A2809 manila Lapeer

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

A280949632

FACILITY: Mold Masters Company		**SRN / ID:** A2809
LOCATION: 1455 IMLAY CITY ROAD, LAPEER		**DISTRICT:** Lansing
CITY: LAPEER		**COUNTY:** LAPEER
CONTACT: John Hubbarth , Chief Operating Officer		**ACTIVITY DATE:** 07/23/2019
STAFF: Daniel McGeen	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled inspection, conducted as a Partial Compliance Evaluation (PCE) activity, part of a Full Compliance Evaluation (FCE).		
RESOLVED COMPLAINTS:		

On 7/23/2019, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) conducted a scheduled inspection of Mold Masters Company (Mold Masters). This was conducted as a Partial Compliance Evaluation (PCE) activity, part of a Full Compliance Evaluation (FCE). Another PCE activity was also conducted, review of facility recordkeeping.

Environmental contacts:

- John Hubbarth, Chief Operating Officer; 810-245-4100; jhubbarth@mmasters.org
- Tony Visnaw, Maintenance Manager; 810-245-4100; avisnaw@mmaters.org

Facility description:

The main process at Mold Masters is currently the flocking of plastic auto parts, which is done by applying nylon fibers on top of an adhesive coating. Some of the plastic parts are injection molded onsite. Parts may also be color coated, as required by the customer.

Emission units:

No.	Emission Unit* or Flexible Group**	Description	Permit Number or Exemption	Comp. Status
1	EURobot	Three automatic spray booths and one natural gas curing oven (air-dried) for paint coating of plastic automotive interior parts.	PTI 368-06C	C
2	FGManual	Seven individual hand spray booths with IR ovens.	PTI 368-06C	C
3	FGFloc	Eight separate adhesive application booths of which four were in production.	PTI 368-06C	C
4	FGPurgeSolvents	Purge and clean-up of coating equipment associated with the FGManual and FGRobot lines.	PTI 368-06C	C
5	FGTACs		PTI 368-06C	C
6	FGFacility	Opt-out for HAPs and VOC	PTI 368-06C	NC
7	Plastic Injection Molding	48 units of various sizes.	R286(b)	C
8	Solvent Distillation	A small distillation unit for reclaiming cleanup solvents for reuse.	R285(u)	C

C = Compliance

NC = Non-compliance

*An *emission unit* is any part of a stationary source that emits or has the potential to emit an air contaminant.

**A *flexible group* is used in a permit to install (PTI) or Renewable Operating Permit (ROP) to combine two or more emission units that have common or identical requirements.

Regulatory overview:

posted / emailed – KD

Opt-out Permit to Install (PTI) 3No. 68-06C restricts the facility wide emissions of Volatile Organic Compounds (VOC) to below Title V Major Source thresholds. A *major source* has the potential to emit (PTE) of 100 tons per year (TPY) or more of any one of the criteria pollutants. The *criteria pollutants* are those for which a National Ambient Air Quality Standard (NAAQS) exists. These include carbon monoxide, nitrogen oxides, sulfur dioxide, VOCs, lead, particulate matter smaller than 10 microns (PM-10), and particulate matter smaller than 2.5 microns (PM2.5). Mold Masters is expected to be a minor source for these other criteria pollutants

Opt-out PTI No. 68-06C also restricts Mold Masters PTE for hazardous air pollutants, to keep it from becoming a major HAPs source. A *major HAPs source* has the PTE fof 10 TPY or more for any single HAP and 25 TPY or more for aggregate HAPs. Because the opt-out permit keeps Mold Masters from becoming a major source for HAPs, it is considered an *area source*, or minor source, of HAPs.

Note: At an area sources of HAPs, spray application of coatings containing compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd), (collectively referred to as the target HAP) to any part or product made of metal or plastic, that are not motor vehicles or mobile equipment, may be subject to 40 CFR 63 subpart HHHHHH, *Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*. None of these compounds have been identified by the AQD in coatings used by Mold Masters. However; if coatings containing target HAPs are in use, or are used in the future, Mold Masters may be subject to this federal regulation. The U.S. Environmental Protection Agency has not delegated authority to AQD for this area source regulation, at this time.

