

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

A193249062

FACILITY: Royal Adhesives & Sealants		SRN / ID: A1932
LOCATION: 4401 PAGE AVE, MICHIGAN CTR		DISTRICT: Jackson
CITY: MICHIGAN CTR		COUNTY: JACKSON
CONTACT: Allison Burk, EHS Specialist		ACTIVITY DATE: 06/06/2019
STAFF: Stephanie Weems	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled FCE and Inspection		
RESOLVED COMPLAINTS:		

**Full Compliance Evaluation (FCE) and Inspection (PCE) of Royal Adhesives & Sealants (A1932), a HAP Synthetic Minor / Opt-Out Source.**

**Facility Contacts:**

Contact: Allison Burk – EHS Specialist

Phone: 517-841-7216

Email: Allison.burk@hbfuller.com

Website: royaladhesives.com

**Purpose**

On June 6, 2019, I conducted an unannounced compliance inspection of Royal Adhesives & Sealants, located at 4401 Page Ave., Michigan Center, Michigan in Jackson County. The purpose of the inspection was to determine the facility's compliance status with the applicable federal and state air pollution regulations, particularly Michigan Act 451, Part 55, Air Pollution Control Act and administrative rules, and Permit to Install (PTI) 99-10B.

**Facility Location**

The facility is located within the city of Michigan Center. It is surrounded by commercial and industrial establishments to the north. To the south, a large parcel of wooded area and a river separate it from a residential area. See Image 1 for aerial photos.

**Facility Background**

Royal Adhesives & Sealants is a global manufacturer and marketer of high-performance adhesives, sealants, encapsulants, and polymer coatings. These products are used in a variety of markets, including aerospace and defense, automotive, recreational vehicle, bus, truck and trailer, rail, marine, insulated glass, solar, wind, assembly, electrical, electronics, filter, printing, packaging, laminating, and roofing and flooring.

They offer their customers a wide variety of thermosetting epoxy, urethane, and methyl methacrylate structural adhesives, moisture cured urethanes and MS adhesives and sealants, butyl and MS reactive hot melt adhesives and sealants, cyanoacrylate and anaerobic adhesives, energy cured acrylate adhesives and coatings, and rubber and acrylic based adhesives, sealants and polymer coatings.

Royal Adhesives & Sealants was acquired by HB Fuller on October 20, 2017.

The last inspection conducted at this facility was on May 14, 2015. At that time, the facility was found to be in compliance.

**Regulatory Applicability**

Active Permits: HAP Opt-Out Permit PTI 99-10B for mixing, storage, priming, caulking, and extrusion of adhesives, sealants, and coatings.

As determined during this inspection, one of the generators at the facility is subject to 40 CFR Part 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

As determined during this inspection, the facility is subject to 40 CFR Part 63, Subpart VVVVV - National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources, as well as 40 CFR Part 63, Subpart A - General Provisions.

### **Arrival & Facility Contact**

No visible emissions or odors were observed upon my approach to the facility. I arrived at approximately 9:29 am, proceeded to the facility office to request access for an inspection, provided my identification, and asked if our previous contact, Dan Dixon, was available. Dan was not available, and is no longer our contact for this facility, so I met with Allison Burk, the site's EHS Specialist. Teresa Eland, the Corporate Project Engineer, and Jeff Waller, the Regional EHS Manager, also accompanied us. I informed them of my intent to conduct a facility inspection and to review the various records required by their permit. They extended their full cooperation during the inspection, accompanied me during the full duration of the inspection, and fully addressed my questions.

### **Pre-Inspection Meeting**

Allison explained that the facility is currently running three shifts. She stated they run 24 hours a day, 5 days a week, but sometimes business demands require running on the weekends. They currently have approximately 290 employees.

Allison indicated that this year has been busier than usual.

I provided Allison with a copy of the most recent inspection report so that she could have that for her records. I indicated that she will be receiving a copy of this report once it is finalized. I also provided her with a copy of PTI 99-10B and indicated that I intended to see the processes outlined in the permit, as well as any other processes that would help with my understanding of their facility. Finally, I provided Allison with a list of recordkeeping/monitoring information that I would like to review. That list can be found under the recordkeeping review portion of this report. She said she would email them to me.

