



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

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Westlake Epoxy Inc., Bedford Park, IL

FROM: Emma Leeds, Environmental Engineer
AECAB (IL/IN)

THRU: Nathan Frank, Section Supervisor
AECAB (IL/IN)

TO: File

BASIC INFORMATION

Facility Name: Westlake Epoxy Inc. (Westlake Epoxy)

Facility Location: 8600 W 71 St, Bedford Park IL

Date of Inspection: 4/26/2022

EPA Inspector(s):

1. Emma Leeds, Environmental Engineer
2. Linda Rosen, Environmental Engineer

Other Attendees:

1. Bill Devore, Environmental Health and Safety Lead – Westlake Epoxy
2. Rebecca Truka, Regional Environmental Engineer – Hexion
3. Matt Weber, Technical Manager – Westlake Epoxy (only during part of tour)

Contact Email Address: bill.devore@hexion.com, rebecca.truka@hexion.com

Purpose of Inspection: To investigate compliance with the Clean Air Act and applicable permits and regulations

Facility Type: Resin manufacturing

Regulations Central to Inspection: Illinois Environmental Protection Agency (IEPA)
Federally Enforceable State Operating Permit (FESOP) I.D. No. 031012AEU

Arrival Time: 9:50 AM

Departure Time: 2:20 PM

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

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

The following information was obtained verbally from Bill Devore or Rebecca Truka unless otherwise noted.

Company Ownership: The facility was purchased by Westlake Epoxy from Hexion in 2022 and was still undergoing the transition between companies at the time of the inspection. The legal name of the facility became Westlake Epoxy Inc. on April 15, 2022.

Process Description:

Westlake Epoxy produces 120 different types of epoxy resins for use by various industries. Resin is manufactured in two (2) production lines in a vertical, gravity fed process beginning on the fifth floor of the resin unit building. Raw materials, including bisphenol A (BPA) and tetrabromobisphenol A (TBBPA) powders, solvents, and liquid resins, are pumped into the six (6) pre-weigh vessels on the fifth floor. Materials are weighed and then charged into one (1) of two (2) reactors on the fourth floor that grind the materials together in twelve (12) to thirty-six (36) hour batches. Catalysts and surfactants are also manually added into the reactors on the fourth floor. The resin mixture then flows into one (1) of ten (10) rundown storage tanks on the third floor which are used for further mixing and also for storage to allow the reactors to run continuously. Next, the resin mixture flows through one of twelve filter housings on the second floor that cleanse impurities using three (3) micron to one-hundred fifty (150) micron filter bags. Lastly, the final liquid resin product is loaded into trucks, drums, and totes. Products are classified as either liquid resin, waterborne, brominated, or blend.

Staff Interview: Westlake Epoxy operates 24/7 with 39 employees. The facility consists of the resin unit building, a solvent tank farm with ten (10) 10,000-gallon fixed-roof solvent tanks, a storage area with two (2) BPA-containing powder storage silos, two (2) 100,000-gallon epoxy base resin tanks, one recovered solvent tank, and a workshop area.

Emissions from the two (2) reactors and ten (10) rundown storage tanks are controlled for organic material with one (1) condenser per each unit that vent through one stack/vent to the outside air, as per IEPA Construction Permit I.D. No. 031012AEU. The condensers for the

reactors have two (2) stages: chilled water followed by a chilled water/ethylene-glycol blend. The condensers for the rundown storage tanks only have the water/ethylene-glycol stage. If the temperature of the chilled water/ethylene-glycol blend rises above 40 degrees Fahrenheit, an alarm sounds, and emissions are contained in the condenser as the condenser is repaired. The facility maintains reports for each occasion the condenser temperature exceeds the setpoint and can also retrieve underlying temperature data electronically. The facility also measures the reactor pressures.

Solvents used at the facility include xylene, acetone, methyl ethyl ketone (MEK), methyl isobutyl ketone, n-butyl alcohol, methyl amyl ketone, toluene, butyl oxide, and others. MEK, toluene, and xylene are used most often; averaged over the past two years, the facility used 16,000 pounds of toluene per month and 79,000 pounds of xylene per month.

The drum and tote loadout processes utilize submerged loading and have vents that capture vapors while drums and totes are being filled. The truck loadout process does not utilize vapor capture or control.

The facility operates under 2011 IEPA FESOP I.D. No. 031012AEU. A new FESOP permit is currently under review by IEPA that proposes revised production limits. A construction permit was recently approved by IEPA for Westlake Epoxy to build a solvent recovery tank, and they plan to begin construction in mid-2022.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:

USEPA first observed the outdoor solvent tank farm and then moved to the roof of the resin unit building, working our way down each floor during the tour. On the fifth floor, Bill shared that all six (6) of the pre-weigh vessels are blanketed with nitrogen to reduce fire risk. USEPA observed a slight solvent odor on the fourth floor, where the two reactors were located, and a stronger solvent odor on the third floor, where the rundown vessels were located. We observed the condensers for both the reactors and the rundown vessels. Bill explained that a vacuum pump is used to pull vapors up from the reactor condensers to vent at the roof. On the second floor, Bill stated that at least one (1) filter out of the ten (10) filter housings are changed per day.

Photos and/or Videos: were taken during the inspection.

See Appendix A

Field Measurements: were not taken during this inspection.

CLOSING CONFERENCE

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

Requested documents:

- Site diagram
- Argo process diagram
- Current construction permits and recent construction permit application
- Copy of request for administrative changes to current operating permit
- Recent FESOP application from the last year
- Previous 2 years of Annual Air Emission Reports and supporting calculations
- Monthly and annual resin production rates for previous two years
- Daily solvent tank throughputs for the past year
- Temperature alarm records for previous 2 years

DIGITAL SIGNATURES

Report Author: **Leeds,
Emma**  Digitally signed by Leeds,
Emma
Date: 2022.06.22
11:05:51 -05'00'

Section Supervisor: **Frank,
Nathan**  Digitally signed by Frank,
Nathan
Date: 2022.06.22
17:16:05 -05'00'

Facility Name: Westlake Epoxy
Facility Location: 8600 W 71 St, Bedford Park IL
Date of Inspection: April 26, 2022

APPENDICES AND ATTACHMENTS

- 1.* Appendix A – Digital Image Log

Facility Name: Westlake Epoxy
Facility Location: 8600 W 71 St, Bedford Park IL
Date of Inspection: April 26, 2022

APPENDIX A: DIGITAL IMAGE LOG

1. Inspector Name: Linda Rosen	2. Archival Record Location: USEPA Region 5 Electronic Records Center
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Image Number	File Name	Date and Time (CDT)	Description of Image
1	IMG_0565	4/26/22, 12:16 PM	Storage tanks
2	IMG_0566	4/26/22, 12:31 PM	Outside of resin unit building
3	IMG_0567	4/26/22, 12:40 PM	Vent hood that captures vapors from tote and drum filling
4	IMG_0568	4/26/22, 12:50 PM	Charge hopper on top of roof
5	IMG_0569	4/26/22, 12:59 PM	Reactor 1 with 250 horsepower mixer
6	IMG_0570	4/26/22, 1:00 PM	Duct work to condenser on Reactor 1
7	IMG_0571	4/26/22, 1:02 PM	Reflux return line to reactor
8	IMG_0572	4/26/22, 1:04 PM	Rundown storage tank V-7
9	IMG_0573	4/26/22, 13:25 PM	Condenser V-7
10	IMG_0574	4/26/22, 13:32 PM	Truck loading rack