

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection**

E456949775

FACILITY: Arkema, Inc.		SRN / ID: E4569
LOCATION: 1415 Steele Avenue, S.W., GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Pat Harig , EH and S		ACTIVITY DATE: 08/01/2019
STAFF: Kaitlyn DeVries	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: The purpose of this inspection was to determine compliance with Permit to Install Number 100-07D and other applicable air quality rules and regulations.		
RESOLVED COMPLAINTS:		

On Thursday August 1, 2019 Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) staff Kaitlyn DeVries (KD) conducted an unannounced, scheduled inspection of Arkema, Inc. located at 1415 Steele Avenue, SW, Grand Rapids, Michigan. The purpose of this inspection was to determine compliance with Permit to Install Number 100-07D and other applicable air quality rules and regulations. Prior to entry into the facility, KD observed the surrounding area for any excess odors or opacity; none were noted.

Upon arrival at the facility, KD met with Mr. Paul Gabbitas, Plant Manager, Mr. Pat Harig, HES Leader, and Ms. Kelly Lincoln, HES Technician, all of whom accompanied KD on a tour of the facility.

### Facility Description

Arkema, Inc., produces resin technologies, including waterborne, conventional and high solids solvent-borne resins and high-performance coatings for architectural, industrial, construction applications as well as other applications. The resin manufacturing process is primarily comprised of charging one of four (4) kettle reaction tanks for which the product is heated to form the polymer. The reaction is terminated when the polymer achieves the desired specifications. The product is then transferred to a thinning tank for any final adjustments to the product before transferring the final product to bulk storage tanks, tanker trucks, or drums.

The facility operates up to seven (7) days per week, twenty-four (24) hours per day.

### Regulatory Analysis

Arkema is currently a synthetic minor source for Volatile Organic Compounds (VOC's) and Hazardous Air Pollutants (HAPs) and a minor source of the other criteria pollutants.

### Compliance Evaluation

#### FGRESINPROD

This flexible group covers all of the resin and coating resin manufacturing processes. Several different control devices are used in the various processes including: Packed column scrubber/partial condenser, total condenser, thermal oxidizer, and resin truck loading rack control system.

VOC's are limited to 18.2 pph and 46.5 tons per year (tpy) based upon a 12-month rolling time period. Records through June 2019 indicate 12-month rolling emissions of 18.99 tpy. Stack testing is used to demonstrate compliance with the pound per hour limit. The most recent stack testing for the thermal oxidizer (TO) was conducted in 2012, which indicated an hourly emission rate of 0.13 pph. The 2012 testing also showed a 95% destruction efficiency and a 1 second retention time. At the time of the inspection, the TO was operating at a 1570°F with a gas flow of 2,846 CFM. Arkema is tracking the temperature of the TO via a data logging system but maintains the circular disc chart recordings as a backup. Temperature records indicate that the TO consistently operates at a temperature of over 1500°F. Arkema is also properly tracking the natural gas flow to the TO.

Arkema is limited to 12,951,000 pounds of solvent and 3,600,000 pounds of xylene/ethylbenzene mixture, both based upon a 12-month rolling time period. Records indicate that as of June 2019 Arkema has used a total of 6,223,093 pounds of solvent and 1,042,875 pounds of xylene/ethylbenzene mixture. Arkema also has a production limit of 40,000,000 pounds of organic resin and 15,000,000 pounds of dispersions per 12-month rolling time period. Records indicate that a total of 25,707,060 pounds of organic resin was used as of June

2019 and 286,466 pounds of dispersion product was used during the same time period. In addition to these records, Arkema is tracking the number of batches produced per year, based upon a 12-month rolling time period, and the loading rack records through the loading rack on a per load basis.

As previously mentioned, once the final product is complete, the product is either transferred into a drum, a storage tank, or a tanker truck. Mr. Gabbitas explained that the loading rack areas are equipped with vapor recovery systems, which are then exhausted to the TO.

Arkema has implemented and maintains a malfunction abatement plan (MAP). This is most clearly evident during periods of unexpected shutdown of the TO. While on site, KD verified the TO being offline during the most recent shutdown. During the pre-inspection meeting, Mr. Harig asked KD about the notifications that Arkema sends to AQD pursuant to General Condition 7 of PTI No. 100-07D. KD stated that the rule referenced in this general condition was rule 912, which requires the notification of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant for more than one (1) hour excess of any applicable standard or limitation, or emission of any air contaminant continuing for more than two (2) hours in excess of an applicable standard or limitation. KD stated that if the one (1) and two (2) hour emissions are not tripped during a malfunction, Arkema does not need to report it to AQD; however, Arkema still would need to quantify all events as is presently done. KD went on to say that if Arkema is already quantifying the emissions during these events, the notification sent to AQD does not hurt, and is providing the data to AQD up front rather than Arkema waiting for AQD to request it during an inspection.

The stack dimensions of the TO were not explicitly measured but appeared to be of proper dimension.

#### *FGFACILITY*

This flexible group covers all process equipment source-wide and includes all equipment covered by other permits, grand-fathered equipment, and all exempt equipment.

HAP emissions are limited to less than 9.7 tpy per 12-month rolling time period for individual HAPs, while aggregate HAPS are limited to less than 24.0 tpy per 12-month rolling time period. Emission records, through June 2019 indicate 12-month rolling aggregate HAP emissions of 5.85 tons with xylene being the highest HAP emitted at 2.98 tons, per 12-month rolling time period.

Emissions reported during this inspection are consistent with that reported during the 2018 MAERS review.

#### *EXEMPT EMISSION UNITS*

The facility has one (1) diesel fuel fire pump that runs for readiness checks for 30 minutes once per week. This unit was installed in 1969 and is exempt from Rule 201 permitting under Rule 282(2)(b)(ii). This unit may be subject to 40 CFR Part 63 Subpart ZZZZ the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, for Area Sources.

Mr. Gabbitas mentioned that Arkema is looking to install an additional emergency generator. KD reminded Mr. Gabbitas that if Arkema installed a unit to ensure compliance with 40 CFR Part 63 Subpart ZZZZ as well as 40 CFR Part 60 Subpart IIII, since it would likely be a diesel engine. KD went on to say that Arkema should verify the specifications of the unit with the requirements of Subpart IIII, IE the capacity and the date engine was made as per 40 CFR Part 60.4200. KD also supplied Arkema with additional information regarding this in a later e-mail.

Arkema also has two (2) steam boilers that are used to supply heat to the facility. The smaller boiler (4.2 MMBTU) is used primarily in the summer months, while the larger boiler (14.65 MMBTU) is used primarily during the winter months. Arkema also has a hot oil heater (17.89 MMBTU). All of which use natural gas as the fuel.

All three (3) of these units are exempt from Rule 201 permitting under Rule 282(2)(b)(i). The two (2) boilers are not presently subject to the provisions of the Standards of Performance for Small Industrial-Commercial-Institutional Steam generating units because the small boiler is under 10 MMBTU and the larger boiler, while installed at this location in 1996, was originally installed and operated in 1967 prior to the promulgation date of June 9, 1989.

#### **Compliance Determination**

Based upon the observations made during the inspection and a subsequent review of the records it appears

that Arkema, Inc. is in compliance with PTI No. 100-07D.

NAME Kaitlyn Deane

DATE 8/6/2019

SUPERVISOR 

