

Facility Name: Cabot Corporation
Facility Location: 700 East U.S. Highway 36, Tuscola, Illinois
Date of Inspection: May 9, 2019



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

DATE: MAY 31 2019

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Cabot Corporation, Tuscola, Illinois

FROM: Eleanor Kane, Environmental Engineer
AECAB (MI/WT)

THRU: Sarah Marshall, Section Chief
AECAB (MI/WT)

TO: File

BASIC INFORMATION

Facility Name: Cabot Corporation

Facility Location: 700 East U.S. Highway 36, Tuscola, Illinois

Date of Inspection: May 9, 2019

EPA Inspectors:

1. Eleanor Kane, Environmental Engineer
2. Victoria Nelson, Environmental Engineer

Other Attendees:

1. Tammy Bennet, Environmental Manager, Cabot Corporation
2. Todd Ray, Senior Production Engineer, Cabot Corporation
3. Carl Troike, Facilities General Manager, Cabot Corporation
4. John Butcher, Production Engineer, Cabot Corporation

Contact Email Address: tammy.bennett@cabotcorp.com

Purpose of Inspection: Evaluate compliance with the Clean Air Act, the facility's Title V Permit, and the NESHAP for Hydrochloric Acid Production.

Facility Type: Chemical Plant

Facility Name: Cabot Corporation
Facility Location: 700 East U.S. Highway 36, Tuscola, Illinois
Date of Inspection: May 9, 2019

Arrival Time: 8:50am
Departure Time: 12:35pm

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Credentials Presented
- ☒ CBI warning to facility provided

The following information was obtained verbally from facility staff:

Process Description:

Cabot produces a variety of fumed silica products by flame hydrolysis. At the AB and DE lines, raw materials including silicontetrachloride, hexamethyldisilazane, and methyltrichlorosilane are combusted with air and hydrogen. Immediately following the main reaction, methane and hydrogen are injected into the process stream to convert byproduct chlorine (Cl_2) to hydrochloric acid (HCl), which can be removed as a saleable product. After the gas injection, the silica solids are sent to a calciner (at AB) or a fluid bed reactor (at DE), and the gases are sent to the acid side. In the acid area, three (at DE) or four (at AB) towers are used to concentrate the HCl gases to 32% for sale. The emissions from AB and DE are combined to a single stack and monitored for chlorine constituents using mass spectrometers. The HCl production process is subject to the NESHAP for Hydrochloric Acid Production (Part 63 Subpart NNNNN).

At the FGHI units and TDC units, the solid material from the AB and DE lines (or similar material from other plants) is further treated using various chemicals and milling processes. Depending on the treatment chemicals, these processes are potential sources of ammonia and/or formaldehyde.

Staff Interview:

Due to the safety hazards involved in transporting the raw materials necessary for the flame hydrolysis process, Cabot plans to move the production processes at the AB and DE lines to a new facility being built in Kentucky. Once the shift is finalized, the facility will no longer have any processes that are subject to Subpart NNNNN requirements. Production at FGHI and TDC will continue, potentially with changes.

A hydrogen production plant is collocated with the Cabot facility, but is operated by a separate company. They have separate emission calculations and reporting.

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TOUR INFORMATION

EPA toured the facility: Yes

Photos and/or Videos: were taken during the inspection.

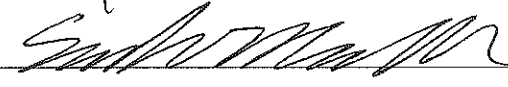
CLOSING CONFERENCE

Requested documents:

- Site Plan, including emission points (if possible)
- Site Specific Monitoring Plan
- Start Up / Shut Down Plan
- LDAR Plan and 2019 Q1 Reports and any follow up
- Notice of Compliance Status for Subpart NNNNN
- Testing reports from 2017 emissions testing, including evaluation for K16
- Emissions Tracking from 2018

SIGNATURES

Report Author:  Date: 5/30/19

Section Chief:  Date: 5/30/19

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APPENDIX A: DIGITAL IMAGE LOG

1. Photographer Name: Victoria Nelson	2. Date of Inspection: May 9, 2019
3. Company/Facility Name: Cabot Corporation	4. Street Address, City, State: 700 East U.S. Highway 36, Tuscola, Illinois
5. Number of Images: 2	6. Archival Record Location: C:\Users\Vnelson\OneDrive - Environmental Protection Agency (EPA)\Targeting and Inspections\Cabot Corp

Image Number	File Name	Date and Time (Central Time)	Latitude and Longitude	Description of Image
1	P5090004.JPG	2019:05:09 11:16:48	39.795317, -88.338437	MACT Compliance Continuous Monitoring Control Panel
2	P5090005.JPG	2019:05:09 11:17:07	39.795317, -88.338437	Continuous Emissions Monitoring Control Panel