Mold Masters is not subject to the federal boiler regulation for area sources, 40 CFR Part 63, Subpart JJJJJJ, because the only hot water heaters onsite are each less than 120 gallons in capacity, and so are considered exempt.

Fee status:

Mold Masters is not considered category I fee-subject, because it is not a major source. It is not considered Category II fee-subject, because it is not subject to a federal New Source Performance Standards (NSPS). It is not considered Category III fee-subject, because it is not subject to a Maximum Achievable Control Technology (MACT) standards. The facility reports annually via the Michigan Air Emissions Reporting System (MAERS).

Location:

Mold Masters is located directly east of the city of Lapeer. The surrounding area is predominantly agricultural and recreational; however several small residential developments wrap around the plant from north to east.. The nearest residences are about 200 feet to the east of the plant, and the residential properties back up to the edge of the plant property. The nearest residences to the north of the plant are about 475 feet away, as measured buy me in Google Maps.

History:

This plant has had several names over the years including Voplex, Lapeer Fabricating, Cambridge Industries, and Meridian Automotive. Similar plastic molding and coating processes have been operated by each of these companies.

Several years ago, Mold Masters had violations for exceeding an emission limit on the FGFloc coating line. The violation of permit 368-06 was cited in a VN dated June 01, 2012. A plan was received from Mold Masters on June 21, 2012 stating that they would submit a permit application for expanded production of their coating lines and for requesting allowances for additional emissions. A PTI 368-06B was issued May 23, 2013 resolving the violation.

On November 12, 2014 a violation of 368-06B was issued for acetone use on the Robotic Line that exceeded the 3.6 ton/rolling 12 month period. The amount used was 6.8. As part of their compliance plan, Mold Master submitted an application to extend the limit. Permit 368-06C was issued and extended the acetone limit to 10.2 tons per year (TPY).

Neither of the above violations effected Mold Masters Opt-Out status.

Complaint history:

A file search found no complaints as far back as September 2001. Older files were sent to the State of Michigan Records Center, in the past.

Safety apparel required:

Safety glasses with side shields and, for certain areas of the plant, hearing protection.

Arrival:

Accompanying me during the inspection today was Ms. Chloe Strach, a Student Intern with EGLE, for educational purposes. This was not an unannounced inspection, because AQD guidance to me for taking interns in the field is that the inspections should be pre-arranged. This ensures that there will be adequate supervisory personnel onsite at the plant to ensure the safety of the group.

Prior to arrival, we conducted an odor evaluation in the residential areas east of the plant. Weather conditions were sunny, humid, and 68 degrees F, with winds out of the west northwest. At 9:34 AM, we were east of the plant, and drove with car windows rolled down through the residential subdivision there. We drove on Falling Leaf Road, Myers Road, and Deepwood Drive. The only odor encountered was a brief, barely detectable solvent odor on Myers Road, about 375 feet east of the plant. I was unable to smell the odor again, during our odor evaluation. This brief odor was determined to be insufficient to constitute unreasonable interference with the comfortable enjoyment of life and property.

We arrived at 9:49 AM. I checked for odors and visible emissions from the facility parking lot, and detected none. We met with Mr. John Hubbarth, Chief Operating Officer, Mr. Tony Visnaw, Maintenance Manager, and Mr. Dave Miller, Paint Manager. I presented my information/credentials, per AQD procedure.

Pre-inspection meeting:

We discussed the goal of the inspection, which was to inspect an opt-out facility which had last been inspected by AQD in 2015. The AQD's Compliance Monitoring Strategy, pursuant to EPA requirements, is to conduct a Full Compliance Evaluation (including an inspection) of opt-out sources once every 4 years.

