



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: April 16, 2010

RE: Nanochem Technology / 039-28766-00684

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER.dot12/03/07



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**New Source Review and Minor Source Operating
Permit
OFFICE OF AIR QUALITY**

**Nanochem Technologies
1203 Kent Street
Elkhart, Indiana 46514**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a MSOP under 326 IAC 2-6.1.

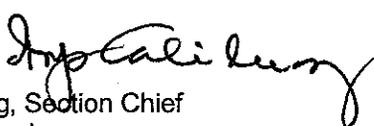
Operation Permit No.: M039-28766-00684	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: Apr. 16, 2010 Expiration Date: Apr. 16, 2015

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)][326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary paint manufacturing operation. This source does not manufacture paints containing benzene, methylene chloride and compounds of cadmium, chromium, lead or nickel.

Source Address:	1203 Kent Street, Elkhart, Indiana 46514
Mailing Address:	1203 Kent Street, Elkhart, Indiana 46514
General Source Phone Number:	574-436-2838
SIC Code:	2851
County Location:	Elkhart
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Program
	Minor Source, under PSD and Emission Offset Rules
	Minor Source, Section 112 of the Clean Air Act
	Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) paint manufacturing operation, constructed in December 2008, identified as Mixing Area 1 and consisting of the following:
- (1) Two (2) dispersers for the handling of solvent based products, identified as D1 and D2, with a maximum capacity of 340 gallons and 210 gallons and a minimum batch time of 14 hours and 12 hours, respectively, and exhausting to the indoors, with no control.
 - (2) Two (2) dispersers for the handling of water based products, identified as DW1 and DW2, with a maximum capacity of 340 gallons and 210 gallons and a minimum batch time of 14 hours and 12 hours, respectively, and exhausting to the indoors, with no control.
- Note: Maximum of three (3) dispersers can be operated at one time (due to limited availability of scales, clean up stations and equipment setup).
- (3) Four (4) mills, identified as MI-1, MI-2, MI-3, and MI-4, exhausting to the indoors, with no control.
- (b) One small batch paint manufacturing operation, approved for construction in 2010, identified as Coating Line 2, consisting of the following pieces of equipment:
- (1) Two (2) banks of hydraulic mixers, each with four mixing heads, each mixing head with a capacity of 55 gallons and a minimum batch time of 10 hours, for the handling of solvent based products, with no control.
- (c) One paint manufacturing operation, approved for construction in 2010, identified as Coating Line 3, consisting of the following pieces of equipment:

- (1) Two (2) mixers, serving four (4) tanks, each tank with a working capacity of 1000 gallons, with a minimum batch time of 12 hours, for the handling of water based products, with no control.
- (d) One (1) filling line, identified as F1, exhausting to the indoors, with no control.
- (e) QC Room - One (1) Research & Development lab mixer and mill, identified as RD1, exhausting to the indoors.
- (f) QC Room - One (1) QC lab spray booth for quality control, identified as RD2, using less than 5 gallons of paint a day, with particulate matter controlled by a dust collector, and exhausting to stack S-RD2.
- (g) One (1) product dispensing area and packaging area for the preparation of the final product with a filling station, identified as H2, with a maximum capacity of 150 gallons per hour, and exhausting to the indoors, with no control.
- (h) One (1) raw material handling area for the preparation and weighing of raw materials that consist of water, pigments solvents, etc., constructed in December 2008, identified as H1, with a maximum capacity of 2900 pounds of raw materials per hour with particulate matter controlled by a dust collector, and exhausting to the indoors.

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4]

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 when prior to the start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.
- (c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

B.4 Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, M039-28766-00684, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.5 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.6 Enforceability

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.7 Severability

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.8 Property Rights or Exclusive Privilege

This permit does not convey any property rights of any sort or any exclusive privilege.

B.9 Duty to Provide Information

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.10 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251
- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit, for the source as described in 326 IAC 1-6-3. At a minimum, the PMPs shall include:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The Permittee shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.12 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to M039-28766-00684 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

B.13 Termination of Right to Operate [326 IAC 2-6.1-7(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least one hundred twenty (120) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

B.14 Permit Renewal [326 IAC 2-6.1-7]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require an affirmation that the statements in the application are true and complete by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
 - (1) Submitted at least one hundred twenty (120) days prior to the date of the expiration of this permit; and

- (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-6, 1-4(b), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.15 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) The Permittee shall notify the OAQ no later than thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.16 Source Modification Requirement

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.17 Inspection and Entry
[326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.18 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require an affirmation that the statements in the application are true and complete by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

B.19 Annual Fee Payment [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees due no later than thirty (30) calendar days of receipt of a bill from IDEM, OAQ,
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.20 Credible Evidence [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.6 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.7 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
- (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project.

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-6.1-5(a)(2)]

C.9 Performance Testing [326 IAC 3-6]

- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date.
- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

C.11 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.12 Instrument Specifications [326 IAC 2-1.1-11]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps

C.13 Response to Excursions or Exceedances

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. This response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system);
or
 - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.

