

RCRA Inspection Report

1) Inspector and Author of Report

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2) Facility Information

Physical Address

Polychemie, Inc.
Port Bienville Industrial Park, Road D
Pearlington, Mississippi 39572

Mailing Address

3080 Port and Harbor Drive
Bay St. Louis, Mississippi 39520

3) Responsible Official

James L. Bishop
Plant Manager

4) Inspection Participants

Daryl R. Himes, US EPA
Brad Justice, MDEQ
Heather Flowers, SNF dba Polychemie, Inc.
Karen Scheye Dorman, SNF

5) Date of Inspection

February 23 & 25, 2021

6) Applicable Regulations

Mississippi Code of 1972, Miss. Code Ann. § 17-17-1 *et seq.* [Resource Conservation and Recovery Act (RCRA) Sections 3002, 3004, 3005, 3007 and 3008, (42 U.S.C. §§ 6922, 6924, 6925, 6927 and 6928)] and the Mississippi Department of Environmental Quality, Office of Pollution Control, Mississippi Hazardous Waste Management Regulations (MHWMR), 11 Miss. Admin. Code Pt. 3, R. 1.1-1.24, which adopts and incorporates by reference 40 C.F.R. Parts 260-270, 273, and 279 [40 Code of Federal Regulations (C.F.R.) Parts 260-270, 273, and 279].

As the State's authorized hazardous waste program operates in lieu of the federal RCRA program, the citations of those authorized provisions alleged herein will be to the authorized State program; however, for ease of reference, the federal citations will follow in brackets.

7) **Purpose of Inspection**

The purpose of this inspection was to conduct an announced compliance evaluation inspection to determine SNF dba Polychemie, Inc.'s compliance with the applicable requirements of RCRA and the corresponding MDEQ regulations. This was an EPA lead inspection.

8) **Previous Inspection History**

The last RCRA compliance evaluation inspection was performed at the facility on February 24, 2017 by MDEQ personnel. No violations were observed.

9) **Facility Description**

The facility is located on approximately 8 acres in Pearlington, Mississippi within Hancock County. The facility currently employs 62 personnel working on various shifts 24 hours per day. A fence around the perimeter of the facility is used to control access to plant operations.

The facility last notified as a large quantity generator of hazardous waste on February 24, 2017. Hazardous wastes included on the notification included D001, D002, F002, F003, U002 (acetone), U008 (acrylic acid), U080 (methylene chloride), U108 (diethylene oxide) and U154 methanol.

During the opening conference the facility personnel described several organic chemistry processes used to make products manufactured by the facility. Each of the chemical processes performed by the facility were stated to be done using batch processes. The products manufactured by the facility are sold as water treatment chemicals which include both flocculants and coagulants.

A polyamine production process is performed by combining epi-chlorhydrin, ethylene diamine, dimethyl amine, sodium hydroxide and hydrochloric acid. The resulting process goes entirely to making a polyamine product. No wastes result from the manufacturing of this product.

A Dadmac monomer production process is performed by combining allyl chloride, sodium hydroxide and dimethyl amine. The production of the Dadmac monomer results in waste streams of sodium chloride and an organic waste stream which includes allyl chloride, allyl alcohol, water, 1,4 hexadiene and allyl dimethyl amine. The flammable hazardous waste stream from this reaction is sent to a hazardous waste accumulation tank T-830 which has a volume of 1800 gallons. Five reactors at the facility are used to make approximately 14 to 18 batches per day of the Dadmac product. The waste streams from each tank contribute to the ignitable hazardous waste stream sent to Tank-830.

An *ethylene dichloride ammonia production process* is performed by combining ethylene dichloride and ammonium hydroxide and sodium hydroxide. The production process results in the production of ethylene dichloride ammonia and sodium chloride. No hazardous waste is generated during this process.

A *sodium alyl sulfanate maleic acid copolymer process* is performed by combining alyl chloride, sodium bisulfite, sodium hydroxide, EDTA tetra-sodium, ammonium persulfate and water. The resulting sodium alyl sulfanate monomer can be sold as is or combined with maleic anhydride to make a maleic acid copolymer. These materials have a low pH if they should become unusable and have to be managed as a waste.

10) **Opening Conference**

On February 23, 2021, EPA inspector Daryl R. Himes, accompanied by Brad Justice of MDEQ, arrived at Polychemie, Inc. at approximately 9:00 a.m. Heather Flowers, the facility's Regulatory Compliance Manager, immediately received the inspectors. Heather Flowers and the inspectors were joined by Karen Scheye Dorman of SNF for the opening conference. The inspectors introduced themselves, showed their credentials to Heather Flowers, and explained the purpose of the visit. The inspectors described the anticipated use of their digital camera during the inspection and provided a request for records.

