United States Environmental Protection Agency

Region 6 - Enforcement & Compliance Assurance Division

INSPECTION REPORT

Inspection Date(s):	July 27-29, 2021	
Media Program:	Air	
Regulatory Program(s)	Clean Air Act Section 112(r) and 40 Code of Federal Regulations (C.F.R.) Part 68 Chemical Accident Risk Management Plan (RMP)	
Company Name:	Brenntag Southwest - Greens Bayou	
Facility Name:	Brenntag, Inc	
Facility Physical Location:	1632 Haden Road	
(city, state, zip code)	Houston, TX, 77015	
Mailing address:	206 East Morrow Road	
(city, state, zip code)	Sand Springs	
County/Parish:	Harris County	
Facility Phone Number	(972) 218-3504	(972) 218-3504
Facility Contact:	Steve Rue	Steve Rue
	SRue@brenntag.com	
FRS Number:	110000503839	
Identification/Permit Number:		
Media Identifier Number:	RMP: 100000081519	
NAICS:	32518 - Other Basic Inorganic Chemical Manufacturing	
SIC:	2899 - Chemicals and Chemical Preparations, Not Elsewhere Classified	

Personnel participating in inspection:		
Chris Isaacs	Brenntag, Inc.	Environmental Health and Safety (EHS) Staff
Steve Rue	Brenntag, Inc.	Operations Manager
Daniel Harris	Brenntag, Inc.	EHS Director
Brian Sterling	Brenntag, Inc.	Vice President (VP) – Operations

EPA Lead Inspector Signature/Date	KAYLA BUCHANAN Digitally signed by KAYLA BUCHANAN DN: c=US, o=U.S. Government, ou=Environmental Protection Agency, cn=KAYLA BUCHANAN, 0.9.2342.19200300.100.1.1=68001003655805 Date: 2021.09.22 07:28:29 -05'00'	9/22/2021
	Kayla Buchanan	Date
Supervisor Signature/Date	SAMUEL TATES Digitally signed by SAMUEL TATES DN: c=US, o=U.S. Government, ou=Environmental Protection Agency, cn=SAMUEL TATES, 0.9.2342.19200300.100.1.1=68001003655433 Date: 2021.09.22 07:56:47 -05'00'	9/22/2021
	Samuel Tates	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

I, U.S. Environmental Protection Agency (EPA) Region 6 Inspector Kayla Buchanan, arrived at Brenntag Southwest – Greens Bayou (Brenntag Southwest) for an announced inspection at 9:00 a.m. on July 27, 2021. The inspection was prompted by a regional priority. I convened an opening conference and met with several representatives from the facility ***(see Appendix 1)***. I presented my credentials to the opening conference attendees and informed them that this was an EPA inspection to determine Brenntag Southwest's compliance with the Clean Air Act (CAA) Sections 112(r)(1) and 112(r)(7).

FACILITY DESCRIPTION

Brenntag Southwest's Greens Bayou Facility is located at 1632 Haden Road, Houston Texas, 77015. The Brenntag - Greens Bayou Chemical Complex employs 50 hourly plant personnel and 23 administrative employees at the site. Brenntag repackages chlorine and utilizes it for sodium hypochlorite bleach manufacturing at the Greens Bayou facility. Sulfur dioxide cylinders (150 lb.) are warehoused and distributed from the Greens Bayou facility.

Section II – OBSERVATIONS

On July 28, 2021, I participated in a driving tour of the Brenntag Southwest facility. Brenntag Southwest employees Steve Rue (Operations), Chris Isaacs (EHS), Daniel Harris (EHS), and Brian Sterling (VP) accompanied me. I observed the covered processes, equipment, operations, control rooms, and emergency equipment. I interviewed operators and asked questions about their training, the Management of Change (MOC) and Process Hazard Analysis (PHA) processes, and the facility's regular operating and emergency procedures.

Subpart A – General

40 C.F.R. § 68.10 Applicability – Brenntag Southwest is a Title V stationary source that has an air operating permit and more than the threshold quantities of flammable regulated substances in its process streams; therefore, RMP regulations are applicable. Brenntag Southwest re-submitted an RMP on August 25, 2015, which describes the processes containing regulated chemicals stored at more than threshold quantities. In addition, this facility is subject to the Occupational Safety and Health Administration's (OSHA) Process Safety Management (PSM) Standard (29 CFR § 1910.119), which categorizes Brenntag Southwest as a Program 3 facility.

