

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

N672773654

FACILITY: Westrock-Multi Packaging Solutions		SRN / ID: N6727
LOCATION: 504 Eastern Avenue, ALLEGAN		DISTRICT: Kalamazoo
CITY: ALLEGAN		COUNTY: ALLEGAN
CONTACT: Samantha Ontiveros , EHS Manager		ACTIVITY DATE: 07/30/2024
STAFF: Cody Yazzie	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On July 30, 2024 Air Quality Division (AQD) staff (Cody Yazzie) arrived at 504 Eastern Avenue, Allegan Michigan at 2:00 AM to conduct an unannounced air quality inspection of Smurfit Westrock (hereafter SWR) SRN (N6727). Staff made initial contact with the office receptionist and stated the purpose of the visit. Samantha Ontiveros, SWR, EHS Manager, is the site contact and arrived shortly thereafter and took staff to a conference room for further discussions.

This source is an existing facility that prints cartons and labels primarily for the pharmaceutical industry. The facility includes a variety of flexographic printing presses, as well as adhesive applicators. During the most recent permit modification it was noted that the source is a synthetic minor source of Volatile Organic Compounds (VOCs). The facility currently has approximately 80 staff members onsite. The company operates four shifts a day on a 24 hours per day seven days a week schedule. The facility was previously known as Multi Packaging Solutions. It was recently bought by the Smurfit Westrock.

SWR was last inspected by the AQD on December 3, 2014 and appeared to be in Compliance at that time with PTI No. 225-05D Staff asked, and Mrs. Ontiveros stated that the facility does not have any boilers or cold cleaners

Mrs. Ontiveros gave staff a tour of the facility. Required personal protective equipment are safety glasses, steel toe boots, hard hat, and hearing protection. Staff observations and review of records provided during and following the inspection are summarized below:

FGALLPermittedEU:

This flexible group has a total of three label presses, one carton press, one plate making process, and tw folder gluers used in the label making process. In the most recent modification, the facility added EU-CartonPress01 to the permit that was issued on May 20, 2024. During the inspection this emission unit had not been installed yet. The emission units that are permitted under this flexible group include: EU-LabelPress01, EU-LabelPress07, EU-LabelPress08, EU-CartonPress01, EU-CartonPress02, EU-CartonPress03, EU-PlateMaking, EU-FolderGluer01, and EU-Folder-Gluers02.

The facility has emission limits for both VOC and Acetone. The facility is required to calculate and maintain the VOC and acetone emissions on a monthly basis. As a part of these records the facility is required to maintain records of the usage rate, VOC content of each material with and without water, 12-month rolling emissions calculations for both VOC and acetone, and the VOC emission calculations determining the volume of VOCs in the inks (including additives) and coatings as a percentage of the total volatile fraction including water on an instantaneous basis.

The facility currently calculates all the VOC and Acetone emissions plant wide. For FGALLPermittedEU there is a 22.5 TPY VOC emission limit and 4.5 TPY emission limit based on a 12-month rolling period. For the VOC calculations the facility lists out each ink, additive, toners, metallics, coating, adhesive, and cleaning solvent used in the operations and identifies the VOC weight percent, water weight percent, and specific gravity. Calculations for VOC emissions use the VOC weight percent of the coating material and the amount used in specified month to calculate emissions. Plant wide 12-month rolling VOC emissions were provided for the period of December 2022 through June 2024. The largest 12-month rolling VOC emissions during that time period was 2.93 TPY in August 2023. This is well below the permitted limit.

Acetone is calculated in a similar fashion as the VOC emissions. Staff was provided with plant wide 12-month rolling acetone emissions calculations for the time period of December 2022 through June 2024. The largest 12-month rolling acetone calculations was calculated to be 0.06 TPY. This is well below the permitted limit.

The facility has an instantaneous material limit for the VOC content of the inks and coatings used in FGALLPermittedEU for not exceeding 25% by volume of the total volatile fraction as applied or the non-volatile fraction must be greater than 60% by volume of coating or ink, minus water, as applied. Staff was provided with the calculations to show compliance. The facility calculates using VOC density and the weight percent solids to calculate this value. This calculation does not appear to be correct as the calculation should compare the volume of the VOC in the coating or ink to the total Volume of ink or coating. The facility identified four different coatings/inks in their calculations that were exceeding the 25% VOC by volume material limit. These coatings/inks are FSI-87071 (TruMet 871 Gold FD), FSI-8074 (TruMet 874 Gold FD), FSI-87075 (TruMet 875 Bronze FD), and FSI-87076 (TruMet 876 Copper FD). All these inks/coatings had a calculated VOC percentage by volume as 31.8167%. SWR indicated that they had sent off samples of these inks/coatings to be method 24 tested to confirm the VOC percent by volume calculation. Staff indicated to the facility that AQD would like the results submitted to AQD and if the test results come back exceeding the permitted material limit a violation notice may be sent at that time.

