

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection

N304459444

<b>FACILITY:</b> EMERALD GRAPHICS INC		<b>SRN / ID:</b> N3044
<b>LOCATION:</b> 4949 GREENBROOKE DR SE, KENTWOOD		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> KENTWOOD		<b>COUNTY:</b> KENT
<b>CONTACT:</b> Brian Dillon , Paint Manager		<b>ACTIVITY DATE:</b> 08/17/2021
<b>STAFF:</b> April Lazzaro	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b> Unannounced, scheduled On-site inspection to complete a Full Compliance Evaluation		
<b>RESOLVED COMPLAINTS:</b>		

Staff, April Lazzaro arrived at the facility to conduct an unannounced, scheduled inspection. This On-site inspection is a Partial Compliance Evaluation to complete a Full Compliance Evaluation of the facility. An Off-site inspection was conducted in January 2021. As I approached the facility, I did not observe any visible emissions or odors. I arrived at 1:00 PM and was told my contact Brian Dillon, Paint Manager was out of the building. We agreed that I would return at 2:00 PM.

### FACILITY DESCRIPTION

Emerald Graphics is a plastic parts coating facility operating two coating lines and is permitted pursuant to General Permit to Install (PTI) No. 401-08 and Opt-out PTI No. 91-12. The facility used to operate an electropolishing tank, however that was removed approximately five years ago. The Air Quality Division (AQD) database has been updated to reflect the removal of this equipment. Emerald Graphics applies paint to plastic parts for the automotive and appliance industries. Very little plastic molding is conducted on-site, as most of it is customer owned/provided.

On January 21, 2021, the AQD sent a letter to Emerald Graphics requesting that stack testing be conducted on the Catalytic Oxidizer used to control emissions from EU-ROBOT. To date, the testing has not been conducted. Emerald Graphics has asked for an extension to the testing deadline because they have been experiencing shortages of raw materials, resin and molded parts from part suppliers. As such they have not been able to run the paint system at maximum routine operating conditions. Emerald Graphics will continue to send monthly updates to their production status until which time testing can be conducted.

### COMPLIANCE EVALUATION

#### PTI No. 401-08

This is a General PTI for coating lines and covers volatile organic compound (VOC) emissions for both the EU-ROBOT line, which is controlled by a catalytic oxidizer and consists of five booths; and the EU-BUTTON line, which exhausts uncontrolled and consists of three booths. Both lines were observed during the inspection, however the EU-BUTTON line was not operating while I was at the facility.

#### FG-COATING

Prior to the parts entering the EU-ROBOT line, each one is blown off and is wiped with a disposable cloth that comes pre-saturated with water and isopropyl alcohol, which is a VOC. Emissions from these wipes have been added to the line as a monthly emission of VOC that is uncontrolled in association with EU-ROBOT.

Mr. Dillion observed and inspected each of the booths associated with the EU-ROBOT line. We discussed the pressure drop monitoring that occurs that is associated with paint filter maintenance, as well as maintaining a negative pressure in the booths and associated paint distribution areas. There was very little solvent odor in the general plant environment.

Each booth is equipped with a series of six particulate filters to ensure no particulates are entrained in the air stream when it reaches the catalytic oxidizer.

#### Emission Limits

Compliance with emission limits was discussed in the Off-site inspection report.

#### Process/Operational Restrictions

In each of the five booths on the EU-ROBOT line, there is a purge can which the robot uses to dispose of purge MEK used in between color changes.

#### Design/Equipment Parameters

The lines have been considered non-fugitive enclosures with 100% capture efficiency. Based on the observations made during the inspection this appears accurate, with the comment being made that the areas with the paint distribution pots on the EU-ROBOT line must have the doors closed to claim 100% capture. It is noted that these were not closed during the inspection, however negative pressure into that area was observed. These doors should be closed when paint distribution pots are present. The robots utilize HVLP technology and Emerald has test caps available.

Emerald has installed a thermocouple for the outlet temperature of the catalytic oxidizer after a previous inspection to meet the permit requirements. The inlet temperature at the time of the inspection was 625°F and the outlet temperature was 675°F. This indicates a small temperature increase over the catalyst. This is consistent with what was seen during the Off-site records review. (see MACES Report No. N304456614 for additional discussion and details) Emerald shuts the oxidizer down completely each day following operation.

We went outside to conduct an inspection of the oxidizer itself, and I noted a vibration in the fan and pointed it out to Mr. Dillon. The oxidizer is actually enclosed in a trailer of sorts. There is an access door on one end, where the natural gas inlet area can be observed. We walked along the area between the building and the shell to the other access door at the other end where the outlet exhaust fan and base of stack was observed. No obvious issues with the unit were identified through the visual inspection. No odors were noted in the area of the oxidizer. The fan motor readout displayed 34.00Hz from the variable frequency drive (VFD).

#### Testing/Sampling

Testing of the coating formulations are not required at this time.

#### Monitoring/Recordkeeping

Monitoring and recordkeeping were evaluated during the Off-site inspection in January 2021.

**Stack/Vent Restrictions**

The stacks were not measured at the time of this inspection. No changes were observed.

**Other Requirements**

There did not appear to be any replacement or modification of FG-COATING.

**FG-SOURCE**

**Emission Limits**

Compliance with the emission limits were evaluated during the January 2021 Off-site inspection.

**PTI No. 91-12**

This is an Opt-out PTI limiting the emissions of Hazardous Air Pollutants (HAP) to less than the major source thresholds.

**FGFACILITY**

**Emission Limits**

Compliance with the emission limits were evaluated during the January 2021 Off-site inspection.

**Testing/Sampling**

The facility had previously requested and received permission to utilize manufacturer's formulation data to determine HAP content of coatings. This is still being done.

**Monitoring/Recordkeeping**

Compliance with monitoring and recordkeeping were evaluated during the January 2021 Off-site inspection.

Emerald Graphics does not own or operate any boilers or emergency generators.

The transition of products from Enamelite to Emerald Graphics is continuing, but is not yet complete.

**CONCLUSION**

Emerald Graphics, Inc. was in compliance at the time of the inspection.

NAME April Lazzaro

DATE 08/20/2021

SUPERVISOR HH