

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

N131664227

<b>FACILITY:</b> Mayco International, LLC		<b>SRN / ID:</b> N1316
<b>LOCATION:</b> 42400 Merrill, STERLING HTS		<b>DISTRICT:</b> Warren
<b>CITY:</b> STERLING HTS		<b>COUNTY:</b> MACOMB
<b>CONTACT:</b> Al Cook , Facility Manager/Environmental		<b>ACTIVITY DATE:</b> 08/26/2022
<b>STAFF:</b> Sebastian Kallumkal	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Scheduled inspection		
<b>RESOLVED COMPLAINTS:</b>		

On August 26, 2022, Michigan Department of Environment, Energy and Great Lakes-Air Quality Division (EGLE-AQD) Staff Noshin Khan and Sebastian Kallumkal conducted an on-site inspection at Mayco International, LLC located at 42400 Merrill Road, Sterling Heights, Michigan 48083. The purpose of the inspection was to determine the facility's compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), the administrative rules, and the facility's Renewable Operating Permit (ROP) No. MI-ROP-N1316-2021.

Due to EGLE-AQD COVID-19 Emergency AQD Field Inspection Guidance the inspection was announced and scheduled. On July 29, 2022, I requested records pursuant to MI-ROP-N1316-2021 and received this information on August 16, 2022.

At facility we met Al Cook, Facility Manager/Environmental and contact person, and Stephanie Jarrett, Fishbeck, the facility consultant.

During the pre-inspection meeting, we discussed facility's operations, permit conditions and any changes to the processes since last inspection. Al mentioned that NJT Enterprises, LLC (NJT) bought the equipment at this site from Mayco Plastics and installed additional equipment the company obtained from Collins & Aikman. For business and familiarity reasons, this manufacturing plant was named Mayco International LLC. The facility has about 650 employees, operates 3 shifts, 24 hour-day, and 6 days a week (Mon-Sat).

Mayco manufactures various interior and exterior automotive plastic parts. Most of the parts are supplied to Stellantis (90%) and the rest for GM and Toyota., The manufacturing process includes injection molding, coating of automotive plastic parts (primarily for Stellantis facilities), thermoforming of plastic parts, adding thermoformed plastic (skin) to parts, and assembly of components in instrument panels.

After the pre-inspection meeting, Al and Stephanie accompanied us for an inspection of the facility. The facility's ROP, MI-ROP-N1316-2021, are organized in 3 emission units: EUPLASTICS, EUBURNOFF, EUDIESELGEN3; and 5 flexible groups: FGMACT, FGRULE287(c), FGEMGENS, FGRULE290, and FGCOLDCLEANERS.

Initially, we visited some of the injection molding units. The facility has about 61 injection molding presses located throughout the building. The capacity ranges from 700lb to 3000lb. They use Poly Pro, HCPP, etc. materials in the injection molding. This process is exempt from Rule 201-Permit to Install requirements pursuant to R336.1282(2)(b).

Next, we inspected the EU-Plastics – pertains to air-dried interior plastic automotive parts spray coating line, consisting of four enclosed robotic spray booths: Booth No. 1 - adhesion promoter, Booth No. 2 - topcoat, Booth No. 3 - topcoat, and Booth No. 4 - topcoat. The emission unit includes a five-stage aqueous power washer with natural-gas fired dry-off oven, flash-off tunnel, IR tunnel, and paint curing oven. For each booth, the particulate matter control includes water curtains for the exhaust gases and dry filters for the intake air. The plastic parts are washed with alkali solution and hot water. Next, the parts are oven-dried before going to the coating process. The suspended paint solids, captured in the water curtain, are removed by adding chemicals to make the solids float, skimmed off, and sent out for proper disposal. Spent water from the water curtains is routinely treated and reused. AI indicated that the water collected from the water curtain is dumped every six months and replaced. The filters are replaced every week.

