



# COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY  
TIDEWATER REGIONAL OFFICE  
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## STATEMENT OF LEGAL AND FACTUAL BASIS

Arkema Incorporated - Franklin Plant  
Courtland, Virginia  
Permit Number: **TRO-61440**

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Arkema Incorporated has applied for a Title V Operating Permit for its Franklin Plant facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Permit Writer/Contact:	<u>James A. White Jr.</u> (757) 518-2180	Date: <u>January 22, 2015</u>
Regional Air Permits Manager:	<u>Troy D. Breathwaite</u>	Date: <u>January 22, 2015</u>
Regional Director:	<u>Maria R. Nold</u>	Date: <u>January 22, 2015</u>

## I. FACILITY INFORMATION

### Permittee

Arkema Incorporated  
900 First Avenue  
PO Box 61536  
King of Prussia, Pennsylvania 19406-0936

### Facility

Arkema Inc. - Franklin Plant  
27047 Shady Brook Trail  
Courtland, Virginia 23837

County-Plant Identification Number: 51-175-00058

### A. Source Description

NAICS Code: 2869 - Industrial Organic Chemicals, Not Elsewhere Classified.

The main manufacturing process at the facility is the Vulcup® process that produces various organic peroxides, blends of the peroxides, and support grades of the peroxides on solid substrate materials. The production involves several manufacturing process steps that qualifies as confidential business information (9 VAC 5-170-60 B). This Title V permit is written to contain no confidential business information because the contents of a Title V permit cannot be kept confidential (CAA Amendment 1990, Section 503(e)). Hence, the process description is minimal in the Title V permit, with the various emission sources being primarily identified as 16 groups of equipment with common functions in the process flow, as seen below in the Emission Unit and Control Device Identification.

The facility is a Title V major source for volatile organic compounds (VOCs). The source is located in an attainment area for all criteria pollutants. Prior to May 2001, the facility was part of the Hercules Incorporated facility. The Title V permit application for the entire (combined) facility was received on February 5, 1998 and was deemed complete on the same day. In May 2001, Hercules Incorporated sold many of its assets to Eastman Chemical Resins Incorporated and GEO Specialty Chemicals Incorporated. The GEO portion has never had an NSR permit. The Title V permit application for GEO was received on February 4, 2002. The complete date of the permit application was considered to be February 5, 1998 due to the fact that all of the equipment had previously been included in the initial timely application by Hercules Incorporated. Therefore, the facility qualified for the permit shield and CAM exemption. On February 18, 2009, Arkema Incorporated (Arkema) purchased the business and certain assets from GEO Specialty Chemicals Incorporated for the facility located in Franklin, Virginia, which has since become the Arkema Inc. - Franklin Plant. On November 19, 2009, EPA Region III responded to a letter from the Virginia DEQ requesting EPA's opinion on whether Hercules Inc. (now Ashland Hercules Water Technologies), Eastman Chemical Resins Inc., and Arkema Inc. should be considered as one or three separate stationary sources for applicability purposes under the Clean Air Act. In that response letter, EPA Region III concluded "*that there is sufficient common control among Ashland, Eastman, and Arkema for Ashland, Eastman, and Arkema to be one stationary source under the Clean Air Act.*" As such, these three facilities (Ashland, Eastman, and Arkema) comprise one single Title V source.

The permit application contains confidential business information (CBI) such as raw materials, method of production, process rates, equipment, and material compositions, that meets the confidential information criteria of 9 VAC 5-170-60 C and 40 CFR 2.208. Therefore, the application was processed accordingly to protect the CBI. Since the Title V permit has to be self-explanatory and suitable for public review, it is written to be practically enforceable without the inclusion of the CBI. For example, the equipment description is generic so that the method of production is not revealed, and the size/rated capacities of equipment are not listed except when there are applicable requirements. For example, if a tank were subject to NSPS Subpart Kb requirements, the applicable storage capacity range in the Subpart would be provided.

