

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

M453543878

FACILITY: BASF CORPORATION		SRN / ID: M4535
LOCATION: 1512 JOHN A PAPALAS DR, LINCOLN PARK		DISTRICT: Detroit
CITY: LINCOLN PARK		COUNTY: WAYNE
CONTACT: Bret Ronek , Training Coordinator/Interim Site Manager		ACTIVITY DATE: 03/29/2018
STAFF: Jonathan Lamb	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Targeted inspection, FY 2018		
RESOLVED COMPLAINTS:		

DATE OF INSPECTION: March 29, 2018

INSPECTED BY: Jonathan Lamb, AQD

PERSONNEL PRESENT: Todd Sitko, Interim Site Manager/Training Coordinator; Aaron Miller, Maintenance Manager

ENVIRONMENTAL CONTACT: Bryan Hughes (bryan.hughes@basf.com)

FACILITY PHONE NUMBER: (313) 382-4250

FACILITY FAX NUMBER: (313) 382-6374

FACILITY WEBSITE: www.catalysts.basf.com

FACILITY BACKGROUND:

BASF acquired this facility from Englehard West as part of their Catalyst Division in June 2006. Operations remained basically the same: the facility processes spent catalyst from catalytic converters to reclaim precious metals, mainly platinum, palladium, and rubeidum. The facility operates in a light industrial/business complex near I-75 and Southfield Road. The facility operates two shifts, 7 AM to 11 PM, Monday through Friday. There are currently 17 employees on site.

COMPLAINT/COMPLIANCE HISTORY:

There have not been any complaints since the last inspection in 2012. There are no outstanding consent orders or violation notices.

PROCESS/EQUIPMENT DESCRIPTION:

The facility receives scrap catalyst from used catalytic converters and catalytic production wastes from various customers. While some of the catalyst is received in bulk, some is still encased in a metal "shell" (usually, a muffler) and must go through "decanning" (EUDECANNING). For the decanning process, a plasma torch is used to cut off one end of the muffler, then a shear is used to cut the muffler in half, which causes each half to be "pinched" closed. Another shear is then used to "unpinch" each half so the catalyst can be removed manually. There are two shears for cutting and two for opening. Since the last inspection in 2012, the shears were relocated to an elevated platform and are enclosed to further minimize emissions. There are two identical Torit DFT 3-12 cartridge dust collectors, one for each pair of shears, which are vented through stacks on the roof. Metal scrap from the decanning process is sent to a scrap metal recycler.

Reclaimed catalyst is processed in the "milling" area (EUMILLING). Catalyst is put into a hopper and fed into a lump crusher, which breaks the catalyst into 1" size pieces. The crushed catalyst is then sent via a conveyor into a roller mill, where the catalyst is ground into a fine (~60 mesh) powder. Emissions from the crusher and roller mill are controlled by a Torit 3-24 cartridge dust collector. After milling, the ground catalyst is gravity-fed into 1,600-2,000-pound bags and prepared to ship out from processing.

Prior to shipping the milled product out, the product needs to be analyzed to make sure it meets customer specifications, this is done at the "sample return unit" (EUSRU). A portion of the milled product is put into a drum and mixed in a "mixing blender", which is controlled by a small cartridge dust collector (Standard Air Systems P-8 Cartridge Filter System). A 1-kilogram sample is taken from this mixed batch and sent to a lab for a precious metal assay to determine the monetary value of the batch; this assay takes approximately 10 days. Once the value is determined and the customer agrees to the price, the bags are shipped to another BASF processing facility in Seneca, South Carolina, where the precious metals are extracted from the ceramic powder.

Any particulate collected by the dust collectors is recycled back into the process, since it is considered product,

not a waste. The dust collectors are pulsed after each batch and the collected dust added to the ground catalyst to keep all the catalyst processed with the same customer batch.

The facility added additional space in the past couple years, but this area is strictly for storage; no processing is done in this area.

APPLICABLE RULES/ PERMIT CONDITIONS:

BASF was issued PTI No. 35-09C on November 9, 2016. This permit modified the previous permit (PTI No. 35-09B) by replacing the EUDECANNING cartridge dust collector with two new, more efficient cartridge dust collectors and change the stack dimensions.