40 C.F.R. § 68.12 General requirements – I reviewed the re-submission of Brenntag Southwest's Risk Management Program (RMP), which was submitted on February 1, 2018. It listed the toxic chemicals for its Program 3 process.

40 C.F.R. § 68.15 Management – I reviewed the management systems implemented at Brenntag Southwest that oversees the implementation of the RMP elements. Brenntag Southwest provided a site-specific management system that did not illustrate a specific person or title to oversee the implementation of the RMP elements; subsequently, Brenntag Southwest provided a corporate level management system that assigned a qualified person or position that has the overall responsibility for the development, implementation, and integration of the elements at each site.

Subpart B – Hazard Assessment

40 C.F.R. § 68.20 Applicability – Brenntag Southwest is a Program 3 stationary source subject to this subpart; therefore, it is required to prepare a worst-case release scenario analysis and complete the five-year accident history.

40 C.F.R. § 68.22 Off Site Consequence Analysis Parameters – Brenntag Southwest employed the parameters specified by EPA in this rule by using the RMP*Comp ™ software. I reviewed the offsite consequence analysis and supporting documentation to assure the data was accurate and correct.

40 C.F.R. § 68.25 Worse-case release scenario analysis – Brenntag Southwest identified and analyzed three worst-case scenarios for toxic substances in its Program 3 processes using the RMP*Comp™ software, thus meeting the requirements of the regulation.

40 C.F.R. § 68.28 Alternative Release Scenario Analysis – Brenntag Southwest identified and analyzed at least one alternative release scenario for each toxic substance in its Program 3 processes using the RMP*Comp™ software, thus meeting the requirements of the regulation.

40 C.F.R. § 68.30 Defining Off Site impacts – Population – Brenntag Southwest used the most current (2010) Census Bureau population data and the distances to endpoints, as specified in the regulation, to calculate the population numbers reported in their RMP. Brenntag Southwest used the Circular Area Profiles application to define the population surrounding the facility. In addition, Brenntag Southwest provided a map documenting the nearest public receptor.

40 C.F.R. § 68.33 Defining Off Site impacts - Environment – Brenntag Southwest used US Geological Survey maps data to determine the environmental receptors and the distances to endpoints.

40 C.F.R. § 68.36 Review and Update – Brenntag Southwest's reviews and updates its offsite consequence analysis every 5 years.

40 C.F.R. § 68.39 Documentation – Brenntag Southwest maintained records of the offsite consequence analyses in accordance with this subpart. These records included:

- documentation of vessels or pipelines;
- substances selected for worse case and alternative release scenarios;
- documentation of estimated quantity released, release rate, and duration of release;
- methodology used to determine distance to endpoint; and
- data used to estimate population and environmental receptors.

40 C.F.R. § 68.42 Five-year accident history – The regulation requires any facility to document any incident that resulted in deaths, injuries, significant property damage on site, known off site deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage in its 5-year accident history. I reviewed Brenntag Southwest's five-year accident history, and I identified a 2017 incident involving a chlorine release that resulted in an employee injury. According to the incident investigation report, the root cause of this incident was inadequate use of personal protective equipment (PPE). Brenntag Southwest circulated a moment of high influence notification (MOHI) to all of its employees; this notification informed employees about the incident and lessons learned from the incident to prevent a similar incident from reoccurring.

I examined Brenntag Southwest's OSHA Form 300 logs from 2017 to present to ensure that additional releases from the facility, which could possibly be included in the facility's five-year accident history, were not omitted.

40 C.F.R. § 68.65 Process Safety Information (PSI) – I reviewed Brenntag Southwest's PSI. The compilation of written process safety information included: information pertaining to the hazards of the regulated substances used or produced by the process; information pertaining to the technology of the process; and, information pertaining to the equipment of the process.

I reviewed PSI which included process chemistry, as well as the safe upper and lower limits and consequences of deviation from the limits for covered process units. I reviewed design codes and standards employed at the facility to include the facility primarily implements standards issued by the Chlorine Institute.

40 C.F.R. § 68.67 Process Hazard Analysis (PHA) – I discussed Brenntag Southwest's' PHA process. Brenntag Southwest could not locate the initial PHA for the cover process but maintained previously revalidated PHAs every five years after the initial completion date. The facility utilizes what/if methodology to conduct PHAs.

The PHAs reviewed addressed: (1) the hazards of the process; (2) the identification of any previous incident which had a likely potential for catastrophic consequences; (3) engineering and administrative controls applicable to the hazards, and their interrelationships; and (4) consequences of failure of engineering and administrative controls.

