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
61 Forsyth Street, S.W.
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2) Facility Information

Nouryon Functional Chemicals, LLC
13440 Highway 43 North
Axis, Alabama 36505

EPA ID# ALD008161176

3) Responsible Officials

Michael Mitchell, Site Director
michael.mitchell@nouryon.com

4) Inspection Participants

Brent Parker, Nouryon
Bryan O'Bannon, Nouryon
David Martin, Nouryon
Adam Carpenter, Nouryon
Mike Mitchell, Nouryon
Lanny Sasser, ADEM
Will Moseley, ADEM
Laurie Benton DiGaetano, US EPA

5) Date of Inspection

August 02, 2022

6) Purpose of Inspection

The purpose of this inspection was to conduct an unannounced compliance evaluation inspection to determine Nouryon Functional Chemicals, LLC's compliance with the conditions of its Alabama Department of Environmental Management (ADEM) Hazardous Waste Permit, Permit Number ALD008161176, and with the applicable requirements of RCRA and the corresponding ADEM regulations. This was an EPA lead inspection.

7) Applicable Regulations[1]

Alabama Hazardous Waste Management and Minimization Act of 1978 (AHWMMA), Ala. Code § 22-30-1 *et seq.*, [Resource Conservation and Recovery Act (RCRA) Sections 3002 -

[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.

3005, (42 U.S. Code - Annotated U.S.C.A. 6925 and 6927)] and rules 335-14-1 to 335-14-17 (2016 and 2018) of the Alabama Department of Environmental Management (ADEM) Administrative Code (ADEM Admin. Code) [40 Code of Federal Regulation (C.F.R.) Parts 260-270, 273 and 279].

Pursuant to ADEM Admin. Code r. 335-14-3-.01(5)(a) [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 Section 22-30-12(b) of the Alabama Hazardous Wastes Management and Minimization Act (AHWMMA), Ala. Code § 22-30-12(b) [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with ADEM Admin. Code r. 335-14-3-.01(6)(b) or 335-14-3-.01(7)(a) [40 C.F.R. § 262.16(b) or § 262.17(a)], except as required in ADEM Admin. Code r. 335-14-3-.01(5)(a)7. and 8. [40 C.F.R. § 262.15(a)(7) and (8)], provided that the generator complies with the satellite accumulation area conditions listed in ADEM Admin. Code r. 335-14-3-.01(5)(a) [40 C.F.R. § 262.15(a)] (hereinafter referred to as the "SAA Permit Exemption").

Pursuant to ADEM Admin. Code r. 335-14-3-.01(7) [40 C.F.R. § 262.17], a large quantity generator (LQG) may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as required by Section 22-30-12(b) of the AHWMMA, Ala. Code § 22-30-12(b) [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in ADEM Admin. Code r. 335-14-3-.01(7) [40 C.F.R. § 262.17] (hereinafter referred to as the "LQG Permit Exemption").

8) Facility Description

AkzoNobel Specialty Chemicals relaunched as Nouryon in October 2018, and the company operates the subject multi-product chemical manufacturing plant under the name Nouryon Functional Chemicals, LLC (Nouryon). The facility, which is known as the LeMoyne Plant, is located on approximately 600 acres in Axis, Alabama. Ongoing production operations at the facility include a sulfuric acid plant, a monochloroacetic acid conversion unit, a Crystex insoluble sulfur plant, two carbon disulfide units, a sodium hydrosulfide unit and a sulfur dichloride and sulfur monochloride unit. The LeMoyne Plant also has a RCRA post-closure permit for a former brine mud pond in which brine mud (K071) from the closed mercury-cell/caustic plant was treated. The former brine mud surface impoundment has been closed and capped and it is currently undergoing post closure care.

The LeMoyne Plant, which currently operates under the NAICS Code 32518 for Other Basic Inorganic Chemical Manufacturing, has been in operation as a large quantity generator (LQG) of hazardous waste for over thirty years. The facility currently has approximately 110 employees and operations run twenty-four hours per day, seven days per week using rotating shifts (four 10-hour days and a 12-hour swing shift). Nouryon most recently notified as an LQG at this location as part of their biennial report, which was submitted on February 23, 2022. The facility currently manages six areas for accumulating hazardous waste under the SAA Permit Exemption, and also manages one central accumulation area (CAA) and one 5,000-gallon hazardous waste storage tank for managing hazardous waste under the LQG Permit Exemption. Hazardous wastes that are generated onsite include:

- D001, D018 Carbon disulfide still bottoms
- D001, D018, F003, F005 Crystex Plant Oil
- D001, F003, F005 Waste paint thinner and solids
- D001, F003, F005 Empty aerosol cans
- D001 Empty aerosol cans
- D004, D006 Bead blast material
- P022 Tank solids and/or soil and debris from CS2

9) Previous Inspection History

ADEM has conducted three RCRA CEIs at the subject facility during the past ten years. The most recent RCRA CEI was conducted on October 18, 2018, and no apparent violations of RCRA were observed during that inspection.

