

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

A303746240

FACILITY: Global Enterprises		SRN / ID: A3037
LOCATION: 50450 E. Russell Schmidt Dr., CHESTERFIELD		DISTRICT: Southeast Michigan
CITY: CHESTERFIELD		COUNTY: MACOMB
CONTACT: Dennis Hillman , Plant Engineer		ACTIVITY DATE: 08/16/2018
STAFF: Kerry Kelly	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Evaluate Global Enterprises' compliance with PTI 100-14, and State and Federal air quality rules and regulations.		
RESOLVED COMPLAINTS:		

On August 16, 2018, I (Kerry Kelly, MDEQ) conducted an unannounced inspection at Global Enterprises located at 50450 E. Russell Schmidt Blvd. in Chesterfield Twp., Michigan. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Rules; and PTI 100-14.

After arriving and entering the office at Global Enterprises, I introduced myself and stated the purpose of the visit to Mr. Dennis Hillman, Plant Manager. Mr. Hillman assisted me during the inspection. During the process of writing this inspection report Mr. Hillman notified me that he was leaving Global Enterprises and referred me to Mr. Raul Reyes, Maintenance Manager.

Mr. Hillman indicated that Global Enterprises operates two shifts Monday through Friday.

Processes at Global Enterprises include thermoplastic extrusion, assembly, die cutting, and forming products such as map pockets, toe kicks, and seat backs for cars.

INSPECTION

The facility has three die cutting presses used to fabricate headliners or door panels from hardboard. To create parts from hardboard, prefabricated hardboard (hardboard is a mixture of pressed wood and pulp resin) is sent to a die cutting press where it is either cut or formed to customer specifications. Hardboard which needs to be formed is steamed prior to being formed. Hardboard parts are covered with vinyl or carpet by spraying parts with an adhesive then sealing the vinyl or carpet to the hardboard with a hot mold press. Emissions from the die cutting presses are released to a baghouse vented indoors. The die cutting presses appear to be exempt from the requirement to obtain to have a PTI per Rule 285(2)(l)(vi).

Global Enterprises has nine plastic extruding machines. In the plastic extrusion process, plastic beads are loaded into a hopper, melted, and extruded through a plastic extrusion machine. After being extruded, the plastic is water or air cooled and pulled to a die press. The die press cuts the plastic to customer specs. If the resulting parts do not require plastic or carpet to be attached to them, they are shipped to the customer. If the parts require plastic or carpet to be attached, however, they are sent to one of the company's four adhesive spray booths or hot melt glue applicators (WK Line) and the carpet is molded to the part in a hot mold press. Plastic extrusion molding and its associated equipment is exempt from PTI requirements pursuant Rule 286(2)(a) and the equipment used for the application of hot melt glue adhesive is exempt from PTI requirements pursuant Rule 287(2)(i). The adhesive spray booths are permitted in PTI 100-14.

In addition to the aforementioned processes, Global Enterprises also has a line where label sealing is performed (Milano Line) and a line that heats and presses seat backing (Mercedes Line). On the Milano Line labels are fixed to parts using high frequency sonic vibrations. On the Mercedes Line a 500,000 Btu/hour, natural gas-fired oven is used to heat bi-component material (Attachment 1) to 380 - 385 degrees Fahrenheit for about 50 seconds before the material is placed in a press to shape the fabric. No VOCs are used in the heating or pressing process. The bi-component material is purchased completed from an outside manufacturer and does not appear it can become an air contaminate. Mr. Hillman provided SDSs from the manufacturer of the bi-component material for all products used to make the bi-component material (Attachment 2). It does not appear the labeling and oven equipment require a PTI per Rule 285(2)(i) and Rule 281(2)(e) respectively.

A Safety-Kleen parts washer which contains petroleum distillate cleaning solvent is used in the maintenance area. The maintenance area also has two mills, a lathe, a grinder, a drill press, and two portable welding machines which exhaust to the general in-plant environment. Conditions for the parts washer are included in PTI 100-14. The welding equipment appears to be exempt from the PTI requirement in Rule 201 per Rule 285(2)(i).

Rule 201 does not apply to equipment used for cutting, grinding, or drilling, such as the mills, lathes, grinders, and drill presses at Global Enterprises, with emissions that are released only into the general in-plant environment per Rule 285(2)(l)(vi)(B).

Adjacent to the maintenance area I observed two injection mold machines vented to the general in-plant environment. These injection mold machines appear to be exempt from the requirement to obtain to have a PTI per Rule 286(2)(b).