Out of the four coating booths, No. 1 booth for adhesion promoter has not been used since 2017. Booth No.2 is not being used for a while too. This booth which was originally designed to apply adhesion promoter can be used for topcoat application too. Booth No. 3 and 4 are in use on a regular basis. These booths are only used 3-4 hours per day. These were not in use at the time of our inspection. Coated plastic parts are cured in a natural gas-fired oven operating at 190°F. The coating process is considered air dried because the temperature (T) of the oven is less than 194°F.

Next, we visited the glue booth where parts are heated, and glue is applied prior to wrapping the parts. This process (EUGLUEROBOT) is included in the ROP under FGRULE290. The filters are changed daily for this booth.

Next, we visited the chemical and waste storage area. This room exhaust is vented to the atmosphere.

We also visited the emergency engines situated at various locations and noted the hours of operations.

**EUDIESELENGINE1-Model: 2WB04231. SN: 3406**

**300 kw diesel fired engine, used for pump, Mfg. 1986- Total operating hours = 1408 hrs**

**EUDIESELENGINE2-Model: D200P4, SN: F4304A/001**

**200 kw diesel fired engine, Mfg. 2009- Total operating hours = 496 hrs**

**EUDIESELENGINE3- Model Engine: 125DGEA; SN Engine: C140655741**

**125 kw diesel fired engine, Mfg. 2014; Total Operating Hours = 99.5 hrs**

**EUNATGASGEN-Model: GEN, SN: 2079659**

**30 kw, natural gas fired, Mfg. 2007; Total Operating hours = 403.6 hrs**

We also inspected two trim cells. AI explained that the trim cells trim the plastic skins installed during the thermoforming process. The deburred particles from each cell are collected in an individual cyclone and the exhaust from the cyclone is controlled by 8 sock filters which are vented into the general in-plant environment. I did not observe any dust on the floor near the cyclone or sock filters. This process appears

to be exempt from R201-Permit to Install requirements pursuant to R336.1285(2)(I)(vi) (B) and (C). According to information from facility personnel (email from Consultant, Barr Engineering, 9-15-2022), the filters are replaced on as needed basis.

Next, we inspected the plastic parts wrapping with thermoformed plastic skin and application of MDI and poly urethane (EUFLEXFOAM). MDI (liquid) and Polyol (liquid) are injected in between the plastic part and the skin. This process is included in FGRULE290.

Next, we visited the thermoforming process where plastic parts are heated to make the plastic soft and undergo vacuum process to shape the parts. The final parts are referred as "skin".

We also visited EUSPRAYBOOTH1 which is currently converted to a glue adhesive to attach cover to plastic parts. EUSPRAYBOOTH2 is no longer in use. Next, we visited the cold cleaner. The cover was kept closed at the time of the inspection.

During the post inspection meetings, we discussed and clarified the operations. The facility mainly uses only 3 types of coatings. The coatings are water based and USEPA Method 24 analyses are done as required.

#### Compliance Discussion:

#### EUPLASTICS

SC I.1- The 12-month rolling VOC and acetone emissions were 3375.09 pounds as of December 2021 and the highest VOC and acetone emissions were 422.07 pounds in January 2021. For January through July 2022, the VOC and Acetone emissions were 1200.06 pounds. The 12-month rolling VOC and acetone emissions as of July 2022 were 1.21 TPY. These emissions are below the VOC and Acetone emissions limit of 137.2 tpy based on a 12-month rolling time period.

SC I.2- The VOC and Acetone emissions from the purge and clean-up solvents used in the EUPLASTICS is limited to 5.0 TPY based on a 12-month rolling time period. Since 2021, the facility is using water-based coatings and is using water as purge and cleaning solvents.

SC I.3- The VOC emissions from each spray booth in EUPLASTICS is limited to 78 TPY based on a 12-month rolling time period. Booth 1-Adhesive Promotor application booth is not being operated since 2017. As of July 2022, the monthly 12-month rolling total VOC emission rates, Booth 2 = 0.29 TPY (highest emissions, as of June 2021= 0.54 TPY), Booth 3 – 0.45 tpy (highest 12-month rolling emissions, as of June 2021 = 0.83 TPY), Booth 4 – 0.46 tpy (highest 12-month rolling emissions, as of June 2021 = 0.85 TPY).