10) Opening Conference

On August 02, 2022, EPA inspector Laurie Benton DiGaetano, accompanied by ADEM personnel Lanny Sasser and Will Moseley, arrived at Nouryon Functional Chemical's facility at approximately 8:45 a.m. Mr. Brent Parker, Health and Safety Advisor, immediately received the inspectors. Mr. Parker and the inspectors were joined by Mr. Bryan O'Bannon, Process Quality Control Manager, Mr. David Martin, Maintenance Manager, and Mr. Adam Carpenter, Maintenance Supervisor, for the opening conference. The inspectors introduced themselves, showed their credentials to Mr. Parker, and explained the purpose of the visit. Facility personnel explained that individual with responsibilities over environmental compliance left that position approximately three weeks prior to the inspection, but they were covering those duties until the vacancy is filled.

The inspectors described the anticipated use of equipment (digital camera) during the inspection and provided a request for records. 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 agency'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 submitted to EPA. The company did not assert a business confidentiality claim.

Facility representatives provided the inspectors with an overview of the facility's history and current operations during the opening conference. The inspection participants also discussed health and safety protocols and required personal protective equipment before Mr. Parker and Mr. Carpenter led the inspectors on a tour of the Facility operations.

11) Observations

Paint Shop SAAs: Plant personnel paint equipment such as flanges and manway covers and industrial structures at the facility. Paint supplies and associated wastes for these activities are

stored at the Paint Shop, which is a small outbuilding in the facility yard. The inspectors observed a small storage tank, which was previously used to store paint thinner, next to the Paint Shop. Facility personnel explained that the tank has been out of service for several years. The tank was used when the facility received paint thinner in bulk, but it is only ordered and received in one or five-gallon buckets now.

Nouryon manages two SAAs in the Paint Shop Area (Photo 1). Hazardous waste paint thinner is accumulated in the first SAA as D001 hazardous waste flammable liquid (toluene/methanol). The inspectors observed one 55-gallon drum in this SAA. The container was labeled as hazardous waste, identified with a flammable liquid DOT hazard placard, and identified as containing hazardous or toxic wastes. Hazardous waste paint solids are accumulated in the second SAA as D001 hazardous waste paint solids. The inspectors observed one 55-gallon drum in this SAA. The drum was labeled as hazardous waste, identified with a flammable liquid DOT hazard placard, and identified as containing hazardous or toxic wastes.

Paint Shop CAA: Nouryon manages a CAA inside the Paint Shop. The area (Photo 2) is identified with signs reading "danger," "unauthorized personnel keep out," "caution hazardous waste storage area," and "no smoking," and it is equipped with a fire extinguisher, spill control equipment, and an emergency shower and eyewash station. Facility personnel stated that all employees who work in this area carry two-way hand-held radios, which can be used to summon emergency assistance.

The inspectors observed one 55-gallon drum on a portable secondary containment unit in this CAA. The drum was labeled as hazardous waste flammable liquids (oils/xylene) and dated July 14, 2022. It was identified with a flammable liquid DOT hazard placard and identified as containing hazardous or toxic wastes.

Maintenance Shop and Storeroom SAAs: Facility personnel perform welding, grinding, and cutting of pipes in the Plant Maintenance Shop, and Nouryon manages two SAAs in this area. The inspectors also observed one Safety-Kleen parts washer and one 5-gallon bucket labeled as used oil in the Maintenance Area.

The first SAA, which is located in a covered area leading into the Maintenance Shop, is used to accumulate empty aerosol cans (Photo 3). The inspectors observed one 55-gallon drum on a wooden pallet in this SAA. The drum was labeled D001 hazardous waste (acetone, toluene), identified with a flammable liquid DOT hazard placard, and identified as containing hazardous or toxic wastes. The inspectors also observed a second 55-gallon drum for accumulating asbestos gaskets in this area.

The second SAA (Photo 4), which is located behind the bead blast unit inside the Maintenance Shop, is used to accumulate grit blast media generated in the bead blast unit. The inspectors observed one 55-gallon drum in this SAA. The drum was labeled D004, D006 hazardous waste grit blast media and identified as containing hazardous or toxic waste.