## II. COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, was conducted on May 2, 2013. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

## III. EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The following naming system was used to identify emission units, stacks/vents, and control equipment associated with the Vulcup® process. Two letters VC are used to indicate the Vulcup® process. A third letter "E", "S", or "C" denotes an emission unit or group of units, stack/vent, or control device, respectively. The next two numbers are essentially consecutive numbers used for each category to indicate a unit or a group of units with common function. For example, VCE01 represents the emission group in the first step of the Vulcup® process. Each emission unit in the VCE01 group is identified by its own separate equipment ID number, for example, tank T-102. Stack/vents and control devices are always individual units, e.g. VCS01 and VCC05 are stack 01 and control device 05, respectively, and hence, no further identification is necessary.

The emissions units at this facility consist of the following:

Emission Group/ Unit ID No.	Stack/Vent ID No.	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID No.	Pollutant Controlled	Applicable Permit Date
<b>VCE01/</b>		Raw material storage/feed tanks					
T-102	VCS01	VOC storage tank, 1970	---	---	---	---	---
T-104	VCS02	VOC storage tank, 1970	---	---	---	---	---
T-108	VCS03	Caustic storage tank	---	---	---	---	---
T-300	VCS04	VOC feed tank, 1970	---	---	---	---	---
<b>VCE02/</b>							
R-200	VCS05	Reactor, 1971	---	---	---	---	---
<b>VCE03/</b>		Intermediate processing					
T-202	VCS06	Intermediate tank, 1970	---	---	---	---	---
T-204	VCS08	Intermediate tank, 1970	---	---	---	---	---
T-312A	VCS09	Wastewater tank, 2006	---	---	---	---	---
<b>VCE05/</b>		Raw material storage/feed (solvents) tanks					

Emission Group/ Unit ID No.	Stack/Vent ID No.	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID No.	Pollutant Controlled	Applicable Permit Date
T-306	VCS11	VOC tank, 1970	---	---	---	---	---
T-100	VCS12	VOC tank, 1970	---	---	---	---	---
<b>VCE06/</b>		Intermediate processing					
T-206	VCS14	Process unit, 1970	---	---	---	---	---
T-208	VCS15	Intermediate tank, 1970	---	---	---	---	---
S-210	VCS16	Process unit, 1970	---	---	---	---	---
S-211	VCS16	Process unit, 2014	---	---	---	---	---
V-E-208	VCS16c	Process Condenser System, 1995, for recovery of solvents from vents VCS 04, 06, 08, 15, 16, and 16a	---	---	---	---	---
<b>VCE06a/</b>							
G-212	VCS16a	Process unit, 1970	---	---	---	---	---
C-401	VCS16b	Process unit, 1970	---	---	---	---	---
<b>VCE07/</b>		Solvent recovery					
T-302	VCS13	VOC tank, 1970	---	---	---	---	---
T-304 -5	VCS17	Batch still, recovery tank, 1970	---	---	---	---	---
<b>VCE08/</b>		Raw material storage/feed tanks					
T-112	VCS18	VOC storage tank, 1981	---	---	---	---	---
T-113	VCS19	VOC storage tank, 1981	---	---	---	---	---
T-314	VCS19a	VOC storage tank, 1970	---	---	---	---	---
T-406	VCS20	VOC storage tank, 1970	---	---	---	---	---
T-320	VCS21	VOC tank, 1970	---	---	---	---	---
T-308	VCS38	Blended Grade tank, 1970	---	---	---	---	---
T-301	VCS40	VOC tank, 1981	---	---	---	---	---
<b>VCE09/</b>		Reactors					
R-404	VCS22	Reactor, 1998	---	---	---	---	---
R-404A	VCS23	Reactor, 1996	---	---	---	---	---
<b>VCE10/</b>		Product processing					
T-410	VCS24	Process tank, 1970	---	---	---	---	---
T-402	VCS25	Caustic blend tank, closed top, 1974	---	---	---	---	---
T-312B	VCS26	Wastewater tank, 2006	---	---	---	---	---
<b>VCE10a/</b>		Recovery Process					
T-313	VCS27	Recovery tank, 1977	---	---	---	---	---
<b>VCE11/</b>		Evaporation					
T-412	VCS28	Feed tank, 1970	---	---	---	---	---
T-416	VCS29	Hotwell, 1993	---	---	---	---	---
T-303	VCS29a	Separator tank, 1979	---	---	---	---	---
T-305	VCS29b	Separator tank, 1970	---	---	---	---	---

