

**Region 6 Compliance Assurance and Enforcement Division
INSPECTION REPORT**

Inspection Date(s):	06/19/2018 – 06/21/2018		
Media:	Air		
Regulatory Program(s)	Clean Air Act Section 112(r) and 40 C.F.R. Part 68 Chemical Accident Prevention Provisions		
Company Name:	Clariant Corporation		
Facility Name:	Clariant Clear Lake Plant		
Facility Physical Location:	9502 Bayport Blvd.		
(city, state, zip code)	Pasadena, Texas 77507		
Mailing address:	(same as above)		
(city, state, zip code)	(same as above)		
County/Parish:	Harris		
Facility Contact:	Donald Bartlett	Site Manager	
	donald.bartlett@clariant.com		
FRS Number:	110067040703		
Identification/Permit Number:	New Source Review Permit No. 22872		
Media Number:	RMP EPA Facility Identifier: 100000201872		
NAICS:	325613 = Surface Active Agent Manufacturing		
Personnel participating in inspection:			
Tony Robledo	US EPA/6EN-AS	Inspector	(214) 665-8182
Donald Bartlett	Clariant Corporation	Site Manager	(281) 546-9410
EPA Lead Inspector Signature/Date	 Tony Robledo		7/17/18 Date
Supervisor Signature/Date	 Samuel Tates		7/17/2018 Date

Section I - INTRODUCTION

PURPOSE OF THE INSPECTION

United States Environmental Protection Agency (EPA) Region 6 inspector Tony Robledo arrived at the Clariant Clear Lake Plant (Clariant) at approximately 9:00 a.m. on June 19, 2018, for an announced inspection. I conducted an opening meeting with the following persons in attendance as identified in Table 1.

Table 1: Opening Meeting Attendance

Name	Position
Donald Bartlett	Operations Manager
Karleen Francis	Safety Environmental Officer
Terrell Williams	Regional Project Manager
Fernando Colombo	Regional Operations
Andre Pollard	Process Excellence Manager
Chris Smart	Operations Specialist
Tony Robledo	Inspector & Enforcement Officer EPA Region 6

I presented my credentials to all attendees at the opening meeting, and informed them that this EPA inspection was to determine compliance with Clean Air Act Sections 112(r)(1) and 112(r)(7). The scope of the inspection was a partial compliance evaluation (PCE) and included evaluation of the compliance with 40 C.F.R. Part 68 – Chemical Accident Prevention Provisions.

FACILITY DESCRIPTION

The Clariant facility uses ethylene oxide and sulfur dioxide to produce a wide variety of soaps, detergents and agricultural products for use in consumer and industrial products. The ethoxylation unit produces products in reactors through the controlled reaction of ethylene oxide with various long-chained alcohols, ethers, polyols, fatty acids, or sodium bisulfite. Other raw materials are used to control the reaction and produce on-spec products. Raw materials come in through rail and truck unloading. The ethoxylation of raw materials is accomplished in a batch process. A portion of material will be converted from liquid to solid flakes or powders in a new solids handling facility. Finished products are shipped out via truck and rail as well. The facility has about 35 full-time employees. There are no listed flammable substances, only toxics – ethylene oxide and sulfur dioxide (anhydrous), which exceed their respective threshold quantities stored at this facility.

Section II – OBSERVATIONS

I conducted a walk-through of the facility on June 20, 2018, accompanied by Clariant personnel to observe the facility process, equipment, pressure vessels, storage tanks, and operation. I observed no visible spills, leaks, or air emissions. The facility grounds appeared to be well maintained.

40 C.F.R. Part 68 – CHEMICAL ACCIDENT PREVENTION PROVISIONS

Subpart A – General

40 C.F.R. § 68.10 Applicability – Clariant is an owner and operator of a stationary source that has more than a threshold quantity of regulated toxic substances, listed in 40 C.F.R. § 68.130, in a process, and as such is subject to these Chemical Accident Prevention Provisions. Clariant listed the NAICS code (325613) surface active agent manufacturing, as the process in its Risk Management Plan (RMP). The Clariant facility process is also subject to the Occupational Safety and Health Administration (OSHA) process safety management standard, 29 C.F.R. § 1910.119. These factors make the process at the Clariant facility a Program 3 subject to 40 C.F.R. § 68.10(d).