Nouryon accumulates used batteries as universal waste in the Storeroom next to the Maintenance Shop. The inspectors observed one 1.5-gallon bucket in this area. The bucket was labeled as universal waste batteries, and the Storeroom personnel stated that the bucket was placed into use

following the most recent shipment of universal waste from the facility. A bill of lading from WM Lamptracker indicated that universal waste batteries were last shipped from the facility on July 26, 2022.

Hazardous Waste Tank 8T018: According to facility personnel, the CS2 production process includes a distillation step to remove impurities from the CS2 finished product. The concentration of removed impurities increases over time until the distillation bottoms must be pumped from the process tank to the 5,000-gallon hazardous waste storage tank, Tank 8T018 (Photo 5). The inspectors observed this tank, which was identified as D001, D018 hazardous waste flammable liquid (carbon disulfide, benzene) on a label indicating that the contents of the tank are hazardous or toxic wastes. The inspectors also observed an accumulation start date of June 29, 2022, on the tank's hazardous waste label.

The inspectors observed tags (numbers 1250, 1310, 1310.5, 1314, 1314.3, 1315, and 1316) on equipment associated with hazardous waste Tank 8T018 (Photo 6).

Crystex SAA: Nouryon manages two SAAs (Photo 7) in the Crystex Plant Area for managing hazardous waste generated in the Crystex Plant. Any liquids that drain from process equipment during decontamination or maintenance activities are accumulated in a 5-gallon bucket and brought to the first SAA. The inspectors observed two 55-gallon drums in this SAA. Both drums were labeled D001, D018 hazardous waste flammable liquids (oils, xylene) and identified as containing hazardous or toxic wastes. One drum was partially full, and the other, which was equipped with a funnel, was completely full. The total volume of hazardous waste in this SAA had exceeded 55-gallons, but neither of the drums was marked with an accumulation start date.

Facility personnel immediately marked an accumulation start date on the full 55-gallon drum and moved it to the facility's hazardous waste CAA.

The Crystex Plant process equipment includes two filter houses for filtering material in the process. Facility personnel stated that only one filter is in use at any given time, and the filters may be changed when that filter house is not in use. Filter changes occur on an as-needed basis and may occur once every few months or several times in a single week. Used filters are accumulated as hazardous waste in the Crystex Plant's second SAA. The inspectors observed one 55-gallon drum in this SAA. The drum was labeled as hazardous waste flammable liquids (D001, D018 - Filters), and identified as containing hazardous or toxic wastes.

New Brine Mud Pond: The inspectors observed the former brine mud surface impoundment, the New Brine Mud Pond, which is currently undergoing post closure care. The unit is surrounded with a 6-foot chain link fence, and the inspectors observed signs reading "danger, hazard area," and "no authorized personnel beyond this point" at intervals along the perimeter of the fence. The inspectors did not observe any evidence of erosion or stressed vegetation on the cap. Observation wells O-53, O-54 and O-55 were each locked and labeled, and their concrete pads appeared to be in good condition.

Contingency Plan: The actions that facility personnel should take in response to an emergency are described in the facility's Emergency Action Plan, which was last updated on July 26, 2022. The facility did not have a Quick Reference Guide of the Emergency Action Plan, and personnel

were unable to provide documentation to demonstrate that the plan had been submitted to the local emergency response entities.

On August 15, 2022, Mr. Quinn Alexander, Nouryon's Regional Environmental Manager, North America, submitted a copy of a revised Emergency Action Plan to Mr. Sasser via email. The Emergency Action Plan, which includes the RCRA Contingency Plan and a RCRA Quick Reference Guide, was revised on August 10, 2022. Mr. Alexander also provided records to show that the RCRA Contingency Plan and Quick Reference Guide were sent to the Mobile County Emergency Management Agency (MCEMA) and the Mobile County Local Emergency Planning Committee (MCLEPC) on August 10, 2022.

The Emergency Action Plan describes the emergency response organizational chart and assignment of duties, and the RCRA Contingency Plan states that a qualified emergency coordinator is designated for each shift in order to maintain an Emergency Coordinator/Incident Commander on-site at all times. Personnel notify the on-site Emergency Coordinator of an imminent or actual emergency situation by use of the public address system, radio, or phone. Although the Shift Supervisor is identified as the Primary Emergency Coordinator, three Alternate Emergency Coordinators are specifically identified by name and telephone number in the RCRA Contingency Plan's associated Quick Reference Guide. The Emergency Action Plan includes a full list of names and telephone numbers for individuals available to provide emergency support for the facility and for specific production areas, and for individuals assigned to the Medical Response Team and to the Fire and Rescue Team. It also describes and references available emergency equipment, including fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment, at the facility. However, the EPA recommends clarifying the location and capabilities of all available emergency response equipment.