In the Research and Development area, where parts are tested and designed, there are two saws, a drill press, and a grinder. An old coating booth is being stored in the R & D area. The booth appears to be unused and is not connected to any stacks or any other ventilation. According to Mr. Hillman the company thought the paint booth could be used by R & D staff but the R & D staff haven't used it. The R&D area saws, drill press, and grinder vent to the general plant environment and are, therefore, exempt from PTI requirements pursuant Rule 285(2)(l)(vi)(B).

PTI 100-14

Equipment permitted in PTI 100-14 includes the Safety Kleen cold cleaner (EUPARTSCLEANER) and seven adhesive coating lines (FGADHESIVES). PTI 100-14 also includes a facility-wide hazardous air pollutant (HAP) limit.

EUPARTSCLEANER

EUPARTSCLEANER is a parts washer using Safety Kleen Premium Gold solvent to clean glue guns, maintenance equipment, and gears. The air/vapor interface of EUPARTSCLEANER is about 4.5 square feet. Operating instructions for the EUPARTSCLEANER were posted in plain sight and the lid was closed during the inspection. Mr. Hillman gave me a copy of the safety data sheet (SDS) for the solvent used in EUPARTSCLEANER (Attachment 3). The SDS indicates the product is 100 percent petroleum distillates with CAS number 64742-47-8. This CAS number is not included in EPA's list of HAPs. Global Enterprises is required to monitor the amount of cleaning solvent used on a 3-month basis in PTI 100-14. There are no material or emission limits for EUPARTSCLEANER. Mr. Hillman showed me records (delivery receipts) of the Premium Gold deliveries for September 2017 through May 2018. These records indicate Global Enterprises receives eight gallons of solvent every two months. A shipping manifest provided by Mr. Hillman for September 13, 2017 (Attachment 4) indicates Safety Kleen delivered eight gallons of clean solvent and took away eight gallons of spent solvent that month.

FGADHESIVES

FGADHESIVES includes conditions for seven adhesive coating booths (EUMAXIMA#296, EUMAXIMA#282, EUK2XX#921, EUABC#920, EU580L#893, EU580L#894, EUCD4#917). Mr. Hillman informed me that three of the permitted coating booths (EUMAXIMA#296, EUMAXIMA#282, and EUABC#920) were removed about two years ago. I observed one of the Maxima booths stored in the R & D area. The adhesive coating booths from EU580L#893 and EU580L#894 (now called the 841A line) were moved and connected to the stacks that previously served EUMAXIMA#296 and EUMAXIMA#282. The natural gas-fired oven on the Mercedes Line (discussed above) was installed where EU580L#893 and EU580L#894 used to be. Emissions from the oven are released to the ambient air through the stack formerly serving EU580L#893 and EU580L#894.

I inspected the following adhesive spray coating lines: 841A line, EUK2XX#921 (K2XX), and EUCD4#917 (CD-4). At the time of the inspection, lines 841A, K2XX, and CD-4 were operating.

During the inspection I noted Line 841A consists of two adhesive coating booths connected to a common stack. Equipment on 841A is used to attach vinyl or carpet to car seat backs. At the time of the inspection, filters serving the coating booths were in place and were properly installed. I observed that the operators of line 841A were tracking the number of parts coated per hour and were keeping a running total for the day. Between 7:00 AM and 10:00 AM the day of the inspection, 280 parts were coated.

Equipment on the K2XX line includes one adhesive spray coating booth exhausted to the ambient air, one folding machine, and a heat staker vented indoors. The equipment on K2XX is used to attach vinyl or carpet to car seat backs and attach the seat back to the mounting plastic. PTI 100-14 limits the number of parts produced on K2XX to 1,046 parts/day. Monitoring and recording of the number of parts coated per day on K2XX is required in Special Condition (SC) VI.4. Mr. Reyes provided records of the number of parts coated on K2XX each day between July 2017 and July 2018 (Attachment 5). According to these records the greatest amount of parts produced in a day on K2XX was 504 on December 22, 2017. During the inspection I observed that the operators of line K2XX were tracking the number of parts coated per hour and were keeping a running total for

the day. Between 7:00 AM and 10:00 AM the day of the inspection, 186 parts had been coated.

Line CD-4 consists of one adhesive coating booth vented to the ambient air, one oven, a heat staker, a sonic welder, a water cutter, and two presses. Equipment on CD-4 is used to attach vinyl or carpet to car seat backs, weld parts using vibration and heat, cut vinyl, and press form materials. At the time of the inspection, filters serving the coating booths were in place and were properly installed. I observed that the operators of line CD-4 were tracking the number of parts coated per hour and were keeping a running total for the day. Between 6:00 AM and 10:00 AM the day of the inspection, 186 parts were coated.