The PHAs were performed by a team with expertise in engineering and process operations. The team included at least one employee who had experience and knowledge that was specific to the process being evaluated, and one employee who was knowledgeable in the specific PHA methodology used.

Brenntag Southwest established a system to promptly address the team's findings and recommendations, to assure the recommendations were implemented in a timely manner, and to ensure that the resolutions were documented. During the walkthrough of the covered process, I confirmed the action items in the PHA were implemented. The facility also developed a written schedule

for action completion. Brenntag Southwest stated during a "toolbox" meeting, the results of the PHA were communicated to operations, maintenance and other employees, whose work assignments are within the process and who may be affected by action recommendations.

40 C.F.R. § 68.69 Operating Procedures – I reviewed all Brenntag Southwest's operating procedures for the operation of the covered process. The operating procedures I reviewed addressed: the steps for each of the operating phases; the consequences of deviation and mechanisms to correct and/or avoid deviation; safety and health considerations; the properties of, and hazards presented by chemicals used in the process; the precautions necessary to prevent exposure; quality control for raw materials; and the safety systems and their functions. Brenntag Southwest's Bulk Loading Chlorine Procedure (Procedure BL 017) instructed employees to don a full-face respirator, yet this respirator was not listed as required equipment in the Personal Protective Equipment (PPE) section of the procedure **(*Appendix 2)* *(AOC #1)***. Brenntag Southwest's operating procedures were accessible to employees via the company's Share Point website.

I also reviewed Brenntag Southwest's safe work procedures, including lock out/tag out procedures and safe confined space entry procedures. The safe work procedures apply to both employees and contractors.

Brenntag Southwest is required to annually certify that operating procedures are current and accurate. I reviewed the operating procedure certifications for the covered process. Brenntag Southwest could not locate its 2017 certification. The certification dates from 2018 to current were 1/18/2018, 11/18/2018, 12/31/2019, 10/15/2020, and 5/13/2021 **(*Appendix 3)* *(AOC #2)***.

40 C.F.R. § 68.71 Training – Each Brenntag Southwest employee presently operating a covered process, and each employee newly assigned to a covered process, is trained, or tested to qualify as competent in an overview of the process and in the operating procedures that pertain to their duties. The training included an emphasis on specific health and safety hazards, emergency operations, and safe work practices.

Brenntag Southwest administered refresher training every three years; however, the 2021 refresher training was administered in March, a month after the February 2018 training **(*Appendix 4)* *(AOC #3)***.

Brenntag Southwest is required to prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training. The 2021 refresher training records do not specifically state the means used to verify the employee understood the training. Brenntag Southwest was unable to identify Initial training records for two employees hired pre-2009. **(*Appendix 4)* *(AOC #4)***.

In 2020, Brenntag Southwest implemented a Job Evaluation and Training Effectiveness procedure that institutes an annual assessment of operator's job performance to ensure operators are competent in their job duties. After this assessment operators provide feedback on their training needs.

40 C.F.R. § 68.73 Mechanical Integrity – I reviewed the written procedures for Brenntag Southwest's mechanical integrity program. Brenntag Southwest's mechanical integrity is primarily guided by recognized and generally accepted engineering practices set forth by the Chlorine Institute. Brenntag Southwest follows the American Petroleum Institute's (API) 570 Inspection methods for its piping inspections and frequency.

I reviewed mechanical integrity inspection documentation for the critical equipment listed in the mechanical integrity procedures. The documentation identified the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other identifier of the equipment on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test. In 2018, Brenntag Southwest migrated from using paper documentation for preventative maintenance records to a computer-based software to maintain its preventative maintenance and work orders.

40 C.F.R. § 68.75 Management of Change (MOC) – I reviewed Brenntag Southwest's MOC Policy and various MOCs. The written MOC procedure assured the facility managed changes to process chemicals, technology, equipment, procedures, and changes to stationary sources that effect a covered process. The procedure assured that the following considerations were addressed prior to any change: technical basis for change**,** impact of change on safety and health, modifications to operating procedures, necessary time period for the change, and authorization requirements for a proposed change. Brenntag Southwest classifies an MOC as either minor or major, but the distinction between the two types is not clear in the MOC procedure.

Brenntag Southwest did not always ensure that its employees involved in operating and maintaining the covered process, and whose jobs will be effected by a change, were informed of, and trained in, the change prior to startup of an affected part of the process **(*Appendix 5)* *(AOC #5)***.

