

RCRA Inspection Report

1) Inspector and Author of Report

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2) Facility Information

BASF Corporation
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EPA ID# SCD981866007

3) Responsible Official

Craig Fox, SE EHS Team Leader
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4) Inspection Participants

Craig Fox, BASF	Sabrina Prince, SCDHEC
Lance Holt, BASF	Tom Richmond, SCDHEC
Scott Veselicky, BASF	Laurie Benton DiGaetano, U.S. EPA
Clark Schwartz, BASF	

5) Date of Inspection

May 5, 2022

6) Applicable Regulations

Resource Conservation and Recovery Act (RCRA) Sections 3002 (42 U.S. Code – Annotated U.S.C.A. 6925 and 6927), South Carolina Hazardous Waste Management Regulations (SCHWMR) R.61-79, 260 through 270, 273, 278, & 279; and 40 Code of Federal Regulation (C.F.R.), Parts 260 - 270, 273, 278, & 279.

Pursuant to S.C. Code Ann. Regs. 61-79.261.6(a)(2)(iii) [40 C.F.R. § 261.6(a)(2)(iii)], which references S.C. Code Ann. Regs. 61-79.266.70(a) [40 C.F.R. § 266.70(a)], recyclable materials that are reclaimed to recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or any combination of these are regulated

under S.C. Code Ann. Regs. 61-79.266 Subpart F [40 C.F.R. § 266 Subpart F] and all applicable provisions in parts 268, 270 and 124 of this chapter.

Pursuant to S.C. Code Ann. Regs. 61-79.262.15(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 44-56-60(a)(2) and (b)(3) of the SCHWMA, S.C. Code Ann. § 44-56-60(a)(2) and (b) [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with S.C. Code Ann. Regs. 61-79.262.16(b) or R.61-79.262.17(a) [40 C.F.R. § 262.16(b) or §262.17(a)], except as required in S.C. Code Ann. Regs. 61-79.262.15(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 S.C. Code Ann. Regs. 61-79.262.15(a) [40 C.F.R. § 262.15(a)] (hereinafter referred to as the “SAA Permit Exemption”).

Pursuant to S.C. Code Ann. Regs. 61-79.262.17 [40 C.F.R. § 262.17], a large quantity generator may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as required by Section 44-56-60(a)(2) and (b)(3) of the SCHWMA, S.C. Code Ann. § 44-56-60(a)(2) and (b) [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in S.C. Code Ann. Regs. 61-79.262.17 [40 C.F.R. § 262.17] (hereinafter referred to as the “LQG Permit Exemption”).

7) Purpose of Inspection

The purpose of this inspection was to conduct an unannounced compliance evaluation inspection to determine BASF Corporation’s compliance with the applicable requirements of RCRA and the corresponding SCDHEC regulations. This was an EPA lead inspection.

8) Previous Inspection History

SCDHEC has conducted five RCRA CEIs at the subject facility since 2000. Two of those CEIs were joint inspections with the EPA. The most recent RCRA CEI at this facility was conducted on October 3, 2016, and the most recent apparent violations of RCRA were observed during a CEI on August 18, 2008.

9) Facility Description

At the subject facility in Seneca, South Carolina, BASF Corporation (BASF) recovers precious metals from spent catalyst, refines these metals and uses them to manufacture specialty chemical catalysts and precious metal salts and solutions. The facility operates under the primary NAICS Code 331314 for Secondary Smelting and Alloying of Aluminum and the secondary NAICS Codes 32799 for All Other Nonmetallic Mineral Product Manufacturing, 325180 for Other Basic Inorganic Chemical Manufacturing, and 331492 for Secondary Smelting, Refining and Alloying of Nonferrous Metal (Except Copper and Aluminum). BASF has approximately 450 employees and contractors at this location, and operations run twenty-four hours per day, 365 days per year using four 12-hour shifts.

Incoming material is removed from its original container and placed into a pan in the Prep Department. The pan is then placed into a furnace and the organics are burned away leaving large chunks of material. These chunks, which are made up of approximately 30% precious metals, are then sent through milling, grinding and bagging processes before they are melted in a top-down rotary burner. The smaller pieces of material that remain after melting are sent through an atomization process to create very small granular pieces of mostly pure precious metals. The granules are dissolved into solution at the Catalyst Department, and this solution may be sold, sent for use at another BASF facility, or further processed onsite in the Catalyst Department. Customers may use precious metal salts and solutions in the production of herbicides, plastics, pharmaceuticals, auto-emission catalysts, fragrances, and fertilizers. The BASF facility also produces specialty zeolites, desiccants, and water-treatment media for the removal of lead, arsenic, and other impurities from drinking water.

