

RCRA Inspection Report

1) Inspector and Author of Report

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U.S. Environmental Protection Agency, Region 4
Enforcement and Compliance Assurance Division
Chemical Safety and Land Enforcement Branch
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2) Facility Information

Zeon Chemicals, LP
4100 Bells Lane
Louisville, Jefferson County, Kentucky 40211

EPA ID: KYD985072149

3) Responsible Official

Ruben Carrillo-Millan
Corporate Environment Engineer

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4) Inspection Participants

Ruben Carrillo-Millan, Zeon Chemicals, LP
Vivek Senthil, Zeon Chemicals, LP
Darren Morgan, Zeon Chemicals, LP
Scott Gerstner, Kentucky Department for Environmental Protection
Denise Dzurenka, Kentucky Department for Environmental Protection
David Becker, Louisville Metro Air Pollution Control District
William Kappler, U. S. Environmental Protection Agency, Region 4

5) Date of Inspection

October 20, 2022

6) Purpose of Inspection

The purpose of this inspection was for the U.S. Environmental Protection Agency, Region 4, and the Kentucky Department for Environmental Protection to conduct a joint unannounced compliance evaluation inspection (CEI) at Zeon Chemicals, LP (hereinafter, “Zeon” or the “facility”). The CEI was conducted to determine compliance with the applicable requirements of the Resource Conservation and Recovery Act (RCRA) and the corresponding Kentucky Department for Environmental Protection (KDPEP) regulations. This was an EPA lead inspection.

7) Applicable Regulations¹

¹ As the State’s authorized hazardous waste program operates in lieu of the federal RCRA program, the citations of those authorized provisions will be to the authorized State program. However, for ease of reference, the federal citations will follow in brackets.

Resource Conservation and Recovery Act (RCRA) Sections 3002 (42 U.S. Code – Annotated U.S.C.A. §§ 6925 and 6927), Kentucky Revised Statutes (KRS) Title XVIII, Chapter 224, Subchapter 46-Hazardous Waste *et seq.*, and Title 401 of the Kentucky Administrative Regulations (KAR) Chapters 30 through 38, 43 [40 Code of Federal Regulation (C.F.R.) Parts 260 - 270, 273, 278, & 279].

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.15(a)], a generator may accumulate as much as 55 gallons of non-acute hazardous waste in containers at or near the point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or without having interim status, as required by KRS 224.46-520(1) [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with 401 KAR 39:080 Section 1 [40 C.F.R. § 262.16(b) or §262.17(a)], except as required in 401 KAR 39:080 Section 1 [40 C.F.R. § 262.15(a)(7) and (8)], provided that the generator complies with the satellite accumulation area (SAA) conditions listed in 401 KAR 39:080 Section 1 [40 C.F.R. § 262.15(a)] (hereinafter referred to as the “SAA Permit Exemption”).

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17], a generator of 1,000 kilograms or greater of hazardous waste in a calendar month is a large quantity generator (LQG) and may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as required by KRS 224.46-520(1) [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17] (hereinafter referred to as the “LQG Permit Exemption”).

8) Facility Description

Zeon is located at 4100 Bells Lane, Louisville, Jefferson County, Kentucky, Latitude 38.22278, and Longitude -85.82707. The facility has been at its present location since 1989 and consists of approximately 13 acres. The facility employs approximately 118 people and operates 24 hours a day, seven days a week on 12-hour rotating shifts. The facility consists of approximately five manufacturing buildings. The main manufacturing is conducted in the Main Chemical Plant (Building 117), in the Dry Chemical Bales (Buildings 122 and 132), in the Monomer Recovery (Building 125) and in the Main Machining and Maintenance (Building 130). The City of Louisville provides potable water service and the Metro Sewer District provides sanitary sewer service. The primary NAICS codes for the facility are 325212, Synthetic Rubber Manufacturing and 325211, Plastics Materials and Resins Manufacturing.

