

**INFORMATION RELATIVE TO
THE DRAFT TITLE V OPERATING PERMIT
April 7, 2025**

GENERAL FACILITY INFORMATION

Facility Name: Nanocor, Inc.

Facility Address:

10937 Darracott Road

Aberdeen, MS 39730

County: Monroe

SIC Code(s): 3295

NAICS Code(s): 327992

APPLICATION SUMMARY

Permit No.: 1840-00003

Permit Action: Significant Modification

Permit Folder: PER20240001

Application Receipt Date: June 27, 2024

Application Deemed Complete: July 18,
2024

CBI Submitted?: No

NSPS (Part 60): Subpart OOO

NESHAP (Part 61): N/A

NESHAP (Part 63): N/A

112(r) / RMP: N/A

Other: PSD Avoidance Limit

FACILITY DESCRIPTION

Nanocor, Inc. is an existing facility that is engaged in the processing of clay nanoparticles. The facility operations fall under SIC Code 3295 – Minerals and Earths, Ground or Otherwise Treated and NAICS Code 212323 – Kaolin, Clay, and Ceramic and Refractory Minerals Mining.

TITLE V SOURCE APPLICABILITY

The facility's potential-to-emit (PTE) exceeds the Title V major source threshold of 100 tons per year (tpy) for each of the following criteria air pollutants: Volatile Organic Compounds (VOC). The facility's potential-to-emit hazardous air pollutants (HAPs) does not exceed the major source threshold of 25 tpy of total HAPs and 10 tpy for any individual HAP.

Facility-Wide Potential-to-Emit Summary¹

Pollutant	PTE Emissions (tons/yr)
Particulate Matter (TSP)	69.51
PM ₁₀	83.14
PM _{2.5}	83.14
Sulfur Dioxide (SO ₂)	0.094
Nitrogen Oxides (NO _x)	15.57
Carbon Monoxide (CO)	13.07
Volatile Organic Compounds (VOC)	249.0
Total Reduced Sulfur (TRS)	0.75
Lead	--
CFC/HCFC	--
Total HAP	0.89

¹ The PTE emissions reflect any emission limits or enforceable restrictions included in the proposed permit.

PREVENTION OF SIGNIFICANT DETERIORATION (PSD) APPLICABILITY

The facility is not one (1) of the 28 categorical facilities listed in 40 CFR 52.21(b)(1)(i)(c)(iii); therefore, the applicable PSD major source threshold is 250 tpy. The facility has the maximum uncontrolled potential to emit more than the noted threshold for PM and VOCs. As such, Nanocor has implemented the following restrictions to avoid triggering PSD applicability.

- Air pollution control devices (i.e. baghouses and bin vent filters) are implemented on process equipment to greatly minimize PM emissions.
- The facility has elected to limit facility-wide VOC emissions from solvent / coating usage to no more than 249.0 tpy (based on a rolling 12-month period).

Because of the noted restrictions, Nanocor is considered a moderate PSD stationary source. However, this permitting action will not affect the facility's PSD status.

FACILITY MODIFICATIONS AND/OR PERMIT CHANGES

Title V Significant Modification:

Nanocor currently operates under the VOC emission limit of 204.17 tpy for its fluid bed dryer on its wet (Nanocor) process (Emission Point AA-011) and band dryer on its dry (CETCO) process (Emission Point AA-101). Nanocor has requested this VOC emission limit be amended to 249.0 and change to a facility-wide limit.

502(b)(10) dated 04-18-2023:

Nanocor made a temporary change to run a pump that would increase production at the CETCO process (Emission Point AA-101). The new pump was used for an engineering trial that increased the previous 667 pounds per hour pump to 4,000 pounds per hour.

502(b)(10) dated 11-07-2023:

Nanocor replaced the BH-2151 baghouse which was used to capture PM emissions for the Nanocor Product Packaging Bin (Emission Point AA-010) and CETCO Process Operations (AA-101). The previous baghouse had a design flowrate of 4,000 CFM and was replaced with a 11,660 CFM baghouse. The new baghouse is used to comply with 40 CFR Part 60, Subpart OOO and not considered a modification according to this NSPS.

Finally, Nanocor requested on April 3, 2025, that the following emission points be removed from the permit due to the units being decommissioned:

	"NANOCOR" PROCESS
AA-010	Nanocor Product Packaging Bin [equipped with a baghouse (BH-2151)]
AA-011	9.0 MMBTU / Hour Natural Gas-Fired Fluid Bed Dryer (Ref. F-FB) [equipped with a baghouse (BH-2248)]
AA-013	Building No. 1 for Milling, Blending, and Packaging [emissions routed to a bin vent filter (BH-2264)]
AA-014	Building No. 2 for Milling, Blending, and Packaging [emissions routed to a bin vent filter (BH-2306)]
AA-015	Building No. 3 for Milling, Blending, and Packaging [emissions routed to a bin vent filter (BH-2343)]
AA-016	Process Scrubber (SB-2184) [assists in dissolving processed product; <u>not an air pollution control device</u>]

COMPLIANCE ASSURANCE MONITORING (CAM) APPLICABILITY

40 CFR Part 64 specifies the requirements for CAM. The general applicability of this rule can be found in 40 CFR 64.2 and requires a Title V source to comply with the CAM requirements if all three of the following criteria are met for a pollutant-specific emission unit (PSEU):

1. The unit is subject to an emission limitation or standard for a regulated air pollutant other than exemptions under 40 CFR 64.2(b)(1);
2. The unit uses a control device to comply with the standard; and
3. The unit has pre-control emissions exceeding Title V major source threshold.

There is no control equipment associated with any emission units subject to an emission limit or standard at this facility, so Compliance Assurance Monitoring does not apply.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) APPLICABILITY

This significant modification permitting action is not subject to any NESHAP standards.

NEW SOURCE PERFORMANCE STANDARDS (NSPS) APPLICABILITY

This minor modification permitting action is not subject to any NSPS standards.

SPECIFIC APPLICABLE REQUIREMENTS

Emission Point(s)	Pollutant / Parameter	Limit / Standard	Monitoring Requirements
AA-000	PM (filterable)	$E = 4.1 \cdot (p^{0.67})$	It is expected that the margin of compliance for this standard will be significant given that main sources that emit PM have air pollution control devices.
	PM (filterable) PM ₁₀ / PM _{2.5} (filterable only)	Operational Requirement (Control Devices) (PSD Avoidance Limit)	The facility must conduct routine inspections on each control device and monitor the differential pressure drop weekly. Additionally, the facility will also monitor any periods of time (including date and duration) in which a control device was non-operational.
AA-000	VOCs	249.0 tpy (Rolling 12-Month Total) (PSD Avoidance Limit)	The facility must calculate and record emissions from solvent / coating usage on a monthly and rolling 12-month total basis.
AA-001 AA-002 AA-003 AA-005 AA-006 AA-007 AA-101	Opacity	≤ 7% (From Control Device Stack)	The facility must conduct visible emission evaluations on a quarterly basis.
	Opacity (fugitive emissions)	≤ 7% (From Buildings)	The facility must conduct visible emission evaluations on a quarterly basis.
AA-009 AA-025 AA-101	PM (filterable)	0.6 lbs. / MMBTU	It is expected that the margin of compliance for these standards will be significant given that natural gas is main fuel source for these dyers.