### **Onsite Inspection**

Safety glasses and steel-toed boots are required. No photos can be taken.

#### **FG-CAULK**

We began the tour by observing FG-CAULK. This flexible group consists of 4 mixers (EU-MIX\_D1, EU-MIX\_WP2, EU-MIX\_WP1, and EU-MIX\_BUSS). This process is for the manufacturing of solvent based butyl caulking. During my inspection, the covers to the mixers were all closed, appearing to be operating properly as according to their permit.

#### **FG-DOLPHIN**

Next, we observed FG-DOLPHIN, another set of mixers (EU-DLMIX\_DBL1, EU-DLMIX\_DBL2, EU-DLMIX\_300G, EU-DLMIX\_COW, EU-DLMIX\_SHAR, EU-DLMIX\_HSD4, EU-DLMIX\_MÉY, EU-DLMIX\_CC1, and EU-DLMIX\_CC3) that are used to manufacture solvent based adhesives, sealants, and coatings. Allison indicated that the end material to come from these mixers is considered to be a solid based upon its viscosity level.

#### **EU-KALAR**

We then observed EU-KALAR. This process includes a banbury mixer, an extruder/pelletizer, a conveyor, a shaker/cooling, and a rotating drum cooler which are used to create pelletized butyl rubber compounds. Allison explained to me how the emissions are routed to the Torit dust collector, showing me which ducts were used and connected to the collector.

#### **FG-TO1**

Allison then showed us to FG-TO1, which consists of two rubber extrusion lines (EU-KALENE and EU-ISOLENE). These lines are controlled with a thermal oxidizer that was operating at 1546 degrees F at the time of the inspection, complying with the requirements of their permit. Allison explained that, if the temperature in the thermal oxidizer drops below 1500 degrees F, the operations stops and an alarm will sound.

#### **FG-SEDMIXERS**

FG-SEDMIXERS were observed next. This group is a collection of mixers (EU-MIXOP1\_1, EU-MIXOP1\_2, EU-MIXOP1\_4, EU-MIXOP1\_5, EU-MIXOP1\_6, EU-MIXOP1\_8, EU-MIXOP1\_9, and EU-MIXOP1\_QM) used to

manufacture butyl tape compounds and ethylene vinyl acetate compounds. Again, Allison outlined the dust collector ducts running from the process to the Torit dust collector. We then walked outside to view the dust collector. It appeared to be well maintained. Allison informed me that EU-MIXOP1\_4 doesn't run very often, and EU-MIXOP1\_9 is not in operation starting this year.

#### FG-EPDMPRIMING

Next, we walked over to the area that houses the FG-EPDMPRIMING process. This flexible group includes two lines (EU-EPDM\_PRIMING1 and EU-EPDM\_PRIMING2) for solvent primer application on EPDM/TPO roofing tape. Allison explained how the process works, showing me the roll coater applicators that are used to apply the primer.

#### EU-S EA

Finally, I inquired about EU-S EA, a 3,500-gallon ethyl acetate storage tank that is included in the facility's permit. Previously it had been reported as removed. Allison led us outside to where their storage tanks are, explaining that most of the storage tanks are covered under an exemption. She pointed out the 2 ethyl acrylate storage tanks, stating that one is out of operation. She indicated that they don't have an ethyl acetate tank on site, but she has been reporting for the ethyl acrylate under EU-S EA in MAERS.

#### Facility Wide Observations

The facility housekeeping was satisfactory. All materials appeared to be kept in closed containers. No odors were detected at any time during the inspection.

