary in size and are typically separated by color. The mixed ingredients are sent to one of two molding conveyor lines where it is poured into molds which are sent down the line, through a heated curing chamber, and into bags. The cured plastic stones are then put into tumblers to smooth out any rough edges or abrasions and sent into the curing room to continue to cool and harden. There are also two mat tables with vents below that are used for smaller orders. Typically, acetone and Surfisol is used for cleaning. In an email from Mr. Brumm, he confirmed the facility only uses acetone for cleaning.

Surfasolve is no longer used at the facility.

On the southwest corner of the plastics building, a 125KW natural gas fired generator with a 192.5 bhp engine (1.70 MMBTU/hr) is installed that was exempt from permitting under Rule 285(2)(g). The control panels were locked so I could not verify whether the engine is equipped with a non-resettable hours meter as required by 40 CFR Part 63, Subpart ZZZZ.

We returned to the main building and I thanked Mr. Jones for showing me around the facility. I told him that the walk through did not show any concerns and that I would call Mr. Brumm to obtain the records to determine compliance with those parts of the permits. I left the facility at 3:30 pm.

Mr. Lane Brumm emailed the facility records on 1/31/20 as requested by staff. All records determinations were made based on the emailed records.

The facility has an FGFACILITY limit for HAPs to keep them at synthetic minor levels. The facility is tracking HAPS in plastic media, burn-off oven, the paint booth, and the gun cleaner. Records show that the largest 12-month rolling HAP emissions are 3.891 TPY in December of 2019. Styrene is the highest HAP emitted from the facility with 2.83 TPY reported for December 2019. Both of these are below the permitted 9 TPY for any single and 22.5 TPY for aggregate HAP emissions.

#### PTI 27-11

EUPyrolysis has a permit limit of 2,000 pounds per year of hydrogen chloride (HCl). Records show the highest month of HCl emissions was in January 2019 with 1,696.3 pounds emitted. This is below the allowed permit limit of HCl. Polyurethane emissions are also being tracked monthly. These are not associated with an emission limit, but the facility cannot process more than 61,425 in a 12-month rolling period. The highest polyurethane emissions were also in January 2019 at 57,389 pounds per year. This is about 93.4% of the material limit.

The facility is tracking each batch of parts that goes into the burn-off oven. Records have a description of each lining removed and the weight. MOCA and chlorine content in percent by weight are being tracked by batch as well. Records do not show that any lining was removed with more than 16% MOCA content, by weight. The facility is also tracking amount of polyurethane lining removed per batch. The permit limits this to 878 pounds of polyurethane removed per batch. Records show the facility exceeded this limit nine times in 2019. They exceeded the once in August and the highest processed amount was 924 pounds, and twice in December and the highest processed amount was 1,239 pounds. A violation notice will be sent for these exceedances.

#### PTI 125-08A

Records required under this PTI were reviewed. The facility is limited to 3,000,000 pounds of resin used in a 12-month rolling time period. Records show the highest recent resin usage was 1,447,843 pounds in January 2019.

The facility is tracking the amount of each resin, accelerators, colorants, promoters, and catalysts used monthly and on a 12-month rolling time period. The records have the % weight of VOC and % weight of particulate where applicable. This is tracked and calculated by usage, monthly. The facility also tracks HAPs for this operation. The facility is limited to 13.1 tpy of VOC emissions on a 12-month rolling basis. The highest VOC emissions reported for 2019 were in January and February 2019 with 3.0 tpy 12-month rolling. This is well below the 13.1 tpy VOC emission limit.

The facility completed an evaporative loss test in 2009 to determine the rate that volatiles are lost during the chemical reaction and drying process. A testing plan was submitted to TPU and an approval letter was sent. Mr. Brumm explained that the facility feels this is a more representative demonstration of the volatile organic compounds off-gassed during the production process and they use these numbers to determine VOC emissions. It does not appear the facility has done any Method 24 testing on any resins, accelerators, colorants, promoters, or catalysis as required by the permit. In conversation with Technical Programs Unit, the methodology used to determine evaporative loss of volatile organic compounds is similar to the methodology used in a laboratory to determine volatile loss. This appears to be a reasonable alternative method to determining VOC evaporative loss to using Method 24 testing data.

In an email from Mr. Brumm, the facility no longer uses Surfasolve and only uses acetone for cleanup. The facility stopped using Surfasolve over a year ago. It is no longer manufactured but the product is

now called Prosolve Strip. The facility is tracking acetone usage but is not including it in VOC calculation as it is considered VOC-exempt.

As discussed above, the facility will receive a violation notice for exceedances of the polyurethane lining material limit of 878 pounds per batch. It should also be noted that the facility is emitting 94% of the polyurethane emission limit listed in the permit. They should evaluate their existing permit and determine if they need to come in for a modification to the permit to increase emissions limits.

NAME Amur Ayel

DATE 2/5/20

SUPERVISOR Ric 2/10/20