

Air Sampling at National Engineering Products

Public Meeting
February 27, 2023



GOVERNMENT OF THE
DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Agenda

Introductions of Presenters

Presentation

- a. Facility Background
- b. Air Sampling Plan and Goals
- c. Results Overview
- d. Next Steps

Question and Answer Session

DOEE Air Quality Division – What We Do



What is National Engineering Products?

NATIONAL ENGINEERING PRODUCTS INCORPORATED

Home

COPALTITE

COPALTITE - DATA

SDS for Copaltite

NEPSEAL 30

SDS for Nepseal

PATTERN RELEASE 202

SDS for Pattern Release

Company Information

Contact Information

The only manufacturer of

COPALTITE

NEPSEAL 30

PATTERN RELEASE 202*

4784

National Engineering Products Inc., P.O. Box 1855
Clarksburg, MD 20871-1855 Phone: 301-656-1688
Email: nepi.customerservice@gmail.com

- Facility at 1950 Capitol Ave NE began operations in the 1930s
 - Produces batches to order, typically ~1-2 times per month for each product
 - Other facility operations include bottling, labeling, packaging, shipping, and processing orders
- * Facility has not produced since 2018 and they are not planning to produce again

<http://www.nationalengineeringproducts.com/>

Air Sampling Objectives

Measure emissions of known pollutants from the production process based on facility documentation

Identify any possible byproducts from the process and measure emissions

Identify health risks to the community associated with the facility

Capture a worst-case scenario of facility emissions

Air Sampling – DOEE & Tetra Tech

COPALTITE - JULY 14, 2022

1. Indoor production floor
2. Exhaust ports
3. Community exposure

NEPSEAL - AUGUST 1, 2022

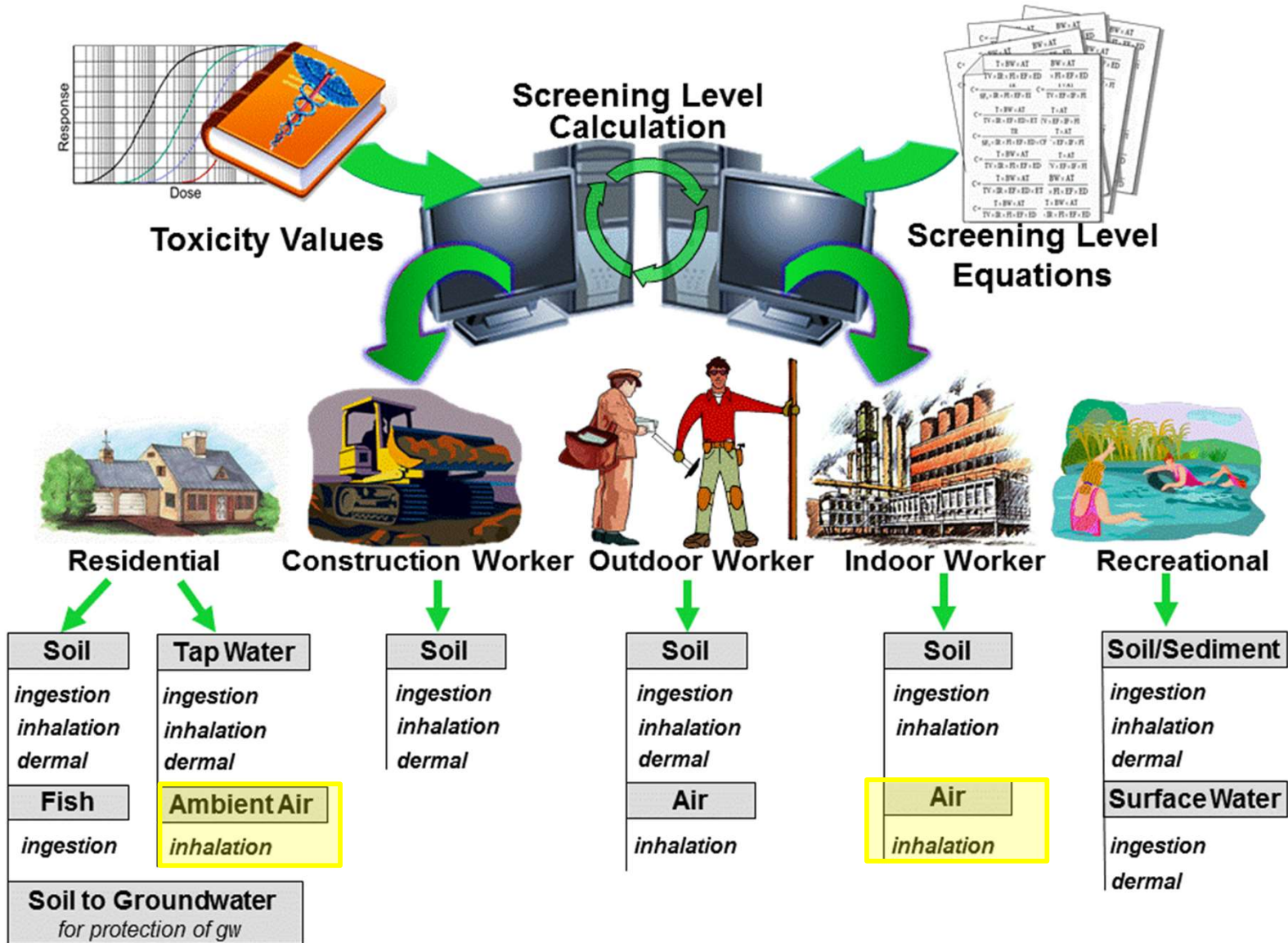
1. Indoor production floor
2. Exhaust ports