- (e) The Permittee shall record the reasonable response steps taken.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

C.15 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.16 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of

permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this permit shall be submitted to:
- Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) paint manufacturing operation, constructed in December 2008, identified as Mixing Area 1 and consisting of the following:
- (1) Two (2) dispersers for the handling of solvent based products, identified as D1 and D2, with a maximum capacity of 340 gallons and 210 gallons and a minimum batch time of 14 hours and 12 hours, respectively, and exhausting to the indoors, with no control.
 - (2) Two (2) dispersers for the handling of water based products, identified as DW1 and DW2, with a maximum capacity of 340 gallons and 210 gallons and a minimum batch time of 14 hours and 12 hours, respectively, and exhausting to the indoors, with no control.
Note: Maximum of three (3) dispersers can be operated at one time (due to limited availability of scales, clean up stations and equipment setup).
 - (3) Four (4) mills, identified as MI-1, MI-2, MI-3, and MI-4, exhausting to the indoors, with no control.
- (b) One small batch paint manufacturing operation, approved for construction in 2010, identified as Coating Line 2, consisting of the following pieces of equipment:
- (1) Two (2) banks of hydraulic mixers, each with four mixing heads, each mixing head with a capacity of 55 gallons and a minimum batch time of 10 hours, for the handling of solvent based products, with no control.
- (c) One paint manufacturing operation, approved for construction in 2010, identified as Coating Line 3, consisting of the following pieces of equipment:
- (1) Two (2) mixers, serving four (4) tanks, each tank with a working capacity of 1000 gallons, with a minimum batch time of 12 hours, for the handling of water based products, with no control.
- (d) One (1) filling line, identified as F1, exhausting to the indoors, with no control.
- (e) QC Room - One (1) Research & Development lab mixer and mill, identified as RD1, exhausting to the indoors.
- (f) QC Room - One (1) QC lab spray booth for quality control, identified as RD2, using less than 5 gallons of paint a day, with particulate matter controlled by a dust collector, and exhausting to stack S-RD2.
- (g) One (1) product dispensing area and packaging area for the preparation of the final product with a filling station, identified as H2, with a maximum capacity of 150 gallons per hour, and exhausting to the indoors, with no control.
- (h) One (1) raw material handling area for the preparation and weighing of raw materials that consist of water, pigments solvents, etc., constructed in December 2008, identified as H1, with a maximum capacity of 2900 pounds of raw materials per hour with particulate matter controlled by a dust collector, and exhausting to the indoors.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.1.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the raw material handling process (H1) shall not exceed 5.26 pounds per hour when operating at a process weight rate of 1.45 tons per hour.

The pound per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

Where E = rate of emission in pounds per hour; and
 P = process weight rate in tons per hour

Compliance Determination Requirements

D.1.2 Particulate Control

To document compliance with Condition D.1.1, the filter(s) for particulate control shall be in operation and control emissions from the raw material handling process (H1) at all times when the raw material handling process (H1) is in operation.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Nanochem Technologies
Address:	1203 Kent Street
City:	Elkhart, Indiana 46514
Phone #:	574-436-2838
MSOP #:	M039-28766-00684

I hereby certify that Nanochem Technologies is :

still in operation.

no longer in operation.

I hereby certify that Nanochem Technologies is :

in compliance with the requirements of MSOP M039-28766-00684.

not in compliance with the requirements of MSOP M039-28766-00684.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY FAX NUMBER: (317) 233-6865

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100 TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF "MALFUNCTION" AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. () _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Mail to: Permit Administration & Support Section

Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Nanochem Technologies
1203 Kent Street
Elkhart, Indiana 46514

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for _____
(Title) (Company Name)
3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____.
(Company Name)
4. I hereby certify that Nanochem Technologies, located at 1203 Kent Street, Elkhart, Indiana 46514, completed construction of the paint manufacturing operation on _____ in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on December 18, 2009, and as permitted pursuant to New Source Construction Permit and Minor Source Operating Permit No. M039-28766-00684, Plant ID No. 039-00684 issued on _____.
5. **Permittee, please cross out the following statement if it does not apply:** Additional (operations/facilities) were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature _____
Date _____

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana
on this _____ day of _____, 20 _____. My Commission expires: _____.

Signature _____
Name _____ (typed or printed)

**Indiana Department of Environmental Management
Office of Air Quality**

**Addendum to the Technical Support Document (ATSD) for a
Registered Source Transitioning to a Minor Source Operating Permit
(MSOP) with New Source Review (NSR)**

Source Background and Description
--

Source Name:	Nanochem Technologies
Source Location:	1203 Kent Street, Elkhart, Indiana
County:	Elkhart
SIC Code:	2851
Operation Permit No.:	M039-28766-00684
Permit Reviewer:	Janet Mobley

On March 10, 2010, the Office of Air Quality (OAQ) had a notice published in the Elkhart Truth, Elkhart, Indiana, stating that Nanochem Technologies had applied as a Registered source to transition to a Minor Source Operating Permit (MSOP) with New Source Review (NSR) to continue to operate their existing stationary paint manufacturing operation. The notice also stated that the OAQ proposed to issue a MSOP for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