The facility's RCRA Contingency Plan describes actions facility personnel must take in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility and it references arrangements agreed to with the LeMoyne Industrial Park and the Mobile County Emergency Planning Committee.

The new RCRA Quick Reference Guide includes the types/names of hazardous waste in layman's terms and the hazards associated with each hazardous waste managed on-site; the estimated maximum amount of each hazardous waste that may be present at any one time; the identification of any hazardous wastes where exposure would require unique or special treatment by medical or hospital staff; a map of the facility showing where hazardous wastes are generated, accumulated and treated and routes for accessing these wastes; a street map of the facility in relation to surrounding businesses, schools and residential areas; the locations of water supply; the identification of on-site notification systems; and the name of the emergency coordinator(s) and emergency telephone number(s).

The Emergency Action Plan, RCRA Contingency Plan and RCRA Quick Reference Guide include an evacuation plan for personnel. Together, the plans describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.

Training Records: The inspectors reviewed an example of the facility job description for the Crystex First Class Operator. The description included the requisite skill, education, or other qualifications, and duties of facility personnel assigned to that position. The inspectors reviewed records of employee hazardous waste training completed in June and July 2022.
Waste Manifest Records: The inspectors reviewed available hazardous waste manifest records and land disposal restriction forms for shipments of hazardous waste sent since calendar year 2019. Personnel were unable to provide hazardous waste manifests for shipments initiated from the Paint Shop CAA during calendar year 2022 at the time of the inspection. However, Mr. Quinn Alexander, Nouryon's Regional Environmental Manager, North America, submitted a copy of three hazardous waste manifest records to Mr. Sasser via email on August 15, 2022. These records were for the Paint Shop CAA hazardous waste shipments to Chemical Waste Management (ALD000622464) in February, March and June 2022.

According to the e-manifest system, hazardous wastes shipped from the facility during calendar years 2019-2022 included:

- D001, D018 hazardous waste flammable liquid (carbon disulfide, benzene) sent to Eco Services (LAD008161234)
    - Four shipments with a combined total of over 67,000 pounds during 2019
    - Four shipments with a combined total of almost 50,000 pounds during 2020
    - Three shipments with a combined total of over 100,000 pounds during 2021
    - Three shipments with a combined total of over 30,000 pounds during 2022
- D001, D018, F003, F005 waste flammable liquids (oils, xylene) sent to Chemical Waste Management (ALD000622464)
    - Two shipments with a combined total of 1,980 pounds during 2019
    - Three shipments with a combined total of 2,270 pounds during 2020
    - Three shipments with a combined total of 1,520 pounds during 2021
    - Three shipments with a combined total of over 12,000 pounds during 2022
- D001, F003, F005 waste paint related material sent to Chemical Waste Management (ALD000622464)
    - One shipment with 400 pounds during 2020
    - One shipment with 400 pounds during 2021
    - One shipment with 600 pounds during 2022
- D001, F003, F005 waste flammable liquid (toluene, methanol) sent to Chemical Waste Management (ALD000622464)
    - One shipment with 200 pounds during 2020
    - One shipment with 400 pounds during 2021
    - One shipment with 600 pounds during 2022
- D001 waste aerosols (acetone, toluene) sent to Chemical Waste Management (ALD000622464)
    - One shipment with 150 pounds during 2020
    - One shipment with 100 pounds during 2021
- P022 hazardous waste solid sent to Chemical Waste Management (ALD000622464)
    - One shipment with 1,440 pounds during 2019
    - One shipment with 600 pounds during 2020
- D004, D006 hazardous waste solid sent to Chemical Waste Management (ALD000622464)
    - One shipment with 360 pounds during 2019

- D018, F003, F005 hazardous waste solid sent to Chemical Waste Management (ALD000622464)
    - One shipment with 1,334 pounds during 2022
- D039 waste combustible liquid (petroleum naphtha) sent to Clean Harbors (LAD010395127)
    - One shipment with 75 gallons during 2019
    - Two shipments with a combined total of 150 gallons during 2020
    - One shipment with 225 gallons during 2021
    - One shipment with 270 gallons during 2022

Inspection Records: The inspectors reviewed Nouryon's available records of weekly inspections of the hazardous waste CAA for calendar year 2022. The inspection log includes records of the number of drums in the CAA with a description of the waste, container size, storage date, and disposal site identification number of each container; and an indication as to whether the fire extinguisher is tagged, the concrete pad is in good condition, the secondary containment is in good condition, and the fence is in good condition. observations about. The records include the date and time of the inspection and the name of the employee conducting the inspection.