The subject facility has operated as a large quantity generator (LQG) of hazardous waste for over thirty years. BASF first notified as the owner and operator of the facility on 10/02/2006, when the company acquired Engelhard Corporation, who had been listed as the previous owner and operator at this location. BASF routinely generates hazardous waste mercury contaminated debris in the Mercury Laboratory, hazardous waste sulfuric acid solution in the Wastewater Treatment Laboratory, and universal waste aerosol cans and batteries throughout the facility. However, the largest volume of hazardous waste is generated from discarding raw materials and special blends following the production campaign for a batch of product. Many facility customers have strict restrictions on degradation life span of ingredients, and the facility can have up to one-to-five years between batch campaigns. As a result, unused raw materials and special blends that cannot be recovered or reused are sent off-site as a waste.

Routine hazardous and universal wastes are accumulated in designated areas throughout the facility. Each of these areas is inspected weekly by personnel from the Utilities Department, and full containers are moved to the on-site central accumulation area (CAA). In addition, specific departments can submit a request to the Utilities Department to have personnel pick up containers of waste and move them to the CAA.

BASF included the following hazardous waste in their 2019 biennial report:

<u>Hazardous Waste Description</u>	<u>EPA Waste Code</u>
flammable liquid w/paint solids	D001/F005
mercury residue	D009
aerosol cans	D001/F002/F003/F005
paint solids, epoxy and cans	D001
waste potassium hydroxide	D002
waste sodium bromate	D001
lab pack	D001
Dorox D 10 powder	D001/D003
sodium aluminate	D002
waste formic acid and acetic acid	D002
waste hydrochloric acid and deta	D002
FR286 mother liquor	D002
waste diisobutyl dithiophosphate	D002

waste sodium chlorate	D001
Biosperse 261	D001
isobutylamine	D001
ethylenediamine	D001
zinc powder	D001/D003
colbalt nitrate	D001
waste flammable liquid	D001
K0318 mother liquor	D002

10) **Opening Conference**

On May 5, 2022, EPA inspector Laurie Benton DiGaetano, accompanied by SCDHEC inspectors Sabrina Prince and Tom Richmond, arrived at the subject BASF Corporation (BASF) facility at approximately 9:30 a.m. The inspectors checked in at the security station and watched a safety video before the security guard provided the necessary identification badges to enter the facility. Mr. Craig Fox, SE EHS Team Lead, greeted the inspectors after they passed through the security screening at approximately 10:10 a.m. The inspectors introduced themselves, showed their credentials to Mr. Fox, and explained the purpose of the visit. Mr. Fox and the inspectors were joined by Mr. Lance Holt, Utilities and WWT, Mr. Clark Schwartz, EHS, and Mr. Scott Veselicky, EHS, for the opening conference. Ms. Allison Ranson, Environmental Specialist, also participated in the open conference via telephone.

The facility representatives provided an overview of the facility's history and current operations during the opening conference. The inspectors 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. The inspectors noted 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. The EPA's information sheet for small businesses, which can be found at <https://www.epa.gov/sites/production/files/2017-06/documents/smallbusinessinfo.pdf>. The inspectors described the anticipated use of a digital camera during the inspection, and the inspection participants also discussed health and safety protocols and required personal protective equipment. The inspectors provided a request for records and then facility representatives led the inspectors on a tour of the Facility operations.

11) **Findings**

Mercury Laboratory: BASF manages one SAA for managing D009 hazardous waste mercury contaminated debris generated in the Mercury Laboratory (Photo 1). This SAA is located in a fire cabinet, and the inspectors observed one 30-gallon steel drum inside the cabinet. The drum was labeled as hazardous waste and closed with a latched lid. Although the fire cabinet was marked to indicate that its contents are toxic, the hazardous waste container was not marked with an indication of the hazards of its contents.

Pursuant to S.C. Code Ann. Regs. 61-79.262.15(a)(5)(ii) [40 C.F.R. § 262.15(a)(5)(ii)], which is a condition of the SAA Permit Exemption, a generator is

required to mark or label its containers with an indication of the hazards of the contents.

