



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

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Vibrantz Technologies, Cleveland, Ohio

FROM: Patrick Miller, Environmental Engineer
AECAB (MN/OH)

THRU: Brian Dickens, Section Supervisor
AECAB (MN/OH)

TO: File

BASIC INFORMATION

Facility Name: Vibrantz Technologies f.k.a. Ferro Corporation (Vibrantz)

Facility Location: 4150 E. 56th Street, Cleveland, OH 44105

Date of Inspection: 3/27/2023

EPA Inspector(s):

1. Patrick Miller
2. Tess Russell

Other Attendees:

1. Carolina Garrido, Operations Manager

Contact Email Address: carolina.garrido@vibrantz.com

Purpose of Inspection: Determine if Ferro is a major source of hazardous air pollutants (HAP)

Facility Type: Glass frit manufacturer

Regulations Central to Inspection: 40 C.F.R. 63.2, major source means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.

Facility Name: Vibrantz Technologies
Facility Location: 4150 E. 56th Street, Cleveland, OH 44105
Date of Inspection: March 27, 2023

Arrival Time: 1:30 PM

Departure Time: 3:30 PM

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☐ Provided Small Business Resource Information Sheet
- ☒ Small Business Resource Information Sheet not provided. Reason: Not a small business
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Ms. Garrido unless otherwise noted.

Company Ownership: When the purchase of Ferro Corporation by Prince International Corporation, a portfolio company of American Securities, LLC, was finalized in April 2022 a new company was formed named Vibrantz Technologies. Vibrantz Technologies is the combination of Ferro Corporation and Chromaflo Technologies under Prince International.

Process Description:

Vibrantz produces glass frit which is a raw material for conductor, insulators, or dental products. Frit is produced by melting quartz, silica, and other raw materials together in either electric crucibles or continuous melters. Electric melters are used to avoid introducing impurities in the frit. Some of the frit produced contains lead. Leaded frit is only produced in crucibles. There is a separate area where the lead powder is handled and charged in the melter with a dedicated dust collector equipped with a bag leak detection system. The filter for the lead dust collector is replaced annually. Workers in the leaded frit area use powered air-purifying respirators. Additional dust collectors are used throughout the facility and filters are replaced every two years. Daily checks for differential pressure and visible emissions are conducted on each dust collector.

Melting takes anywhere from 1.5 – 48 hours depending on the product. After melting the molten glass is cooled with water where it solidifies and cracks into pieces. The cooled glass is then processed in either a dry, wet, or solvent mill. Isopropyl alcohol and methanol are used in solvent milling which produces a better particle size in the final product. The mills range in size from 12 to 300 gallons. After milling, the frit is dried in electric dryers. A wet scrubber is used to control emissions from the drier in the solvent mill room. Daily checks are performed on the wet scrubber for differential pressure and water flow in gallons per minute. Dust collectors are used to control emissions from the dry mills.

After drying the frit is screened in one of 8 screeners. One screener is dedicated for leaded frit. The screeners are controlled by dust collectors. After screening the frit is packaged in a range of

Facility Name: Vibrantz Technologies
Facility Location: 4150 E. 56th Street, Cleveland, OH 44105
Date of Inspection: March 27, 2023

containers from jars to 5-gallon buckets to super sacs. The final product looks like a white powder.

Staff Interview: Production has been decreasing at the facility. In 2020, Ferro Corporation moved the procelain and enamel operations from the Cleveland, OH facility to Mexico. The procelain and enamel operations were the largest sources of emissions at the Cleveland, OH facility.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:

The facility was only operating crucible melting at the time of the inspection. EPA requested emissions calculations per emission source and the emission factors used in the calculations to determine the quantity of air pollutants emitted, including HAP. HAP found at the facility include lead and methanol. The lead is used as a raw material in powdered form during melting. Methanol is used as one of the solvents during milling.

Photos and/or Videos: were not taken during the inspection.

Field Measurements: were not taken during this inspection.

CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the facility

Requested documents:

- Emission calculations per emission source for the past two years through March 31, 2023 (1/1/2021- 3/31/2023)
- All emission factors used and how they were developed (AP-42, site specific stack testings, etc.) for each emission source
- Usage for isopropyl alcohol and methanol (1/1/2021- 3/31/2023)
- Most recent stack tests for dust collectors and wet scrubber
- Differential pressure and visible emission checks for all dust collectors (1/1/2021- 3/31/2023)
- Differential pressure and flow for the wet scrubber (1/1/2021- 3/31/2023)
- Bag leak detection records for lead dust collectors (1/1/2021- 3/31/2023)
- SDS sheets for the solvents and lead
- Copy of the most recent hygiene study

Facility Name: Vibrantz Technologies
Facility Location: 4150 E. 56th Street, Cleveland, OH 44105
Date of Inspection: March 27, 2023

DIGITAL SIGNATURES

Report Author: **PATRICK
MILLER**  Digitally signed by
PATRICK MILLER
Date: 2023.05.24
16:45:30 -05'00'

Section Supervisor: **Brian
Dickens**  Digitally signed by Brian
Dickens
Date: 2023.05.25
06:18:55 -05'00'