Heather Flowers and Karen Scheye Dorman provided an overview of the facility's history and current operations during the opening conference. A description of the facility's processes was given as described in the facility description section above. The company does not appear to meet the Small Business Regulatory Enforcement Fairness Act's classification of a "small business," which is generally set by the Small Business Administration using the business' SIC/NAICS code and annual receipts or number of employees. Therefore, the EPA inspector did not provide a copy of the agency's information sheet for small businesses, which can be found at <https://www.epa.gov/sites/production/files/2017-06/documents/smallbusinessinfo.pdf>.

A walk-through inspection of the facility was then performed, and the results of this walk-through are described in the findings below.

11) **Findings**

Administration Building

Three separate containers were observed in this area for the management of universal waste batteries. Each container was closed, labeled with appropriate universal waste language, and dated at the time of the inspection.

Tank-830

Tank-830 is an 1800-gallon tank (Photo 1) used by the facility to accumulate ignitable hazardous waste generated from the facility's DADMAC polymer production process. At the time of the inspection, the tank was stated to be empty, having been emptied on February 22, 2021. The tank was labeled with the words "Hazardous Waste" and a placard indicating the hazard of its

contents at the time of the inspection.

At the time of the inspection, the tanks secondary containment system for Tank-830 was observed to be sealed and free of any cracks and gaps (Photos 2, 3 & 4). The tank was observed to be closed at the time of the inspection. Facility personnel indicated that twelve pieces of ancillary equipment to the tank used to transfer the waste to outgoing tanker trucks were in service for greater than 300 hours per year. Pumps and valves which were part of this line were labeled and tagged at the time of the inspection (Photo 4).

Quality Control Lab

Two 1.5-gallon containers of hazardous waste were observed within satellite accumulation areas (SAAs) within lab hoods in this area. Each of the containers were labeled with the words “Hazardous Waste,” and a placard indicating the type of hazard associated with the waste stream within each container. The containers were both closed at the time of the inspection.

90-day Hazardous Waste Container Accumulation Area

This area was a fenced area with a concrete berm located within a larger metal building (Photo 6). Three 275-gallon plastic totes (within metal cages) were observed to contain hazardous wastes including ammonium persulfate (two containers) and maleic acid (one container). Each of the containers were labeled with the words “Hazardous Waste,” an indication of the hazard within the containers and an accumulation start date of less than 90-days. Each of the containers were closed at the time of the inspection.

One 5-gallon container of hazardous waste maleic anhydride sulfate was observed to be labeled with the words “Hazardous Waste” and an accumulation start date of less than 90-days. The container was not labeled with an indication of the hazard contents of the container at the time of the inspection (Photo 5).

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.10], a Large Quantity Generator (LQG) is a generator who generates greater than or equal to 1,000 kilograms (2200 lbs) of non-acute hazardous waste in a calendar month.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.17], a LQG may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as required by Section 17-17-27(4) of the Mississippi Code of 1972, Miss. Code Ann. § 17-17-27(4) [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.17] (hereinafter referred to as the “LQG Permit Exemption”).

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.1 [40 C.F.R. § 262.17(a)(5)(i)], which is a condition of the LQG Permit Exemption, a generator must mark or label its containers with the following: the words “Hazardous Waste”; an indication of the hazards of the contents; and the date upon which each period of accumulation begins clearly visible for

inspection on each container.

Five 55-gallon containers of hazardous waste (2 with corrosive and 3 with ignitable hazardous wastes) were also observed in this area. Each of the containers were labeled with the words “Hazardous Waste” and words that identified the hazard of the waste. The containers were marked with accumulation start dates of less than 90-days and were closed at the time of the inspection.

This area was equipped with a “No Smoking” sign on the gated door to the area (Photo 6).

The area is equipped with portable fire extinguishers and spill control equipment.

Record Review

A review of the facility’s records was performed following the walk-through inspection.

A review of the facility’s contingency plan which had been updated in the past year did not include a quick reference guide.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.1 [40 C.F.R. § 262.17(a)(6)], which incorporates 11 Miss. Admin. Code Pt. 3, R. 1.1 [40 C.F.R. § 262.262(b)], and is a condition of the LQG Permit Exemption, A large quantity generator that first becomes subject to these provisions after May 30, 2017 or a large quantity generator that is otherwise amending its contingency plan must at that time submit a quick reference guide of the contingency plan to the local emergency responders identified at paragraph (a) of this section or, as appropriate, the Local Emergency Planning Committee.

The 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.

The contingency plan describes arrangements agreed to with the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, local hospitals, or the Local Emergency Planning Committee.

The contingency plan lists the names and emergency telephone numbers for persons identified as emergency coordinators. Jim Bishop is listed as the primary emergency coordinator, and the other individuals are listed in the order in which they will assume responsibility as alternates.

The contingency plan includes a list of all emergency equipment at the facility. The list includes fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment. The list is up to date. The plan includes the location and a physical description of each item on the list, and a brief outline of its capabilities.

The plan includes an evacuation plan for personnel. This plan describes signals to be used to begin evacuation, evacuation routes, and alternate evacuation routes.

Training records from Heather Flowers and other personnel that had signed hazardous waste manifests were reviewed at the time of the inspection. No discrepancies were observed.