Emission Group/ Unit ID No.	Stack/Vent ID No.	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID No.	Pollutant Controlled	Applicable Permit Date
<b>VCE12/</b> T-318	VCS30	Solvent Recovery VOC feed tank, 1970	---	---	---	---	---
<b>VCE13/</b> T-418A	VCS31	Product Storage tanks Vulcup R Product tank, 1970	---	---	---	---	---
T-418B	VCS32	Vulcup R Product tank, 1970	---	---	---	---	---
T-418C	VCS33	Vulcup R Product tank, 1979	---	---	---	---	---
T-418D	VCS34	Vulcup R/ D-16 Product tank, 1979	---	---	---	---	---
T-419	VCS35	Vulcup R/ D-16 Product tank, 1994	40 to <75 m <sup>3</sup>	---	---	---	---
<b>VCE13a/</b> T-101-1	VCS36	Product Blending Process Blended grade tank, 1991	---	---	---	---	---
T-101-2	VCS37	Blended grade tank, 1991	---	---	---	---	---
T-504	VCS39	Blended grade tank, 1974	---	---	---	---	---
<b>VCE14/</b>	VCS41	Packaging area	---	Baghouse fabric filters, 1971, 99+% CF	VCC05	PM/PM-10	---

\*The Size/Rated capacity and PCD efficiency are provided for informational purposes only, and are not applicable requirements.

The Table above needs additional explanation. The ID numbers for the emission groups (VCE01 to 14) and stacks/vents (VCS01 to 41) are mostly sequential. However, through several revisions by the facility to ensure accuracy, some of the numbers (e.g. VCE04, VCS07) had to be skipped due to the item either not existing or being combined with others. Please note that the Process Condenser System listed under VCE06 (VCS16c) is a solvent recovery system for vents in various emission groups; the recovered materials go to Tanks T-302 (VCS13) for reuse. The Table includes all emission units unless they are listed as Insignificant Emission Units. The equipment list is prepared as complete as possible because, given the complexity of the facility's process; the list would be useful in future determination of New Source Review permit requirements for a proposed modification or expansion at the facility. This is especially important as the facility is a PSD-size source (a chemical plant with VOC emissions >100 tons/year). The size/rated capacity of the equipment is considered to be confidential business information, and hence, is not listed unless it is necessary for the indication of applicable requirements. For examples, if the tanks were subject to NSPS Subpart Kb requirements, the applicable storage capacity range in the Subpart would be provided. Note that the size range for tank T-419 (VCS35) is given as it would have been subject to the recordkeeping requirements of New Source Performance Standards 40 CFR 60 Subpart Kb if not for the new amendment to the rule on 10/15/03. As a result of the new amendment, no tanks at the facility are subject to NSPS Subpart Kb (Please also see the discussion under Inapplicable Requirements section).

## IV. EMISSIONS INVENTORY

A copy of the 2013 annual emission statement is attached. Emissions are also summarized in the following table. The facility has no Hazardous Air Pollutant (HAP) emissions, as it does not use any HAP containing raw materials in its manufacturing process (confirmed by a review of the MSDS for the raw materials processed and by a letter submitted by the facility, dated August 28, 2003). No HAP production is anticipated from the manufacturing process reactions.

### 2013 Actual Emissions

2013 Criteria Pollutant Emission in Tons/Year						
Emission Unit	VOC	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>
Vulcup® Process other than Solids Blending	98.65	NA	NA	NA	NA	NA
Vulcup® Solids Blending	NA	NA	NA	1.72	1.72	NA
Total	98.65	NA	NA	1.72	1.72	NA

## V. EMISSION UNIT APPLICABLE REQUIREMENTS

### A. Limitations

The facility does not have any NSR permits.

The requirements that apply to the source are the following provisions of the Commonwealth of Virginia State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution:

9 VAC 5 Chapter 40 Existing Stationary Sources:

Part I. Special Provisions. This part applies to all existing sources for which emission standards are prescribed.