#### Recordkeeping Review

I supplied Allison with the following list of records (as outlined in the facility's PTI) that I intended to review:

1. Monthly and 12-month rolling time period emission calculation records for PM10 for EU-KALAR, FG-SEDMIXERS, FG-DOLPHIN, FG-CAULK, and FG-FACILITY.
  - *Records show compliance*
2. Monthly and 12-month rolling time period emission calculation records for VOC for EU-S\_EA, FG-DOLPHIN, FG-CAULK, and FG-FACILITY.
  - *Records show compliance*
3. Monthly and 12-month rolling time period records for the total amount of powder used in FG-SEDMIXERS and FG-DOLPHIN.
  - *Records show compliance*
4. Monthly and 12-month rolling time period records for the total amount of talc used in FG-SEDMIXERS, FG-DOLPHIN, and FG-FACILITY.
  - *Records show compliance*
5. Monthly and 12-month rolling time period records for the total amount of silica used in FG-SEDMIXERS and FG-DOLPHIN.
  - *Records show compliance*
6. Monthly and 12-month rolling time period records of the amount of solvent and ethyl benzene used in FG-DOLPHIN.
  - *Records show compliance. Records indicate that products containing ethyl benzene have not been used in the FG\_DOLPHIN batches reported during the requested period.*
7. Monthly records of gallons and/or pounds used of each VOC containing material for FG-CAULK.
  - *Records show compliance*
8. Monthly records of VOC content, in pounds per gallon or pounds per pound, of each material for FG-CAULK.
  - *Records show compliance*
9. Monthly records of pounds used of each powder material for FG-CAULK.
  - *Records show compliance*
10. Monthly record of each material used in FG-EPDMPRIMING:
  1. The identification of each product
  2. VOC content in pounds per gallon (minus water) or weight percent as received and as applied for each product.
  3. Amount in gallons or pounds of each product used.
  - *Records show compliance*
11. Monthly VOC emission calculations determining a 12-month rolling time period emission rate in tons per year for FG-EPDMPRIMING

- *Records show compliance*
- 12. A current listing of the chemical composition of each material used in FG-EPDMPRIMING, including the weight percentage of each component. (This could consist of SDS, manufacturer's formulation data, or both)
  - *Records show compliance*
- 13. Monthly records of pounds of each rubber material used for FG-TO1
  - *Records show compliance*
- 14. Monthly records of VOC mass emission calculations determining the monthly emission rate in tons per calendar month for FG-TO1
  - *Records show compliance. EU-Kalene and EU-Isolene make up FG-TO1.*
- 15. Monthly records of VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period for FG-TO1.
  - *Records show compliance. EU-Kalene and EU-Isolene make up FG-TO1. Each EU calculated separately, but together make FG-TO1.*
- 16. Records of temperature in thermal oxidizer.
  - *Shows compliance*
- 17. Monthly records of gallons and/or pounds used of each VOC and HAP containing material for FGFACILITY
  - *Records show compliance*
- 18. Monthly records of HAP content, in pounds per gallon or pounds per pound, of each material for FGFACILITY
  - *Records show compliance*
- 19. Monthly records of VOC content, in pounds per gallon or pounds per pound, of each material for FGFACILITY
  - *Records show compliance*
- 20. Monthly records of pounds used of each powder material for FGFACILITY.
  - *Records show compliance*
- 21. Monthly and 12-month rolling time period emission calculation records of each individual HAP, and total HAPS for FGFACILITY.
  - *Records show compliance*
- 22. Emission records showing compliance with exempt units per Rule 290 or units exempt by rule other than Rule 290.
  - *Records show compliance.*

### **Post-Inspection Meeting**

Upon completion of the inspection, I held a post-inspection discussion with Allison, Teresa, and Jeff. We discussed the requested records and when they would be expected by. I thanked them for their cooperation and assistance and departed the facility at approximately 10:48 AM.

After the inspection I had a few more questions for Allison. I sent Allison an email (located with this report in the file) on June 6, 2019 inquiring about the facility's boilers and generators that were reported for their MAERS. I asked for specifications for each boiler and generator at the facility. I also informed Allison that, based upon the fact that she said one of the materials they use contains lead chromate, there is a possibility that the facility could be subject to 40 CFR Part 63 Subpart CCCCCC – National Emission Standard for Hazardous Air Pollutants (NESHAP) for Area Sources: Paints and Allied Products Manufacturing. I informed her that EGLE is not delegated to enforce this regulation, but she should determine if her facility is subject to it, and if so, how they should comply. Lastly, I asked Allison what exemption the facility has been using for the storage tanks that they have on site.