On March 30, 2010, Amanda Hennessy of Keramida Environmental, Inc. the consultant for Nanochem Technologies forwarded comments from Mr. Jeffrey Schwartz of Nanochem Technologies to IDEM, OAQ on the draft NSR/MSOP for this source.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

Comment 1:

The source requested removal of the requirement in Condition D.1.2 that a Preventive Maintenance Plan is required "for this facility and its control device." and for any emission unit at this source since none of the equipment has any applicable compliance monitoring requirements. It was unclear to the source which emission unit this requirement is referring to. The only units listed in Section D.1 that have a control device are the QC Room lab spray booth and the raw material handling area. The spray booth is exempt from the PM emission control requirements of 326 IAC 6-3-2 (see 326 IAC 6-3-1(b)(15) and 326 IAC 6-3-2(d)(4)). The uncontrolled emissions from the equipment at this source are minimal. Therefore, the source felt that the requirement to develop and maintain a preventive maintenance plan for this equipment is burdensome compared to the minimal impact the plan would have on actual emissions.

Response to Comment 1:

IDEM agrees that the requirement to develop and maintain a preventive maintenance plan for this equipment can be clarified in Section B- Preventive Maintenance Plan with an alternate option for the source to decide which units need the PMPs and the requirement in Condition D.1.2 is removed. The following changes were made as a result of this comment.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) ~~If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:~~ **for the source as described in 326 IAC 1-6-3. At a minimum, the PMPs shall include:**

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The Permittee shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

The D.1.2 condition is removed as a result and the remaining condition was renumbered and the Table of Contents was revised also.

~~D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]~~

~~A Preventive Maintenance Plan is required for this facility and its control device. Section B- Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance required by this condition.~~

IDEM Contact

Questions regarding this proposed MSOP can be directed to Janet Mobley at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5373 or toll free at 1-800-451-6027 extension 4-5373.

**Indiana Department of Environmental Management
Office of Air Quality**

**Technical Support Document (TSD) for a Registered Source
Transitioning to a Minor Source Operating Permit (MSOP) with New
Source Review (NSR)**

Source Description and Location

Source Name: Nanochem Technologies
Source Location: 1203 Kent Street, Elkhart, Indiana 46514
County: Elkhart
SIC Code: 2851
Operation Permit No.: 039-28766-00684
Permit Reviewer: Janet Mobley

On December 18, 2009, the Office of Air Quality (OAQ) received an application from Nanochem Technologies related to the construction and operation of new emission units at an existing stationary paint manufacturing operation transitioning from a Registration to a MSOP.

Existing Approvals

The source has been operating under Registration No. 039-27120-00684, issued on December 2, 2008.

Due to this application, the source is transitioning from a Registration to a MSOP.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Attainment effective July 19, 2007, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Attainment effective October 18, 2000, for the 1-hour ozone standard for the South Bend-Elkhart area, including Elkhart County, and is a maintenance area for the 1-hour National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour standard was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM2.5.	

- (a) **Ozone Standards**
 Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM2.5**
Elkhart County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.
- (c) **Other Criteria Pollutants**
Elkhart County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

- (a) The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-6.1 (Minor Source Operating Permits) applicability.

Background and Description of Permitted Emission Unit and Units to be Constructed

Note: Bolded text are changes made from the previous permitted list of units.

The source consists of the following permitted emission units:

- (a) One (1) **paint** manufacturing operation, ~~approved for construction in~~ **constructed** in **December** 2008, **identified as Mixing Area 1** and consisting of the following:
- * (1) One (1) raw material handling area for the preparation and weighing of raw materials **that consist of water, pigments, solvents, etc.**, identified as H1, with a maximum capacity of **2900** pounds of raw material per hour, with particulate matter controlled by filters, and exhausting to the indoors, **with no control**.
 - (2) Two (2) dispersers for the handling of solvent based products, identified as D1 and D2, with a maximum capacity of 340 gallons and 210 gallons and a minimum batch time of 14 hours and 12 hours, respectively, and exhausting to the indoors, **with no control**.
 - (3) Two (2) dispersers for the handling of water based products, identified as DW1 and DW2, with a maximum capacity of 340 gallons and 210 gallons and a minimum batch time of 14 hours and 12 hours, respectively, and exhausting to the indoors, **with no control**.
- Note: Maximum of three (3) dispersers can be operated at one time (due to limited availability of scales, clean up stations and equipment setup).**
- (4) Four (4) mills, identified as MI-1, MI-2, MI-3, and MI-4, exhausting to the indoors, **with no control**.
 - * (5) One (1) filling line, identified as F1, exhausting to the indoors, **with no control**.
 - * (6) QC Room - One (1) Research & Development lab mixer and mill, identified as RD1, exhausting to the indoors.
 - * (7) QC Room - One (1) QC lab spray booth for quality control, identified as RD2, **using less than 5 gallons of paint a day**, with particulate matter controlled by a dust collector, and

exhausting to the indoors.