Part II. Emission Standards. The following articles in this part apply to the source:

Article 1: Visible Emissions and Fugitive Dust/Emissions (Rule 4-1)

Article 4: Emission Standards for General Process Operations (Rule 4-4)

The following Virginia Administrative Codes in the above articles in Chapter 40 Part II with specific emission requirements have been determined to be applicable to the packaging area of the Vulcup® process (VCE14, stack/vent No. VCS41):

9 VAC 5-40-80, Standard for visible emissions from existing stationary sources, and

9 VAC 5-40-260, Standard for particulate matter emissions from existing general process operations.

#### Permit Conditions 1 and 2:

Particulate emissions from the packaging area shall be controlled by fabric filters, and shall not exceed the limit allowed by 9 VAC 5-40-260.

The allowable particulate emission limit is determined by the following equation:

$$E = 4.10P^{0.67}$$

Where:

E = particulate emission rate in lb/hr

P = process weight rate in tons/hr

For example, if the process weight rate is 0.4 tons/hr, the allowable particulate emission limit is:

$$E = 4.1 \times 0.40^{0.67} = 2.2 \text{ lbs/hr}$$

A review of AP-42 Section 11 for Mineral Products Industry was conducted to find emission factors for similar operations. It was found that the available emission factors for the handling and transfer of materials range from less than 0.1 lbs/ton (sand/aggregate transfer in concrete batching) to 3.0 lbs/ton (unloading and conveying raw materials in glass fiber manufacturing) for uncontrolled operations. Using the most conservative factor and assuming that the control efficiency of the fabric filter is 99.5%, the potential to emit (PTE) at a process weight rate of 0.4 tons/hr is:

$$3.0 \text{ lbs/ton} \times 0.4 \text{ tons/hr} \times (100\% - 99.5\%) = 0.006 \text{ lbs/hr}$$

This controlled particulate emission rate is significantly lower than the allowable limit of 2.2 lbs/hr

The facility has also performed a material balance on the process step involving the packaging (VCE14). It was found that, after adjusting for a process weight rate of 0.4 tons/hour, the material captured by the baghouse filters would be between 10 and 17 lbs/hour based on an average batch time, dependent upon the product type. Therefore, the actual emission rate can be estimated as:

$$17 \text{ lbs/hr} \times [(100\% - 99.5\%) / 99.5\%] = 0.085 \text{ lbs/hr}$$

This controlled particulate emission rate is also significantly lower than the allowable limit of 2.2 lbs/hr.

Therefore, compliance with the particulate emission limit can be assured so long as the fabric filters are kept in proper operation. This is accomplished by complying with the following opacity limit condition, as well as monitoring and recordkeeping requirements:

Permit Condition 3:

Visible emissions from the fabric filter exhaust shall not exceed twenty (20) percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed sixty (60) percent opacity (9 VAC 5-40-80).

**B. Monitoring**

Permit Condition 5:

Periodic monitoring: To ensure proper operation of the particulate emission control device, the fabric filters shall be inspected every time the product to be packaged is changed, however the length between inspections cannot exceed more than 31 days. Fabric filter bags shall be replaced as necessary. The inspection results shall be recorded in an inspection log with the date, name of the inspector, name of product, and any necessary corrective actions undertaken.

Permit Condition 6:

Periodic monitoring: The permittee will perform daily visible emission checks on the fabric filter exhaust stack. If visible emissions are observed from the exhaust stack, corrective action shall be taken to eliminate the cause of the visible emissions. If visible emissions continue, a VEE according to Method 9 (40 CFR 60, Appendix A) shall be immediately conducted on the stack for a period of at least six (6) minutes. If the VEE opacity average exceeds ten percent (10%), the permittee shall continue the VEE for one hour from the initiation to determine compliance with the opacity limit. Results of the observations and/or the VEEs shall be recorded in the operation log. Records of the observations shall include the following:

- a. The name of the observer;
- b. Date and time of the observation;

- c. An indication of presence or absence of visible emissions;
- d. The color of the emissions;
- e. Whether the emissions are representative of normal operation;
- f. If emissions are not representative of normal operations, the cause of the abnormal emissions;  
and
- g. The duration of any visible emission incident, and any corrective actions taken to eliminate the cause of the visible emissions.

