



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604**

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Intertape Polymer Group, Marysville, Michigan

FROM: Erin DuMontelle, Environmental Engineer
AECAB (MI/WI)

THRU: Sarah Marshall, Section Supervisor
AECAB (MI/WI)

TO: File

BASIC INFORMATION

Facility Name: Intertape Polymer Group

Facility Location: 317 Kendall Avenue, Marysville, MI 48040

Date of Inspection: June 28, 2023

EPA Inspector(s):

1. Erin DuMontelle, Environmental Engineer
2. Veronica Fischer, Environmental Engineer
3. Natalie Schulz, Environmental Engineer

Other Attendees:

1. Jonathan Seals, EHS Manager
2. Steve Matthews, Coating Manufacturing Manager
3. John Fortsch, Process Engineer
4. Sebastian Kallumkal, Michigan Dept. of Environment, Great Lakes and Energy

Contact Email Address: Jonathan Seals, jseals@itape.com

Purpose of Inspection: to perform an inspection of coating operations for toluene emissions and to inspect for 112(r) applicability or General Duty Clause applicability due to a recent incident at the facility

Facility Type: Adhesive Tape Manufacturing

Regulations Central to Inspection: 40 C.F.R. Part 63 Subpart JJJJ – National Emissions Standards for Hazardous Air Pollutants: Paper and Other Web Coating and 40 C.F.R. Part 63

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Subpart HHHHH – National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing

Arrival Time: 8:30 AM EST

Departure Time: 1:45 PM EST

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☒ Small Business Resource Information Sheet not provided. Reason: Not a small business
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Jonathan Seals, Steve Matthews, or John Fortsch unless otherwise noted.

Company Ownership: The corporation was bought out by Clearlake Capital Group in 2022, but the facility still operates as Intertape Polymer Group.

Process Description:

Intertape Polymer Group (the facility) makes adhesives tapes of varying strengths. The adhesives are prepared from raw materials that are brought on site by truck. Toluene is unloaded into one of two underground storage tanks (UST).

1. The Adhesive

The adhesives are made in batches. Approximately sixty percent of adhesives start with a batching sheet in the Dry Mix area. The batching sheet provides the “recipe” which is a mix of dry powders and natural rubber. The material is loaded into a Banbury mixer that acts as a dough mixer and relies on the natural breakdown of the rubber to create the dough. Once mixed, the dough is sent through a chilled mill and pressed. The chilled dough is cut into strips and placed on to carts of layered drying mats. These mats store the rubber leaflets until they are sent to the Wet Mix area.

In the Wet Mix area, the drying mats are rolled to the mixing stations. There are three stations which are located seven to eight feet above ground level: Mixer #4, Mixer #5, and Mixer #6. Following the batching sheet, the dry ingredients are added to the mixer by weight, then there is a nitrogen purge before the toluene is hard piped into the mixer. A nitrogen blanket is placed over the materials for safety. The mixers are steam heated up to 85°F, and the leaflets break down in a chemical reaction. The mixture is sent to a churn to mix for allotted amount of time to further process before being emptied into a tote; Churn #4, Churn #5, and Churn #6. Emissions from the mixers and churns are routed to condensers before being exhausted to atmosphere.

The other thirty percent of the adhesives are mixed in the Wet Mix area in Churn #3. Man-made chipped rubber is added into Churn #3, and then toluene is hard-piped in. A CO₂ blanket is added manually by placing a block of dry ice over the shoot. The mixture is churned for a set length of time, depending on the batch before it is screened and added to a tote.

All totes are moved from the Wet Mix area to the Whip Room by forklift. Totes are color-coded into three categories: Topcoat, Base Coat, and Churn #3. These totes can hold any adhesive within their category.

The Whip Room acts as a staging and mixing area. About a third of the natural rubber totes are combined with curing additives at either the East or West Curing station. The ready totes are loaded onto platforms and connected so that they are hard piped to the coating lines. Once the totes have been emptied, they are moved to a cleaning station where a recirculation tank of toluene is used to dissolve and flush out the residual adhesive; the cleaning station is not connected to a control device. The solids are separated and sent out as hazardous waste. The toluene completes approximately 20 wash cycles before needing to be replaced.

2. The Coating Lines

The adhesive from the tanks that is hard piped to the coating lines goes to one of three separate lines: Line 1, Line 4, and Line 3. Line 1 and Line 4 are in the room next to the Whip Room; Line 3 is in one room further. Lines are set up with a master roll at the beginning.