- (8) One (1) product dispensing area and packaging area for the preparation of the final product with a filling station, identified as H2, with a maximum capacity of 150 gallons per hour, and exhausting to the indoors, **with no control**.

* See changes made to these units as part of this review.

The following is a list of the new emission units:

- (b) One small batch paint manufacturing operation, approved for construction in 2010, identified as Coating Line 2, consisting of the following pieces of equipment:
- (1) Two (2) banks of hydraulic mixers, each with four mixing heads, each mixing head with a capacity of 55 gallons and a minimum batch time of 10 hours, for the handling of solvent based products, with no control.
- (c) One paint manufacturing operation, approved for construction in 2010, identified as Coating Line 3, consisting of the following pieces of equipment:
- (1) Two (2) mixers, serving four (4) tanks, each tank with a working capacity of 1000 gallons, with a minimum batch time of 12 hours, for the handling of water based products, with no control.

* The source requested that the following equipment be moved from being listed as part of the existing manufacturing line description and listed separately and that the description of the QC Lab spray booth be revised:

- (d) One (1) filling line, identified as F1, exhausting to the indoors, with no control.
- (e) QC Room - One (1) Research & Development lab mixer and mill, identified as RD1, exhausting to the indoors.
- (f) QC Room - One (1) QC lab spray booth for quality control, identified as RD2, using less than 5 gallons of paint a day, with particulate matter controlled by a dust collector, and exhausting to **stack S-RD2**. (originally exhausting indoors)
- (g) One (1) product dispensing area and packaging area for the preparation of the final product with a filling station, identified as H2, with a maximum capacity of 150 gallons per hour, and exhausting to the indoors, with no control.
- (h) One (1) raw material handling area for the preparation and weighing of raw materials, that consist of water, pigments solvents, etc., constructed in December 2008, identified as H1, with a maximum capacity of **2900** pounds of raw material per hour, with particulate matter controlled by filters, and exhausting to the indoors, with no control.

Note: The maximum capacity changed from 554 to 2900 pounds per hour.

The following are the permitted emission units after issuance of this MSOP:

- (a) One (1) paint manufacturing operation, constructed in December 2008, identified as Mixing Area 1 and consisting of the following:
- (1) Two (2) dispersers for the handling of solvent based products, identified as D1 and D2, with a maximum capacity of 340 gallons and 210 gallons and a minimum batch time of 14

hours and 12 hours, respectively, and exhausting to the indoors, with no control.

- (2) Two (2) dispersers for the handling of water based products, identified as DW1 and DW2, with a maximum capacity of 340 gallons and 210 gallons and a minimum batch time of 14 hours and 12 hours, respectively, and exhausting to the indoors, with no control.

Note: Maximum of three (3) dispersers can be operated at one time (due to limited availability of scales, clean up stations and equipment setup).

- (3) Four (4) mills, identified as MI-1, MI-2, MI-3, and MI-4, exhausting to the indoors, with no control.

- (b) One small batch paint manufacturing operation, approved for construction in 2010, identified as Coating Line 2, consisting of the following pieces of equipment:

- (1) Two (2) banks of hydraulic mixers, each with four mixing heads, each mixing head with a capacity of 55 gallons and a minimum batch time of 10 hours, for the handling of solvent based products, with no control.

- (c) One paint manufacturing operation, approved for construction in 2010, identified as Coating Line 3, consisting of the following pieces of equipment:

- (1) Two (2) mixers, serving four (4) tanks, each tank with a working capacity of 1000 gallons, with a minimum batch time of 12 hours, for the handling of water based products, with no control.

- (d) One (1) filling line, identified as F1, exhausting to the indoors, with no control.

- (e) QC Room - One (1) Research & Development lab mixer and mill, identified as RD1, exhausting to the indoors.

- (f) QC Room - One (1) QC lab spray booth for quality control, identified as RD2, with particulate matter controlled by a dust collector, and exhausting to stack S-RD2.

- (g) One (1) product dispensing area and packaging area for the preparation of the final product with a filling station, identified as H2, with a maximum capacity of 150 gallons per hour, and exhausting to the indoors, with no control.

- (h) One (1) raw material handling area for the preparation and weighing of raw materials that consist of water, pigments solvents, etc., constructed in 2008, identified as H1, with a maximum capacity of 2900 pounds of raw materials per hour with particulate matter controlled by a dust collector, and exhausting to the indoors.

Unpermitted Emission Units and Pollution Control Equipment

The source does not consist of any unpermitted emission units during this review.

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – MSOP

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	47.39
PM10 ⁽¹⁾	47.39
PM2.5	47.39
SO ₂	0.00
NO _x	0.00
VOC	60.74
CO	0.00

(1) Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

HAPs	Potential To Emit (tons/year)
Glycol Ethers	3.47
Xylene	7.30
Formaldehyde	0.16
Ethylbenzene	0.36
Other	4.34
TOTAL HAPs	15.64

Criteria Pollutants

(a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of PM, PM10, PM2.5 and VOC are each less than one hundred (100) tons per year but greater than or equal to twenty-five (25) tons per year. The PTE of all other regulated criteria pollutants are less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. A Minor Source Operating Permit (MSOP) and NSR will be issued.