Zeon submitted a RCRA Subtitle C Site Identification Form, 8700-12, of its regulated waste activity to KDEP, dated April 15, 2022, notifying as a LQG of hazardous waste and a small quantity handler of universal waste (SQHUW).

The facility’s laboratory generates hazardous waste solvent (F001, F005) from cleaning laboratory equipment. The manufacturing operation generates waste acrylonitrile (D001), waste butadiene (D001), waste styrene (D001), waste ethyl acrylate (U113), waste butyl acrylate (D001, U113), and waste sodium nitrate. The machining and maintenance operation generates waste flammable solids (F003, F005) and waste aerosol cans. Zeon manages hazardous waste at the point of generation in containers in satellite accumulation areas and full containers of

hazardous waste are transferred to the central accumulation area. Waste lamps, batteries, and aerosol cans are managed in containers in various areas as universal waste.

Zeon manufactures synthetic elastomer products used by other manufacturing facilities in their commercial and industrial processes to make products. Zeon manufactures nitrile and polyacrylate (PA) rubber and an acrylate co-polymer (ACM) that are polymerized, dried and packaged for off-site shipment. The manufactured rubber is packaged in block, pellets and sheet form. The company also manufactures and packages a liquid nitrile rubber.

Elastomer products are manufactured in a wet process by combining elastomer monomers with surfactants, modifiers and fatty acids to produce an emulsion. The emulsion is pH modified using acid and caustic solutions. A catalyst is introduced in a process tank to generate an exothermic reaction. Cold temperatures changes (60 degrees Fahrenheit) and hot temperature changes (100 degrees Fahrenheit) using a range of 80 to 85-psi drives the reaction process. The acrylonitrile and 1,3-butadiene monomers are removed from the process and the residual monomer is recovered in tanks for direct reuse in the next manufacturing chemical batch. The synthetic rubber is next transferred to a blend tank to produce various refined grades and qualities of synthetic rubber products. The refined synthetic rubber is next transferred to a dry process by coagulating it into a salt. The salt is next dried and then packaged into 50-pound bales.

Zeon was issued a Title V permit from the Louisville Metro Air Pollution Control District (Permit No.: 151-97-TV (R8)), on September 11, 2013, and expired on September 30, 2018. The facility controls air emissions under Clean Air Act (CAA) requirements set forth in 40 C.F.R. Parts 60, 61, and 63, and the equipment should be operated, monitored, and repaired in accordance with applicable CAA standards.

9) Previous Inspection History

KDEP last inspected Zeon for compliance with the Commonwealth of Kentucky hazardous waste regulations on March 17, 2019. No issues were observed at the time of the inspection.

EPA inspected Zeon for compliance with the RCRA regulations on May 6, 2004. No issues were observed at the time of the inspection.

10) Opening Conference

On October 20, 2022, the EPA inspector William Kappler, accompanied by KDEP inspectors Denise Dzurenka and Scott Gerstner, and Louisville Metro Air Pollution Control District (APCD) inspector David Becker, arrived at BAE at approximately 9:05 a.m. The inspectors entered the building lobby and were directed by a sign to use the lobby phone to contact Zeon representatives. The inspectors called Ruben Carrillo-Millan and left a voice message. APCD inspector David Becker, also called Ruben Carrillo-Millan by cell phone. Zeon representative Vivek Senthil received inspectors at 9:20 a.m. and escorted them to a conference room. Vivek Senthil and the inspectors were joined by Zeon representatives Ruben Carrillo-Millan and Darren Morgan for an opening conference. The inspectors introduced themselves, showed their credentials to Zeon representatives, and explained the purpose of the visit.