Legend

① Exhaust Port (E1)	Ⓟ Product Vats	⬜ Approximate Property Boundary
② Exhaust Port (E2)	① PF-1	▨ Drum Storage Area
③ Hood Ventilator (E3)	② PF-2	▬ Garage Door
Ⓚ Kiln	■ Sample Location	
Ⓜ Mixer		

EPA Regional Screening Levels (RSLs)



Notes about our Analysis

- Just because a pollutant is “detected” does not mean it is present at unhealthy levels.
- Just because a pollutant is present above the screening level does not mean it is present at unhealthy levels.
 - If a measurement exceeded the Regional Screening Level, we also compared to other health-based standards, including:
 - Occupational Health and Safety Administration (OSHA) Permissible Exposure Levels (PELs), and
 - American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs)
 - National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limits (RELs)
- If a pollutant does not have a Regional Screening Level, we compared the concentration measured to other health-based standards

Copaltite Sampling Results

Copaltite: Production Floor Sampling

13 compounds were detected

2 compounds were identified at concentrations above the industrial screening level

All concentrations are below OSHA and ACGIH standards

- Freon 12
(Dichlorodifluoromethane)
- Chloromethane
- n-Butane
- Ethanol
- Isopropyl alcohol(2-Propanol)
- Acetone
- **Acetonitrile**
- Methylene chloride
- n-Hexane
- 2-Butanone(MEK)
- Ethyl acetate
- Toluene
- **Formaldehyde**

Copaltite: Exhaust Sampling

- The purpose of these samples is to identify how many and how much of each pollutant is being emitted for permitting purposes.
- Various VOCs were detected, though were exhausting at low levels.



Copaltite: Outdoor/Community Sampling

Upwind Monitor (CE4)

- 11 compounds detected
- 4 above residential screening levels
 - Isopropyl alcohol (2-Propanol)
 - Vinyl acetate
 - Ethyl acetate
 - Benzene

Pollutants identified upwind but not downwind of the facility indicates that the facility is likely not the source of these pollutants.



Copaltite: Outdoor/Community Sampling



Downwind Monitors (CE1, CE2, CE3)

- 13 compounds identified
- 2 above residential screening levels
 - Acetonitrile
 - Formaldehyde

These compounds were identified on the production floor as well, indicating they are likely from the facility.

Copaltite: Acetonitrile

Maximum outdoor concentration: 19 ug/m³

Maximum production floor concentration: 38 ug/m³

Residential screening level: 6.3 ug/m³

Odor threshold: 67,100 ug/m³

OSHA Permissible Exposure Levels: 70,000 ug/m³

Copaltite: Formaldehyde

Maximum outdoor concentration: 0.01 mg/m³

Maximum production floor concentration: 0.048 mg/m³

Residential screening level: 0.00022 mg/m³

Odor threshold: 0.063 mg/m³

OSHA Permissible Exposure Levels: 0.921 mg/m³

Nepseal Sampling Results

Nepseal: Production Floor Sampling

12 compounds were detected

1 compound was identified at concentrations above the industrial screening level

All concentrations are below OSHA and ACGIH standards

- Chloromethane
- n-Butane
- Ethanol
- Isopropyl alcohol(2-Propanol)
- Acetone
- **Methylene chloride**
- n-Hexane
- 2-Butanone(MEK)
- Ethyl acetate
- n-Heptane
- 4-Methyl-2-pentanone(MIBK)
- Toluene

Nepseal: Methylene Chloride

Maximum production floor concentration: 370 ug/m³

Industrial screening level: 260 ug/m³

Odor threshold: 695,000 ug/m³

OSHA Permissible Exposure Levels: 86,840 ug/m³

Nepseal: Exhaust Sampling

- The purpose of these samples is to identify how many and how much of each pollutant is being emitted.
- Various VOCs were detected, though exhausting at low levels.



Summary

- Based on the preliminary sampling results from the facility, three pollutants were measured at concentrations above screening levels, therefore requiring further evaluation.
 - Formaldehyde, acetonitrile, and methylene chloride
- If further analysis identifies that additional controls are needed at the facility to reduce emissions, these would be included in a permit.
- Upwind samples indicate that other sources are likely contributing to pollutant concentrations in the vicinity.

Next Steps

- Coordinate with EPA on additional testing needs
 - Additional testing for specific pollutants with more precise methods
 - Measuring background levels when the facility is not manufacturing products
- Evaluate potential emissions controls for the facility
- Work with EPA to develop a broader air quality monitoring plan for the Ivy City community

Other Air Quality Projects in Ivy City

Ivy Rail Yard Switcher Repowers

Hyperlocal Mobile Monitoring

**EPA Competitive ARPA Community
Monitoring Grant**

Air Quality Improvement Zone Regulations

Multi-purpose Grant

Question & Answer