Hazardous Air Pollutants

(b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

PTE of the Entire Source After Issuance of the MSOP

The table below summarizes the potential to emit of the entire source after issuance of this MSOP, reflecting all limits, of the emission units.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of MSOP (tons/year)								
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Mixing Area 1 - consisting of units (D1, D2, DW1 and DW2)	10.49	10.49	10.49	0.00	0.00	24.50	0.00	11.75	7.04 Xylene
Coating Line 2	6.86	6.86	6.86	0.00	0.00	23.13	0.00	3.47	3.47 Glycol Ethers
Coating Line 3	29.82	29.82	29.82	0.00	0.00	13.27	0.00	0.00	0.00
Lab and R & D - consisting of units RD1 and RD2	0.22	0.22	0.22	0.00	0.00	0.85	0.00	0.42	0.25 Xylene
Total PTE of Entire Source	47.39	47.39	47.39	0.00	0.00	60.75	0.00	15.64	
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	NA	NA
negl. = negligible * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". * Maximum of three dispersers can be operated at one time (due to limited availability of scales, clean up stations, and equipment setup). Unlimited PTE of PM/PM10 from solvent and water based paint manufacturing based on the three highest PM/PM10 values (D1,D2, and DW1)									

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Miscellaneous Coating Manufacturing, 40 CFR Part 63, Subpart HHHHH are not included in the permit. This NESHAP is applicable to coating manufacturers that are major sources of Hazardous Air Pollutants (HAPs). For this source, the potential to emit any single HAP is less than 10 tons per year and the potential to emit total HAPs is less than 25 tons per year. Any change that increases the potential to emit HAPs to greater than these thresholds requires prior approval from IDEM, OAQ.
- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Paint and Allied Products Manufacturing, 40 CFR Part 63, Subpart CCCCCC are not included in the permit. This NESHAP is applicable to area source paint and allied products manufacturing facilities that processes, uses, or generates any of the target organic or metal HAP

(benzene, methylene chloride and compounds of cadmium, chromium, lead or nickel). This source does not process any of the target HAPs.

- (d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (e) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

- (a) 326 IAC 2-6.1 (Minor Source Operating Permits (MSOP))
MSOP applicability is discussed under the Permit Level Determination – MSOP section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit of all attainment regulated pollutants are less than 250 tons per year, and this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (c) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (d) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (e) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (f) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

- (g) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
 Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.

Paint Manufacturing Operation

- (h) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from each of the following operations shall not exceed the pound per hour limits listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
H1	Raw material handling process	1.45	5.26
Mixing Area #1	4 dispersers and 4 mills	0.13	1.05
Coating Line #2	2 banks of hydraulic mixers with 4 mixing heads	0.05	0.57
Coating Line #3	2 mixers with 4 tanks	0.19	1.34

The pound per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

Where E = rate of emission in pounds per hour; and
 P = process weight rate in tons per hour

- (2) Pursuant to 326 IAC 6-3-1(b)(15), the QC lab spray booth is exempt from the requirements of 326 IAC 6-3-2(d) because the spray booth applies less than five (5) gallons of coating per day.

Compliance Determination, Monitoring and Testing Requirements

- (a) There are no compliance determination, monitoring requirements or testing requirements applicable to this source.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on December 22, 2009.

The construction and operation of this source shall be subject to the conditions of the attached proposed MSOP No. 039-28766-00684. The staff recommends to the Commissioner that this MSOP be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Janet Mobley at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5373 or toll free at 1-800-451-6027 extension 4-5373.

- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

**Appendix A: Emission Calculations
Summary of Emissions**

**Company Name: Nanochem Technologies
Address City IN Zip: 1203 Kent Street, Elkhart, Indiana 46514
Permit Number: 039-28766-00684
Reviewer: Janet Mobley**

Unlimited Potential to Emit (tons/year)										
Process/Emission Units	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Single Glycol Ethers	Single Xylene
Mixing Area 1 consisting of:										
Solvent Based Paint Manufacturing Process (D1)	4.32	4.32	4.32	0.00	0.00	13.66	0.00	6.83	0.00	4.1
Solvent Based Paint Manufacturing Process (D2)	3.11	3.11	3.11	0.00	0.00	9.84	0.00	4.92	0.00	2.95
Water Based Paint Manufacturing Process (DW1)	3.07	3.07	3.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Based Paint Manufacturing Process (DW2)	see note	see note	see note	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mixing Area 1 Totals	10.49	10.49	10.49	0.00	0.00	23.50	0.00	11.75	0.00	7.049985
Coating Line 2	6.86	6.86	6.86	0.00	0.00	23.13	0.00	3.47	3.46896	0.00
Coating Line 3	29.82	29.82	29.82	0.00	0.00	13.27	0.00	0.000	0.00	0.00
Lab and R & D -QC Room (Units RD1 and RD2)	0.22	0.22	0.22	0.00	0.00	0.85	0.00	0.42	0.00	0.253512
TOTAL PTE	47.39	47.39	47.39	0.00	0.00	60.74	0.00	15.64	3.46896	7.303497

The emission factors for coating manufacturing include emissions from raw material handling.