If a change resulted in a change to safety information, this subpart requires such information be updated accordingly. I reviewed various MOCs that required such a change, and I could confirm such an update for only one **(*Appendix 5)* *(AOC #6)***.

40 C.F.R. § 68.77 Pre-startup review (PSSR) – I reviewed Brenntag Southwest's written PSSR procedures, as well as various PSSRs completed by the facility in the past five years. The PSSRs reviewed did not ensure that training of each employee involved in operating a process was completed. The PSSRs did not confirm that prior to the introduction of a regulated substance into the process, the construction and equipment design were completed in accordance with design specifications, required safety, operating, and maintenance procedures, and with adequate emergency procedures in place. Brenntag Southwest acknowledged that its PSSR process needs improvement **(*Appendices 5, 6)* *(AOC #7)***.

40 C.F.R. § 68.79 Compliance audits – I reviewed Brenntag Southwest's two most recent compliance audits for its RMP process. Brenntag Southwest certified that they evaluated compliance with the provisions of this subpart at least every three years to verify that procedures and practices developed under this subpart are adequate and are being followed. Brenntag Southwest's compliance audits are conducted internally by at least one person knowledgeable in the processes the facility developed a

report of the audit findings and determined and documented an appropriate response to each of the findings of the compliance audits; however, audit finding PSM-GB-009 from the 2018 compliance audit was completed 10 months past the target completion date. None of the completion dates for the action items from the 2021 audit were documented at the time of inspection. (***Appendix*** 7) ***(AOC #8)***.

40 C.F.R. § 68.81 Incident investigation – Brenntag Southwest is required to investigate each incident which resulted in or could reasonably have resulted in a catastrophic release of a regulated substance. After each incident investigation, a report shall be prepared at the conclusion of the investigation which includes at a minimum the date of incident, the date the investigation began, a description of the incident, the factors that contributed to the incident, and, any recommendations resulting from the investigation. An incident investigation team must also be established and consist of at least one person knowledgeable in the process involved. The incident investigation report I reviewed did not include the date the investigation began or the factors that contributed to the in incident. The incident investigation team was not listed on the report(***Appendix*** 8) ***(AOC #9, 10)***. Additional information, including e-mails amongst Brenntag management, does provide additional details about the incident.

40 C.F.R. § 68.83- Employee Participation – I reviewed Brenntag Southwest's written plan of action regarding the implementation of the employee participation. This plan of action establishes an annual PSM/RMP Change Committee meeting that all operators must attend. This meeting allows Brenntag Southwest to consult with employees and their representatives on the conduct and development of process hazards analyses and on the development of the other elements of process safety management in this rule.

40 C.F.R. § 68.85 Hot work permit – I reviewed hot work permits issued by Brenntag Southwest. Each permit that I reviewed documented that fire prevention and protection requirements were implemented prior to beginning hot work operations. The permits indicated the dates authorized for hot work and identified the object on which the hot work was performed.

40 C.F.R. § 68.87 Contractors – When selecting a contractor, Brenntag Southwest the ISNetworld system to obtain and evaluate information regarding a contract owner or operator's safety performance and programs. Contractors must obtain a Basic Plus certification and submit craft specific certifications as proof of required training before coming onsite. Brenntag Southwest requires contracts to annually submit a questionnaire to assess the contractor's health and safety record.

Subpart E- Emergency Response

40 C.F.R. § 68.90 Applicability – Brenntag Southwest is a responding stationary source and must comply with the requirements of §§68.93, 68.95, and 68.96

40 C.F.R. § 68.93 – Emergency response coordination activities – Brenntag Southwest affirmed that they coordinate response needs with local emergency planning and response organizations to determine how the stationary source is addressed in the community emergency response plan and to ensure that local response organizations are aware of the regulated substances at the stationary source, their quantities, the risks presented by covered processes, and the resources and capabilities at the stationary source to respond to an accidental release of a regulated substance**.** Brenntag Southwest

presented documentation of annual Maritime Security (MARSEC) drills completed in concert the US Coast Guard.

40 C.F.R. § 68.95 Emergency response program – I reviewed Brenntag Southwest's emergency response plan. The plan included: procedures for informing the public and local emergency response agencies about accidental releases; documentation of proper first aid and emergency medical treatment necessary to treat accidental human exposures; and, procedures and measures for emergency response after an accidental release of a regulated substance. The plan also included procedures for the use of emergency response equipment, and for its inspection, testing, and maintenance.