Allison responded to my request for information on June 14<sup>th</sup>. She provided the requested recordkeeping information as well as information about the 3 boilers and 2 generators at the facility. She stated the following:

- Boiler 1 (West) is a low-pressure boiler. 15 PSI, 20 HP, 835,000 Input Btu.
- Boiler 2 (East) is a low-pressure boiler. 15 PSI, 20 HP, 628,000 Input Btu.
- Boiler 3, the Mohawk boiler, is a high-pressure boiler. 150 PSI, 60 HP, 2,700,000 Input Btu.
- The Briggs & Stratton generator is rated at 20KW, 993cc. It was installed in October of 2011.
- The Generac generator is rated at 15KW, 1.5 L. It was installed in April of 2002.

Subsequent requests for clarifying information were submitted to Allison, and she more than graciously provided answers to all my requests. These correspondences can be found with this report in the facility's file.

On July 12, 2019 AQD staff were made aware of a list of facilities that could potentially be subject to 40 CFR Part 63 Subpart VVVVVV (6V) - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Chemical Manufacturing Area Sources. This list was compiled by EGLE's Environmental Support Division based upon a facility's North American Industry Classification System (NAICS) code. Since Royal Adhesives was on the list, I requested that Allison determine whether they were subject to the regulation.

On August 2nd Allison informed AQD staff that Royal Adhesives is subject to NESHAP 6V. She indicated that the facility has uncontrolled emission of less than 400 pounds per year of metal HAPs, as defined in the regulation.

NOTE: Since Allison determined the facility to be subject to NESHAP 6V the facility would not be subject to NESHAP 7C as being subject to 7C exempts a facility from being subject to 6V.

I requested that Allison submit all recordkeeping documents required to show compliance with this subpart along with a formal initial notification as outlined by the regulation. On August 8th I received the records for the number of batches that is required to be kept according to the subpart. Additionally, Allison indicated that there are no maintenance records because maintenance hasn't been required for this unit in a number of years. I advised Allison that, once maintenance is required, to keep all associated maintenance records for future compliance. Allison indicated that she will be submitting the Notification of Compliance Status (NOCS) by August 31st.

### **Permit Condition Compliance Review**

All three boilers are exempt from permitting under Rule 282(2)(b)(i).

These boilers are not subject to 40 CFR Part 63 Subpart JJJJJJ because they burn only natural gas. Additionally, they are not subject to a New Source Performance Standard (NSPS) regulation because their heat input capacity is below 10 million Btu/hour, respectively.

The 2 emergency generators at the facility are exempt from permitting under Rule 285(2)(g).

The Generac generator installed in April of 2002 is exempt from 40 CFR Part 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines because of its installation date of April 2002.

The Briggs & Stratton generator is subject to 40 CFR Part 60 Subpart JJJJ as it is a stationary spark ignition internal combustion engine between 25 and 100 HP that commenced construction after June 12, 2006. Allison submitted the product and emissions warranty booklet for this engine, as well as maintenance records for the unit. These can be found with this report in the facility file. During our correspondence, she included pictures of the generator (Image 3) and the plate on the engine (Image 2). When comparing the Engine Family number on the label to the annual certification data excel sheet supplied by the EPA it appears that the engine is an EPA certified engine. She also included a photo of the non-resettable hour meter on the unit (Image 4). She explained that the numbers blink rapidly, so it is difficult to get a picture with all of the numbers lit up, but the generator has a total number of 207 hours since 2011. It appears that the facility is in compliance with this subpart.