If a VEE is conducted, records shall be in accordance with Method 9 (40 CFR 60, Appendix A).

Permit Condition 7:

Periodic monitoring and record keeping: According to 9 VAC 5-40-20E from 9 VAC 5 Chapter 40, Part I - Special Provisions, to ensure compliance with respect to air pollution control equipment, the permittee is required to carry out and keep records of maintenance and operator training, keep an inventory of spare parts, and have available written operating procedures.

**C. Recordkeeping**

The permit includes requirements for maintaining records of the fabric filter inspections and the daily visible emissions checks. These records, together with proper maintenance of the control equipment at all times, are deemed sufficient to ensure compliance with the particulate emission limit and the opacity limit.

Permit Condition 8:

Recordkeeping: The facility shall keep records of all emission data and operating parameters as necessary to demonstrate compliance with this permit. The records shall be available on site for inspection and shall be current for the most recent five (5) years. The records shall include, at a minimum, the monitoring records as required in Permit Conditions 5 and 6 above, the maintenance records, training records, inventory of spare parts, and operating procedures as required in Permit Condition 7 above, and all information (such as emission factors and calculation methods) needed to calculate the annual actual emissions for the facility's annual Emission Statement Report as required in Permit Condition 11. Given the complexity of the facility's process, the annual actual emission calculation records are useful in future determination of New Source Review permit requirements for any proposed modification or expansion at the facility.

**D. Testing**

Other than the monitoring requirements specified above, the permit does not require any source testing. A table of test methods has been included in the permit if testing is performed. The Department and EPA have the authority to require testing not included in this permit should it become necessary to determine compliance with an emission limit or standard.

## E. Reporting

### Permit Condition 11:

The facility is required to submit the annual Emission Statement no later than **April 1<sup>st</sup>** of each calendar year, in accordance with the provisions of 9 VAC 5-20-121. This is an applicable requirement from the General Provisions (9 VAC 5 Chapter 20). It may be included under Permit Conditions 32 and 33. Duty to Submit Information, as a request for the Emission Statement is sent out every year to all Title V facilities. However, this requirement is singled out to ensure that records are kept for future reference as discussed above for Permit Condition 7. There are no other applicable reporting requirements other than those required under general conditions.

## F. Streamlined Requirements

This facility has no associated NSR permits; therefore, there are no streamlined requirements.

## G. Changes to the Title V Permit

Arkema has requested that two (2) changes be made to the Title V Permit renewal. One involves changing the time periods for the semi-annual compliance reporting from June 1<sup>st</sup> to November 30<sup>th</sup> and December 1<sup>st</sup> to May 31<sup>st</sup> to that of January 1<sup>st</sup> to June 30<sup>th</sup> and July 1<sup>st</sup> to December 31<sup>st</sup> in order to have the time periods fall within a single calendar year. Condition 23 of the Title V FOP was revised to accommodate this request made by the Source. The submission dates for the compliance reporting periods were likewise changed from January 29<sup>th</sup> and July 30<sup>th</sup> to March 1<sup>st</sup> and September 1<sup>st</sup> in Condition 23 of the Title V FOP, respectively. Condition 24 of the Title V FOP was also revised to agree with this request (**March 1<sup>st</sup>** of each calendar year deadline for annual compliance certification). However, in doing so, the Source will be required to make a one-time compliance report submission for the time period from December 1, 2014 to December 31, 2014 to cover the time period gap between the changes in the reporting periods. The second requested change involves the addition of three (3) insignificant emission units, namely: a Sulfuric acid tank and two (2) Totes. These three (3) emission units were added to the insignificant emission units table in Condition 12 of the Title V permit. The Source has supplied confidential VOC emission calculations demonstrating that each of the emission units are below the five (5) tons per year limit for being classified as insignificant emission units. In December 2014, the Source was given an exemption to install and operate the emissions unit S-211 as a component of the intermediate processing emissions group VCE06. No regulatory programs were triggered from the implementation of the emissions unit (refer to the November 17, 2014 air permit application *public viewing* file for information regarding the unit).