We were informed that a recent change at the plant is that Mold Masters has converted much of their coating operations to robotics. As reported to MAERS for the 2018 operating year, VOC emissions were 14.3 tons per year (TPY), for the reporting group RG-FLOC. The VOC limit in Permit to Install (PTI) No. 38-06C for the flexible group FG-FLOC is 15.1 TPY. We were advised that they have been aware of their VOC emissions, and that they took steps to lower their VOC emissions, in the latter part of 2018. This was said to have been done through reduced film builds on their products, meaning that the thickness of the coatings on their products was reduced. Thin film builds were evidently accomplished through robotic application of coatings and through less handheld application of coatings. The robotics allowed them to control the fluid flow, resulting in control of how much coating was applied.

Regarding the above, a change in applicator type for a coating line can be considered exempt from needing a permit to install, under Michigan Air Pollution Control Rule 287(2)(h). This rule specifically exempts:

(h) Replacement of a coating applicator system with a coating applicator system that has an equivalent or higher design transfer efficiency, unless the change is specifically prohibited by a permit condition.

We discussed the concern that RG-FLOC was currently right at, but not over, its VOC limit of 15.1 TPY.

The shift to more robotics has allowed them to reduce film builds and lower the amount of VOCs generated per part.

Mold Masters expressed interest in raising the amount of VOCs which the RGFloc is allowed to emit, while lowering the allowed VOCs their other line(s) can emit. We discussed submitting a permit application, to revise opt-out PTI No. 368-06C to allow for adjusting the VOC limits. We were told that they are not ready quite yet to submit a permit application, but soon will be.

Note: subsequent to the date of the inspection, Mr. Hubbarth contacted me to request contact information for an AQD permit engineer who could discuss the above proposed changes with them. I provided contact information for AQD's Vrajesh Patel.

Most of the plastic injection molded parts they coat here are made offsite now, we were advised.

I brought a copy of the EGLE orange cold cleaner sticker, which facilities can post on or near their cold cleaners to help ensure compliance with the requirements of Rule 611 for existing units or Rule 707 for new units. New units are those which were installed on or after 7/1/1979. They are subject to some additional requirements, compared with existing units. It is my understanding that they will use this sticker to post work practice requirements for the cold cleaner in their maintenance shop.

I inquired if they have any boilers onsite, to determine if they are subject to the federal boiler regulation for area sources, 40 CFR Part 63, Subpart JJJJJJ. There are no boilers onsite, we were told, only hot water heaters for restrooms. It is my understanding that these are natural gas-fired units, and one is 30 gallons in capacity, while the other is 40 gallons. To meet the definition of a hot water heater in this area source Generally Achievable Control Technology (GACT) standard, the unit must be no more than 120 gallons in capacity. Pursuant to Section 63.11195(f), because they are less than 120 gallons in size, they are exempt from the EPA boiler MACT regulation for area sources.

Mold Masters has an electric inline heater to heat water that is used for flushing paint lines, I was informed. Because fossil fuel combustion is not involved, Subpart JJJJJJ does not apply.

We discussed the interest Mold Masters has in reducing environmental impacts. It was explained that their products are all life cycle-stamped, so they can be recycled. We were informed that they wish to lower their VOC air emissions, and that they try to keep VOCs out of water, as well as out of landfills. Their waste streams are currently being used as a fossil fuel, we were told, and they recycle every drop of oil in the plant, with the last purchase of virgin oil having been 3 years ago.

To reduce VOCs from adhesion promoter, also referred to here as primer, Mold Masters is currently working on flame etching of plastic, we were told. It was explained that this is running a flame quickly over a plastic surface, without combusting or melting the plastic. This is said to affect surface tension of the plastic, so that a primer is no longer needed, prior to applying a coating. We were told that flocking does not do as well when plastic parts are flame etched, so they still use apply primer and adhesive, prior to flocking the parts. Flame etching is not a new technology, and has been around for quite some time, I was informed.

Inspection:

Mr. Hubbarth and Mr. Visnaw accompanied us through the plant. Because this was their slow period, when the auto manufacturers in the U.S. are down for retooling, there was not as much activity at the plant as their normally would be, we were informed. Plus, they recently had a program with a customer reach its end, we were told. Most of the Flock lines were said to be down.