The inspectors reviewed available hazardous waste manifest records and land disposal restriction forms for shipments of hazardous waste sent since January of 2018. No discrepancies were observed from a review of the manifests.

Following the inspection of the Polychemie, Inc. facility on February 23, 2021, a phone request was made by Daryl Himes of the EPA to Heather Flowers of Polychemie, Inc. for the last manifest of hazardous waste sent off-site containing hazardous waste managed previously by the facility in Tank T-830. On February 23, 2021, Heather Flowers sent a response email to Daryl Himes with a copy of the requested manifest attached. A review of the manifest indicated that the quantity of hazardous waste sent off-site in a tanker truck (39,880 lbs) on February 22, 2021 far exceeded the capacity of Tank T-830. Through further phone conversations between Daryl Himes and Heather Flowers, it was determined that the last shipment of hazardous waste manifested off-site on February 22, 2021 from Tank T-830 first received hazardous waste from tank T-830 on February 8, 2021. It was then determined that the tanker truck was staged on-site in a tanker truck loading station (Number 6) in between fills from tank T-830 before being manifested off-site.

At 2:30 pm on February 25, 2021, Daryl Himes returned to Polychemie, Inc. to further inspect Tanker Truck Loading Station Number 6 (Photos 5 & 6). Heather Flowers stated that this location would have been used for the accumulation area for any tankers managing hazardous waste from the DADMAC process that were previously managed in tank T-830.

A small bermed area was located on the rear of Loading Station 6 which would have been beneath the loading ports of any tanker truck managed at this location. Facility personnel and contract drivers populated this area at the time of the inspection on February 25, 2021.

Further review of the facility's hazardous waste manifests indicated that 10 shipments of hazardous waste from the DADMAC process were manifested off-site in 2018, 12 shipments in 2019 and 8 shipments in 2020. A request of Heather Flowers was made on February 25, 2021 for copies of these manifests and paperwork which would indicate when each tanker truck first managed hazardous waste from tank T-830. Heather Flowers was not aware at the time of the February 25, 2021 inspection whether the tanker truck was labeled with the words "Hazardous Waste" and marked with an accumulation start date while any tanker truck was accumulating hazardous waste in this area.

On March 5, 2021, Heather Flowers emailed Daryl Himes two electronic files related to the management of D001 ignitable hazardous wastes managed in Tank T-830 since January 1, 2018. These documents indicate that 30 shipments of ignitable (D001) characteristic hazardous waste were shipped off-site from January 1, 2018 through February 22, 2021. One of the records also indicates the time frames that the hazardous waste managed first in Tank T-830 were managed and accumulated on-site within a tanker truck. During the time frames that the hazardous waste was accumulated on-site in a tanker truck, no hazardous waste weekly container inspections were

performed.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.17(a)(1)(v)], which is a condition of the LQG Permit Exemption, a generator is required to, at least weekly, inspect central accumulation areas looking for leaking containers and for deterioration of containers caused by corrosion or other factors.

Inspection Records: The inspectors reviewed Polychemie, Inc.'s available records of inspections of the 90-Day Hazardous Waste Accumulation Area for the past three years. The inspection log includes a checklist to record observations about leaking containers and for deterioration of containers caused by corrosion or other factors. The inspection log includes a checklist to record observations about obstructions, visible container labels, legible container labels, complete container labels, closed lids and bungs, condition of containers, container storage time, emergency communication and fire extinguisher. The records include the date and time of the inspection and the name, signature and initials of the employee conducting the inspection. Each week, the employee records notations of observations and necessary follow-up actions for the inspected areas.

No inspection records were provided for the weeks including October 15, 2019, September 17, 2019, July 9, 2019, and June 11, 2019 for the facility's 90-day Hazardous Waste Accumulation Area. In addition, no inspection records were provided for any dates on which the facility managed hazardous waste in a tanker truck while waiting to be filled with hazardous waste from accumulation tank T-830.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.17(a)(1)(v)], which is a condition of the LQG Permit Exemption, a generator is required to, at least weekly, inspect central accumulation areas looking for leaking containers and for deterioration of containers caused by corrosion or other factors.

12) **Signed**

Daryl R. Himes
Environmental Engineer

Date

Concurrence

Araceli B. Chavez
Chief
RCRA Enforcement Section
Chemical Safety and Land Enforcement Branch

Date

ATTACHMENT A

Polychemie, Inc.

Pearlington, Mississippi

COMPLIANCE EVALUATION Inspection

MSR000005033

February 23 and 25, 2021

Photos taken by Daryl R. Himes



Photo 1 – 1800 gallon Tank-830



Photo 2 – Secondary Containment for Tank-830



Photo 3 – Secondary containment for Tank-830



Photo 4 – Ancillary equipment for Tank-830



Photo 5 – 5-gallon container of hazardous waste within 90-day accumulation area missing an indication of the hazard within the container.



Photo 6 – 90-day Hazardous Waste Accumulation Area



Photo 7 – Tanker Truck Loading Area #6



Photo 8 – Tanker Truck Loading Area #6