## H. General Conditions

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

1. Comments on General Conditions
  - a. Permit Conditions 15 - 20. Permit Expiration

These conditions refer to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement No. 2-09".

This general condition cites the Article that follows:

Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:

- 9 VAC 5-80-80. Application
- 9 VAC 5-80-140. Permit Shield
- 9 VAC 5-80-150. Action on Permit Applications

b. Permit Condition 26. Failure / Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four (4) hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four (4) daytime business hours of discovery of the malfunction.

c. Permit Condition 30. Permit Modification

This general condition cites the sections that follow:

- 9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources
- 9 VAC 5-80-190. Changes to Permits
- 9 VAC 5-80-260. Enforcement
- 9 VAC 5-80-1100. Applicability, Permits for New and Modified Stationary Sources
- 9 VAC 5-80-1605. Applicability, Permits for Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
- 9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

d. Permit Conditions 44 - 47. Malfunction as an Affirmative Defense

The regulations contain two (2) reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in Permit Condition 45 and Permit Condition 26. For further explanation see the comments on Permit Condition 26.

This general condition cites the sections that follow:

- 9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction
- 9 VAC 5-80-110. Permit Content

e. Permit Condition 51. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follows:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70. Designated Emissions Standards

9 VAC 5-80-110. Permit Content

## **VI. STATE ONLY APPLICABLE REQUIREMENTS**

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

9 VAC 5-40-130 et seq. (Rule 4-2) and 9 VAC 5-50-130 et seq. (Rule 5-2): Emission standards for odor.

## **VII. FUTURE APPLICABLE REQUIREMENTS**

There are no future applicable requirements that can be determined at this time. The facility has identified that it will not be subject to the Miscellaneous Organic Chemical Manufacturing MACT (40 CFR 63 Subpart FFFF, proposed April 4, 2002, and promulgated August 27, 2003) because it is not a major HAP source. In fact, it stated in a letter dated August 28, 2003 that does not use any HAP in its processes. This was confirmed by a review of the MSDS of raw materials used by the facility.

Also, the facility will not be subject to the New Source Performance Standard for Volatile Organic Compound Emissions From the Synthetic Organic Chemical Manufacturing Industry Wastewater (40 CFR 60 Subpart YYY, proposed September 12, 1994) because it does not produce any of the SOCMI chemicals listed in Table 1 of the proposed rule as primary products.

## **VIII. INAPPLICABLE REQUIREMENTS**

The following NSPS and MACT requirements have been determined to be inapplicable to the facility, with the given reason:

The New Source Performance Standard (NSPS) for Volatile Organic Liquid Storage Vessels in 40 CFR 60 Subpart Kb, for which construction, reconstruction, or modification commenced after July 23, 1984, and as amended on October 15, 2003, does not apply to any of the tanks at the facility that are utilized in the Vulcup® Process because of their earlier installation dates and/or their individual volume storage capacities are below the affected sizes stipulated in NSPS Kb (greater than or equal to 75 m<sup>3</sup>). Prior to the October 15, 2003 rule amendment that raises the lower limit of the affected sizes, tank T-419 in VCE13 (VCS35) was subject to the record keeping requirements of the rule because its size was within the range of 40 m<sup>3</sup> to less than 75 m<sup>3</sup>. In January and April of 2006, wastewater storage tanks T-312A and T-312B were replaced with new tanks; each tank having the same maximum storage capacity and throughput as the original tank to which it replaced. Both the original and replacement storage vessels were/are atmospheric type tanks equipped with conservation vents. No modifications were made to the tank ventilation systems or any other ancillary equipment serving the tanks with the installation of the new storage tanks. Although the two (2) storage tanks meet the NSPS Kb applicability date for affected tanks, each tank's volume storage capacity is below that of 75 m<sup>3</sup>; therefore, the wastewater replacement storage tanks, T-312A and T-312B, are exempt per 40 CFR 60.110 b (a).