Surface Area Laboratory: BASF manages one SAA in the corner of the Surface Area Laboratory. The inspectors observed one 55-gallon drum labeled zeolite recovery on a portable secondary containment pallet in this SAA. A review of the waste profile records indicated that liquid zeolite samples exhibit the characteristic of corrosivity due to elevated pH levels, but that dry zeolite powders do not exhibit any hazardous waste characteristics. This drum contained D002 hazardous waste liquid zeolite samples. The drum lid was resting on top of the container, but it was not equipped with a ring to close the container by securing the lid to the drum. The drum was not labeled as hazardous waste and it was not marked with an indication of the hazards of its contents.

Pursuant to S.C. Code Ann. Regs. 61-79.262.15(a)(4) [40 C.F.R. § 262.15(a)(4)], which is a condition of the SAA Permit Exemption, a generator is required to keep containers of hazardous waste closed at all times during accumulation, except when adding, removing, or consolidating waste; or when temporary venting of a container is necessary for the proper operation of equipment, or to prevent dangerous situations, such as build-up of extreme pressure.

Pursuant to S.C. Code Ann. Regs. 61-79.262.15(a)(5) [40 C.F.R. § 262.15(a)(5)], which is a condition of the SAA Permit Exemption, a generator is required to mark or label its containers (i) with the words “Hazardous Waste” and (ii) with an indication of the hazards of the contents.

Assay Laboratory: BASF manages one SAA inside a cabinet with a laboratory hood in the Assay Laboratory (Photo 2). The inspectors observed one 15-gallon bucket labeled D002 hazardous waste titanium oxychloride loose pack in this SAA. The bucket was closed, and it was marked to indicate that its contents are corrosive.

The inspectors also observed one 30-gallon red flammable can, which was labeled dry pm powder/residue and was marked with an indication of the hazards of its contents. Personnel explained that this material will be returned to the process to recover additional precious metals.

Process Catalyst Area: BASF has designated two areas in the Process Catalyst Area for accumulating universal waste. The inspectors observed one 55-gallon drum of used aerosol cans in the first area. The drum was closed with a latched lid, labeled with the words “universal waste aerosol cans,” and marked with an accumulation start date of February 26, 2022. The inspectors observed three 5-gallon buckets of used batteries in the second area. The first bucket was labeled used alkaline batteries, the second was labeled universal waste nickel cadmium batteries, and the third (which was empty) was labeled universal waste lithium-ion batteries.

Incinerator Room: BASF has designated an area in the Incinerator Room for accumulating used aerosol cans as universal waste. The inspectors observed one 55-gallon drum in this area. The drum was closed with a latched lid, labeled with the words “universal waste aerosol cans,” and marked with an accumulation start date of February 2, 2022.

Wastewater Treatment Area: BASF has designated one SAA for accumulating COD sample vials in the Wastewater Treatment Area (Photo 3). The inspectors observed one 55-gallon drum in this area, which was just outside of the laboratory door. The drum was closed, and it was labeled D002/D007/D009/D011 hazardous waste sulfuric acid solution. Although the drum was marked with a DOT corrosive hazard placard, it was not marked to indicate that its contents are also toxic.

Pursuant to S.C. Code Ann. Regs. 61-79.262.15(a)(5)(ii) [40 C.F.R. § 262.15(a)(5)(ii)], which is a condition of the SAA Permit Exemption, a generator is required to mark or label its containers with an indication of the hazards of the contents.

According to facility personnel, the on-site wastewater treatment system is divided into two parallel systems that ultimately discharge together to the local POTW. The Group 3 system, which is subject to the EPA's categorical standard, generates a wastewater treatment sludge that is processed on-site for additional precious metals recovery. The Group 4 system, which is not subject to an EPA categorical standard, generates a wastewater treatment sludge that is sent to a landfill for disposal as nonhazardous solid waste. The inspectors observed two 55-gallon drums (Photo 4) beneath the Group 3 system filter press (Photo 5). This material appears to be regulated under S.C. Code Ann. Regs. 61-79.266 Subpart F [40 C.F.R. § 266 Subpart F] and all applicable provisions in parts 268, 270 and 124 of this chapter, because facility personnel stated that it will be processed on-site to recover additional precious metals.

Hazardous Waste Storage Area: BASF manages a hazardous waste CAA in a designated outbuilding. The building is equipped with a concrete floor, metal walls, and a metal roof. The inspectors observed "no smoking" signs and signs to identify this building as a hazardous waste storage area. The area is equipped with a fire alarm, portable fire extinguishers, an emergency shower and eyewash station, brooms, and a spill kit. Facility representatives explained that access inside the CAA building is controlled, and that employees who have access to this area carry cell phones and two-way radios.