SC I.4- the highest daily VOC emission rate was 75.93 pounds per day on January 26, 2021, and the daily VOC emissions are in compliance with permit limit of 5,222.0 lb/day.

SC II.1- AI mentioned that no adhesion promoter was used since September 2019 and in compliance with the 7.0 lb/gal permit limit.

**SC II.2-** the highest topcoat VOC content was recorded for Jeep Brown at 2.92 lb/gal minus water as applied and is less than the permit limit of 5.0 lb/gal (minus water) as applied.

**SC III.1-** No open paint or waste containers was observed during inspection. These containers are stored in an enclosed vented room.

**SC III.2-** The cure oven was not being used at the time of the inspection. The submitted temperature records show that the cure oven was operated about 180°F in compliance with the 194°F permit limit.

**SC IV.1-** The water wash and booth filters are installed. The water wash was not running as no parts coating was being performed at the time of the inspection. The filters appeared to be clean and in place.

**SC IV.2-** AI told me that they use HVLP or equivalent technology applicators in the booths.

**SC V.1-** The facility is using only four coating in EUPLASTICS. They conducted US EPA Method 24 analyses on November 29, 2020. The facility submitted the Method 24 analysis results for these coatings. The VOC content of the topcoat is limited to 5.0 lb/gal (minus water) as applied. The Method 24 analyses results of the coatings were 2.828, 2.920, 2.714, 2.792 (lb VOC/gal coating-water). These results are in compliance with the permit limit.

**SC VI.1-** Facility submitted records of the cure oven temperature readings. We did not inspect the chart reader.

**SC VI.3-7-** Facility is keeping records as required. Submitted records.

**SC VIII 1-7-** Stack heights were not verified. The stacks appear to be in compliance with the required dimensions.

**EUBURNOFF** – pertains to a batch type natural gas-fired burn off oven with a secondary chamber or afterburner; used for removing cured paints, oil or grease from metal racks by thermal decomposition in a primary chamber. AI informed us that this equipment has not been used for a long time. During walk-through inspection, we verified that the facility has not used this equipment. Racks are still being sent out for cleaning. AI explained to us that they are in the process of repairing it.

**EUDIESELGEN3 (Model: 125DGEA SN: C140655741)**– pertains to 125 KW diesel fuel-fired emergency electric generator installed in 2014. This emission unit is subject to the applicable requirements of the New Source Performance Standards (NSPS) for Stationary Compression Ignition, Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 60, Subpart IIII that applies to this diesel fuel-fired emergency generator and 40 CFR Part 63, Subpart ZZZZ-National Emissions Standards for Hazardous Air Pollutants, Stationary Reciprocating Internal Combustion Engines. Compliance with NSPS IIII deemed compliance with NESHAP ZZZZ. This emergency diesel generator is rated at less than 10 MM BTU/hr and exempt from R201 (permit to install) requirements under AQD Administrative Rule R 336.1285(2)(g).

According to the previous inspection report, as required by ROP No. MI-ROP-N1316-2021, SC I. 1-3, the facility already submitted the EPA Emissions Compliance Certification that was issued on 4/29/2013. According to the previous report, the certification showed the following emissions: PM – 0.11 g/kw-hr., NMHC+NOx – 4.0 g/kw-hr., CO – 1.0 g/kw-hr. These emissions comply with SC I.1, 2, & 3) limits of: PM – 0.2 g/kw-hr., NMHC+NOx – 4.0 g/kw-hr., CO – 3.5 g/kw-hr. I did not verify this certificate during this inspection. Per SC II.1, Mayco submitted the supplier diesel fuel bill of lading and Safety Data Sheet which showed the sulfur content of the fuel at 15 ppm and an Ultra-Low Sulfur No. 2 Diesel document from Marathon which showed the Minimum Cetane Index (Maximum Aromatic content) as 40 min.

