

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

P084057061

<b>FACILITY:</b> Saint-Gobain Performance Plastics		<b>SRN / ID:</b> P0840
<b>LOCATION:</b> 3910 Terry Diane Street, BEAVERTON		<b>DISTRICT:</b> Bay City
<b>CITY:</b> BEAVERTON		<b>COUNTY:</b> GLADWIN
<b>CONTACT:</b> Greg Reno , Environmental, Health and Safety Specialist		<b>ACTIVITY DATE:</b> 02/17/2021
<b>STAFF:</b> Nathanael Gentle	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MINOR
<b>SUBJECT:</b> Scheduled compliance inspection.		
<b>RESOLVED COMPLAINTS:</b>		

On Wednesday, February 17, 2021, AQD District staff conducted a scheduled inspection at Saint-Gobain Performance Plastics (SGPP) in Beaverton, MI. Staff arrived onsite at 10:00 AM and departed at 11:45 AM. Mr. Greg Reno (Environmental, Health and Safety Specialist) and Jason LaPratt (Environmental, Health and Safety Manager) were onsite to answer questions and provide a tour of the facility. The purpose of the inspection was to evaluate compliance with PTI 125-17A and applicable air quality laws and rules.

### Facility Description

Saint-Gobain Performance Plastics is located in Gladwin County at 3910 Terry Diane Street Beaverton, MI 48612. The facility is located within an industrial park with residences in the surrounding area. The Beaverton facility employs 289 people with plans to increase that number to 377 employees. Saint-Gobain is a global company with facilities in 70 countries, employing more than 170,000 people. The company produces a wide variety of products. At the facility in Beaverton, MI silicone rubber tubing products are produced, including products used to manufacture the COVID-19 vaccine. The facility is a minor source for all criteria pollutants with its primary emission being VOCs.

### Facility History

Saint-Gobain Performance Plastics was first inspected on March 17, 2017. Following the 2017 inspection, the facility was determined to be in compliance with Michigan Air Pollution Control Rules utilizing exemption Rule 290 for isopropyl alcohol (IPA) emissions. As production at the facility increased, personnel realized IPA emissions would eventually exceed Rule 290 limits. The facility applied for PTI No. 125-17 which was issued on September 21, 2017 with an IPA emission limit of 1,500 lbs/month. The most recent inspection was conducted on July 24, 2019. At the time of the 2019 inspection, the facility was operating two clean rooms, but was in the process of expanding the facility, adding additional clean rooms. Being the facility was not adding any different processes, just expanding silicone rubber production, personnel applied for a modification to their existing PTI. PTI 125-17A was issued in August 2020. The new PTI has an IPA emission limit of 2,500 lbs/month. No complaints or violations are on record for the facility.

### Process Description

The Saint-Gobain Performance Plastics facility consists of six clean rooms. At the time of inspection, five clean rooms were in operation. The sixth clean room is expected to be in operation soon once the certifications required for production that will be conducted in the room

are completed. The clean rooms are used to produce silicone products using both platinum and peroxide based catalysts. More products currently produced are done so using a platinum based catalyst. Facility personnel said the facility will likely shift to using only platinum based catalysts in the future. The silicone products are produced using both silicone extruders and mold pressing machines. Once clean room six is used in production, the facility will be operating 12 automatic mold presses as well as an additional three to four manual mold presses. No new extruders or electrically heated post cure ovens were added during the recent renovations. The facility still operates seven extruders and six electric post cure ovens.

The process begins by first milling the silicone into the desired consistency and ratio that is required for the product being produced. The material is then fed into an extruder where it is heated by an attached electric cure oven as well as quality checked. Some tubing produced by extrusion is placed in an electric post cure oven for final treatment. A variety of products are also produced using molding presses. Silicone used in the automated mold presses is automatically mixed, with no need for milling by hand. Interchangeable molds allow for a wide variety of seamless products, incorporating both silicone tubing produced by the extrusion process, as well as other components, to be produced.

