



REGION 5

CHICAGO, IL 60604

MEMORANDUM

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
DuPont Michigan Operations, Midland, Michigan

FROM: Constantinos Loukeris, Environmental Engineer
AECAB (MI/WI)

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

TO: File

BASIC INFORMATION

Facility Name: DuPont Michigan Operations

Facility Location: 3400 South Saginaw Road (I-Park), Midland, MI 48640

Date of Inspection: May 14-16, 2025

EPA Inspector(s):

1. Constantinos Loukeris, Environmental Engineer
2. Gunnar Brown, Environmental Engineer/Scientist
3. Veronicas Fischer, Environmental Engineer
4. Matthew Walters, Environmental Engineer
5. Sophie Steckel, Environmental Engineer/Scientist
6. Natalie Schulz, Environmental Engineer/Scientist

Other Attendees:

1. Nathanael Gentle, Michigan EGLE
2. Adam Shaffer, Michigan EGLE
3. Teresa Schwartz, DuPont
4. Thuy Mai, DuPont
5. Rob Schwan, DuPont
6. Nate Meredith, DuPont
7. Cody Gibson, DuPont
8. Mike Holmes, DuPont

Facility Name: DuPont
Facility Location: 3400 South Saginaw Road (I-Park), Midland, MI 48640
Date of Inspection: May 14-16, 2025

9. Jessica Snyder, DuPont
10. James DeRosier, DuPont
11. Chris Jadcens, DuPont
12. Justin Huschke, DuPont
13. Tyler Watt, DuPont
14. Karen Vo, DuPont
15. Jim Wilson, DuPont
16. Will Schweitzer, DuPont
17. Caleb Gillespie, DuPont
18. Matt Lloyd, DuPont
19. Camilla Jiang, DuPont
20. Jeff Minnis, DuPont
21. Danny Leppek, DuPont
22. Raim Lucas, DuPont

Contact Email Address: teresa.l.schwartz@dupont.com

Purpose of Inspection: Evaluate compliance with 40 C.F.R. Part 63 Subpart FFFF (MON MACT), 40 C.F.R. Part 63 Subpart HHHHH (MCM MACT), and 40 C.F.R. Part 61 Subpart FF (BWON)

Facility Type: chemical plant

Regulations Central to Inspection: 40 C.F.R. Part 63 Subpart FFFF (MON MACT), 40 C.F.R. Part 63 Subpart HHHHH (MCM MACT), and 40 C.F.R. Part 61 Subpart FF (BWON)

Arrival Time: May 14, 2025, 1:00 pm

Departure Time: May 16, 2025 11:30 am

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

Was any information collected during the inspection claimed as CBI?

☒ Yes ☐ No.

The following information was obtained verbally from DuPont personnel unless otherwise noted.

Company Ownership: DuPont took over these buildings and processes from Dow Chemical on April 1, 2019. Prior to that Dow Chemical owned them for over 20 years.

Process Description:

DuPont process engineers and environmental staff walked through process flow diagrams in a conference room as well as in the field for each of the buildings where MON MACT and MCM MACT processes were manufactured. The walkthrough identified the hazardous air pollutants present in the process as well as the air and wastewater emissions sources. The buildings included the following:

1. 768 (E&I)
2. 100 (Auto)
3. 1037 (Auto)
4. 719 (Copolymer)
5. 1130 (Divinyl benzene[DVB])
6. 801 (Chloro methyl methyl cellulose)
7. 458 (Resin)
8. 963 (Anion and thermal oxidizer)

Staff Interview:

MCM MACT Compliance Monitoring

DuPont does not use an organic monitoring device to provide a continuous record of emissions reductions in the non-regenerative carbon bed system for the Automotive - Urethanes / Primers operation (100 Building). Instead, DuPont uses an alternative monitoring plan submitted by Dow to continuously monitor weight and outlet temperature. DuPont performs a spreadsheet calculation based on process throughput to determine carbon consumption in the primary bed. Once the defined consumption limit is reached, the secondary bed is moved to the primary position and a fresh secondary bed is added. The distributed control system is interlocked to prevent a batch from being started if the carbon bed has reached the limit. Carbon bed calculations were requested for offsite review.

MON MACT Pressure Relief Devices (PRDs)

DuPont uses high pressure alarms to monitor discharges from PRDs. Facility personnel noted that the Notification of Compliance Status Report will identify the specific parameter monitored for each PRD subject to the MON MACT. Inspectors reviewed the "Title V MON MACT Relief Device Event Procedure" that describes how DuPont operators report events that are flagged as environmental critical for PRDs. If a PRD failed to properly seat after a discharge, DuPont would identify the leak through scheduled leak detection and repair (LDAR) monitoring in response to the discharge.