40 C.F.R. § 68.12 General Requirements – Clariant re-submitted a RMP five-year update on April 4, 2018. This submittal lists a covered process for Program 3. This requires the facility to develop and implement a management system, conduct a hazard assessment, implement the prevention requirements of 40 C.F.R. § 68.65 - § 68.87, develop and implement an emergency response program, and submit the data elements from 40 C.F.R. § 68.175 in their RMP.

40 C.F.R. § 68.15 Management – Clariant has an established management system to oversee the implementation of the risk management program elements, and has assigned a qualified person or position that has the overall responsibility for the development, implementation, and integration of the risk management program elements. Clariant facility personnel provided job descriptions which documents the persons responsible for implementing individual requirements of the RMP as required by this subpart.

Subpart B – Hazard Assessment

40 C.F.R. § 68.20 Applicability – Clariant is an owner or operator of a stationary source subject to this subpart with a Program 3 process that must prepare an offsite consequence analysis as provided in § 68.25 of this subpart, complete the five-year accident history as provided in § 68.42, and comply with all sections in this subpart for this process.

40 C.F.R. § 68.22 Offsite Consequence Analysis Parameters – I requested documentation of the offsite consequences analysis. I reviewed the documentation provided and had a discussion with appropriate Clariant facility personnel. Clariant applied the offsite consequence analysis parameters as required by this subpart.

40 C.F.R. § 68.25 Worst-Case Release Scenario Analysis – Clariant identified and reported a worst-case release scenario analysis for the RMP covered toxic substances. I requested documentation of the worst-case release scenario analysis. I reviewed the documentation provided and had a discussion with appropriate Clariant facility personnel. Clariant selected a sulfur dioxide tank for the worst-case release scenario. Clariant used EPA's RMP* Comp™ to determine the distance to the endpoint in the worst-case release scenario. Clariant used the proper endpoints for toxics as required by this subpart.

40 C.F.R. § 68.28 Alternative Release Scenario Analysis – Clariant identified and reported an alternative release scenario for the RMP covered toxic substances. I requested documentation of the alternative release scenario analysis. I reviewed the documentation provided and had a discussion with appropriate Clariant facility personnel. Clariant selected two alternative release scenarios from its covered process, one containing sulfur dioxide and the other one containing ethylene oxide. Clariant used EPA's RMP*

Comp™ to calculate the distance to the endpoint in the toxics alternative release scenario. Clariant used the proper endpoints for toxics as required by this subpart. No mitigation systems were considered by the facility. The five-year accident history in 40 C.F.R. § 68.42, and the failure scenarios identified in 40 C.F.R. § 68.50 were considered in selecting the alternate release scenario.

40 C.F.R. § 68.30 Defining Offsite Impacts – Population – The documentation I reviewed contained a map with the circles delineating the areas covered by the offsite impact. Population numbers were verified with the latest available U.S. census data. Clariant reported these numbers to two significant figures.

40 C.F.R. § 68.33 Defining Offsite Impacts – Environment – The maps I reviewed identified the potential offsite impacts and any identified public receptors.

40 C.F.R. § 68.36 Review and Update – Clariant reviewed and updated its RMP on April 4, 2018. This RMP submittal identified process chemicals of ethylene oxide (oxirane) and sulfur dioxide (anhydrous). Clariant reported no changes, to include any increases or decreases, of its process chemicals.

40 C.F.R. § 68.39 Documentation – I reviewed documentation for the worst-case scenarios that contained a description of the vessel or pipeline and substance selected as worst case, assumptions and parameters used, and the rationale for selection. The documentation also included the anticipated effect of the controls and mitigation on the release quantity and rate. Clariant's documentation of the worse-case and alternative release scenarios included a description of the scenario identified, assumptions and parameters used, and the rationale for the selection of the specific scenario. The documentation of estimated quantity released, release rate, duration of release, methodology used to determine distance to endpoints, and data used to estimate population and environmental receptors potentially affected was included in the reviewed materials during this inspection.