Note: Maximum of three dispersers can be operated at one time (due to limited availability of scales, clean up stations, and equipment setup).

Unlimited PTE of PM/PM10 from solvent and water based paint manufacturing based on the three highest PM/PM10 values (D1,D2, and DW1)

Appendix A: Emission Calculations

Summary of Emissions

Mixing Area 1 - Paint Manufacturing

Company Name: Nanochem Technologies

Address City IN Zip: 1203 Kent Street, Elkhart, Indiana 46514

Permit Number: 039-28766-00684

Reviewer: Janet Mobley

Emission Unit	Size of Dispenser (gallons per batch)	Hours per Batch	Maximum Usage Rate (gallons/year)	Maximum Density (lb/gal)	Maximum Usage Rate (tons/year)	VOC Emission Factor (lb/ton of product)	PTE of VOC (tons/year)	HAP Emission Factor (percentage of VOC emissions)	PTE of HAP (tons/year)	Xylene HAP Emission Factor (percentage of VOC emissions)	PTE of Xylene HAP (tons/year)	Formaldehyde Emission Factor (percentage of VOC Emissions)	PTE of Formaldehyde (tons/year)	Ethylbenzene Emission Factor (percentage of VOC Emissions)	PTE of ethylbenzene (tons per year)	Weight % of Coating pigment	PM/PM10/PM2.5 Emission Factor (lb/ton pigment)	PTE PM/PM10/PM2.5 (lb/hr)	PTE PM/PM10/PM2.5 (tons/year)
Solvent Based Paint Manufacturing (D1)	340	14	212,743	8.56	910.54	30	13.6581	0.5	6.82905	0.3	4.09743	0.0067	0.09150927	0.015	0.2048715	47.40%	20	0.9853789	4.3159596
Solvent Based Paint Manufacturing Process (D2)	210	12	153,300	8.56	656.12	30	9.8418	0.5	4.9209	0.3	2.95254	0.0067	0.06594006	0.015	0.147627	47.40%	20	0.710	3.1100088
Water Based Paint Manufacturing Process (DW1)	340	14	212,743	8.56	910.54	0	0.0000	0	0	0	0	0	0	0	0	33.70%	20	0.7005753	3.0685198
Water Based Paint Manufacturing Process (DW2)	210	12	153,300	8.56	656.12	0	0.0000	0	0	0	0	0	0	0	0	33.70%	20	0.50482292	2.2111244
Worst Case Three Dispensers:			578,786		2477.20		23.4999		11.750		7.050		0.157		0.352			2.39600187	10.49
Total for Source			578,786		2477.20		23.4999		11.750		7.050		0.158		0.353			2.396	10.49

Methodology

Emission Factors are from AP-42, chapter 6.4 Paint and Varnish Table 6.4-1 (May 1983)

Emission Factor for water based is based on a fraction of the Emission Factor from AP 42 Chapter 6.4

Worst case density is 8.56

HAP emission factor: %HAP/%VOC * VOC emission factor

Four dispensers are on site. Two dispensers for water based and two dispensers for solvent based materials.

Maximum of three dispensers can be operated at one time (due to limited availability of scales, clean up stations and equipment setup).

340 gallon dispensers shortest batch is 14 hours: 210 dispenser shortest batch is 12 hours

Maximum Usage Rate: Maximum capacity of dispenser/hours per batch * 8760

PTE VOC (lb/hr) = Capacity (lb/hr) * VOC Emission Factor (lb/ton) * Max Weight % VOC * (1 ton /2000 lbs)

PTE VOC (tons/yr) = PTE VOC (lb/hr) * (1 ton/2000 lbs) * (8760 hr/ 1 yr)

PTE Xylene (tons/yr) = Capacity (lb/hr) * HAP Emission Factor (lb/ton) * Max Weight % Xylene * (1ton/2000lbs) * (8760 hr/1 yr) * (1 ton/2000lbs)

PTE Formaldehyde (tons/yr) = Capacity (lb/hr) * HAP Emission Factor (lb/ton) * Max Weight % Formaldehyde * (1ton/2000lbs) * (8760 hr/1 yr) * (1 ton/2000lbs)

PTE Ethylbenzene (tons/yr) = Capacity (lb/hr) * HAP Emission Factor (lb/ton) * Max Weight % Ethylbenzene * (1ton/2000lbs) * (8760 hr/1 yr) * (1 ton/2000lbs)

PTE Total HAP (tons/yr) = Capacity (lb/hr) * HAP Emission Factor (lb/ton) * Max Weight % Total HAP *

PTE PM/PM10/PM2.5 (lb/hr) = Capacity (lb/hr) * PM Emission Factor (lb/ton) * Max Weight % Solids * (1 ton /2000 lbs)

PTE PM/PM10/PM2.5 (tons/yr) = PTE PM (lb/hr) * (1 ton/2000 lbs) * (8760 hr/ 1 yr)

