



**LOUISVILLE METRO  
AIR POLLUTION CONTROL DISTRICT  
850 Barret Ave., Louisville, Kentucky 40204**



14 May 2015

**Statement of Basis**

**Company:** Clariant Corporation – Louisville West Plant

**Plant Location:** 1227 South 12<sup>th</sup> Street, Louisville, Kentucky 40210

**Date Application Received:** 3-23-2015

**Date Admin Complete:** 3-23-2015

**Date of Draft Permit:** 05-14-2015

**Date of Public Notice:** 05-14-2015

**District Engineer:** Virginia Rhodes

**Permit No:** C-0036-1002-15-V

**Plant ID:** 0036

**SIC Code:** 2819

**NAICS:** 325188

**ICIS:** 00036

**Introduction:**

This permit will be issued pursuant to District Regulation 2.03, Permit Requirements – Non-Title V Construction and Operating Permits and Demolition/Renovation Permits. Its purpose is to provide methods of determining continued compliance with all applicable requirements.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), 1 hr and 8 hr ozone (O<sub>3</sub>), and particulate matter less than 10 microns (PM<sub>10</sub>); and is a non-attainment area for the 1997 standard for particulate matter less than 2.5 microns (PM<sub>2.5</sub>), unclassifiable for the 2012 standard for particulate matter less than 2.5 micron (PM<sub>2.5</sub>) and partial non-attainment for sulfur dioxide (SO<sub>2</sub>).

**Application Type/Permit Activity:**

- Initial Issuance
- Permit Revision
  - Administrative
  - Minor
  - Significant
- Permit Renewal
- Construction

**Compliance Summary:**

- Compliance certification signed
- Compliance schedule included
- Source is out of compliance
- Source is operating in compliance

**I. Source Information**

1. **Source Description:** Clariant Corp. – Louisville West Plant manufactures customized precipitated catalysts and catalyst carriers.
2. **Project Description:** Process 203-W70 which will include five lines associated with catalyst manufacturing and two ovens associated with existing process 203-W23.
3. **Site Determination:** Clariant Corporation is the parent company, operates two facilities in Louisville, the South plant at 4900 Crittenden Drive and the West plant at South 12<sup>th</sup> Street. Based on information obtained from the company and the criteria used by EPA to make single source determinations, the District has determined that both locations are separate sources. Both locations would have to meet the following three criteria in order to be considered one single source for Title V and PSD/NSR applicability:
  - Same industrial grouping,
  - Common ownership or control, and,
  - Contiguous or adjacent locations.

Both locations have the same first two digit SIC code (28).

Both are 100% owned and operated by their parent company.

Neither location is contiguous or adjacent. Each plant acts independently of the other, operating separate production lines, with minimal transfer of material between plants that is commercially available from other suppliers. Furthermore, there are no Clariant Corporation dedicated transportation links between the plants.

3. **Permit Revisions:**

Revision	Issue Date	Public Notice Date	Type	Description
Initial	xx/xx/15	05/14/15	Initial	Initial permit issuance

4. **Fugitive Sources:** There are fugitive PM/PM<sub>10</sub>/PM<sub>2.5</sub>, VOC, HAP, NO<sub>x</sub> and TAC emissions from the manufacturing of customized precipitated catalysts and catalyst carriers.
5. **Emission Unit Summary:** This construction project involves existing emission unit W23 and new emission unit W70.

**6. Plant-Wide Emission Summary:**

Pollutant	Actual Emissions (tpy) 2013 Data	Pollutant that triggered Major Source Status
CO	15.75	No
NO <sub>x</sub>	40.33	*Yes
SO <sub>2</sub>	0.12	No
PM	28.62	*Yes
PM <sub>10</sub> /PM <sub>2.5</sub>	27.55	*Yes
VOC	1.03	*Yes
Total HAPs	1.21	*Yes
CO <sub>2e</sub>	**24,292	**No

\* The source has accepted synthetic minor limits for these pollutants.

\*\* Source: ghgdata.epa.gov

**7. Construction Permit Applicable Requirements:**

PSD     40 CFR 60     SIP     40 CFR 63  
 NSR     40 CFR 61     District-Origin     Other

**8. MACT Requirements:** 40 CFR 63 Subpart VVVVVV, *National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources*

**9. Referenced Federal Regulations in Permit:** 40 CFR 63 Subpart VVVVVV, *National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources*

**II. Regulatory Analysis**

**1. Acid Rain Requirements:** The source is not subject to the Acid Rain Program.

**2. Stratospheric Ozone Protection Requirements:** This source does not manufacture, sell, or distribute any of the chemicals listed in title VI of the CAAA. Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. The source’s use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

**3. Prevention of Accidental Releases 112(r):** The source does manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, *Chemical Accident Prevention Provisions*, in a quantity in excess of the corresponding specified threshold amount.