Special condition V.1 requires that the facility determine the VOC content of any material as received and as applied using federal Reference Test Method 24 or 24A. SWR is allowed to use manufacturer's formulation data if they are given written approval by the AQD District Supervisor. SWR appears to have received approval to use manufacture's formulation data for the water-based inks, glues, and related materials because it was documented that AQD and JH Packaging had taken several samples of water-based inks and related materials and had issues with the irreproducibility of the sample results.

FGPresses24:

This flexible group has a total of two label presses and one carton press. These emission units were previously operated under Rule 290 and not previously permitted. The emission units associated with this flexible group are EU-LablePress10, EU-LabelPress11, and EU-CartonPress04.

For this flexible group the VOC and acetone emissions are combined. The facility currently calculates all the VOC and Acetone emissions plant wide. For FGAPresses24 there is a 29.57 TPY VOC and acetone combined emission limit based on a 12-month rolling period. As noted in FGALLPermittedEU the VOC calculations the facility lists out each ink, additive, toners, metallics,

coating, adhesive, and cleaning solvent used in the operations and identifies the VOC weight percent, water weight percent, and specific gravity. Calculations for VOC emissions use the VOC weight percent of the coating material and the amount used in specified month to calculate emissions. Plant wide 12-month rolling VOC emissions were provided for the period of December 2022 through June 2024. The largest 12-month rolling VOC emissions during that time period was 2.93 TPY in August 2023. This is well below the permitted limit. Adding the largest acetone emissions during the 12-month rolling time period of 0.06 TPY would make the largest combine VOC acetone emissions be 2.99 TPY plant wide. This is well below the permitted limit.

SWR also has a dimethylethanolamine (DMEA) limit of 2.76 TPY based on a 12-month rolling time period. In the DMEA calculations the facility appeared to only calculate DMEA emissions for solvent additives FSI-1501 (Clean Print) and FSI-1503 (Refresh Stabilizing Reducer). During the inspection review Staff reviewed the SDS sheets for the following: FSI-1613 – Transparent White, FSI-10010 – Yellow, FSI-1503 – Refresh Stabilizing Reducer, 1812D – WB Overprint Varnish, and 42906 – Resin Adhesive. In the review it was noted that DMEA was listed in Section 3 of the SDS's for the following materials: FSI-1613 – Transparent White, FSI-10010 – Yellow, and FSI-1503 – Refresh Stabilizing Reducer. The facility does not appear to be accounting for all the materials with DMEA emissions in their calculation. This appears to be violation of Special Condition VI.3.

The facility did provide facility wide DMEA emissions for the time period of December 2022 through June 2024. The largest calculated DMEA emissions during that time period was 1.18 TPY. While it is not including all the inks and other coating materials that have DMEA as previously identified the calculation would increase. It is unclear whether the increase would be enough to affect compliance with the emission limit.

During the inspection Staff was provided with plant wide emissions calculations for the pollutants that SWR has emission limits for individually within each flexible group. While currently the plant wide emissions are low enough that total plant wide emissions are below the flexible group emission limits it was discussed with the facility that an increase of emissions near the emission limits would require SWR to breakdown emissions into their appropriate flexible groups to demonstrate compliance.

Special condition V.1 requires that the facility determine the VOC content of any material as received and as applied using federal Reference Test Method 24 or 24A. SWR is allowed to use manufacturer's formulation data if they are given written approval by the AQD District Supervisor. The January 2006 approval letter indicates that it is specifically for the PTI No. 225-05 which would include the FGALLPermittedEU equipment. With the permit modification that was issued on May 20, 2024 and the new addition of FGPresses24 SWR should obtain and request approval for these materials as well.

Conclusion:

At the time of the inspection and based on a review of records obtained during or following the inspection, the facility appears to be in non-compliance with PTI No. 225-05F. Staff stated to Mrs. Ontiveros that a report of the inspection would be sent to the facility for their records. Staff concluded the inspection at 3:00 PM.-CJY

NAME Cady Yegor

DATE 9/25/24

SUPERVISOR Merrill