1. EURobot

The EURobot paintline process did not have any work to do at the moment, but one of the three robots was activated for us, so we could see how it operates.

The three EURobot applicators were located in two clean room booths. A single robot is used to apply a coat of adhesion promoter, also known here as primer, when required. Two robots are used to apply color coat in a second booth. Particulate control filters are used. We were shown that particulate filters were in place for each booth, and that each booth has a pressure drop gauge.

An overhead chain moves parts through the booths and in and out of the air dry oven. A digital display indicated oven temperature. The oven was 77.0 degrees F, or room temperature, right now, as there was no production taking place.

A circular recording chart for temperatures showed that they have only run 3 times during the past month, so far. A temperature of 194 °F is the maximum allowed. Going above that threshold would classify their coatings as high bake, rather than air-cured. Temperatures for their days of operation this month on the circular chart were below the limit, at about 180 degrees F. They store these records, with no intention of discarding them, I was informed. We were shown paint oven chart recordings back to November 2013. I could not spot any exceedances of 194 degrees F.

We were informed that they use HVLP spray guns, and keep records of pressure cap testing. I was shown these records while at the booths.

Permit 368-06C, condition EURobot I.1, limits VOC to 65 TPY on a 12-month rolling time period. Records for the 12-month period ending May 2019 indicate VOC emitted at 11.73 tons, well below the limit.

Permit 368-06C, condition EURobot I.2, limits acetone to 10.2 TPY. The 5/31/2019 summary indicates acetone emissions were 0.00 tons, but this was a spreadsheet error. Mr. Hubbarth provided me with a spreadsheet where the acetone value was populated, please see attached. .As of May 2019, the 12-month rolling value for acetone was 6.22 tons, below the 10.2 TPY limit.

Permit 368-06C; condition EURobot I.3, limits VOC to 5.0 lbs/gal minus water as applied per "daily volume weighted average" for EURobot. Attached records show monthly gallons of coating applied and VOC emissions. From 4/29/2019 through 5/30/2019, VOC as applied ranged from 2.49 lbs/gal to 4.44 lbs/gal, below the permitted limit. .

Permit 368-06C; condition EURobot II.1, limits VOC content in adhesion promoters to 4.6 lbs/gal minus water as applied for EURobot. It is my understanding that the adhesion promoters are called "primers" by Mold Master. During the writing of this inspection report, I inquired as to adhesion promoter for EURobot, and was advised that they use none. Mold Masters, I was told, sprays "over ABS substrates that do not require adhesion promoter or use flame etch with a waterborne paint." As no adhesion promoter is used in this process, the condition does not apply.

2. FGManual; PTI No. 368-06C

FG Manual is sometimes called the belt line. It was not operating, during today's inspection. Circular chart temperature records showed it had not operated at all so far, this month. I was advised that production work is not being done on this line, only service work.

Permit 368-06C, condition FGManual I.1, limits VOC to 9.1 TPY on a 12-month rolling time period. A summary report for the 12-month period ending 5/31.2019 indicated VOC emissions were 0.00 tons, but Mr. Hubbarth indicated this spreadsheet was in error. He subsequently sent a corrected spreadsheet, attached, showing that FGManual VOC emissions were 0.21 TPY, far below the permitted limit.

Permit 368-06C; condition FGManual I.2, limits VOC to 5.0 lbs/gal minus water as applied per "daily volume weighted average" for FGManual. There was no coating done in FGManual in May, so the report for May 2019 (attached) populated VOC content as zero, I was told. On 9/20/2019, during the writing of this report, I inquired as to typical VOC content in months which had production, and Mr. Hubbarth provided the attached report for April 2019, which showed VOC as plied was 3.25 lbs/gal, within the permitted limit. .

Permit 368-06C; condition FGManual II.1, limits VOC content in adhesion promoters to 4.6 lbs/gal minus

water as applied. On 9/20/2019, in answer to a question I had, Mr. Hubbarth advised that FGManual does not run any adhesion promoter.