Appendix A: Emission Calculations

Summary of Emissions

Coating Line 2 - Hydraulic Mixing PM, PM10, VOC and HAP

Company Name: Nanochem Technologies

Address City IN Zip: 1203 Kent Street, Elkhart, Indiana 46514

Permit Number: 039-28766-00684

Reviewer: Janet Mobley

Emission Unit	Size of Disperser (gallons per batch)	Hours per Batch	Maximum Usage Rate (gallons/year)	Maximum Density (lb/gal)	Maximum Usage Rate (tons/year)	VOC Emission Factor (lb/ton of product)	PTE of VOC (tons/year)	HAP Emission Factor (percentage of VOC emissions)	PTE of HAP (tons/year)	Glycol Ethers Emission Factor (percentage of VOC emissions)	PTE of Glycol Ether HAP (tons/year)	Weight % of Coating pigment	PM/PM10/PM2.5 Emission Factor (lb/ton pigment)	PTE PM/PM10/PM2.5 (lb/hour)	PTE PM/PM10/PM2.5 (tons/year)
Solvent Based Paint Manufacturing	55	10	48,180	8	192.72	30	2.8908	0.15	0.43362	0.15	0.43362	44.500%	20	0.1958	0.857604
Solvent Based Paint Manufacturing	55	10	48,180	8	192.72	30	2.8908	0.15	0.43362	0.15	0.43362	44.500%	20	0.1958	0.857604
Solvent Based Paint Manufacturing	55	10	48,180	8	192.72	30	2.8908	0.15	0.43362	0.15	0.43362	44.500%	20	0.1958	0.857604
Solvent Based Paint Manufacturing	55	10	48,180	8	192.72	30	2.8908	0.15	0.43362	0.15	0.43362	44.500%	20	0.1958	0.857604
Solvent Based Paint Manufacturing	55	10	48,180	8	192.72	30	2.8908	0.15	0.43362	0.15	0.43362	44.500%	20	0.1958	0.857604
Solvent Based Paint Manufacturing	55	10	48,180	8	192.72	30	2.8908	0.15	0.43362	0.15	0.43362	44.500%	20	0.1958	0.857604
Solvent Based Paint Manufacturing	55	10	48,180	8	192.72	30	2.8908	0.15	0.43362	0.15	0.43362	44.500%	20	0.1958	0.857604
Solvent Based Paint Manufacturing	55	10	48,180	8	192.72	30	2.8908	0.15	0.43362	0.15	0.43362	44.500%	20	0.1958	0.857604
Solvent Based Paint Manufacturing	55	10	48,180	8	192.72	30	2.8908	0.15	0.43362	0.15	0.43362	44.500%	20	0.1958	0.857604
Total			385,440		1541.76		23.1264		3.46896		3.46896			1.5664	6.860832

Methodology

Emission Factors are from AP-42 Chapter 6.4 - Paint and Varnish Table 6.4-1 (May 1983)

Emission factor for water based is based on a fraction of the Emission Factor from AP-42 Chapter 6.4

Average density is 8 lb/gal

HAP emission factor: % HAP/%VOC * VOC emission factor

This area consists of two banks of hydraulic mixers - each bank has 4 mixing heads

Batch time is approximately 10 hours per batch.

This area is designed to mix 55 gallon or smaller batches.

Maximum Usage Rate: Max capacity of disperser / hours per batch * 8760

PTE VOC(lb/hr) = Capacity (lb/hr) * VOC Emission Factor (lb/ton) * Max Weight % VOC * (1 ton /2000 lbs)

PTE VOC (tons/yr) = PTE VOC (lb/hr) * (1 ton/2000 lbs) * (8760 hr/ 1 yr)

PTE Glycol Ethers (tons/yr) = Capacity (lb/hr) * HAP Emission Factor (lb/ton) * Max Weight % Glycol

PTE Total HAP (tons/yr) = Capacity (lb/hr) * HAP Emission Factor (lb/ton) * Max Weight % Total HAP *

PTE PM(lb/hr) = Capacity (lb/hr) * PM Emission Factor (lb/ton) * Max Weight % Solids * (1 ton /2000 lbs)

PTE PM (tons/yr) = PTE PM (lb/hr) * (1 ton/2000 lbs) * (8760 hr/ 1 yr)

Appendix A: Emission Calculations

Summary of Emissions

Coating Line 3 - Paint Manufacturing - PM, PM10, VOC and HAP

Company Name: Nanochem Technologies
Address City IN Zip: 1203 Kent Street, Elkhart, Indiana 46514
Permit Number: 039-28766-00684
Reviewer: Janet Mobley