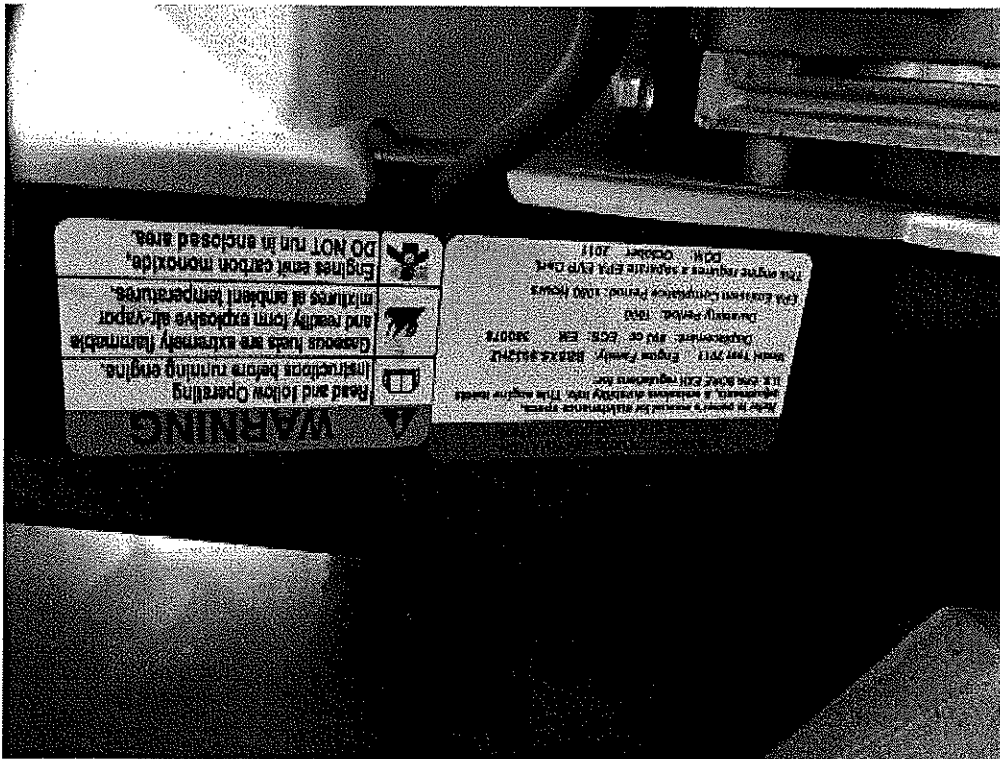
The storage tanks at the facility are exempt from permitting under Rule 284(2)(i). See attached information submitted by Allison for the psia for each material/tank.

### **Compliance Summary**

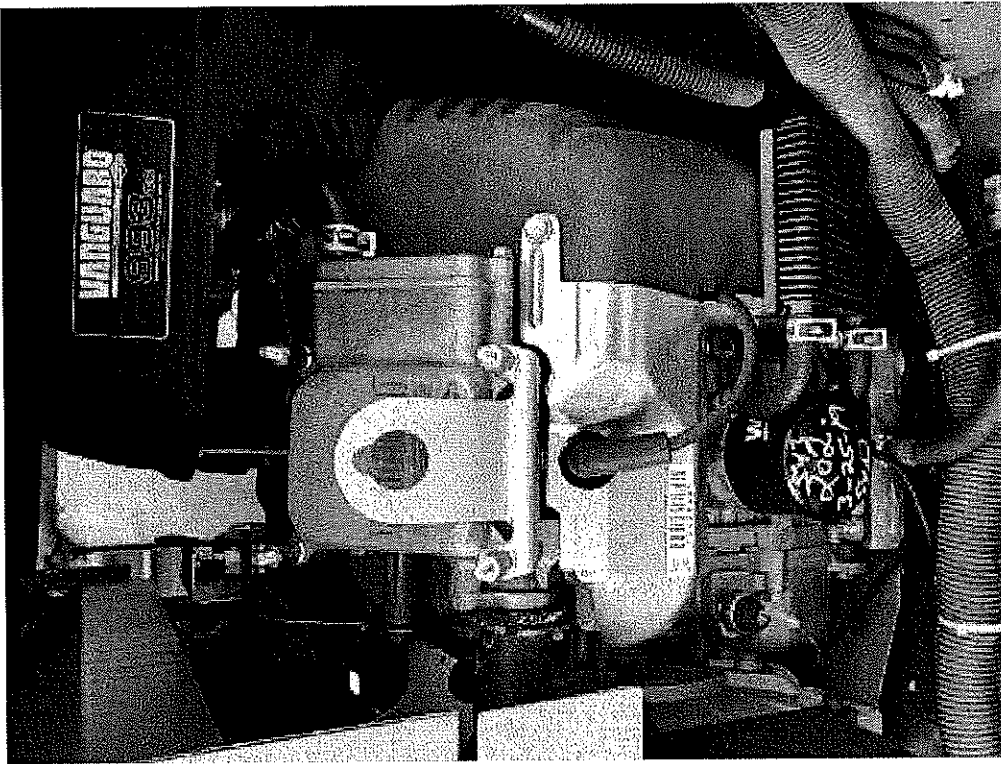
Based upon the facility inspection, review of the records, and review of applicable requirements the company was found to be in compliance at the time of this inspection.