40 C.F.R. § 68.96 Emergency response exercises – As part of coordination with local emergency response officials required by §68.93, will be required to conduct an emergency response tabletop exercise before December 21, 2026, and at a minimum of at least once every three years thereafter.

Subpart G- Risk Management Plan

40 C.F.R. § 68.190 Updates – Brenntag Southwest resubmitted its RMP on February 1, 2018.

40 C.F.R. § 68.195 Required corrections – Brenntag Southwest's next RMP re-submission is due by February 1, 2023, unless an update or correction is required by 40 CFR § 68.190 and 40 CFR § 68.195.

Section III – AREAS OF CONCERN (AOC)

EPA Region 6 inspector Kayla Buchanan conducted a closing conference for the inspection at Brenntag Southwest on the afternoon of July 29, 2021. During the closing conference, Kayla reviewed the following eight AOCs noted during the inspection.

1. **40 C.F.R. § 68.69(a)** requires Brenntag Southwest to develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information. Brenntag Southwest's Bulk Loading Chlorine Procedure (Procedure BL 017) instructed employees to don a full-face respirator, yet this respirator was not listed as required equipment in the PPE section of the procedure; this procedure did not provide clear instructions for safely conducting this activity.
2. **40 C.F.R. § 68.69(c)** requires Brenntag Southwest to annually certify that its operating procedures are current and accurate. Brenntag Southwest could not locate its 2017 certification and executed its 2019 certification one month late.
3. **40 C.F.R. § 68.71(b)** requires Brenntag Southwest to provide its operators refresher training at least every three years. Brenntag Southwest administered its 2021 refresher training in March, a month after the February 2018 training anniversary date.
4. **40 C.F.R. § 68.71(c)** requires Brenntag Southwest to prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training. The 2021 refresher training records do not specifically state the means used to verify the employee understood the training.
5. **40 C.F.R. § 68.75(b)** requires Brenntag Southwest employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process be informed of, and trained in, the change prior to start-up of the process or affected part of the process. Brenntag Southwest did not always ensure that this happened.

6. **40 C.F.R. § 68.75(c)** requires Brenntag Southwest to update its process safety information If a change to the covered process results in a change in the process safety information. Brenntag Southwest failed to update its process safety information when required.
7. **40 C.F.R. § 68.77(b)** requires Brenntag Southwest perform PSSRs to confirm that, prior to the introduction of a regulated substance into the process, the construction and equipment design were completed in accordance with design specifications, required safety, operating, and maintenance procedures, and with adequate emergency procedures in place. Brenntag failed to perform PSSRs in accordance with this regulation.
8. **40 C.F.R. § 68.79(d)** requires Brenntag Southwest promptly determine and document an appropriate response to each of the findings of the compliance audit, and document that deficiencies have been corrected. Audit finding PSM-GB-009 from the 2018 compliance audit was completed 10 months past the target completion date. None of the completion dates for the action items from the 2021 audit were documented at the time on inspection.
9. **40 C.F.R. § 68.81(c)** requires Brenntag Southwest to establish an incident investigation team that consists of at least one person knowledgeable in the process involved. The incident investigation team was not listed on the report and was not explicitly stated in the supporting documentation provided**.**
10. **40 C.F.R. § 68.81(c)** requires Brenntag Southwest to prepare a report at the conclusion of an incident investigation which includes at a minimum the date of incident, the date the investigation began, a description of the incident, the factors that contributed to the incident, and, any recommendations resulting from the investigation. The incident investigation report I reviewed did not include the date the investigation began or the factors that contributed to the in incident

Section IV – FOLLOW UP

The following information was received by EPA on August 10, 2021 and August 15, 2021, after exiting the Facility on July 29, 2021:

- TCA Unit Training Checklist
- ORG Chart containing names/titles
- BL030 Revised PPE List for Full Face Respirator
- Training for the Department on BL030 Revised PPE List
- PSSR Form 21-08-01
- Updates to Section 8 Procedure for the PSSR Form
- RMP audit action item list that shows the completion dates and verifications

Section V – LIST OF APPENDICES

Appendix 1 – Opening and Closing Conference Attendance Sheet
Appendix 2 – Procedure BL 017
Appendix 3 – Annual Operating Procedure Certifications
Appendix 4 – Employee Training Records
Appendix 5 – Various MOC/PSSR Forms
Appendix 6 – PSSR Procedure
Appendix 7 – 2018, 2021 Compliance Audit Action Item List