At the beginning of each line, a water-based release agent is added. Line 1 and Line 4 have two units for adding adhesive: A Unit adds the base coat, and B Unit adds the topcoat. Line 3 has three units for adding adhesives: A Unit, B Unit, and C Unit. Each unit contains a coating area and an oven. The ovens are kept at approximately 240 – 400 F°. The coating areas are vented to the Solvent Recovery System (SRS) onsite, and emissions from the final ovens of each line are sent solely to the Regenerative Thermal Oxidizer (RTO). When units run water-based adhesives, the SRS connection is shut off.

The rolls reach the end of the line and are rewound and sent to the packaging area. They are placed onto slitting machines. There are four automatic slitters and one lathe slitter. There are no dust controls on the slitters, but most of the machining is enclosed for safety and sound hazard reduction. The final rolls are boxed up by either the machine or by hand and then sent to warehousing before being shipped off site.

3. The Solvent Recovery System

The emissions of Solvent Laden Air (SLA) from Units A and B of Line 1, Units A and B of Line 4, and Units 2, 3, and 4 of Line 3 are collected and transferred via 72" diameter ducting to the SRS. There is continuous monitoring on the SLA inlet and outlet. The SLA is pushed to the SRS holding tank before being pushed by underground absorbers to four carbon absorbers. Three of the absorbers accept air while the fourth removes buildup. The toluene that is stuck to the carbon is removed by steam that comes from a 30,000 mmBTU boiler. Liquid created from the condensing of the steam and toluene mix is sent to a decanter. The decanter separates the less dense toluene from the denser condensate; the toluene is sent back to the process while the steam is reheated into steam to use in the absorbers.

4. Other

The facility also has two pilot lines on site used for research and development. There is also a small spray booth onsite that is used on very rare occasions.

Staff Interview:

The facility has approximately 240 employees and operated 24 hours / 5 days per week. Each year, there is a scheduled shutdown for large repairs and projects. The facility is approximately 70 years old.

The facility ships some of the adhesive that is made within Mixer #6 and Churn #6 to other facilities; this operation is subject to NESHAP HHHHH. There is a CO₂ suppression

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system on site and alarms are tested on the first Wednesday of each month. The facility manages leak detection with visual and olfactory observations; there are continuous LEL monitors at the load ends of the coaters and the wet mix area. The facility also has personal monitors that are used during non-routine work.

The facility has a tank of isopropyl alcohol on site that is used as an alternative releasing agent. There are also two 20,000-gallon USTs for storing toluene. There are weekly additions to the toluene USTs.

There was a flash fire incident that occurred on Thursday, October 13, 2022. According to facility representatives, an employee had added the required dry material. Upon the addition of toluene, the material became clumped and would no longer mix; this forced a system shutdown of the process. During that shutdown, a radio fell into the open vessel. In trying to remove the radio, a spark ignited, and a flash fire occurred. The investigation by MIOSHA was still on-going at the time of EPA's inspection.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:

The tour started with the Dry Mix area where the batch sheet was reviewed for the materials that were staged. The dust collection system had a bucket to catch the dust. In the Wet Mix area, Mixer #6 was actively being loaded. Resin was being added per the reviewed batch sheet. It smelled strongly of toluene next to the mixer and the intensity of the smell grew with proximity to the churns. Emissions were seen coming from the mixer and churns using an Optical Gas Imaging (OGI) camera. Mixer #5 was down for maintenance. Mixer #4 was at the stage of adding the rubber leaflets to the mixer. Dust was seen exiting the opening of the mixer while waiting for the leaflets to be brought from the Dry Mix area. It was noted by IPG that normally there is one operator that runs Mixer #6 and one operator that runs Mixer #4 and Mixer #5.

In the Whip Room, the totes that were observed at the curing station and the cleaning station were open. The bay doors in the Whip Room and the rooms that contain the coating lines were open. Walked down Lines 1, 4, and 3. Line 3 was stated as being 190 yards in length. The static pressure of the line 3 fans was between 0" and 3.75". The RTO display showed that it was running at 1474°F to 1458°F across the media beds. The temperatures fluctuated while the inspectors were looking at it and went as low as 1438°F on the RTO panel. A VOC plume of emissions was seen coming from the RTO using the OGI camera.

The SRS was walked down, and OGI footage was taken of the absorber tanks. Footage was also taken of the manways of the underground storage tanks. Building 46 contains one of the pilot lines and the spray both, neither of which were in use. IPG stated that the pilot line is hooked up to the RTO. The second pilot line was also off, but it was noted that this line does not use toluene. All of the splitters were also shutoff due to the tour being at lunch time.

It was noted that the weather outside included blue skies and sunshine with a light breeze at the end of the inspection.