The NSPS for VOC Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes in 60 CFR 60 Subpart III does not apply as the facility does not have any SOCMI Air

Oxidation units that were constructed, modified, or reconstructed after October 21, 1983 and does not manufacture any chemicals listed in 40 CFR 60.617 as a product, co-product, by-product, or intermediate.

The NSPS for VOC Emissions from SOCMI Distillation Operations in 40 CFR 60 Subpart NNN does not apply as the facility does not have any SOCMI distillation units (as defined in 40 CFR 60.661) that were constructed, modified, or reconstructed after December 20, 1983 and does not manufacture any chemicals listed in 40 CFR 60.667 as a product, co-product, by-product, or intermediate. Specifically, the vent collection condenser system at the facility does not meet the definition of a distillation unit and is a batch operation that is exempt per 40 CFR 60.660 (c) (3).

NSPS for VOC Emissions from SOCMI Reactor Processes in 40 CFR 60 Subpart RRR: Two (2) Vulcup® Coupling Reactors (R-404 and R-404A) originally installed in 1970 were replaced separately in 1996 (R-404A) and 1998 (R-404) with reactor units of the same processing function, capacity, and throughput. No modifications were made to the condensers or other ancillary equipment servicing either reactor unit. Based on the installation dates, the replacement reactors meet the June 29, 1990 NSPS RRR applicability date for affected units. However, because neither reactor manufactures any of the chemicals listed in 40 CFR 60.707 as a product, co-product, by-product, or intermediate and the two reactors (as are all of the facility's reactors) are batch process operations (as defined in 40 CFR 60.701), they are exempt per 40 CFR 60.700 (c) (1).

The NSPS for Equipment Leaks of VOC in the SOCMI in 40 CFR 60 Subpart VV does not apply as the facility does not produce any chemicals listed in 40 CFR 60.489 as intermediates or final products.

The Hazardous Organic NESHAP (HON) MACT in 40 CFR 63 Subparts F, G, H, and I does not apply as the facility does not meet the criteria of 40 CFR 63.100 (b) (1) to (3). The facility does not manufacture as a primary product any chemicals listed in 40 CFR 63.100 (b) (1), does not use as a reactant, or does not manufacture as a product or co-product, any chemicals listed in 40 CFR 63.100 (b) (2), and is not a major HAP source.

The Chemical Manufacturing Area Source MACT in 40 CFR 63 Subpart VVVVVV (6V) does not apply as the facility does not process, use, produce, or generate any of the 15 named chemical HAP compounds listed in the MACT for chemical manufacturing operations.

The Cooling Tower MACT in 40 CFR 63 Subpart Q does not apply as the facility has never used chromium-based water treatment chemicals in the cooling towers.

The Miscellaneous Organic Chemical Manufacturing MACT in 40 CFR 63 Subpart FFFF does not apply as the facility is not a major source of HAP emissions.

The following provisions of the Commonwealth of Virginia State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution are determined to be inapplicable to the facility with the given reason:

Standards for Volatile Organic Compounds for General Process Operations in 9 VAC 5-40-300:  
This section of 9 VAC 5 Chapter 40 Article 4, Emission Standards for General Process Operations (Rule 4-4) at existing stationary sources does not apply because the facility is not located in the subject areas of Northern Virginia or Richmond Emission Control Area as defined in 9 VAC 5-20-206.  
Emission Standards for Volatile Organic Compound Storage and Transfer Operations in 9 VAC 5-40-3410 et seq. (Rule 4-25):  
These emission standards do not apply to the facility because the facility is located in Southampton County which is not a VOC control area (9 VAC 5-20-206).

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A 3 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

## IX. MANDATORY GREENHOUSE GAS REPORTING

The provisions of the Final Rule for the Mandatory Reporting of Greenhouse Gases (GHG) (40 CFR Part 98) require owners and operators of general stationary fuel combustion sources that emit 25,000 metric tons (27,558 short tons) or more per year of CO<sub>2</sub> equivalent (CO<sub>2</sub>e) in combined emissions from such units, to address the combined emissions of these GHGs annually. The definition of "applicable requirement" in 40 CFR 70.2 and 71.2 does not include requirements such as those included in Part 98, promulgated under Clean Air Act (CAA) section 114(a)(1) and 208. Therefore, the requirements of 40 CFR Part 98 are not applicable under the Title V permitting program.