**4. 40 CFR Part 64 Applicability Determination:** The source is not a major source because the source has taken synthetic minor limits for all criteria pollutants. Therefore, 40 CFR 64 does not apply. 40 CFR 63 VVVVVV required Clariant West to obtain a Title V permit.

**5. Basis of Regulation Applicability**

a. **Plant-wide**

Regulation 2.03, section 6.1 requires sufficient monitoring, record keeping, and reporting to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the District upon request.

b. **Applicable Regulations:**

<b>Regulation</b>	<b>Title</b>	<b>Type</b>
2.03	Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements	SIP
2.05	Prevention of Significant Deterioration of Air Quality	SIP
2.16	Title V Operating Permits	SIP
2.17	Federally Enforceable District Origin Operating Permits	SIP
5.00	Standards for Toxic Air Contaminants and Hazardous air Pollutants, Definitions	Local
5.01	General Provisions	Local
5.14	Hazardous Air Pollutants and Source Categories	Local
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	Local
5.21	Environmental Acceptability for Toxic Air Contaminants	Local
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	Local
5.23	Categories of Toxic Air Contaminants	Local
7.08	Standards of Performance for New Process Operations	SIP
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	SIP
40 CFR 63 Subpart VVVVVV	National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources	Federal

c. **Basis for Applicability**

<b>Regulation</b>	<b>Basis for Applicability</b>
2.05	Establishes requirements for the prevention of deterioration of air quality in regions of the country that currently meet the NAAQS
2.16	Title V source
2.17	FEDOOP source
5.00	Establishes definitions of terms used in the Strategic Toxic Air Reduction Program

Regulation	Basis for Applicability
5.01	Establishes the requirements for Environmental Acceptability for Toxic Air Contaminants (TACs).
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants
5.20	Establishes the methodology for determining the benchmark ambient concentration of a toxic air contaminant
5.21	Establishes the criteria for determining the environmental acceptability of emissions of toxic air contaminants
5.22	Establishes the procedures for determining the maximum ambient concentration of a toxic air contaminant
5.23	Establishes categories of toxic air contaminants.
7.08	Establishes emission standards for processes that emit PM which were installed after September 1, 1976.
7.25	Establishes VOC standards for affected facilities constructed after June 13, 1979.
40 CFR 63 Subpart VVVVVV	Applies to chemical manufacturing process units that use as feedstocks, generate as byproducts, or produce as products the HAP listed in Table 1 of 40 CFR 63 Subpart VVVVVV, including chromium compounds, manganese compounds and nickel compounds at Clariant.

d. **Equipment**

Emission Point	Description	Applicable Regulations	Control ID	Stack ID
<b>Emission Unit 203-W70</b>				
T-203-W70-101	Chilled Mixing Tanks	7.08, 7.25, 5.00, 5.01, 5.20, 5.21, 5.22, 5.23	DC-203-W22-902	S-203-W22-004
T-203-W70-102				
M-203-W70-101	Netzsch Mill #1	Sealed Equipment	NA	NA
M-203-W70-102	Netzsch Mill #2		NA	NA
TT-203-W70-101	Washcoat Tote, 92 gallons	7.25, 5.00, 5.01, 5.20, 5.21, 5.22, 5.23	NA	Fugitive
TT-203-W70-102	Washcoat Tote, 92 gallons		NA	Fugitive
TT-203-W70-103	Washcoat Tote, 92 gallons		NA	Fugitive
TT-203-W70-104	Washcoat Tote, 92 gallons		NA	Fugitive
TT-203-W70-105	Washcoat Tote, 92 gallons		NA	Fugitive
TT-203-W70-106	Washcoat Tote, 92 gallons		NA	Fugitive
TT-203-W70-201	Washcoat Tote, 185 gallons		NA	Fugitive
TT-203-W70-202	Washcoat Tote		NA	Fugitive