40 C.F.R. § 68.42 Five Year Accident History – Clariant reported no accidents for the five-year accident history in its RMP re-submittal, and no accidents were reported up to the date of this inspection.

Subpart D – Program 3 Prevention Program

40 C.F.R. § 68.65 Process Safety Information – Clariant indicated that process safety information is managed using an electronic online system. I reviewed process safety information for all three areas of the plant: area 71 (reactors 53 and 54), area 72 (reactor 155), and area 73 (reactor 256 and 266). I also reviewed facility safety data sheets, block flow diagrams, process flow diagrams, and piping and instrumentation diagrams.

40 C.F.R. § 68.67 Process Hazard Analysis – I reviewed Clariant's Process Hazard Analysis (PHA) process and procedures for all three areas. Clariant used the hazard and operability study (HAZOP) analysis technique to conduct its PHAs. Clariant reported its initial PHA for all its processes and conducted an updated and revalidated PHA, when appropriate, for each process over a different five-year cycle.

The PHA for area 71, dated October 25, 2013, had one incomplete item on its master list of recommendations. The PHA for area 72, dated October 25, 2013, had 13 incomplete items on its master list of recommendations. The PHA for area 73, dated February 28, 2014, had 8 incomplete items on its master list of recommendations. The master list of recommendations for all three PHA's was printed on June 19, 2018. Clariant personnel stated that the next PHA is scheduled for October 2018, and will encompass all three areas, so there will just be one complete PHA for the entire facility.

40 C.F.R. § 68.69 Operating Procedures – Clariant uses a paper and electronic document management system to maintain its operating procedures. I reviewed and discussed with Clariant personnel randomly selected operating procedures from all three areas, and lockout/tagout. I observed that Clariant certified annually that the operating procedures were current, accurate, and that the procedures had been reviewed as often as necessary. Clariant provided documentation that its operating procedures were certified annually, current, accurate, and that procedures had been reviewed as often as necessary as required by this subpart. I recommended to Clariant personnel to include in its annual certification not only the reference to the OSHA process safety management standard contained in 29 C.F.R. §1910.119 (f)(3), but also the EPA RMP requirement outlined in 40 C.F.R. § 68.69(c).

40 C.F.R. § 68.71 Training – I discussed with Clariant personnel their training program to include training for new employees and how they insure that the three-year refresher training requirements are met. I requested and received the training records for three full-time employee operators who work at the facility. Training records reviewed were hardcopies and in electronic format. Clariant recently updated its training documentation program electronically to enable operators to access training and tests more easily. Clariant met all the requirements of this subpart to include the required three-year refresher training requirements for all its operators.

40 C.F.R. § 68.73 Mechanical Integrity – I requested and was provided a procedure used to maintain the ongoing integrity of process equipment. Clariant personnel indicated that the mechanical integrity of its process equipment is managed using an electronic system. I discussed mechanical integrity with Clariant personnel.

Clariant personnel claimed to maintain the on-going mechanical integrity of process equipment by following recognized and generally accepted good engineering practices to include the American Petroleum Institute (API) standards. Clariant specifically used *API 510, Pressure Vessel Inspection Code: In-service Inspection, Rating, Repair, and Alteration*, 10th Edition, May 2014, and *API 653, Tank Inspection, Repair, Alteration, and Reconstruction*, Fifth Edition, November 2014. Clariant used these standards to determine the frequency of inspections and testing requirements for its pressure vessels and tanks with an external surface visual inspection (EVT) to be conducted every five years, and an ultrasonic thickness measurement (UTT) to be conducted every ten years. I requested and was provided pressure vessel and tank inspections performed on the following process equipment: pressure vessel (V-1053), and tanks (V-1072 and V-1075). I requested and was provided recent inspections and testing documents performed on these pressure vessels and tanks to include the date of the inspection or test, the name of the person who performed the inspection or test, the identification number of the pressure vessel or tank on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test. I also reviewed an inspection due list that the facility maintained on a preventive maintenance spreadsheet.