As a result of several EPA actions regarding GHG under the CAA, emissions of GHG must be addressed for a Title V permit renewed after January 1, 2011. There are no applicable requirements currently specific to GHG emissions at this time for the facility according to the EPA's *GHG Reporting Rule Applicability Tool*. This is due in part to the facility's operations not meeting any of the source categories applicable to GHG emissions listed in the applicability tool. In addition, there have been no major modifications to the Arkema Inc. - Franklin Plant that would have resulted in the issuance of a PSD permit.

## X. INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units at the facility include the following:

Emission Unit ID No.	Emission Unit Description	Citation <sup>1</sup>	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
V-321	Floor Drains Collection Tank	9 VAC 5-80-720 B 2	VOC	NA
V-310	Sodium Carbonate Tank	9 VAC 5-80-720 A 42	NA	NA
T-511	Tote Cleaning Vat	9 VAC 5-80-720 B 2	VOC	NA
T-512	Tote Cleaning Vat Water System	9 VAC 5-80-720 B 2	VOC	NA
T-611	Tote Cleaning Vat	9 VAC 5-80-720 B 2	VOC	NA
T-612	Tote Cleaning Vat Water System	9 VAC 5-80-720 B 2	VOC	NA
T-501	Support Grade Water System	9 VAC 5-80-720 B 1&2	PM/PM-10 & VOC	NA
T-507	Support Grade Water System	9 VAC 5-80-720 B 1&2	PM/PM-10 & VOC	NA
Unassigned	Sample melter for Support Grade Rework	9 VAC 5-80-720 B 1&2	PM/PM-10 & VOC	NA
Unassigned	Totes/Drums for Support Grade Packing	9 VAC 5-80-720 B 1&2	PM/PM-10 & VOC	NA

Emission Unit ID No.	Emission Unit Description	Citation <sup>1</sup>	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
V-323	Hot Water System	9 VAC 5-80-720 B 1 - 4	All criteria pollutants	NA
Unassigned	Warehousing/Storage/Offices	9 VAC 5-80-720 A 5 9 VAC 5-80-720 B 1 - 4	All criteria pollutants	NA
Unassigned	Clay and Bead handling system	9 VAC 5-80-720 B 1&2	PM/PM-10	NA
Unassigned	Solid Peroxide Melting	9 VAC 5-80-720 B 1&2	PM/PM-10 & VOC	NA
Unassigned	Solid Peroxide Grinding	9 VAC 5-80-720 B 1&2	PM/PM-10 & VOC	NA
T106	Wastewater pH adjustment	9 VAC 5-80-720 B 1&2	PM/PM-10 & VOC	NA
T107	Sulfuric Acid Tank	9 VAC 5-80-720 B 1&2	PM/PM-10 & VOC	NA
Unassigned	EZ Breaker Tote 1	9 VAC 5-80-720 B 1&2	PM/PM-10 & VOC	NA
Unassigned	EZ Breaker Tote 2	9 VAC 5-80-720 B 1&2	PM/PM-10 & VOC	NA

<sup>1</sup>The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

(9 VAC 5-80-140)

## **XI. CONFIDENTIAL INFORMATION**

The facility's former owner submitted a list of proposed confidential business information dated February 3, 1998, and received on February 5, 1998. The DEQ concurred with the proposed list of information in a DEQ letter dated February 23, 1998. More recently, beginning on August 28, 2003, the facility included with each submittal a showing and certification of confidential information according to Virginia DEQ policy guidance dated August 1, 2003 to reaffirm that raw materials, method of production, and material composition are confidential business information. The Title V permit was written to be self-explanatory but without any confidential business information so that it is suitable for public review.

## **XII. PUBLIC PARTICIPATION**

The proposed permit will be placed on public notice in the Tidewater News newspaper from **Sunday, December 7, 2014 to Tuesday, January 6, 2015.**