The inspectors observed signs on the three walls inside the building to identify areas designated for used oil, hazardous waste, electronic waste, and universal waste; two areas designated for 90-day waste; and three areas designated for non-RCRA waste.

- The inspectors observed a portable secondary containment unit in the designated used oil storage area, but no containers of used oil were observed in this area.
- The inspectors observed two portable secondary containment units in the designated hazardous waste storage area, but no containers were observed in this area.
- The inspectors observed one cubic yard box in the designated e-waste storage area. The box was dated April 19, 2022.
- The inspectors observed one cardboard box of 8-foot used fluorescent lamps, one cardboard box of 4-foot used fluorescent lamps, one 5-gallon bucket of used alkaline batteries and one 10-gallon bucket of used lithium-ion batteries in the designated universal hazardous waste storage area. Each box of used fluorescent lamps was labeled universal waste fluorescent bulbs (not "universal waste lamps"), and each bucket of used batteries was labeled universal waste batteries. The containers were each marked with an accumulation start date and the oldest container was dated March 9, 2022.

Pursuant to S.C. Code Ann. Regs. 61-79.273.14(e) [40 C.F.R. § 273.14(e)], a SQHUW must label or mark each lamp or container or package in which such lamps are contained clearly with one of the following phrases: “Universal Waste - Lamp(s),” or “Waste Lamp(s),” or “Used Lamp(s).”

- The inspectors observed a portable secondary containment unit in the first designated 90-day storage area, but no containers were observed in this area.
- The inspectors observed a portable secondary containment unit in the second designated 90-day storage area. One 55-gallon drum of waste paint related material was observed in this area (Photo 6). The drum was closed with a latched funnel and labeled D001/D035 hazardous waste flammable liquid with paint solids. The drum was identified with a DOT flammable liquid hazard placard, but it was not marked to indicate that its contents are also toxic.

Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(5)(i)(B) [40 C.F.R. § 262.17(a)(5)(i)(B)], which is a condition of the LQG Permit Exemption, a generator is required to mark or label containers with an indication of the hazards of the contents clearly visible for inspection on each container.

- In the designated non-RCRA area, the inspectors observed one cardboard box, which was labeled lithium hydroxide and dated April 11, 2022; one 55-gallon drum, which was labeled thiourea and dated March 23, 2022; one 55-gallon drum, which was labeled barium carbonate and dated April 11, 2022; one 25-gallon container, which was labeled lead acetate and dated April 11, 2022; one 25-gallon container, which was labeled hydrazine sulfate and dated April 13, 2022; and one 25-gallon container, which was labeled chromium chloride and dated April 11, 2022. According to facility personnel, containers are not brought into this building for storage until after the company has determined that the contents are a waste. Each of these containers was labeled as “in process determination pending,” but none were labeled with the words “hazardous waste.”

Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(5)(i)(A) and (B) [40 C.F.R. § 262.17(a)(5)(i)(A) and (B)], which is a condition of the LQG Permit Exemption, a generator is required to mark or label containers with the words “Hazardous Waste” and with an indication of the hazards of the contents clearly visible for inspection on each container.

Filter Press 6 in Zeolites Room: BASF has designated an area in the Zeolites Room for accumulating used aerosol cans as universal waste. The inspectors observed one 55-gallon drum in this area. The drum was closed with a latched lid and labeled with the words “universal waste aerosol cans.”

Change Room Hallway: BASF has designated an area in the Change Room Hallway for accumulating used aerosol cans as universal waste. The inspectors observed one 55-gallon drum in this area. The drum was closed with a latched lid, labeled with the words “universal waste aerosol cans,” and marked with an accumulation start date of November 6, 2021.

Contingency Plan: The facility's integrated contingency plan, which was last updated on February 8, 2022, describes actions that facility personnel should take in response to an emergency. The plan describes the emergency communication system and alarms available at the facility and the actions facility personnel must take in response to fires, severe weather, bomb threat and active shooter, crisis management, medical emergencies, and any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility. It also includes an evacuation plan for personnel. This evacuation plan describes signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.

BASF's integrated contingency plan identifies and describes arrangements agreed to with the Oconee Medical Center, the Oconee County Sheriff, the Seneca Fire Department, the Friendship Fire Department, the Oconee Fire Marshall, the Oconee Emergency Preparation, Hepaco and Upstate Medical. However, the plan did not include arrangements agreed to with the local police department(s).

Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(6) [40 C.F.R. § 262.17(a)(6)], which incorporates S.C. Code Ann. Regs. 61-79.262.256(a) [40 C.F.R. § 262.256(a)], and is a condition of the LQG Permit Exemption, an LQG must attempt to make arrangements with the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, local hospitals or, if applicable, the Local Emergency Planning Committee.

Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(6) [40 C.F.R. § 262.17(a)(6)], which incorporates S.C. Code Ann. Regs. 61-79.262.261(c) [40 C.F.R. § 262.261(c)], and is a condition of the LQG Permit Exemption, the contingency plan must describe arrangements agreed to with the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, local hospitals or, if applicable, the Local Emergency Planning Committee.

The integrated contingency plan lists the names and emergency telephone numbers for persons identified as emergency coordinators. The list clearly identifies one primary and one secondary emergency coordinator, along with twelve alternate emergency coordinators. At the time of the CEI, the primary emergency coordinator was no longer working at the subject facility and the contingency plan was in the process of being updated. The vacancy for the emergency coordinator's position had not been filled, so the secondary emergency coordinator was acting as the primary contact during the transition. When the contingency plan updates are finalized, the revised plan should be sent out to the local emergency response entities.

The integrated contingency plan included a map with the location of fire extinguishers, but it did not include a list of all other emergency equipment at the facility. The plan references communications and alarm systems, but it does not include the location and a physical description of each item of available emergency response equipment, and a brief outline of its capabilities.

Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(6) [40 C.F.R. § 262.17(a)(6)], which incorporates S.C. Code Ann. Regs. 61-79.262.261(e) [40 C.F.R. § 262.261(e)], and is a condition of the LQG Permit Exemption, the contingency plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment) where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

BASF invites local emergency response entities to participate in an annual emergency response drill with BASF personnel. Copies of the facility's contingency plan are provided to the drill participants at these events. The most recent drill was held on December 15, 2021, and included representatives from the Seneca Fire Department, the Friendship Fire Department, Oconee County Hazardous Materials, and Prisma Health. The drill did not include representatives of the local police department(s), and BASF did not provide records to indicate that the revised plan, dated February 8, 2022, had been provided to the local emergency response entities.

Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(6) [40 C.F.R. § 262.17(a)(6)], which incorporates S.C. Code Ann. Regs. 61-79.262.262(a) [40 C.F.R. § 262.262(a)], and is a condition of the LQG Permit Exemption, a generator is required to submit a copy of the contingency plan and all revisions to all local emergency responders. This document may also be submitted to the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, local hospitals or, if applicable, the Local Emergency Planning Committee.

The BASF facility created a quick reference guide (QRG) of the contingency plan, but the plan was not dated. The QRG states that the facility does not generate any hazardous wastes where exposure would require unique or special treatment by medical or hospital staff, and it includes a map of the facility showing where hazardous wastes are generated, accumulated, and treated and routes for accessing these wastes and the identification of on-site notification systems. Although the QRG includes an estimated maximum total amount of hazardous waste that may be present at any one time, it does not include the required information for each hazardous waste that may be present at any one time. Specifically, the QRG does not include the types/names of hazardous waste in layman's terms, the associated hazard, and the estimated maximum total amount of each hazardous waste present at any one time. The QRG references a street map of the facility in relation to surrounding businesses, schools, and residential areas; the locations of water supply; and the name of the emergency coordinator(s) and emergency telephone number(s). However, the QRG references sections of the integrated contingency plan where this information can be located rather than including this required information.

Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(6) [40 C.F.R. § 262.17(a)(6)], which incorporates S.C. Code Ann. Regs. 61-79.262.262(b) [40 C.F.R. § 262.262(b)], and is a condition of the LQG Permit Exemption, a LQG that is amending its contingency plan must at that time submit a quick reference guide of the contingency plan to the local emergency responders or, as appropriate, the Local Emergency Planning Committee. The quick reference guide must include the

types/names of hazardous wastes in layman's terms and the associated hazard associated with each hazardous waste present at any one time; the estimated maximum amount of each hazardous waste that may be present at any one time; a street map of the facility in relation to surrounding businesses, schools and residential areas to understand how to best to get to the facility and also evacuate citizens and workers; the locations of water supply; the identification of on-site notification systems; and the name of the emergency coordinator(s) and 7/24-hour emergency telephone number(s), or in the case of a facility where an emergency coordinator is continuously on duty, the emergency telephone number for the emergency coordinator.

BASF provided records to show that a copy of the quick reference guide (QRG) was provided to representatives from the Seneca Fire Department, Prisma Health EMS, Oconee Hazmat, Oconee County Emergency Services, and Friendship Fire Department during the annual emergency response drill, which was held at the facility on October 24, 2019 and December 15, 2021. However, the drill did not include representatives of the local police department(s).

Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(6) [40 C.F.R. § 262.17(a)(6)], which incorporates S.C. Code Ann. Regs. 61-79.262.262(c) [40 C.F.R. § 262.262(c)], and is a condition of the LQG Permit Exemption, a generator must update, if necessary, their quick reference guide, whenever the contingency plan is amended and submit these documents to the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, local hospitals or, if applicable, the Local Emergency Planning Committee.

Training Records: The inspectors reviewed facility job descriptions, which described the hazardous waste training requirements for employees with hazardous waste management duties. The inspectors also identified selected employees with hazardous waste management duties and requested hazardous waste training records for those individuals. No apparent deficiencies were noted.

Waste Manifest Records: The inspectors reviewed available hazardous waste manifest records, land disposal restriction forms, and quarterly reports since January of 2020. No apparent deficiencies were noted. Shipments of hazardous wastes from the facility during the first quarter of 2022 included:

- D009/U151 waste mercury sent to Univar NCD061263315 on January 31, 2022;
- D002 waste corrosive liquid (dichloride titanium oxide) sent to Envirote PAD010154045 on January 31, 2022;
- D002 waste corrosive liquid (nnn-trimethyl-hydroxide Cyclohexanaminium) sent to US Ecology MID980991566 on February 23, 2022 and March 4, 2022;
- D002 waste tetramethylammonium hydroxide sent to Ross Incineration OHD048415665 on March 3, 2022;
- D001/D035 waste paint related material and D002 waste corrosive liquid (dichloride titanium oxide/hydrochloric acid) sent to Clean Earth KYD985073196 on March 30, 2022;
- D009 hazardous waste mercury contaminated debris sent to Envirote OHD980558992 on March 30, 2022; and

- D001/D035/F003 waste paint related material sent to GRR Sumter SCD036275626 on March 30, 2022.

Inspection Records: The inspectors reviewed BASF's available records of inspections of the hazardous waste CAA since January 8, 2019. 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 the age of waste containers; the condition of the containers and verification that they're on a pallet; evidence of leaking, bulging, or corroding containers; closed containers; container labels and dates; blacking out of previous container labels; availability of spill clean-up materials; evidence of spills; segregation of containers and aisle spacing; absence of unapproved drums; and presence of fire extinguishers. The records include the date and time of the inspection and the name of the employee conducting the inspection.

12) Closing Conference

The inspectors presented their preliminary conclusions of the inspection during an exit meeting with the following facility representatives:

In Person:

Craig Fox, SE EHS Team Lead
Lance Holt, Utilities and WWT
Clark Schwartz, EHS
Scott Veselicky, EHS

On the Telephone:

Art Schermek, Site Manager
Elba Livardi, Site Director
Sean Spann, Operation Management
Dave Sanders, Operation Management
Jarad Bears, Reliability Management
Allison Rason, Environmental Specialist

13) Inspection Findings

Based on the observations made during the inspection, BASF was apparently deficient with the following RCRA requirements:

- Pursuant to S.C. Code Ann. Regs. 61-79.262.15(a)(4) [40 C.F.R. § 262.15(a)(4)], which is a condition of the SAA Permit Exemption, a generator is required to keep containers of hazardous waste closed at all times during accumulation, except when adding, removing, or consolidating waste; or when temporary venting of a container is necessary for the proper operation of equipment, or to prevent dangerous situations, such as build-up of extreme pressure.
- Pursuant to S.C. Code Ann. Regs. 61-79.262.15(a)(5) [40 C.F.R. § 262.15(a)(5)], which is a condition of the SAA Permit Exemption, a generator is required to mark or label its containers (i) with the words "Hazardous Waste" and (ii) with an indication of the hazards of the contents.
- Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(5)(i)(A) and (B) [40 C.F.R. § 262.17(a)(5)(i)(A) and (B)], which is a condition of the LQG Permit Exemption, a generator is required to mark or label containers with the words "Hazardous

Waste” and with an indication of the hazards of the contents clearly visible for inspection on each container.

- Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(6) [40 C.F.R. § 262.17(a)(6)], which incorporates S.C. Code Ann. Regs. 61-79.262.256(a) [40 C.F.R. § 262.256(a)], and is a condition of the LQG Permit Exemption, an LQG must attempt to make arrangements with the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, local hospitals or, if applicable, the Local Emergency Planning Committee.
- Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(6) [40 C.F.R. § 262.17(a)(6)], which incorporates S.C. Code Ann. Regs. 61-79.262.261(c) [40 C.F.R. § 262.261(c)], and is a condition of the LQG Permit Exemption, the contingency plan must describe arrangements agreed to with the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, local hospitals or, if applicable, the Local Emergency Planning Committee.
- Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(6) [40 C.F.R. § 262.17(a)(6)], which incorporates S.C. Code Ann. Regs. 61-79.262.261(e) [40 C.F.R. § 262.261(e)], and is a condition of the LQG Permit Exemption, the contingency plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment) where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.
- Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(6) [40 C.F.R. § 262.17(a)(6)], which incorporates S.C. Code Ann. Regs. 61-79.262.262(a) [40 C.F.R. § 262.262(a)], and is a condition of the LQG Permit Exemption, a generator is required to submit a copy of the contingency plan and all revisions to all local emergency responders. This document may also be submitted to the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, local hospitals or, if applicable, the Local Emergency Planning Committee.
- Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(6) [40 C.F.R. § 262.17(a)(6)], which incorporates S.C. Code Ann. Regs. 61-79.262.262(b) [40 C.F.R. § 262.262(b)], and is a condition of the LQG Permit Exemption, a LQG that is amending its contingency plan must at that time submit a quick reference guide of the contingency plan to the local emergency responders or, as appropriate, the Local Emergency Planning Committee. The quick reference guide must include the types / names of hazardous wastes in layman’s terms and the associated hazard associated with each hazardous waste present at any one time; the estimated maximum amount of each hazardous waste that may be present at any one time; a street map of the facility in relation to surrounding businesses, schools and residential areas to understand how to best to get to the facility and also evacuate citizens and workers;

the locations of water supply; the identification of on-site notification systems; and the name of the emergency coordinator(s) and 7/24-hour emergency telephone number(s), or in the case of a facility where an emergency coordinator is continuously on duty, the emergency telephone number for the emergency coordinator.

- Pursuant to S.C. Code Ann. Regs. 61-79.262.17(a)(6) [40 C.F.R. § 262.17(a)(6)], which incorporates S.C. Code Ann. Regs. 61-79.262.262(c) [40 C.F.R. § 262.262(c)], and is a condition of the LQG Permit Exemption, a generator must update, if necessary, their quick reference guide, whenever the contingency plan is amended and submit these documents to the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, local hospitals or, if applicable, the Local Emergency Planning Committee.
- Pursuant to S.C. Code Ann. Regs. 61-79.273.14(e) [40 C.F.R. § 273.14(e)], a SQHUW must label or mark each lamp or container or package in which such lamps are contained clearly with one of the following phrases: “Universal Waste - Lamp(s),” or “Waste Lamp(s),” or “Used Lamp(s).”

14) **List of Appendices**

Appendix 1 – Photo Log:

6 Photos taken on: 05/05/2022

Photos taken by: Laurie Benton DiGaetano

Photos taken with: Panasonic DMC TS-5 Digital Camera

EPA Property Tag: S09533

15) **Signed**

Laurie Benton DiGaetano
Senior Enforcement and Compliance Specialist

Concurrence

Araceli B. Chavez
Chief
RCRA Enforcement and Compliance Section



Photo 1: One 30-gallon drum observed in the SAA for managing D009 hazardous waste mercury contaminated debris generated in the Mercury Laboratory. The drum was labeled as hazardous waste and closed with a latched lid. Although the fire cabinet was marked to indicate that its contents are toxic the hazardous waste container was not marked with an indication of the hazards of its contents.



Photo 2: One white 15-gallon bucket of D002 hazardous waste titanium oxychloride loose pack observed in the SAA in the Assay Laboratory. The bucket was closed, labeled hazardous waste, and marked to indicate that its contents are corrosive.

Facility personnel explained that the dry pm powder / residue in the red 30-gallon flammable can will be returned to the process to recover additional precious metals.



Photo 3: One 55-gallon drum observed in the SAA for managing D002 / D007 / D009 / D011 hazardous waste sulfuric acid solution generated in the Wastewater Treatment Laboratory. The drum was closed, and it was labeled as hazardous waste. Although the drum was marked with a DOT corrosive hazard placard, it was not marked with an indication that the contents are also toxic.