SC III.5- submitted records showed that in 2021, this engine operated for 26 hours and in 2022, the engine operated 23 hours through July. These are less than the 50 non-emergency hours limit and the 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing.

SC IV.1- The engine is equipped with the non-resettable hour meter. During walk-through inspection, we verified an hour meter reading of 99.5 hours.

SC VI.1-8- The facility purchased a certified engine, keeps records of the certified engine, fuel supplier and fuel usage records, engine name plate capacity, date of installation/manufacture, maintenance records, and hours of operation. Engine maintenance such as hoses, spark plugs, radiators, and belts inspections/replacements, oil changes, and tune-ups are conducted at least once a year. Michigan CAT is the outside maintenance sub-contractor. Submitted records showed that the most recent maintenance was conducted on April 7, 2022 (Model 125DEA, Serial Number: C140655641, Hrs = 95).

**EUNATGASGEN (Model No. Engine 4488120200, SN Engine: 2079659)**

30 KW natural gas fired emergency electrical generator manufactured 2004 and installed in 2007. The unit is subject to 40 CFR Part 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), located at a major source of HAP emissions, existing emergency, spark ignition (SI) RICE equal to or less than 500 bhp. A RICE is existing if the date of installation is before June 12, 2006. Compliance date for existing emergency spark ignition (SI) engines  $\leq$  500 HP is October 19, 2013. The emergency RICE generators are rated less than 10 MMBTU/hr. and exempt from permit to install requirements per AQD Administrative Rule R 336.1285(2)(g).

Facility submitted PM records for this engine. Oil change and other maintenance was completed on April 8, 2022.

Facility is monitoring the hours of operations. It was operated about 26 hours in 2021- and 16-hours Jan-July 2022. The engine was operated only for periodic readiness testing.

FGMACT – pertains to each existing affected source engaged in the surface coating of plastic parts and products, identified within each of the four subcategories listed in 40 CFR Part 63, Subpart PPPP, 63.4481(a)(2) to (5).

SC I.1- submitted records showed that the monthly 12-month rolling total Volatile Organic HAP emission rate, for general use coating, as of January 2021 was 0.01

lb/lb. of coating solids and less than the 0.16 lb/lb. coating solids permit limit. For the rest of the months in 2021, the lb VHAP/lb coating solids is 0.00005. The facility chose to use the “emission rate without add-on controls option” to comply with 40 CFR63.4490 in determining organic HAP emission rate.

SC I.2- The facility reported using thermoplastic olefin coating that does not have HAP.

SC II- Mayco uses thinner and cleaning materials that do not contain any organic HAP materials.

FGRULE287(C) – pertains to any emission unit that emits air contaminants and is exempt from permit to install requirements of AQD Administrative Rule R 336.1201 pursuant to Administrative Rules R 336.1278 and R 336.1287(2)(c).

During walk-through inspection, AI informed us that one of the spray booths was converted to robotic glue (adhesive) spray coating booth. The other spray booth is no longer at the facility. We inspected the robotic adhesive spray booth. The dry filters appear to be not excessively dirty and in place. Facility submitted monthly coating use records showing no coatings sprayed at the booths for 2021 and 2022. The monthly usage is less than 30 gallons.

FGCIEMGENS – pertains to reciprocating internal combustion engines (RICE) utilized as emergency generators that are less than 10 MM BTU/hr., exempt from AQD Administrative Rule R 336.1201 permit to install requirements per AQD Administrative Rule R 336.1285(2)(g) and are subject to 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The existing emergency engines are ≤ 500 HP and constructed before June 12, 2006. The compliance date – May 3, 2013, for existing emergency compression ignition (CI) engines ≤ 500 HP, and October 19, 2013, for existing emergency spark ignition (SI) engines ≤ 500 HP. EUDIESELGEN1, and EUDIESELGEN2, are the emission units installed at the facility covered by this flexible group.

