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N1060 MANILA

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

N106049591

11100010001		
FACILITY: BASF CORP		SRN / ID: N1060
LOCATION: 13000 LEVAN ROAD, LIVONIA		DISTRICT: Detroit
CITY: LIVONIA		COUNTY: WAYNE
CONTACT: Brandie Baker , EHS Specialist		<b>ACTIVITY DATE:</b> 05/22/2019
STAFF: Jill Zimmerman	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Target inspection and stack test		
RESOLVED COMPLAINTS:		

DATE OF INSPECTION TIME OF INSPECTION

May 22, 2019 9:45 am

LEVEL OF INSPECTION

NAICS CODE EPA POLLUTANT CLASS 325211

INSPECTED BY

VOC

Jill Zimmerman

PERSONNEL PRESENT

Tom Lynch, Site Manager

Mariana Ruhno, EHS Specialist

Brandie Baker, EHS Specialist

FACILITY PHONE NUMBER

EMAIL CONTACT

734-591-5561

thomas.lynch@basf.com mariana.runho@basf.com brandie.baker@basf.com

# **FACILITY BACKGROUND**

BASF is a chemical blending facility. The facility is located in Livonia, on Levan Road, just south of Schoolcraft Road. The facility is currently operating as a synthetic minor facility operating two different mixing processes, isocyanate and resin.

#### PERSONAL PROTECTION EQUIPMENT

During this onsite inspection, I wore steel-toed shoes, a hard hat and safety glasses.

## **COMPLAINT/COMPLIANCE HISTORY**

No complaints have been received regarding this facility since the last time that it was inspected.

#### **OUTSTANDING VNs**

No Violation Notices (VN) have been issued regarding this facility since the last time that it was inspected.

#### PROCESS EQUIPMENT AND CONTROLS

BASF is a mixing facility. Different chemicals are added to a batch reactor, where they react to achieve the desired final product. The isocyanate process occurs on the west side of the facility and the resins process occurs on the east side of the facility. There are over thirty storage, blending, and reactor tanks in various sizes.

The isocyanate mixing process begins when the raw materials, including methylene diphenyl diisocyanate (MDI), polyol resin, and catalysts combine. Raw materials are brought to the facility either on a railcar or a truck. There are seven reactors to create the final product, liquid urethane. The reaction vessels and any transporting of raw materials are controlled by mist eliminators. The carbon adsorption equipment was removed and replaced by the mist eliminators when the most recent permit was issued.

The resin operations include the raw materials polyol resin, blowing agent HFC-134a and HFC-245fa and liquid and powder additives. There are not reactions in this operation, just mixing the chemicals in one of twelve resin blending vessels.

A 500 kW natural gas fired emergency generator was recently installed at this location. Emission testing was performed during the onsite inspection.

#### **INSPECTION NARRATIVE**

I arrived at the facility and met with Ms. Brandi Baker and Mr. Tom Lynch. Mr. Lynch explained the process at the facility, which is mostly different batch mixing of different chemicals in reactors. He used an aerial photograph to point out the key area of the facility.

Next we walked through the facility, which included raw material storage, and final product storage. There were also large reactor vessels where the different reactions take place. Depending on the customer's requests, different batches are made. On the isocyanate side of the facility, the chemicals react with each other to create the final desired product. On the resin side, the chemicals are mixed together to create the final product, though no reactions occur in this area of the facility.

The emergency generator is located in front of the building near the northwest corner of the property. Because of the emission testing, the emergency generator was operating during the onsite inspection. Typically, the generator will be tested monthly for approximately 30 minutes. Otherwise the generator will only be used during times of lost power to the facility.

# APPLICABLE RULES/PERMIT CONDITIONS

The facility is currently operating under opt-out permit 198-00H, which was issued on April 2, 2015.

FGISOCYANATE – This flexible group contains all equipment associated with the isocyanate side of the process, including reactors, storage tanks, loading and drumming operations, and various miscellaneous activities.