DR-203-W70-201	Drying Table		NA	Fugitive
TR-203-W70-201	Trays and Racks		NA	Fugitive
HT-203-W70-201	Oven 7 (2 MM BTU/hr)	7.08, 7.25, 5.00, 5.01, 5.20, 5.21, 5.22, 5.23	NA	S-203-W70-001
TT-203-W70-203	Washcoat Bench	7.25,	NA	Fugitive
CV-203-W70-201	Auto-Dip Conveyor	5.00, 5.01, 5.20, 5.21, 5.22, 5.23	NA	Fugitive
TT-203-W70-204	Tote, 26 gallons		NA	Fugitive
TT-203-W70-302	Spiker Tote	5.00, 5.01, 5.20, 5.21,	NA	Fugitive
TB-203-W70-301	Catalyst Table	5.22, 5.23	NA	S-203-W70-002
TR-203-W70-301	Trays and Racks	7.25, 5.00, 5.01, 5.20, 5.21, 5.22, 5.23	NA	Fugitive
HT-203-W70-301	Oven 6 (2 MM BTU/hr)	7.08, 7.25, 5.00, 5.01, 5.20, 5.21, 5.22, 5.23	ED-203-W23-150 SC-203-W23-550	S-203-W23-005
TT-203-W70-303	Catalyst Bench	7.25,	NA	Fugitive
DR-203-W70-302	Drying Table	5.00, 5.01, 5.20, 5.21,	NA	Fugitive
CV-203-W70-301	Auto-Conveyor	5.22, 5.23	NA	S-203-W70-003
VS-203-W70-401	Vibratory Screener	7.08	DC-203-W22-902	S-203-W22-004
TT-203-W70-401	Catalyst Tote, 80 gal	5.00, 5.01, 5.20, 5.21, 5.22, 5.23	NA	Fugitive
TT-203-W70-402	Pressure Tote, 10 gal	5.00, 5.01, 5.20, 5.21, 5.22, 5.23	NA	Fugitive
MX-203-W70-401	Mixer	5.00, 5.01, 5.20, 5.21, 5.22, 5.23	ED-203-W23-150 SC-203-W23-550	S-203-W23-005
FD-203-W70-401	Vibratory Feeder	7.08	DC-203-W22-902	S-203-W22-004
TT-203-W70-403	Washcoat Tote, 55 gallons	7.25, 5.00, 5.01, 5.20, 5.21,	NA	Fugitive
CF-203-W70-401	Centrifuge	5.22, 5.23	NA	Fugitive
TT-203-W70-404	Catalyst Tote, 20 gal	5.00, 5.01, 5.20, 5.21, 5.22, 5.23	NA	Fugitive
TT-203-W70-501	DPF Washcoat Tote		NA	Fugitive
DR-203-W70-501A	Vacuum Table	7.25, 5.00, 5.01, 5.20, 5.21,	NA	Fugitive
DR-203-W70-501B	Vacuum Table	5.22, 5.23	NA	Fugitive
DR-203-W70-301	Drying Table		NA	Fugitive
TR-203-W70-501	Trays and Racks		NA	Fugitive
HT-203-W70-501	Oven 4 (1 MM BTU/hr)	7.08, 7.25, 5.00, 5.01, 5.20, 5.21, 5.22, 5.23	ED-203-W23-150 SC-203-W23-550	S-203-W23-005
TT-203-W70-502	DPF Catalyst Table	5.00, 5.01, 5.20, 5.21, 5.22, 5.23	NA	Fugitive
DR-203-W70-502	Vacuum Dryer		NA	S-203-W70-004

TT-203-W70-701	Nitric Acid Dilution Tote		NA	S-203-W70-006
TS-203-W70-701	Table Saw	7.08	NA	Fugitive
CS-203-W70-701	Ceramic Saw	7.08, 5.00, 5.01, 5.20, 5.21, 5.22, 5.23	DC-203-W70-701	S-203-W70-005
<b>Existing Emission Unit 203-W23</b>				
HT-203-W23-534	Box Dryer, Wisconsin Oven (2.5 MM BTU/hr)	7.08, 7.25, 5.00, 5.01, 5.20, 5.21, 5.22, 5.23	ED-203-W23-550 SC-203-W23-550	S-203-W23-005
HT-203-W23-542	Box Dryer, Wisconsin Oven (2.5 MM BTU/hr)			

Control ID	Equipment Description	Control %
ED-203-W23-150	Eductor which will be used prior to existing scrubber SC-203-W23-550 to control Nitric Acid and NO <sub>x</sub> .	75%
SC-203-W23-550	Existing Packed-bed Scrubber with Mesh Pad, Sly, Model 54-72	75%
DC-203-W22-902	Existing Baghouse, Mac Equipment Model 3MTF24 Mactiflo	99.489%
DC-203-W70-701	Forced Draft Cartridge Dust Collector	95%