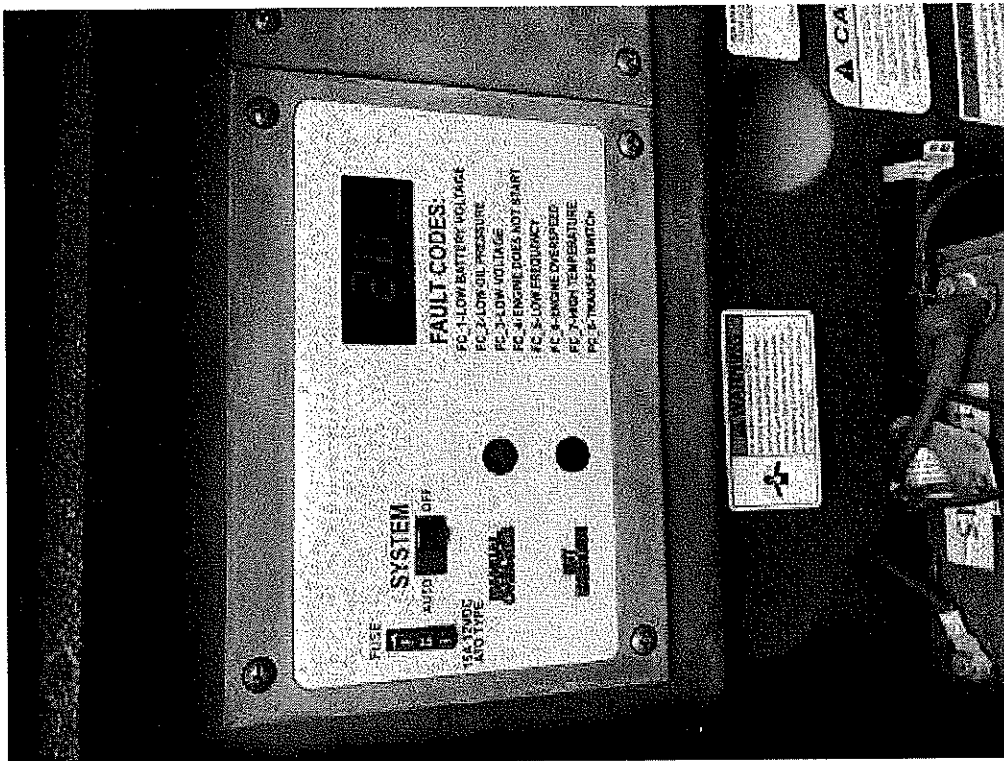
**Image 1(1) :** Aerial view



**Image 2(2) :** Label on Briggs & Stratton engine. Image supplied by Allison of Royal Adhesives.



**Image 3(3)** : Image of engine supplied by Allison of Royal Adhesives.



**Image 4(4)** : Image of hour meter supplied by Allison of Royal Adhesives.

NAME Steph Wain

DATE 8.9.19

SUPERVISOR SC