Facility personnel indicated that they were working to obtain records related to the PRD on Tank 513 (V-504), which was found to be leaking during the EPA's monitoring. DuPont determined that no relief device event procedure was executed since the last offsite inspection and test on the PRD for V-504. The device is on a 24-month change out schedule. DuPont does not perform monitoring when PRDs are re-installed because they were just shop verified.

MON MACT Process Vents

DuPont receives vent streams from other I-Park tenants for destruction at the 963THROX. All tenants have shared inputs and outputs from the ABB control system, and operators from different control rooms communicate regarding 963THROX operation. If other tenants are knocked off the 963THROX, the control system would automatically close valves and send the units to the bottle up state. Units have procedures covering control device outages. The 954THROX is owned and operated by Corteva, and uses the same automatic bottle up procedures at the 963THROX. Dupont only utilizes the 954THROX scrubber as backup to T-101. I-Park tenants are provided with one year advanced notice for planned maintenance on shared control devices.

DuPont retained the process vent group status determinations that were initially evaluated by Dow. DuPont uses the management of change process to evaluate process changes that could impact group determination.

MON MACT Wastewater

DuPont provided EPA a document of all points of determination for wastewater. The document is titled Group 2 wastewater streams; however, one point of determination, VE-310 wash, had concentrations of partially and/or soluble hazardous air pollutant that would make it an affected Group 1 wastewater stream requiring control. EPA had a discussion with DuPont's production engineer and technical adviser from that process. Based on the explanation provided, DuPont has modified the sequence and number of washes through the VE-310 vessel versus what was indicated on the "Group 2 Wastewater" document.

BWON Wastewater

DuPont indicated that Dow Chemical maintains the BWON total annual benzene report for the entire I-Park, which includes DuPont's operations. DuPont generates benzene waste from the DVB process that is ultimately transferred over to Dow Chemical's wastewater treatment operations. DuPont sends one collected stream to Dow, and the benzene concentration and flow of that one stream were provided to Dow Chemical annually. On a follow-up call with DuPont and Dow Chemical on May 29, 2025, DuPont provided a list with about 45 points of generation that are provided to Dow Chemical. Dow Chemical stated that the total annual benzene across I-Park is greater than one megagram per year of benzene but less than 10 megagrams per year of benzene, thus not requiring controls.

TOUR INFORMATION

EPA Toured the Facility: Yes

Data Collected and Observations:

Building 100 – Primers, Pre-Polymers and Urethanes Processes:

- Inspectors walked the process lines for the Primers, Pre-Polymers, and Urethanes processes.
- The majority of processes were not operating during the inspection and did not have volatile organic compounds (VOCs) present.

- At the toluene storage tank for the Urethanes Process, inspectors noted sweet and chemical odors.
- At agitator D-5500 and media mill mix tank, inspectors noted sweet and chemical odors. The agitator was not running.
- DuPont uses four trains of carbon beds to control particulates in the Urethanes process.
- DuPont took a digital photo of atmospheric vent D-5514 in Building 100 for Inspectors.
- DuPont took two digital photos of tote material loading to agitator area in Building 100 for inspectors.

Building 801 – Methyl Chloride Process

- Process routes to the 963THROX that was operational during the inspection.
- Process has continuous batch process vents and only vents after reaction.
- The process was running but did not have all raw materials transferred to the blender yet.
- DuPont stated that the mass balance for wastewater for the whole unit was approximately 1 ppm. DuPont classifies the wastewater as Group 2.
- DuPont classifies methyl chloride storage tank, VE-8012, as Group 2.
- The process uses and washes an Ion Exchanger. The second wash in the process is close to Group 1 wastewater classification.

Building 719 – Monomers Process

- Batch process that routes to thermal oxidizer except for V-120.
- DuPont uses an internal recovery system for iso-octane unloading and loading.
- Inspectors noted organic odors at Dispenser 6 and 8.
- DuPont uses the El Paso Method for test points on V-110 and V-120 jacket cooling water sampling.
- The building has process sewer trenches that go to the wastewater treatment plant.

Photos and/or Videos: were taken during the inspection and are listed in Appendix A.

EPA used a FLIR optical gas imaging camera, Model GFx-320 to identify any hydrocarbon emissions during the field walkthrough and the LDAR monitoring.

Field Measurements: were taken during this inspection and the results are listed below.

