

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

N720245979

<b>FACILITY:</b> Adept Plastic Finishing, Inc. (Plant 3)		<b>SRN / ID:</b> N7202
<b>LOCATION:</b> 29883 Beck Road, WIXOM		<b>DISTRICT:</b> Southeast Michigan
<b>CITY:</b> WIXOM		<b>COUNTY:</b> OAKLAND
<b>CONTACT:</b> James Unsworth , Environmental Coordinator		<b>ACTIVITY DATE:</b> 07/31/2018
<b>STAFF:</b> Joe Forth	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b>		
<b>RESOLVED COMPLAINTS:</b>		

On July 31, 2018, I, Joe Forth, from the Department of Environmental Quality's (DEQ), Air Quality Division (AQD), conducted an inspection of Adept Plastic Finishing, State Registration Number (SRN): N7202, located at 29895 Beck Road, Wixom, MI 48393. The purpose of this inspection was to determine the facility's compliance with Permit to Install (PTI) No. 243-02, the Federal Clean Air Act Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, and Michigan's Air Pollution Control Rules.

### Facility Description

Adept Plastic Finishing is a plastic parts coating company. The company has several plants. The plant for this inspection is #3. Plant #3 operates 20 hours a day, Monday through Friday. This plant has approximately 40 employees. The main process that takes place at the facility is an automatic coating line that uses robotic arms to paint the plastic parts. The plastic parts (automobile and non-automobile parts) coating line is equipped with a non-fugitive enclosure and controlled by a zeolite concentrator and a catalytic oxidizer. Inside the enclosure is waterwash system which is essentially a wall of flowing water that captures any coatings that do not make it onto the part and flows down and out of the enclosure. This water is then treated before being released into the sanitary sewer. The coating line consists of a prime booth, two topcoat (basecoat/clearcoat) booths, two flash off tunnels, and a natural gas fired bake oven. Also included in the emission unit are purge and cleanup activities.

### Facility Inspection

I arrived at the facility at 12:00 pm. I was met by Mr. James Unsworth, Environmental Coordinator, and Mr. Ed Barriager, Waste Treatment Manager. I stated the purpose of inspection and provided my credentials. We started by reviewing documentation and the required records. After collecting the records/documents I required, Mr. Unsworth and Mr. Barriager took me on an inspection of the facility. I was shown the room where they store the various coatings they use. The coatings appeared to be properly and satisfactorily stored in a well-ventilated room. Next, I was shown the coating line. Most of the painting is done by robots inside the non-fugitive enclosure, but sometimes manual painting or maintenance on the robots is done. The non-fugitive enclosure's pressure difference appeared to be operational. The pressure gauges showed that the enclosure was at a lower pressure than the general plant atmosphere. The waterwash system appeared to be functioning as well. The final part of the inspection was to check the zeolite concentrator and catalytic oxidizer. The temperature of the oxidizer at the time of inspection was 698 °F. The temperature of the zeolite concentrator was approximately 350 °F.

I left the facility at 3:45 pm.

### Compliance

#### Special Conditions PTI No. 243-02

1.1 A VOC emission limit for EU-COATINGLINE of 19.4 tons/year. The facility's VOC emissions from July 2017 to June 2018 total 3.720 tons released. (See Attachment A)

1.2 All waste coatings, thinners, catalysts, cleanup solvents, and purge solvents shall be captured and stored in closed containers and shall be disposed of in an acceptable manner in compliance with all applicable rules and regulations. All waste VOC containing products appear to be properly captured and disposed of using waste treatment companies. (See Attachment B)

1.3 The facility shall not operate EU-COATINGLINE unless the approved preventative maintenance plan, or an alternate plan approved by the AQD, is implemented and maintained. The facility has a

preventative maintenance plan that has been implemented since September 2004, a copy is within the AQD records. The facility appears to be following and abiding by the requirements of the plan.

### Equipment

1.4 The facility shall not operate any spray booth portion of EU-COATINGLINE unless its respective waterwash particulate control system is installed and operating in a satisfactory manner. During my inspection the facility's waterwash system appeared to be installed and operating properly.

1.5 The facility shall equip and maintain each spray booth portion of EU-COATINGLINE with high volume low pressure (HVLP) applicators or equivalent technology with comparable transfer efficiency. For HVLP applicators, the facility shall keep test caps available for pressure testing. Mr. Unsworth and one of the operators confirmed that each spray applicator is HVLP. I was shown some nozzles and confirmed this as well.

1.6 The facility shall not operate any portion of EU-COATINGLINE unless the non-fugitive enclosure is installed, maintained and operated in a satisfactory manner. Satisfactory operation requires that the non-fugitive enclosure is operating at a pressure lower than all adjacent areas, so that air flows into the non-fugitive enclosure through all natural draft openings (NDOs). NDO is defined as any opening that is not connected to a duct in which a fan or blower is installed. During my inspection, the non-fugitive enclosure appeared to be installed and operating properly. The facility has pressure monitors installed to ensure that the pressure difference between the enclosure and the plant is maintained and correct.