e. **Standards/Operating Limits**

i. **Plant-wide**

- (a) Clariant Corp. – Louisville West Plant is potentially a major source for PM/PM<sub>10</sub>/PM<sub>2.5</sub>, VOC, NO<sub>x</sub>, single HAP, and total HAPs. To preclude the requirements of Regulation 2.04, Construction or Modification of Major Sources In or Impacting Upon Non-Attainment Areas, and Regulation 2.05, Prevention of Significant Deterioration of Air Quality, the source is subject to a plant-wide limit of less than 100 tons during any consecutive 12-month period for PM/PM<sub>10</sub>/PM<sub>2.5</sub>, NO<sub>x</sub>, and VOC.
- (b) Pursuant to 40 CFR 63 Subpart VVVVVV, §63.11494(e), because the source installed a federally-enforceable control device on an affected chemical manufacturing process unit (CMPU), the source was required to obtain a Title V permit and therefore subject to Regulation 2.16.<sup>1</sup>

<sup>1</sup> Prior to obtaining a Title V permit, the source was subject to Regulation 2.17 and had already accepted synthetic minor limits of 10 tons during any consecutive 12-month period for Single HAP, 25 tons during any consecutive 12-month period for Total HAP, and 100 tons during any consecutive 12-month period for PM/PM<sub>10</sub>/PM<sub>2.5</sub>, NO<sub>x</sub>, and VOC.

- (c) Pursuant to Regulation 2.17, section 5.1, the source is required to limit the plant-wide emissions of any individual HAP to less than 10 tons during any consecutive 12-month period. For all HAPs combined, the source is required to limit the plant-wide emissions of all HAPs to less than 25 tons during any consecutive 12-month period.
- (d) Pursuant to Regulation 2.16, Sections 4.1.9.1 and 4.1.9.2, the source is required to monitor and maintain records of the throughput of each raw material and the HAP content for each raw material for each emission point during each calendar month and consecutive 12-month period.
- (e) Pursuant to Regulation 2.16, Section 4.1.9.3, the source is required to report the total plant-wide calendar month and consecutive 12-month emissions of PM<sub>10</sub>/PM<sub>2.5</sub>, NO<sub>x</sub>, VOC, each single HAP and total HAP for each month in the reporting period.

ii. **VOC**

Regulation 7.25 establishes a plant-wide VOC limit of 5 tons per year for all affected facilities, unless Best Available Control Technology (BACT) level of control is utilized to reduce the VOC emissions.

iii. **PM**

For emission points subject to Regulation 7.08 for PM, the PM emission standards are calculated per section 3.1.2. The equation to calculate the hourly PM emission limit is  $E = 3.59 * P^{0.62}$ , where E is the allowable lb/hr PM emission limit and P is the process weight rate expressed in tons/hr.

$$E = 3.59 (P)^{0.62} = 3.59 (1350 \text{ lb/hr} / 2000 \text{ lb/ton})^{0.62} = 2.81 \text{ lb/hr}$$

iv. **Opacity**

Regulation 7.08, section 3.1.1 establishes a standard for opacity to not equal or exceed 20%.

v. **NO<sub>x</sub>**

Regulation 7.08, section 4.1 establishes a NO<sub>x</sub> emission limit of 300 ppmv, expressed as NO<sub>2</sub>.

vi. **HAP**

Per Regulation 5.02 section 4.127, the source is subject to 40 CFR 63, Subpart VVVVVV.

vii. **TAC**

Regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23 (STAR Program) establish requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards. Clariant submitted potential emissions calculation with their application for all TACs associated with this project. The potential Copper emissions cannot exceed *de minimis* levels uncontrolled. The potential uncontrolled triethylamine emissions from HT-203-W70-201, HT-203-W70-301, HT-203-W70-501, HT-203-W23-534, & HT-203-W23-542 and uncontrolled nitric acid emissions from DR-203-W70-302 & CV-203-W70-301 can exceed *de minimis* levels for this project as described in Regulation 5.21 Section 2; therefore, the Company requested operational limits to remain below *de minimis*. The following TACs were identified in the application for this project:

TAC	Abbreviation	TAC Category
Copper & Copper Compounds	Cu	2
Nitric Acid	HNO <sub>3</sub>	2
Triethylamine	TEA	4

**III. Other Requirements**

1. **Temporary Sources:** The source did not request to operate any temporary facilities.
2. **Short Term Activities:** The source did not report any short term activities.
3. **Emissions Trading:** N/A
4. **Alternative Operating Scenarios:** The source did not request to operate under any alternative operating scenarios.

5. **Compliance History:**

Date	Description	Penalty	Status
04/11/2007	Exceeding ASL for Nickel Oxide	\$1000	In compliance
09/08/2010	Visible NO <sub>x</sub> plume	\$1000	In compliance

6. **Insignificant Activities**

There are no insignificant activities associated with this construction project.