- I. Emission Limits Compliance. Based on the records that were collected, no emission unit has exceeded the MDI emission limit for the past twelve months. During 2018, less than 1 pound of MDI was emitted. These records are attached to this report.
- II. Material Limits
  - 1. Compliance. During 2018, the EUISOREACTORS had a throughput of less than 19,000 tons of MDI, which is less than the permit limit of 50,000 tons of MDI.
  - 2. Compliance. During the past twelve months, the throughput of MDI for EUISODRUMMING1 and EUISODRUMMING2 was less than 19,5000 tons, which is less than the permit limit of 50,000 tons.
- III. Process/Operational Restriction Compliance. The storage tanks at the facility comply with 40 CFR Part 60 Subparts A and Kb.
- IV. Design/Equipment Parameters NA
- V. Testing/Sampling NA
- VI. Monitoring/Recordkeeping
  - 1. Compliance. The monthly and 12-month rolling time period calculation MDI emission records for EUISODRUMMING1, EUISODRUMMING2, EUISOSCRAPHOOD, EUEXHAUSTVENT, EUWASTEHOOD, and EUMIXINGBOOTH are properly maintained. A copy of the records collected

is attached to this report.

- 2. Compliance. The monthly and 12-month rolling time period records of the MDI throughput for EUISOREACTORS, EUISODRUMMING1, and EUISODRUMMING2 are properly maintained. A copy of the records collected is attached to this report.
- VII. Reporting NA
- VIII. Stack/Vent Restriction Compliance. All stacks have been installed at this facility to meet the permitted requirements. No modifications have been made to these stacks since the last inspection.
- IX. Other Requirements NA

FGRESIN – These emissions units make up the resins sections of the facility and include fixed roof resin blend tanks, fugitive emissions and bulk tanker resin emptying and fillings.

- I. Emission Limits NA
- II. Material Limits -
  - 1. Compliance. The facility reported a throughput of polyol resin of less than 27,000 tons in 2018, which is less than 130,000 tons per year.
  - 2. Compliance. The facility reported a throughput of triethylamine of 6,360 pounds during the past twelve months (May 2018 though April 2019). The highest month was 771 pounds in October 2018. This value is less than the permit limit of 3,179 pounds per month.
- III. Process / Operational Restrictions NA
- IV. Design / Equipment Parameters Compliance. The facility operates this flexible reporting group under the required conditions, which include all tanks having a fixed roof.
- V. Testing / Sampling NA
- VI. Monitoring / Recordkeeping Compliance. The facility keeps records for the polyol resin and trimethylamine throughput. These records are attached to this report.
- VII. Reporting NA
- VIII. Stack / Vent Restrictions Compliance. All stacks have been installed at this facility to meet the permitted requirements. No modifications have been made to these stacks since the last inspection.
- IX. Other Requirements NA

#### **FGFACILITY**

- I. Emission Limits Compliance. The facility is limited to emitting less than 90 tons per year of VOC. During 2018 the facility emitted less than 1 ton of VOCs. The facility is limited to emitting less than 9 tons per year of an individual HAP and less than 22.5 tons per year of aggregated HAPS. During 2018, the facility emitted less than 1 ton of all HAPS.
- II. Material Limits NA
- III. Process / Operational Restrictions Compliance. The facility promptly cleans up all spills of MDI in an effort to minimize the amount emitted. During the onsite inspection no MDI spills were observed. The railcars delivering materials must be sealed to Department of Transportation (DOT) specifications. During the onsite inspection, there were not any railcars unloading. The facility has submitted a MAP plan and there is no evidence that this plan is not being followed.
- IV. Design / Equipment Parameters NA
- V. Testing / Sampling NA
- VI. Monitoring / Recordkeeping Compliance. The facility maintains records for the throughout and emissions of all HAP containing materials at the facility. A copy of

these records is attached to this report.

VII. Reporting – NA

VIII. Stack / Vent Restrictions - NA

IX. Other Requirements – NA

The 500kW emergency generator is subject to NSPS JJJJ. A stack test was performed to verify emission on May 23, 2019. The engine is natural gas fired and uses a 770 horsepower engine with a fuel consumption of 7018 cfh. This engine is exempt from permitting by Rule 285 (g) since it is smaller than 10,000,000 Btu / hr.

### **MAERS REPORT REVIEW**

The MAERS was received on March 8, 2019 and was reviewed on May 30, 2019. This report was received on time. It appears that all emissions were reported accurately. Supplied data supported the reported emissions.

#### FINAL COMPLIANCE DETERMINATION

BASF appears to be operating in compliance with all state and federal regulations as well as all permit conditions.