Volatile organic compound (VOC) emissions are limited to 28 tons per year for all booths in FGADHESIVES combined and 25 tons per year for any single booth in FGADHESIVES. Compliance with the VOC limit is demonstrated through recordkeeping requirements in Special Condition (SC) VI.2 and 3. SC VI.2. and 3. require the following records:

- A current listing from the manufacturer of the chemical composition of each adhesive used in FGADHESIVES
- Gallons of adhesives used monthly
- VOC content of each adhesive as applied minus water
- Monthly and 12-month rolling VOC mass emission calculations for all booths combined
- Hours of operation

According to Mr. Hillman, VOC containing adhesives are only used on line K2XX and 841A and only five adhesives total are used at the facility. Mr. Hillman and Mr. Reyes provided SDSs for the adhesives (Attachment 6). Records of the monthly coating usage, parts coated per day, and VOC emissions for K2XX and 841A between July 2017 and July 2018 were provided by Mr. Hillman (Attachment 5). Daily coating usage, VOC, and HAP calculations are based on an average amount of coating applied per part, the number of parts coated, and the worst-case VOC and HAP containing material used. The monthly and 12-month rolling emissions from K2XX and 841A each month are not combined in the records provided. The required records are not currently being kept for CD-4. To determine compliance with the VOC limits I copied the 12-month rolling data from the K2XX and 841A spreadsheets, formatted the data to remove blank cells, added the monthly emissions for K2XX and 841A, and converted the combined emissions to tons (Attachment 7). The highest recorded 12-month rolling VOC emissions for FGADHESIVES during the reporting period was 9.00 tons in January 2018. The reported VOC emissions FGADHESIVES and any booth in FGADHESIVES are less than the permit limit. A violation notice will be issued for failure to keep records of the monthly and 12-month rolling VOC emissions for all lines combined and for not keeping records of the coating usage and VOC emissions for Line CD-4.

Based on the VOC content (0.29 lb/gal) for the coating reported as being used used on CD-4 (PPG Water-based Polyurethane A), the average parts coated per hour that I observed during the inspection (46.5), and the per part coating usage based on K2XX (0.022 gal/part) the potential emissions (8760 hours/year) for CD-4 would be about 1.3 tons per year.

PTI 100-14 limits the VOC content of adhesive materials used in FGADHESIVES to 4.3 lbs/gallon minus water. Information from the SDSs and the adhesive manufacture is summarized below:

Product Name	Product Code/No./ID	Manufacturer	VOC Content ¹	HAPs
Water-based Polyurethane A	T7944	PPG	0.29 lbs/gal	
Water-based Adhesive	CI-6711	Diversitak	No data provided	
Contact Bond Adhesive	X23087C	Valpac	3.21 lbs/gal ²	Toluene
Camie 390B Contact Cement	1000002459	Camie	2.36 lbs/gal ³	Toluene Hexane

¹ VOC content information provided by manufacturer

² The manufacturer stated the VOC content is 47 percent. The SDS for Contact Bond Adhesive shows the product weight is 6.83 lbs/gallon. $6.83 \text{ lbs/gal} \times 0.47 = 3.21 \text{ lbs VOC/gal}$

³ The SDS states the VOC content is 44.12 percent and the product weight is .64g/cm³ (5.35 lbs/gallon). $5.35 \text{ lbs/gal} \times 0.4412 = 2.36 \text{ lbs VOC/gal}$

FG-FACILITY

This flexible group encompasses all process equipment at the stationary source including equipment covered by other permits, grandfathered equipment and exempt equipment. All equipment and processes at Global Enterprises are included in FG-FACILITY.

FG-FACILITY contains the following emission limits:

- Each individual HAP is limited to 8.9 tpy per 12-month rolling time period as determined at the end of each calendar month.
- Aggregate HAP emissions are limited to 22.4 tpy per 12-month rolling time period as determined at the end of each calendar month

Compliance with the HAP emission limits is demonstrated by recordkeeping requirements set forth in SC VI.2. Records of the monthly HAP emissions for July 2017 through July 2018 and 12-month rolling HAP emissions for January 2018 through July 2018 for K2XX and 841A individually were provided by Mr. Reyes (Attachment 5). As with the VOC emissions data, I also combined the HAP data for K2XX and 841A and formatted the data (Attachment 7). The highest individual 12-month rolling HAP emissions were 4.35 tons per year of toluene and the highest aggregate HAP emissions were 7.26 tons in January 2018. The reported HAP emissions are less than the permit limits.

MAERS

Global Enterprises reported 17,285.51 lbs (8.76 tons) of VOC emissions for 2017. These emissions are comparable to the emissions reported during the inspection.

CONCLUSION

Based on information collected and belief formed after reasonable inquiry during this inspection, Global Enterprises (SRN A3037) appears to be in violation of FGADHESIVES SC VI. 3 of PTI 100-14.

NAME



DATE



SUPERVISOR