40 C.F.R. § 68.75 Management of Change (MOC) – I reviewed Clariant's written procedure for MOC and discussed the MOC process with Clariant personnel. I reviewed five specific MOC documents numbered 2017-019, 2-17-007, 2017-016, 2018-003, and 2018-010. I also reviewed P&ID diagrams associated with the completed MOC's.

40 C.F.R. § 68.77 Pre-startup Review – I reviewed Clariant's written Pre-Startup Safety Review (PSSR) procedures. The standard operating procedures for PSSR were final documents.

40 C.F.R. § 68.79 Compliance Audits – I was provided and reviewed two RMP compliance audits which were completed on April 21-23, 2015, and April 17-20, 2018, respectively. Clariant personnel informed

me that it had just finalized its most recent RMP compliance audit last month, and had identified 10 findings and three observations, but had not yet scheduled these findings or observations for corrective action. Clariant personnel noted that its internal policy states that the company has 60 days to develop a corrective action schedule from the date of the compliance audit. The due date for the corrective action schedule was June 20, 2018. I was provided by Clariant personnel the completed corrective action schedule on June 20, 2018. The previous compliance audit conducted in April 2015 identified 28 findings and observations, and all corrective actions were taken on those findings and observations.

40 C.F.R. § 68.81 Incident Investigation – I reviewed Clariant’s completed OSHA form 300A, annual summary of work-related injuries, and OSHA form 301 injuries and illnesses incident report for the past five years. I determined that none of the injuries reported were the result of an accidental release. Clariant reported no incidents within the past five years from any accidental releases.

40 C.F.R. § 68.83 Employee Participation – I reviewed a written plan of action regarding the implementation of employee participation. This plan was to insure consultation with employees on the conduct and development of process hazards analyses; the development of the other elements of process safety management; to provide the employees with access to process hazard analyses; and to provide all other information required to be developed under this rule. I discussed this document and employee participation with Clariant personnel. I also interviewed one full-time operator.

40 C.F.R. § 68.85 Hot Work Permit – I reviewed hot work permits that had been issued by Clariant prior to this inspection. The permits were well-maintained, documented thoroughly, and met the requirements of this subpart.

40 C.F.R. § 68.87 Contractors – I discussed with Clariant personnel the contractor selection process. This discussion included taking into account the contractor’s safety performance, safety programs, training, and qualifications. Clariant personnel stated that they use a rigorous internal contractor screening process to assist in its contractor evaluation process and that contractors it selects must have a high rating. Clariant documents that contractors have site-specific safety training.

Subpart E – Emergency Response

40 C.F.R. § 68.90 Applicability – Clariant is not designated as a “first responder” in case of an accidental release of a regulated substance. However, its employees are trained to respond to releases and fires within the Clear Lake chemical complex.

40 C.F.R. § 68.95 Emergency Response Program – I was provided, reviewed, and discussed with Clariant personnel their emergency response plan. Clariant reported that it has coordinated response actions with the local fire department, and appropriate mechanisms are in place to notify emergency responders when there is a need for a response. Clariant is part on an emergency response team which consists of other chemical manufacturing companies, Arkema, Indorma, Celanese, and Linde that are all located within the Clear Lake chemical complex. These companies along with Clariant participate in emergency response training, planning, and drills on a regular basis and in coordination with local emergency response agencies and the Channel Industries Mutual Aid (CIMA). CIMA is a non-profit organization combining the fire-fighting, rescue, hazardous material handling and emergency medical capabilities of the refining and petrochemical industry in the Houston Ship Channel area. I was provided and did review third-party inspections conducted on a variety of emergency response equipment.

Subpart G—Risk Management Plan

40 C.F.R. § 68.190 Updates – Clariant submitted its most recent plan as a five-year update on April 4, 2018. A new five-year update will be due on or before April 4, 2023, or sooner if an update is required by 40 C.F.R. § 68.190 (b)(2) through (b)(7). Updates are required no later than three years after a newly regulated substance is first listed by EPA; no later than the date on which a new regulated substance is first present in an already covered process above a threshold quantity; no later than the date on which a regulated substance is first present above a threshold quantity in a new process; within six months of a change that requires a revised PHA or hazard review; within six months of a change that requires a revised offsite consequence analysis as provided in § 68.36; and within six months of a change that alters the Program level that applied to any covered process.