3. FGFloc, PTI No. 368-06C:

We were able to see some flock booths operate. The plastic parts which need priming are primed by robots, using an adhesion promoter. This is done with a turn table style booth. Particulate filters provide control. The parts then go into glue units, which are also turn table in style, and filters provide control. A robot puts the parts into the flock line. They are flocked, and particulate filters provide control. I could not see any fugitive emissions of fibers escape. Parts then go into the floc oven for curing of the adhesive. After curing, excess flock is blown off the parts in a number of air blow off stations. These stations are controlled by bag filters which exhaust indoors.

We stepped outside the plant, and I checked for visible emissions from facility exhaust stacks and the roof line, but could see none.

FGFloc will soon be doing less work, we were told, and they will remain below the 15.1 TPY VOC limit per each 12-month rolling time period.

Permit 368-06C, condition FGFloc I.2, limits VOC to 5.0 #/gal minus water as applied per "daily volume weighted average" for FGFloc. The attached FGFloc spreadsheet shows tha tfrom 4/29 through 5/31/2019, VOC as applied ranged 3.69 to 4.5 lbs/gal as applied, below the permitted limit.

Permit 368-06C, condition FGFloc I.1, limits VOC to 15.1 TPY on a 12-month rolling time period. Records for the 12-month period ending May 2019 indicate VOC emissions were right at the limit of 15.1 tons. This value will be dropping into the 14 ton range starting next month (August 2019), we were told. Although not in violation, this is nonetheless a concern, and Mold Masters expressed their interest in revising their opt-out PTI to lower some allowed VOC emissions while raising th allowed FGFloc emissions, as discussed earlier in their report, under the section title "Arrival." .

Permit 368-06C, condition FGFloc I.3, limits xylene to 21.3 pounds per day. The attached spreadsheet for FGFloc shows that from 4/29 to 5/31/2019, xylene ranged from 3.62 to 10.78 lbs per day, below the permitted limit.

The curing oven right now was at 177.8 degrees F, below the 194 degrees F threshold which would classify their coatings as high bake coatings. Circular charts are used to record the temperatures. The circular chart for July 2019 showed that they have only run 8 days in July, but the temperature stayed below 194 degrees F at all times. We were shown chart recordings going back to September 2013. The normal range is 175-180 degrees F for the FGFloc oven, we were told.

Excess flock is removed in a series of vacuuming booths. Excess flock is captured and reused. I observed bag filters which exhausted into the in-plant environment. There were no visible emissions from the bag filters.

4. FGPurgeSolvents; PTI No. 368-06C:

Acetone is used for the purge and clean-up of coating equipment associated with the FGManual and FGRobot lines. Permit 368-06C, condition FGPurgeSolvents I.1, limits Acetone emissions to 3.3 TPY. The attached recordkeeping shows rolling 12-month value for acetone use was 2,645.88 lbs, or 1.32 tons, below the permitted limit.

We were shown the facility's paint room. The handling of waste coatings and clean-up solvents appeared acceptable. I did not identify any open containers or other unacceptable handling practices anywhere in the plant.

5. FGTACs; PTI No. 368-06C:

Permit 368-06C, condition I.1 limits para-chlorobenzotrifluride to less than 4.9 TPY. The 5/31/2019 summary (attached) provided by Mold Masters showed emissions were 0.79 tons, 16% of the yearly limit.

Permit 368-06C, condition I.2 limits ter-butyl acetate to less than 17.6 TPY. The 5/31/2019 summary indicated emissions were 2.22 tons, 12.6% of the yearly limit.

6. FGFacility, PTI No. 368-06C

Permit 368-06C, condition FGFacility I.1 limits an individual HAP to less than 9.0 TPY. In a spreadsheet sent to me by Mr. Hubbarth on 9/20/109, toluene emissions were 9.46 tons for the 12-month rolling time period ending with May 2019 slightly over the limit. Mr. Hubbarth advised that it is due to a product mix change. It is my understanding that they would like to explore permitting options for this, while they are revising their permit to adjust VOC limits. A VN will be sent for the toluene exceedance.