SC III.1-7- The facility submitted records showing total operating hours in 2021 for each of the following: EUDIESELGEN1 – 26 hours, EUDIESELGEN2 – 26 hours. From January 2020 through July 2022, submitted records showed for each of the following: EUDIESELGEN1 – 16 hours, EUDIESELGEN2 – 14 hours. These total hours, if prorated to 12 months, would be less than the 50 hours limit for non-emergency use which includes 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing.

SC IV.1- The engines are equipped with non-resettable hour meters as verified during the inspection.

SC VI.1-8- Mayco keeps records of fuel supplier and usages, engine name plate capacity, date of installation/manufacture, maintenance records, and hours of operation for each engine. Engine maintenance such as hoses, spark plugs, radiators, and belts inspections/replacements, oil changes, and tune-ups are conducted at least once a year. Michigan CAT is the outside maintenance sub-contractor. Submitted records showed that the most recent maintenance was conducted on April 6, 2022 (EUDIESELGEN1, Model 3406, SN 2WB04231, Hrs = 1393).

AI indicated that Michigan CAT has not scheduled the PM for the EUDIESELGEN2 for this year and he agreed to forward its maintenance document after completion.

FGRULE290 – pertains to any emission unit that emits air contaminants and exempt from AQD Administrative Rule R 336. 1201, permit to install requirements, pursuant to Administrative Rules R 336.1278 and R 336.1290. Mayco operates the emission units, EUFLEXFOAM and EUGLUEROBOT under the permit to install exemption Rule 290 and included in the FGRULE290.

In the EUFLEXFOAM process, a flexible polyurethane foam is molded for the Jeep Grand Cherokee and Durango soft-touch instrument panel. This emission unit has 5 production stations, known as carriers. The foam production line uses MDI and polyol. Although MDI is a carcinogen, MDI emissions are negligible since MDI is expected to completely react with polyol. Methylene chloride is not used for this process. A small amount of water-based mold release paste is used. In the flexible polyurethane foam production, the MDI and polyol is metered at a specified stoichiometric ratio, mixed together until a homogeneous blend is obtained, and the reacting liquid is dispensed into the closed mold until the product cures. The foam is formed between a plastic substrate and “skin” of the instrument panel. The substrate is manufactured in the injection molding machine and the “skin” is manufactured in the thermoforming machine. In 2021, MDI emissions were 1.62 lb in 2021 and 0.41 lb during Jan-July 2022. This is in compliance with the 20 lb/month limit.

In the EUGLUEROBOT process glue (adhesive) is sprayed onto parts using robotic guns to attach plastic cover for the instrument panel. The annual emissions for 2021 was 48 lb and about 4 lb/month. During Jan-July 2022, the VOC emissions were 21.6 lb and about 4 lb/month.

FGCOLDCLEANERS – pertains to any cold cleaner that is grandfathered or exempt from AQD Administrative Rule R 336. 1201, permit to install requirements, pursuant to Administrative Rules R 336.1278 and R 336.1281(h) or R 336.1285(r)(iv). The existing cold cleaners were placed into operation prior to July 1, 1979, and new cold cleaners were placed into operation on or after July 1, 1979. During walk-through inspection, we visited the Safety Kleen parts washer that utilizes mineral spirits as cleaning solvent. At the time of the inspection, the lid was closed. He opened the lid for me. Inside of the lid had a written operational procedure prepared by the manufacturer posted. On Thursday, September 8<sup>th</sup>, I sent him a copy of the operating procedure generated by EGLE-ESD via email and requested him to post it near the cleaner.

**Conclusion:** Based on the onsite inspection and records review, Mayco International appears to be in compliance with the requirements of MI-ROP-N1316-2021.

NAME Sebastianykallemkal

DATE 09/21/2022

SUPERVISOR

Joyce