Photos and/or Videos: were taken during the inspection. Footage was captured with an Optical Gas Imaging camera.

RECORDS REVIEW

1. Batching Sheet for “Dry Stock” that was staged to be mixed.
2. Batching Sheet from batch being mixed into Mixer #6

CLOSING CONFERENCE

- ☒ Provided U.S. EPA point of contact to the facility

Requested documents:

1. A facility flow diagram that includes all process equipment, including the solvent recovery system (SRS), and pollution control equipment
2. Average number of batches of adhesive mixed and applied per day
3. The VOC records from the past three months AND June 1st through August 31st for the years 2020, 2021, and 2022
4. The Daily Usage Logs for adhesive on the three coating lines for the month of May 2023
5. RTO Temperature Logs from the last three months AND June 1st through August 31st for the years 2020, 2021, and 2022
6. Condenser Temperature and Flow Logs as required by the MCM MACT from the last three months AND June 1st through August 31st for the years 2020, 2021, and 2022.
7. The Capture System Monitoring Plan per 40 C.F.R. Part 63.3350(f) for JJJJ compliance
8. Semi-annual reports for the MCM MACT and the POWC MACT for the years 2018 through 2022
9. NOCS submitted under the MCM MACT and POWC MACT
10. The most recent stack test results for the RTO
11. The initial performance test results for the RTO
12. The date of install for the RTO
13. The most recent performance test results for the SRS capture and control
14. The date of install for the SRS
15. The latest purity test results for the collected toluene from the SRS
16. The facility’s original Title V Permit
17. The facility’s current Title V Permit
18. The facility’s last 10 years of construction permits and applications sent to the State
19. Calculations for facility-wide annual emissions
20. Calculations for capture efficiency
21. Calculations for condenser efficiency
22. Calculations for the daily SRS efficiency
23. Calculations for the RTO destruction efficiency
24. Calculations of emissions created and solvent recovery during tote washing
25. Calculations for the amount of toluene remaining in the product prior to being slit and packaged
26. Any other calculations performed by the facility to demonstrate compliance with JJJJ if not already included in the semi-annual report
27. The Receiving Logs for Toluene brought onsite from January 1st, 2020 through June 1st 2023
28. The SDS for the toluene onsite
29. Leak detection and repair logs for 2021, 2022, and January through June 2023
30. The facility’s Risk Management Plan

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Concerns: Emissions were seen with the OGI camera around the facility which included: the mixers, the churns, the open totes in the WHIP Room, along areas of adhesive application for the coating lines, the outlet of Line 3, the RTO, the vents on the absorbers, and from the manways on the underground storage tanks.

DIGITAL SIGNATURES

Report Author:  Digitally signed by ERIN
DUMONTELLE
Date: 2023.08.22 10:45:33
-05'00'

Section Supervisor: **SARAH
MARSHALL**  Digitally signed by SARAH
MARSHALL
Date: 2023.08.22 13:54:28
-05'00'

APPENDICES AND ATTACHMENTS

1. Appendix A: Digital Image Log

APPENDIX A: DIGITAL IMAGE LOG

1. Inspector Name: Veronica Fischer	2. Archival Record Location: Region 5 Electronic Record Center
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Image Number	File Name	Date and Time (CST)	Description of Image
1	IR_2976.jpg	6/28/2023 9:00 AM	<i>Claimed as CBI</i>
2	DC_2977.jpg	6/28/2023 9:00 AM	<i>Claimed as CBI</i>
3	IR_2978.jpg	6/28/2023 9:00 AM	<i>Claimed as CBI</i>
4	DC_2979.jpg	6/28/2023 9:00 AM	<i>Claimed as CBI</i>
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6	DC_2981.jpg	6/28/2023 9:03 AM	<i>Claimed as CBI</i>
7	MOV_2982.mp4	6/28/2023 9:04 AM	<i>Claimed as CBI</i>
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21	DC_2996.jpg	6/28/2023 9:16 AM	<i>Claimed as CBI</i>
22	MOV_2997.mp4	6/28/2023 9:18 AM	<i>Claimed as CBI</i>
23	MOV_2998.mp4	6/28/2023 9:21 AM	<i>Claimed as CBI</i>
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40	MOV_3015.mp4	6/28/2023 9:47 AM	<i>Claimed as CBI</i>

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51	DC_3026.jpg	6/28/2023 10:04 AM	<i>Claimed as CBI</i>
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53	IR_3028.jpg	6/28/2023 10:06 AM	<i>Claimed as CBI</i>
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62	DC_3037.jpg	6/28/2023 10:24 AM	<i>Claimed as CBI</i>

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