Permit 368-06C, condition FGFacility I.2 limits aggregate HAPs to less than 22.5 TPY. The value reported in the summary as of 5/31/2019 was 10.99 tons, below the total HAPs limit.

Permit 368-06C, condition I.3 limits VOC to less than 90.0 TPY. The 5/31/2019 summary indicated 34.73 tons were emitted, 38.6% of the yearly limit.

Permit 368-06C, condition I.4 limits napthalene to less than 876.0 pounds per year. The 5/31/2019 summary indicated 178.04 lbs, 20.3% of the yearly limit.

Permit 368-06C, condition I.5 limits cumene to less than 1,314.0 pounds per year. The 5/31/2019 summary indicated 82.29 lbs, 6.3% of the yearly limit.

7. Plastic Injection Molding; Rule 286(b):

As of 2015, there were 48 injection molding machines at Mold Masters. At least some of the units are connected to a pneumatic resin storage and delivery system. These processes are considered exempt from the requirement to obtain a Rule 201 air use permit by Rule 286(b). Plastic odors from the processes were minimal. We were told that some plastics, like ABS or acrylics, have stronger odors than polypropylene does.

I was advised that they also do plastic welding. Some of this is done as infrared (IR) welding, while some is done with sonic technology. These were observed during the 2015 inspection of Mold Masters by AQD's Brian Culham, and were not considered to require air permitting.

8. Solvent Distillation; Rule 285(u):

Mold Masters operates a solvent distillation unit. Clean-up solvents are cleaned and re-used. Units with a batch capacity less than 55 gallons are exempt from rule 201 permitting requirements. The unit capacity has been estimated at about 30 gallons.

9. Cold cleaner; Rule 611 or Rule 707:

We were shown the cold cleaner in the maintenance shop. It is a solvent-based parts washer which uses a solvent at a temperature below the boiling point of the solvent. The lid of the unit was closed, as required by the AQD rules applicable to cold cleaners. Rule 611 applies to units which existed prior to 7//1/1979, while Rule 707 applies to new units which were installed on or after 7/1/1979.

The age of the unit is not completely clear to me. However, the unit has an internal parts shelf for draining parts, so that draining can be accomplished while the lid of the unit is closed. This should reduce opportunities for solvent to evaporate unnecessarily from the unit. They have a Safety Data

Sheet for the solvent.

Miscellaneous:

In their maintenance shop they have metal machining processes, such as a Bridgeport vertical milling machine. They were being used on a non-production basis, and were exhausted to the in-plant atmosphere, so they can satisfy either of the Rule 285(2)(l)(vi)(A) or (B) exemptions, which read as follows:

(l) The following equipment and any exhaust system or collector exclusively serving the equipment:
(vi) Equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, graphite, plastics, concrete, rubber, paper board, wood, wood products, stone, glass, fiberglass, or fabric which meets any of the following:
(A) Equipment used on a nonproduction basis.
(B) Equipment that has emissions that are released only into the general in-plant environment.

MAERS reporting:

The MAERS report for the 2018 operating year was audited by AQD. The report passed audit. Facility reported emissions for FG-FLOC were 14.38 tons VOC, very close to 15.1 TPY VOC limit. This issue has been discussed earlier in this report. It is my understanding that the company will apply to revise their permit, raising the VOC limit allowed for FGFloc, while reducing the VOC limit for a different part of the plant.

Conclusion:

At the time of the inspection, no instances of noncompliance were identified. Subsequent review of plant recordkeeping showed that 12-month rolling HAP emissions for toluene as of May 2019 were 9.46 tons, over the 9.0 TPY HAP limit. A VN will be sent. The company is planning to revise their opt-out PTI No. 368-06C to reapportion allowed VOC emissions between different emission units.

NAME _____ DATE 9/23/2019 SUPERVISOR _____