The inspectors reviewed Nouryon's available records of weekly inspections of the New Brine Mud Pond for calendar year 2022. The inspection log includes a section to record observations related to the security of the unit: whether or not signs are present and legible, the fence is in good condition, the gates are locked and shut, and the monitoring well cases are locked; a section to record observations related to potential erosion damage: evidence of erosion and condition of the slope; a section to record observations related to the vegetative cover: whether discolored or bare spots are present or the cap needs mowing; a section to record observations related to the final cover structure: whether the final cover is intact or burrow holes are present; and a section to record observations related to the leachate detection system: whether leachate is present or the system needs repair or replacing.

Although records of weekly inspections of the CAA and the new Brine Mud Pond during calendar years 2019-2021 could not be located during the inspection, Nouryon personnel located the records soon afterward. Mr. Sasser requested one month of records for each quarter (January, May, August and November) for calendar years 2019, 2020 and 2021. On August 15, 2022, Quinn Alexander, Nouryon's Regional Environmental Manager, North America, submitted a total of 214 pages of inspection records to Mr. Sasser via email. These records included weekly inspections of the CAA and the New Brine Mud Pond for the requested months.

The inspectors reviewed available records of daily inspections of the hazardous waste storage tank system from July 01, 2021, through the date of the inspection. The inspection log includes a checklist to record the condition of the tank feed lines, the storage tank, the pump-out line, the containment moat, and miscellaneous observations.

Air Monitoring Records: On September 19, 2022, Mr. Mitchell submitted records of air monitoring conducted between January 01, 2021, and July 31, 2022, under the facility's leak detection and repair (LDAR) program of the Title V Permit. The records indicate that ancillary equipment associated with Tank 8T018, including the observed tagged equipment, is monitored as part of the LDAR program.

12) Closing Conference

The inspectors conducted the exit meeting just before 4:00 p.m. with Mr. Brent Parker and Mr. Mike Mitchell. During this meeting, the inspectors stated their preliminary conclusions of the inspection. Mr. Parker and Mr. Mitchell agreed to provide documentation that the RCRA Contingency Plan had been submitted to the local emergency response entities, records of weekly inspections of during calendar years 2019, 2020 and 2021, and copies of manifests for shipments of hazardous waste sent from the Paint Shop during calendar year 2022.

On August 15, 2022, Quinn Alexander, Nouryon's Regional Environmental Manager, North America, submitted the requested records to Mr. Lanny Sasser via email.

13) List of Appendices

Appendix 1 – Photo Log:
7 Photos taken on: August 02, 2022
Photos taken by: Laurie Benton DiGaetano
Photos taken with: Panasonic DMC TS-5 Digital Camera
EPA Property Tag: S09533

14) Signed

LAURIE DIGAETANO Digitally signed by LAURIE DIGAETANO
Date: 2022.09.26 15:02:57 -04'00'

Laurie Benton DiGaetano
Senior Enforcement and Compliance Specialist

Concurrence

BROOKE YORK Digitally signed by BROOKE YORK
Date: 2022.09.26 15:24:59 -04'00'

for Araceli B. Chavez
Chief
RCRA Enforcement Section

Photo 1: Two SAAs in the Paint Shop Area. One SAA is used to accumulate hazardous waste paint thinner as D001, F003, F005 hazardous waste flammable liquid (toluene, methanol), the other is used to accumulate hazardous waste paint solids as D001, F003, F005 hazardous waste paint related material.

Photo 2: Entrance to the Paint Shop CAA. Signs reading “danger,” “unauthorized personnel keep out,” “caution hazardous waste storage area,” and “no smoking.”

Photo 3: Maintenance Shop SAA for accumulating empty aerosol cans as D001 hazardous waste (acetone, toluene).

Photo 4: Maintenance Area SAA for accumulating spent grit blast media as D004, D006 hazardous waste solids.

Photo 5: 5,000-gallon hazardous waste storage tank, Tank 8T018.

Photo 6: Equipment tags to identify Tank 8T018 ancillary equipment that is subject to air monitoring under RCRA Subpart BB.

Photo 7: Two SAAs in the Crystex Plant Area. One SAA is used to accumulate hazardous waste liquids that are generated from decontamination and maintenance activities as D001, D018 hazardous waste flammable liquid (oils, xylene), the other is used to accumulate used filters that are generated in the Crystex Plant as D001, D018 hazardous waste solids.