The inspectors described the anticipated use of a digital camera during the inspection and provided a written list of the records needed for review. The EPA inspector explained that the Small Business Regulatory Enforcement Fairness Act's classification of a "small business" is generally set by the Small Business Administration using the business' SIC/NAICS code and annual receipts or number of employees. A copy of the EPA's information sheet for small businesses can be found at <https://www.epa.gov/sites/production/files/2017-06/documents/smallbusinessinfo.pdf>. The EPA inspector also discussed the company's ability, pursuant to 40 C.F.R. §2.203, to assert a business confidentiality claim for information provided to the EPA. Zeon did not assert a business confidentiality claim.

Zeon representatives provided an overview of the facility's history and current operations during the opening conference. In addition, Zeon representatives explained to the inspectors that the facility received a letter, in response to their request, from the KDEP Louisville Regional Office dated August 30, 2022 (Letter), granting an extension to the 90-day or less accumulation time for 11 55-gallon containers of hazardous waste. The 90-day extension applied to six 55-gallon containers accumulating oil, ethyl acetate, and butyl acetate (P316689, D001, U113), four 55-gallon containers accumulating BA water and sand (P316680, D001) and one 55-gallon container accumulating BD filters (P31668, no waste code). KDEP granted a new date for shipment for the 11 55-gallon containers of December 6, 2022. The inspectors reviewed the Letter at the time of the opening conference. The inspection participants also discussed health and safety protocols and the required personal protective equipment before Ruben Carrillo-Millan (Zeon representative) escorted the inspectors on a tour of the process operations.

11) **Observations**

Building 101 - Quality Control Laboratory

Products are sampled and analyzed for quality control. General laboratory testing is conducted on the samples for pH, total solids, and percent composition of the chemical.

The inspectors observed one 5-gallon container accumulating waste methanol and sodium hydroxide in a fume hood SAA. The container was closed, in good condition, labeled with the words "hazardous waste" and labeled with flammable and corrosive hazard indicator.

Building 101 - Quality Control Laboratory Accumulation Area

Located outside is the laboratory's 90-day or less central accumulation area. The inspectors observed one 55-gallon container accumulating waste solvent on a containment pallet in this area. The container was closed, in good condition, labeled with the words "hazardous waste", labeled with a hazard indicator and marked with the date August 31, 2022.

Tank Farm

Chemical products and recovered chemicals for reuse are stored in tanks. Acrylonitrile and 1,3-butadiene are stored in tanks for direct reuse into the process.

Monomer Pump House – B106 SAA

Residues of styrene-acrylonitrile (SAN) are generated from the pump house. The inspectors observed one 55-gallon container accumulating hazardous waste in the B106 SAA. The container was closed, in good condition, labeled with the words "hazardous waste" and labeled

with flammable hazard indicator.

The inspectors also observed two 55-gallon containers of spent activated carbon from the recovery of styrene vapors from offloading operations to the tank farm. The containers were closed, in good condition, labeled with the words “hazardous waste”, labeled with a hazard indicator and each marked with the date October 20, 2022. Zeon representatives indicated the containers were pending transfer to the CAA.

East Side of Building 130 – Central Accumulation Area (CAA)

The CAA is constructed with a curbed concrete pad and metal grated dead-end trench. The CAA is constructed with a roof and surrounded by a chain-link fence and gate. Inspectors observed signs indicating the CAA is a hazardous waste area (Photograph 8). Containers accumulate hazardous waste in this area for 90-days or less, prior to off-site shipment to a destination facility. The inspectors observed 20 55-gallon containers accumulating waste ethyl acrylate, waste butyl acrylate, waste sodium nitrate and waste contaminated filters on wooden pallets. The inspectors observed the containers were closed and in good condition. The inspectors observed nine 55-gallon containers labeled with a DOT Class 9 (miscellaneous hazardous materials) pictogram (Photographs 2, 3, 4, 5, and 6). The nine 55-gallon containers were not marked or labeled with an indication of the hazards. Zeon representatives marked the hazardous waste label on the nine containers with the word “ignitable”, indicating the hazard accumulating in the container (Photograph 7). The inspectors observed one 55-gallon container not marked or labeled with the words “hazardous waste”, not marked or labeled with a hazard indicator and not marked with a date. Zeon representatives labeled the container with the words “hazardous waste” and a hazard indicator and marked it with the date November 19, 2022, (Photograph 1). The remaining containers were labeled with the words “hazardous waste”, labeled with a hazard indicator and marked with a date less than 90-days old. Inspectors also observed that the 11 55-gallon containers for which the KDEP had granted an extension to accumulate in the CAA until December 6, 2022, were labeled and dated. Inspectors were able to access each container and observe the information written on each container label. However, the container aisle space was limited in some areas. Inspectors advised Zeon representatives that additional container aisle space needs to be maintained.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(5)(i)(A)] which is a condition of the LQG Permit Exemption, a large quantity generator must mark or label its containers with the words “Hazardous Waste”.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(5)(i)(B)] which is a condition of the LQG Permit Exemption, a large quantity generator must mark or label its containers with an indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704).