1.7 The facility shall not operate any portion of EU-COATINGLINE unless the zeolite concentrator and the catalytic oxidizer are both installed, maintained and operated in a satisfactory manner. Satisfactory operation of the zeolite concentrator and the catalytic oxidizer includes a minimum overall VOC control efficiency (combined adsorption and destruction efficiency) of 90.25 percent (by weight), a minimum catalyst bed inlet temperature of 550°F or the temperature documented during the most recent acceptable compliance test (which ever is greater), and a maximum space velocity in the catalytic oxidizer of 40,125 inverse hours. Both the zeolite concentrator and catalytic oxidizer appeared to be installed and operating properly. The temperature of the catalytic oxidizer during my inspection was 698 °F. The combined adsorption of the zeolite concentrator and the destruction efficiency catalytic oxidizer were determined during compliance testing in June 2004 as 97.7% and 98.8% respectively.

### Testing

1.8 The VOC content, water content, and density of any coatings, thinners, catalysts, cleanup solvents, and purge solvents as applied and as received shall be determined using federal Reference Test Method 24. Upon prior approval by the AQD District Supervisor, the VOC content may be determined from manufacturer's formulation data. If the Method 24 and the formulation values should differ, then the Method 24 results shall be used to determine compliance. The facility follows these guidelines when determining the VOC content of the products they use.

1.9 Within 180 days after commencement of trial operation, verification of the capture efficiency of the non-fugitive enclosure and the overall VOC control efficiency (combined adsorption and destruction efficiency) of the zeolite concentrator and the catalytic oxidizer, by testing at owner's expense, in accordance with Department requirements is required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of adsorption efficiency and destruction efficiency includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. The combined adsorption of the zeolite concentrator and the destruction efficiency catalytic oxidizer were determined during compliance testing in June 2004 as 97.7% and 98.8% respectively. The capture efficiency of the non-fugitive enclosure was determined to be 100%.

### Monitoring

1.10 The facility shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device at the inlet to and the outlet from the catalyst bed of the catalytic oxidizer to monitor and record the temperature on a continuous basis. The catalytic oxidizer was equipped with a temperature monitor device that appeared to be operating properly. The temperature at the time of inspection was 698 °F.

1.11 The facility shall develop a periodic monitoring plan for the carbon adsorption unit or Zeolite concentrator consisting of appropriate monitoring data determined during the initial compliance testing.

The facility has a satisfactory operation and maintenance plan for the zeolite concentrator. The facility monitors the inlet and outlet temperatures of the concentrator approximately every 4 hours. (See Attachment C)

1.12 During the initial performance test and semi-annually thereafter, the facility shall verify that the direction of air flow at each natural draft opening (NDO) of the non-fugitive enclosure for EU-COATINGLINE is into the non-fugitive enclosure. The verification of the direction of air flow at the NDOs shall be conducted using the smoke tube test method, or an alternate method. The facility shall submit a notice of the anticipated test date to the District Office no later than two weeks prior to the test date, and a complete stack test report shall be submitted to the District Supervisor within 30 days after the completion of the testing. All test methods, plans, and procedures shall be approved by the AQD prior to testing. After two consecutive tests demonstrate that the direction of air flow at all NDOs is into the non-fugitive enclosure, the facility may request that the monitoring schedule be revised to a less frequent time period as approved by the District Supervisor. Compliance test results show that the direction of the air flow at the NDOs were into the booths. The daily airflow readings reflect the fact that the airflows are into the booths. (See Attachment D)

#### Recordkeeping / Reporting / Notification

1.13 The facility shall maintain a current listing from the manufacturer of the chemical composition of each coatings, thinners, catalysts, cleanup solvents, and purge solvents, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both. The facility has maintained a binder of the coatings that are used in the facility. The SDS for these coatings contains the required information.

1.14 The facility shall keep the following information on a monthly basis for EU-COATINGLINE:

- a) Gallons (with water) of each coating, thinner, and catalyst used.
- b) VOC content (with water) of each coating, thinner, and catalyst used.
- c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
- d) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.
- e) Hours of operation.

The facility provided records of VOC emissions (Attachments A, E, and F), and was able to produce the SDS of the products they use. Due to the large number of coatings, I did not collect the SDS.

1.15 The facility shall keep the following information on a monthly basis for the use of purge and clean-up solvents associated with EU-COATINGLINE:

- a) Gallons of each solvent used and reclaimed.
- b) VOC content, in pounds per gallon, of each solvent used.
- c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
- d) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The facility keeps records of the information stated above. However, I only collected an example of their 12-month rolling VOC emissions from purge and clean up solvents. (See Attachment F)

1.16 The facility shall keep records of the inlet temperature to and the outlet temperature from the catalyst bed the catalytic oxidizer. On a monthly basis, the facility shall review these temperature records and prepare a list showing the date, time, and duration of all temperature deviations. If the temperature falls below 550°F or the temperature documented during the most recent acceptable compliance test (which ever is greater), a deviation is deemed to have occurred. The facility monitors and records the temperatures of the oxidizer daily. (See Attachment C)

1.17 The facility shall keep records of all verifications of the direction of air flow at the non-fugitive enclosure natural draft openings. The facility keeps daily air flow readings records. (See Attachment D)

1.18 The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air. The stack SVCONC must have parameters of 36 in max diameter, and at minimum 60 ft above ground level. The stack SVCATOX must have parameters of 30 in max diameter, and at minimum 60 ft above ground level. Stack parameters not confirmed during this inspection, but stacks appeared to be discharging

unobstructed vertically.

**Conclusion**

The facility appears to be operating in compliance with PTIs No. 243-02, the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451.

NAME *John M. Furtell*

DATE 9-12-18

SUPERVISOR *SK*