- EPA conducted EPA Method 21 using two Thermo instruments, Model 2020 on May 15, 2020. DuPont uses TEAM, Inc. for the LDAR monitoring for the MON MACT. TEAM, Inc. was present to confirm the concentrations below for DuPont.
 - A. V504, PRD vent line: EPA - 11,100 parts per million (ppm), DuPont - 13,404 ppm
 - B. V504, Nitrogen pad line: EPA - 10,100 ppm, DuPont - >10,000 ppm
 - C. V104, Vacuum breaker: EPA – 2,080 ppm, DuPont – 2,167 ppm
 - D. V103, South end vacuum breaker: EPA – 22,400 ppm, DuPont – 36,710 ppm
 - E. V103, North end vacuum breaker: EPA – 11,900 ppm, DuPont – 3.837 ppm
 - F. H-line surge tank, relief valve: EPA – 4,800 ppm, DuPont – 6,267 ppm
 - G. V-287, Nitrogen line: EPA – 8,200 ppm, DuPont – 5,580 ppm

CLOSING CONFERENCE

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

Requested documents:

1. Documentation for Urethanes and Primers Carbon Adsorption Systems:
 - a. Spreadsheet calculations for carbon beds covering the past two years
 - b. If not in spreadsheet- dates of all carbon bed change outs covering the past two years (including when secondary bed moved to primary bed)
 - c. Narrative description of how mass loading to carbon adsorption systems is determine based on process throughput, and (if not in spreadsheet) the underlying calculations used to determine mass load to each system
2. Title V MON MACT Relief Device Event Procedure (one example procedure from any MON MACT unit)
3. Documentation for V-504:
 - a. Pressure alarm history since most recent PRV inspection
 - b. Dupont maintenance record of PRV inspection from 4/1/24
 - c. Shop report for most recent PRV inspection
 - d. LDAR tag number for PRV
 - e. P&ID for V-504
 - f. Any follow up LDAR monitoring performed by contractor TEAM following EPA's identification of the PRV release
4. Narrative description on how flushing the trench system near pump 225N is managed
5. Narrative description of or process flow diagram for material flow from the V-1602 knock-out pot
6. Records from the two most recent preventative maintenance activities for the vacuum breakers on V-103 and V-104
7. All bezene wastewater sampling results from sampling conducted in the past two years, along with an identification of the specific points within the process where the sampling was performed
8. Data submitted to Dow for the purpose of Part 61, Subpart FF recordkeeping for the past two years
9. Copy of daily sign-in sheet from the inspection
10. Pictures taken by Dupont during EPA's facility tour

Concerns: During the closing conference, EPA identified the follow areas of concern to DuPont: PRD

1. On tank, V-504, EPA observed emissions venting from the PRD to atmosphere with no alarm to DuPont. DuPont's current pressure monitoring may not be sufficient to demonstrate if the PRD is in the open or closed position.
2. Two valves in DuPont current LDAR program do not have access to the valve stem or packing gland to conduct proper Method 21.
3. DuPont's wastewater sample results indicate that there is a Group 1 wastewater stream from the VE-310 wash column, however, DuPont

documentation labels the stream as Group 2. EPA indicated that resampling of the first two wash steps should be completed due to the change in operations of this process.

4. EPA identified a safety concern from improperly operating two vacuum breakers venting to atmosphere from the isooctane storage tanks.
5. Based on DuPont's understanding that one point of generation stream is provided to Dow Chemical for purposes of BWON compliance, EPA identified additional points of generation during the DVB process unit walkthrough that generated BWON wastewater.

DIGITAL SIGNATURES

Report Author: CONSTANTIN OS LOUKERIS
Digitally signed by
CONSTANTINOS LOUKERIS
Date: 2025.07.14 16:11:50
-05'00'

Section Supervisor: SARAH MARSHALL
Digitally signed by
SARAH MARSHALL
Date: 2025.07.15
06:52:22 -05'00'

APPENDICES

1. Appendix A: Optical Gas Imaging Video Log

APPENDIX A: OPTICAL GAS IMAGING VIDEO LOG

Inspector Name: Constantinos Loukeris **Archival Record Location:**
https://usepa.sharepoint.com/sites/R5_Work/r5erc/ecad/AECAB%20Library/Forms/AllItems.aspx?id=%2Fsites%2FR5%5FWork%2Fr5erc%2Fecad%2FAECAB%20Library%2FEnf%5FDDB%20Specialty%20Electronic%20Materials%5FMI%5F25%2FImages%20and%20FLIR&viewid=5f882290%2D049a%2D44b7%2D8ccd%2D595d38b04fcb

Image Number	File Name	Description of Image
1.	MOV_3555.mp4	Hydrocarbon emissions imaged from relief valve on V-411.
2.	MOV_3556.mp4	Hydrocarbon emissions imaged from relief valve from the surge vessel in the H cracker (DVB process).
3.	MOV_3557.mp4	Hydrocarbon emissions imaged from open-end of a valve on tank, V-504.
4.	MOV_3558.mp4	Hydrocarbon emissions imaged from the PRD vent to atmosphere from tank, V-504.
5.	MOV_3561.mp4	Hydrocarbon emission imaged from the isooctane tank's, V-103, vacuum breaker located on the south end of the tank.
6.	MOV_3562.mp4	Hydrocarbon imaged from the isooctane tank's, V-103, vacuum breaker located on the north end of the tank.
7.	MOV_3563.mp4	Hydrocarbon emissions imaged from a quick connect gasket on the dempster tank, V-287.