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(5)(i)(C)] which is a condition of the LQG Permit Exemption, a large quantity generator must mark or label its containers with the date upon which each period of accumulation begins clearly visible for inspection on each container.

Spill control material and emergency equipment is maintained in this area and emergency communications are conducted by radio.

Building 130 - Maintenance SAA

The inspectors observed one 55-gallon container accumulating waste aerosol cans managed as hazardous waste in the maintenance SAA. The 55-gallon container was closed, in good condition, labeled with the words “hazardous waste” and labeled with a hazard indicator.

Building 130 - Mechanic Shop SAA

The inspectors observed one 55-gallon container accumulating hazardous waste solids (F003, F005) in the mechanic shop SAA. The 55-gallon container was closed, in good condition, labeled with the words “hazardous waste” and labeled with a DOT Class 9 (miscellaneous hazardous materials) pictogram (Photograph 9). The one 55-gallon container was not marked or labeled with an indication of the hazards. Zeon representatives marked the hazardous waste label on the 55-gallon container with the word “ignitable”, indicating the hazard accumulating in the container (Photograph 10).

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.15(a)(5)(ii)], which is a condition of the SAA Permit Exemption, a generator must mark or label its containers with an indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704).

Building 130 – Universal Waste Area

The inspectors observed approximately 19 to 20 containers accumulating waste lamps and waste bulbs in the universal waste area. The containers were closed, in good condition, labeled with the words “universal waste” and marked with dates in January, February or March 2022. The inspectors also observed two containers of waste batteries in this area. The containers were closed, in good condition, labeled with the words “universal waste” and marked with dates in January or May 2022.

Records Review

Manifests

Hazardous waste manifests, land disposal restriction notifications, and nonhazardous waste manifests from January 2020 to September 2022 were reviewed. The EPA inspector reviewed 5 hazardous waste manifests from EPA’s E-Manifest Records from March 16, 2022, to September 1, 2022. The universal waste manifests were reviewed from December 2020 to April 2022.

Zeon used the following transporters in 2020, 2021, and 2022

US Industrial Fluid, LLC, KYR000035675

Tradebe Transportation, INR000123497

Univar Solutions USA, Inc, TXR000084869

Dupre Logistics, LAR000045963

Zeon used the following TSDf in 2020, 2021, and 2022

Tradebe Transportation and Recycling, IND000646943

The inspectors reviewed weekly container inspection records from March 2019 to October 2022. The inspectors reviewed the contingency plan, quick reference guide, arrangements with the local authorities, personnel training, job titles, position descriptions, and annual report.

12) **Closing Conference**

The inspectors conducted a closing conference with Ruben Carrillo-Millan, Darren Morgan, Vivek Senthil, and Gina Duncan from Zeon. Lori Carson, Director of Safety, Health and Environment, representing Zeon attended by conference call. During this meeting, the inspectors stated their preliminary conclusions of the inspection.

13) **Sampling Overview**

Sampling was not conducted.