Isopropyl alcohol (IPA) is the primary source of VOC emissions for the facility and is the only permitted activity incorporated in PTI 125-17A. IPA is used to clean equipment surfaces, finished products, and as a lubricant during production to prevent silicone rubber from sticking to the dies and molds. IPA shipped to the site is first stored in outdoor fireproof containers. Once IPA is brought into the facility it is stored in fireproof lockers near the packaging and storage area. IPA to be used in production is transferred to small, handheld, containers. When the small containers are not in use, they are stored in smaller fireproof lockers located within the cleanrooms. Two concentrations of IPA are used at the facility, 70% and 99%. Monthly emission records are kept for each grade in pounds per month. Monthly records for the last 12 months were provided as part of the inspection. Adequate records appear to be maintained and the recorded emissions are below permitted limits. It is assumed 100% of the IPA used is emitted as fugitive emissions into the general in plant environment and through the facility's HVAC system.

Facility stacks are associated with the extrusion process and post cure ovens only. All other emissions are in plant and into the facility's HVAC system. The HVAC system has a plenum allowing for recirculation of air and to maintain positive pressure in the clean rooms.

In addition to the clean rooms, the facility has a maintenance area, a mold prep room, packaging and storage areas, and a materials laboratory where finished products are QA/QC'd and new products are developed and tested.

### **Exempt Emission Units**

Much of the equipment operated onsite operates under exemptions. During the 2017 inspection, an audit conducted by Conestoga-Rovers (now GHD Services) was provided. As part of the inspection, a R278/278a demonstration was requested. A response was submitted identifying units and the associated exemptions being used. Please see the 2017 inspection report for additional details. While the facility has expanded since this audit, as previously mentioned no new processes were employed, only expansion of the previous production practices. As a result,

the same exemptions are being implemented. The following processes and exemptions are being used by the facility and were observed while onsite:

R 336.1286(2)(a) and (b)- Silicone extruders used for extruding silicone rubber. Parts are cured in an integral, electronically heated cure oven. Molding presses.

- This exemption is listed for plastic processing equipment. As provided in the 2017 response, according to Hawley's Condensed Chemical Dictionary, plastic is defined as, "A high polymer, usually synthetic, combined with other ingredients, such as curatives... etc. Typical forms include... silicones." By this definition, silicone is a plastic and therefore the silicone extrusion and milling processes appear to qualify for this exemption.
- In addition, the response claimed that equipment associated with the extrusion and molding processes (such as milling equipment and electric cure ovens) would also be covered by this exemption as they are functionally related to those operations.

R 336.1283(2)(b) and (d)- Materials laboratory where finished products are QA and QC'd and new products are developed and tested.

R 336.1281(2)(h)- Cold cleaner located in the mold prep room. The cold cleaner appears to have an air/vapor interface less than 10 square feet. In addition, the unit is mechanically covered when not in use and operating instructions are visibly posted. Facility staff report waste is handled by Safety-Kleen.

R 336.1285(2)(l)(vi)- Machining units in the maintenance room are self-contained with no stacks to the outside atmosphere.

R 336.1287(2)(c)- Ink-jet style printers used to label finished products with the company logo. Onsite staff reported that the facility uses significantly less than 200 gallons of ink per month.

## Compliance Evaluation

As previously mentioned, Saint-Gobain Performance Plastics has one Permit to Install, PTI No. 125-17A. The permit establishes an emission limit of 2,500 lbs/month of isopropyl alcohol with record keeping requirements. As part of the inspection, facility records of IPA emissions for the last 12 months were provided and reviewed. Appropriate records appear to be in place. The facility remained below the emission limit for all months reviewed.

## Compliance Determination

At the time of this inspection, Saint-Gobain Performance Plastics appears to be in compliance with PTI No. 125-17A and applicable air quality laws and rules.

NAME \_\_\_\_\_

DATE 3/1/2021

SUPERVISOR \_\_\_\_\_

*Nathanael Gentry*

*Chris Hare*