BASF Corporation
RCRA CEI Photographs
Laurie Benton DiGaetano, USEPA

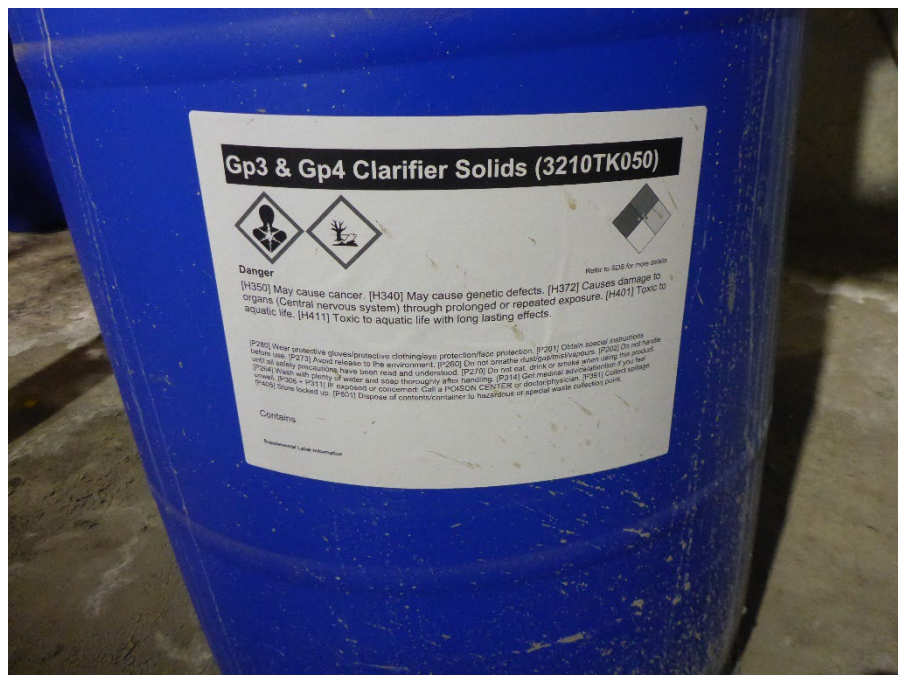


Photo 4: One of two 55-gallon drums accumulating sludge generated by the on-site wastewater treatment system.

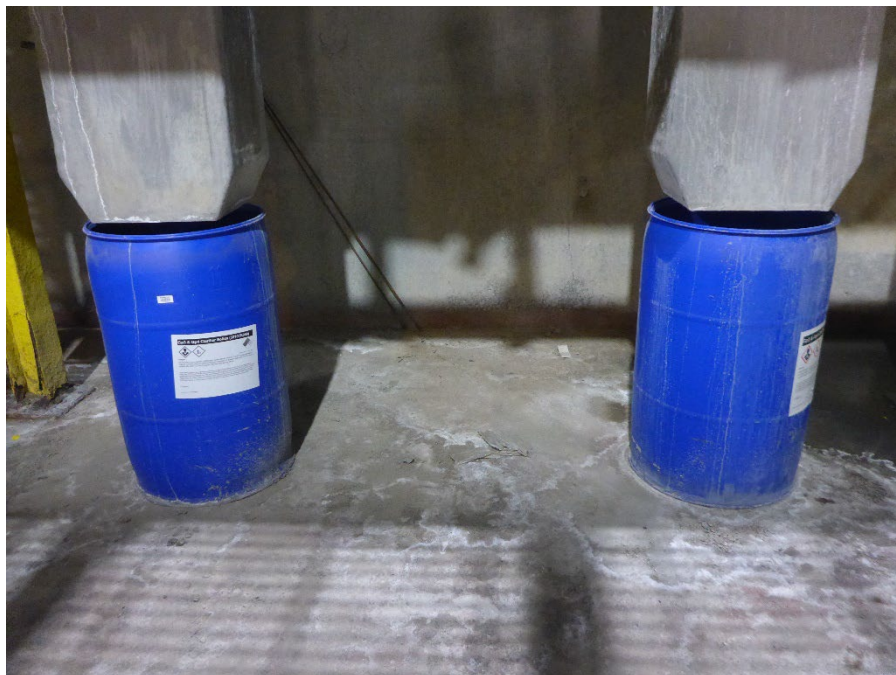


Photo 5: Two 55-gallon drums accumulating sludge generated by the on-site wastewater treatment system.



Photo 6: One 55-gallon drum of waste paint related material on a secondary pallet in the CAA. The drum was closed with a latched funnel lid, and it was labeled D001 / D035 hazardous waste flammable liquid with paint solids. Although the drum was identified with a DOT flammable liquid hazard placard, it was not marked to indicate that its contents are also toxic.