14) **List of Appendices**

Appendix 1 – Photograph Log:

Photos taken on: October 20, 2022

Photos taken by: William Kappler

Samsung Camera (Model WB250F)

EPA Property Tag# S75917

15) **Signed**

WILLIAM KAPPLER Digitally signed by WILLIAM KAPPLER
Date: 2022.12.01 12:24:13 -05'00'

William Kappler
Physical Scientist

Date

Concurrence

ARACELI CHAVEZ

Araceli B. Chavez
Chief
RCRA Enforcement Section

Digitally signed by ARACELI CHAVEZ
Date: 2022.12.01 15:38:05 -05'00'

Date

Zeon Chemicals, LP
RCRA CEI Photographs
William Kappler, US EPA



East Side of Building 130, Central Accumulation Area (CAA). Zeon representatives labeled the container with the words "hazardous waste", dated and marked the container with a hazard indicator. Photograph 1 taken at 11:20 a.m.



East Side of Building 130, CAA. Observed nine containers labeled with a #9 hazard indicator, not an indication of the hazard in the containers. Photograph 2 taken at 11:24 a.m.

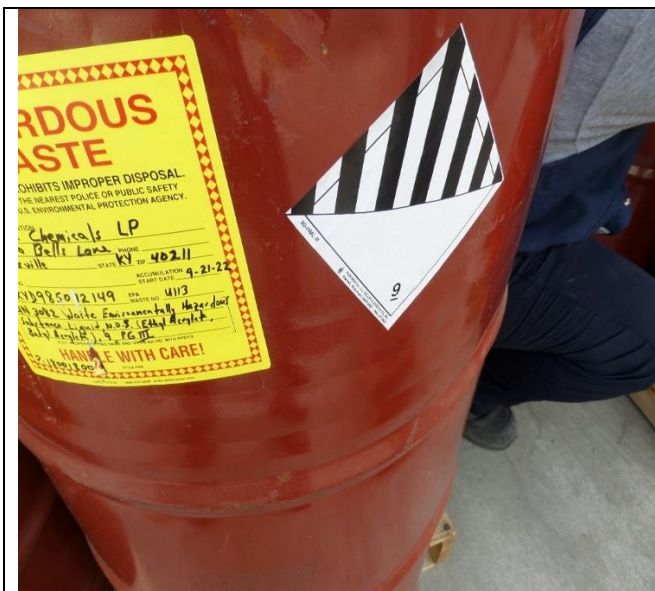


East Side of Building 130, CAA. Observed nine containers labeled with a #9 hazard indicator, not an indication of the hazard in the containers. Photograph 3 taken at 11:24 a.m.



East Side of Building 130, Main CAA. Observed nine containers labeled with a #9 hazard indicator, not an indication of the hazard in the containers. Photograph 4 taken at 11:24 a.m.

Zeon Chemicals, LP
RCRA CEI Photographs
William Kappler, US EPA



East Side of Building 130, Main CAA. Observed nine containers labeled with a #9 hazard indicator, not an indication of the hazard in the containers. Photograph 5 taken at 11:24 a.m.



East Side of Building 130, Main CAA. Observed nine containers labeled with a #9 hazard indicator, not an indication of the hazard in the containers. Photograph 6 taken at 11:25 a.m.



East Side of Building 130, CAA. Zeon representatives marked the nine containers with the word “ignitable” indicating the hazard in the containers. Photograph 7 taken at 11:33ap.m.



East Side of Building 130, CAA. View of the CAA.
Photograph 8 taken at 11:35 a.m.

Zeon Chemicals, LP
RCRA CEI Photographs
William Kappler, US EPA



Building 130, Mechanic Shop. Observed the containers was labeled with a #9 hazard indicator, not an indication of the hazard in the container. Photograph 9 taken at 11:44 a.m.



Building 130, Mechanic Shop. Zeon representatives marked the container with the word "ignitable" indicating the hazard in the container. Photograph 10 taken at 11:45 a.m.