40 C.F.R. § 68.195 Required Corrections – Clariant will have to submit corrections of their RMP, if there is new accident history information, for any accidental release meeting the five-year accident history reporting criteria of § 68.42 and within six months of the release, or by the time the RMP is updated under § 68.190, whichever is earliest. Also, if the emergency contact information changes a submission to correct that information must be submitted within one month.

Close Out Meeting – A close out meeting was held on June 21, 2018, at 11:00 a.m. to discuss areas of concern, recommendations, and the timing of the completion of the inspection report. The following persons attended as identified in Table 2.

Table 2: Close Out Meeting Attendance

Name	Position
Donald Bartlett	Operations Manager
Karleen Francis	Safety Environmental Officer
Terrell Williams	Regional Project Manager
Paul Lieck	Safety Director
Leonard Czrpski	Process Excellence Engineer
J.C. Mgbojikwe	Plant Engineer
John Corson	Process Control Engineer
Tony Robledo	Inspector & Enforcement Officer EPA Region 6

The area of concern in the following section was discussed during the close out meeting which included compliance assistance and the potential enforcement process.

Section III – AREAS OF CONCERN

1. 40 C.F.R. § 68.67(e) Process hazard analysis

“(e) The owner or operator shall establish a system to promptly address the team's findings and recommendations; assure that the recommendations are resolved in a timely manner and that the resolution is documented; document what actions are to be taken; complete actions as soon as possible; develop a written schedule of when these actions are to be completed; communicate the actions to operating, maintenance and other employees whose work assignments are in the process and who may be affected by the recommendations or actions.”

Clariant failed to promptly address the team's findings and recommendation in a timely manner for three separate PHA's conducted in 2013 and 2014.

Section IV – FOLLOW UP

Clariant provided the following PHA updates that were conducted in 2013 and 2014, and noted that all recommendations are scheduled to be addressed prior to the next PHA scheduled for October 2018.

Area 71: 25 of 26 items (96%) closed.

Area 72: 20 of 25 items (80%) closed.

Area 73: 88 of 96 items (92%) closed.

Section V – LIST OF APPENDICES

Appendix 1 – Sign in sheet from opening and closing meeting.

PLEASE PRINT

Meeting with CLARIANT CLEAR LAKE PLANT
Purpose of meeting: EM RMP INSPECTION

Date: 6/19/18

	Name	Title	Representing	e-Mail	Phone
✓ 1	Tony Robledo	Inspector	U. S. EPA	robledo.tony@epa.gov	214-665-8182
✓ 2	KARLEEN FRANCIS	SEO	CLARIANT	Karleen.Francis@clariant.com	832-753-3046
✓ 3	Terrell Williams	Engineering	Clariant	terrell.williams@clariant.com	704-504-5136
4	FERNANDO COLOMBO	REGIONAL OPERATIONS	CLARIANT	FERNANDO HENRIQUE COLOMBO@CLARIANT.COM	704 206 0403
5	Andre Pollard	Process Excellence Manager	Clariant	Andre.Pollard@clariant.com	704 482 2113
6	Chris Smart	Operations Specialist	Clariant	christopher.smart@clariant.com	(932) 551-9454
✓ 7	Donald Bartlett	Operations Manager	Clariant	donald.bartlett@clariant.com	281-546-9410
✓ 8	Paul Hieck	Safety Director	Clariant	Paul.Hieck@Clariant.com	704-331-7721
9					
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12					
✓ 13	Leonard Czupski	Process Excellence Eng	Clariant	leonard.czupski@clariant.com	
✓ 14	JC Mgbogikwe	Plant Engineer	Clariant	Jc.mgbogikwe@clariant.com	
✓ 15	John Corson	Process Control Engineer	Clariant	john.corson@clariant.com	
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✓ = ATTENDED CLOSE-OUT MEETING ON 6/21/18