Processing and emission records from April 2016 through March 2018 were reviewed to determine compliance during this inspection (copies of these records can be found in the facility file):

PTI No. 35-09C, Special Conditions:

EUDECANNING:

I. Emission Limits:

1. NOT DETERMINED. Testing has not been requested to determine compliance with the instantaneous PM emission rate of 0.005 grains/dscf. However, no visible emissions were observed and the dust collectors are properly operated and maintained, so this condition is assumed to be in compliance. In addition, all dust created during the operation is considered potential "product"; therefore, the company has incentive to keep emissions as minimal as possible.
2. IN COMPLIANCE. 12-month rolling total PM10 emissions are well below the permit limit of 2.5 tons. At the time of inspection, the 12-month rolling total PM emissions were 1.53×10^{-4} tons (0.306 pounds) in the 12-month rolling time period ending March 2018, calculated based on amount of catalyst processed and using a control efficiency of 99.999% at 0.5 microns.
3. IN COMPLIANCE. No visible emissions observed from the dust collector stacks.

II. Material Limits: NA

III. Process/Operational Restrictions: NA

IV. Design/Equipment Parameters:

1. IN COMPLIANCE. Cartridge filter dust collectors are installed, maintained, and operated in a satisfactory manner. Facility follows the approved baghouse operation and maintenance plan.

V. Testing/Sampling:

1. NOT EVALUATED. Testing for particulate emissions has not been requested by AQD at this time.

VI. Monitoring/Recordkeeping:

1. IN COMPLIANCE. Records of catalyst processed and emission calculations are maintained on a monthly and 12-month rolling basis, as required.
2. IN COMPLIANCE. Facility maintains records of the emission calculations used for determining the particulate emission rates on a monthly and 12-month rolling total basis.
3. IN COMPLIANCE. Facility maintains a log of all maintenance and repair activities performed on the dust collection system, including a schedule for preventative maintenance and inspection. At the time of inspection, the records were in the process of being converted from a manual log to an electronic log. Records were reviewed on site during the inspection.

VII. Reporting: NA

VIII. Stack/Vent Requirements:

- 1 and 2. IN COMPLIANCE. Stack dimensions of SVDECANNING1 and SVDECANNING2 appear to meet permit

specifications.

IX. Other Requirements: NA

EUMILLING:

I. Emission Limits:

1. NOT DETERMINED. Testing has not been requested to determine compliance with the instantaneous PM emission rate of 0.005 grains/dscf. However, no visible emissions were observed and the dust collector is properly operated and maintained, so this condition is assumed to be in compliance. In addition, all dust created during the operation is considered potential "product"; therefore, the company has incentive to keep emissions as minimal as possible.
2. IN COMPLIANCE. 12-month rolling total PM emissions are well below the permit limit of 2.2 tons. At the time of inspection, the 12-month rolling total PM emissions were 8.99×10^{-3} tons (17.97 pounds) in the 12-month time period ending March 2018, calculated based on amount of catalyst processed and using a control efficiency of 99.999% at 0.5 microns.
3. IN COMPLIANCE. No visible emissions observed from the dust collector stack.

II. Material Limits: NA

III. Process/Operational Restrictions: NA

IV. Design/Equipment Parameters:

1. IN COMPLIANCE. Cartridge filter dust collector is installed, maintained, and operated in a satisfactory manner. Facility follows the approved baghouse operation and maintenance plan.

V. Testing/Sampling:

1. NOT EVALUATED. Testing for particulate emissions has not been requested by AQD at this time.

VI. Monitoring/Recordkeeping:

- 1 and 2. IN COMPLIANCE. Records of emission calculations are maintained on a monthly and 12-month rolling basis, as required.

VII. Reporting: NA

VIII. Stack/Vent Requirements:

1. IN COMPLIANCE. Stack dimensions for SVMILLING appear to meet permit requirements.

IX. Other Requirements: NA

EUSRU

I. Emission Limits:

1. NOT DETERMINED. Testing has not been requested to determine compliance with the instantaneous PM emission rate of 0.005 grains/dscf. However, no visible emissions were observed and the dust collector is properly operated and maintained, so this condition is assumed to be in compliance. In addition, all dust created during the operation is considered potential "product"; therefore, the company has incentive to keep emissions as minimal as possible.
2. IN COMPLIANCE. No visible emissions observed from the dust collector stack.

II. Material Limits: NA

III. Process/Operational Restrictions: NA

