

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

N390060577

FACILITY: Essentra Porous Technologies		SRN / ID: N3900
LOCATION: 5301 S Graham Rd, SAINT CHARLES		DISTRICT: Bay City
CITY: SAINT CHARLES		COUNTY: SAGINAW
CONTACT: Tony Joles , EH&S Product Development Engineer		ACTIVITY DATE: 10/22/2021
STAFF: Gina McCann	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Inspection of PTI 470-93E		
RESOLVED COMPLAINTS:		

Filtrona Porous Technologies produces polyurethane foams. This inspection was initiated by Filtrona's modification PTI application 470-93E for the addition of one extra production line. PTI 470-93E covers 2 pre-polymer reactors, 5 slab stock foam production lines, and five electric microwave drying ovens. File review showed that AQD staff had not been on site since 2010. This site was in compliance with its permit and applicable air rules at the time of inspection.

I met with Tony Joles, EH& S/Product Development Engineer and Katie Poffenbarger, Managing Director. Ms. Poffenbarger was only present during introductions and initial openings for the inspection. Mr. Joles provided a detailed tour of the facility and records for FGREACTORS in an email dated 10/15/2021.

The facility employees approximately 70 people. The plant operates in 12 hour shifts. The facility produces various polyurethane foams for use in the medical industry. Polyethylene Glycol (PEG) and Toluene Diisocyanate (TDI) are reacted to form a polyurethane prepolymer. Prepolymer is mixed daily and stored in totes for specific jobs. The portable totes are sent to a production line where the prepolymer is pumped to a mix/application head which contains an aqueous solution specific to the type of polyurethane being produced. Foam is laid out to a specific thickness in between two carrier films and allowed to react/cure in an exothermic reaction as it travels along a conveyor through the electric drying ovens. The prepolymer metering and mixing is specific to the product being made, therefore it is very controlled. We observed liquid being laid out on the carrier films by the mix/application heads, the film travels through a covered or uncovered (depending on the line) conveyor for roughly 100 feet where it is rolled onto tubes for further processing into specific products. Typical products resulting from the polyurethane foam production include N95 masks, pillow pads for hospital beds, wound care absorbents, medical/cosmetic foams with specific physical properties.

TDI emissions from the facility are controlled by a water scrubber. The scrubber controls exhaust from all mixing lines and production lines. The scrubber is located in an enclosed room where the TDI tank is also located. The ambient TDI emissions are monitored for the room and are shown on a local readout by the entrance door. During the inspection, the TDI emissions were higher than protocol allowed for entry. Therefore, I did not observe the scrubber.

The permit restricts the number of prepolymer batches to 8 per 24 hour calendar day. Special condition VI.1. is the associated monitoring and recordkeeping requirement that requires the plant to record the volume of each batch produced and the quantity of batches produced each 24 hour calendar day period. I reviewed 2019 through 2021 batches produced per 24 hour period and gallons per batch. Generally, the facility uses 250-290 gallons per batch. The number of batches varies from day to day from 0-8. I spoke with the most recent permit engineer to understand the 8 batch per 24 hour calendar day permit limit. It appears the facility can make up to 8, but cannot exceed 8.

During the inspection Mr. Joles said training employees that no more than 8 batches per calendar day are made is the control in place to ensuring this limit is met.

FGFOAMLINES consists of 5 slab stock lines and 5 drying ovens. The only requirement in this flexible group is for the GACT OOOOOO, which restricts the use of methylene chloride for any purpose in the slabstock polyurethane foam production process. During the inspection I did review SDSs for the plant and did not see methylene chloride in any of them. I informed Mr. Joles that an initial notification

was required to EPA and that we do not have delegation of this subpart, but he could send a copy to us as well.

In addition to the permit I asked if there were any boilers or emergency engines on-site. Mr. Joles showed me a boiler, but since it was in the same room as the TDI I did not view the name plate on it. It appeared small and is likely exempt from R201 permitting. However, I did send Mr. Joles information on the NSPSs for boilers. I am still waiting for a response.



NAME _____

DATE 11/10/2021SUPERVISOR Chris Hare