Emission Unit	Size of Tank (gallons per batch)	Maximum Usage Rate (gallons/year)	Maximum Density (lb/gal)	Maximum Usage Rate (tons/year)	VOC Emission Factor (lb/ton of product)	PTE of VOC (tons/year)	HAP Emission Factor (percentage of VOC emissions)	PTE of HAP (tons/year)	Weight % of Coating pigment	PM/PM10/PM2.5 Emission Factor (lb/ton pigment)	PTE PM/PM10/PM2.5 (lb/hour)	PTE PM/PM10/PM2.5 (tons/year)
Latex Type Paint Manufacturing Process - Mixer 1	1000	730,000	12.12	4423.80	3.00	6.636	0	0	33.70%	20	3.4037	14.908206
Latex Type Paint Manufacturing Process - Mixer 2	1000	730,000	12.12	4423.80	3.00	6.636	0	0	33.70%	20	3.4037	14.908206
Total		1,460,000		8847.60		13.271		0.00			6.8074	29.816412

Methodology

Emission Factors are based on a fraction of the emission factor from AP-42, Chapter 6.4-Paint and Varnish Table 6.4-1 (May 1983)

Since these materials are water based; VOC content was compared and an equivalent emission factor was selected.

Worst case density is 12.12 lb/gal

HAP emission factor: %HAP / %VOC * VOC emission factor

Maximum Usage Rate: Max capacity of disperser / hours per batch * 8760

Two mixers and four tanks are located in this area. Each mixer serves two tanks.

Maximum of two batches can be run at any time (due to only having two mixers).

Each batch has a batch run time of 12 hours.

PTE VOC(lb/hr) = Capacity (lb/hr) * VOC Emission Factor (lb/ton) * Max Weight % VOC * (1 ton /2000 lbs)

PTE VOC (tons/yr) = PTE VOC (lb/hr) * (1 ton/2000 lbs) * (8760 hr/ 1 yr)

PTE Total HAP (tons/yr) = Capacity (lb/hr) * HAP Emission Factor (lb/ton) * Max Weight % Total

PTE PM/PM10/PM2.5 (lb/hr) = Capacity (lb/hr) * PM Emission Factor (lb/ton) * Max Weight % Solids * (1 ton /2000 lbs)

PTE PM/PM10/PM2.5 (tons/yr) = PTE PM (lb/hr) * (1 ton/2000 lbs) * (8760 hr/ 1 yr)

Appendix A: Emission Calculations

Summary of Emissions

Lab and R & D - PM, PM10, VOC and HAP

Company Name: Nanochem Technologies

Address City IN Zip: 1203 Kent Street, Elkhart, Indiana 46514

Permit Number: 039-28766-00684

Reviewer: Janet Mobley

Emission Unit	Size of Dispenser (gallons per batch)	Maximum Usage Rate (gallons/year)	Maximum Density (lb/gal)	Maximum Usage Rate (tons/year)	VOC Emission Factor (lb/ton of product)	PTE of VOC (tons/year)	HAP Emission Factor (percentage of VOC emissions)	PTE of HAP (tons/year)	Xylene HAP Emission Factor (percentage of VOC emissions)	PTE of Xylene HAP (tons/year)	Formaldehyde Emission Factor (percentage of VOC Emissions)	PTE of Formaldehyde (tons/year)	Ethylbenzene Emission Factor (percentage of VOC Emissions)	PTE of ethylbenzene (tons/year)	Weight % of Coating pigment	PM/PM10/PM2.5 Emission Factor (lb/ton pigment)	PTE PM/PM10/PM2.5 (lb/hour)	PTE PM/PM10/P M2.5 (tons/year)
R & D lab mixer and mill	3	1,877	8.56	8.03356	30.00	0.1205	0.5	0.060	0.3	0.036	0.0067	0.001	0.015	0.002	47.40%	20	0.009	0.04
QC lab spray booth	0.25	365	8.22	1.50015	965.94	0.7245	0.5	0.362	0.3	0.217	0.0067	0.005	0.015	0.011	47.40%	0	0.042	0.184
Total						0.8450		0.423		0.254		0.006		0.013			0.0506939	0.22

Methodology

Lab Spray Booth: Maximum usage for QC would be 1 quart per batch.

Worst case operations for site would be 4 batches of VOC containing product per day (1 dispenser at 2 batches per day and 1 dispenser at 1.7 batches per day)

VOC emission factor is worst case HAP pounds per gallon

Transfer efficiency for PM = 75%

PTE VOC(lb/hr) = Capacity (lb/hr) * VOC Emission Factor (lb/ton) * Max Weight % VOC * (1 ton /2000 lbs)

PTE VOC (tons/yr) = PTE VOC (lb/hr) * (1 ton/2000 lbs) * (8760 hr/ 1 yr)

PTE Xylene (tons/yr) = Capacity (lb/hr) * HAP Emission Factor (lb/ton) * Max Weight % Xylene * (1ton/2000lbs) * (8760 hr/1 yr) * (1 ton/2000lbs)

PTE Formaldehyde (tons/yr) = Capacity (lb/hr) * HAP Emission Factor (lb/ton) * Max Weight % Formaldehyde * (1ton/2000lbs) * (8760 hr/1 yr) * (1 ton/2000lbs)

PTE Ethylbenzene (tons/yr) = Capacity (lb/hr) * HAP Emission Factor (lb/ton) * Max Weight % Ethylbenzene * (1ton/2000lbs) * (8760 hr/1 yr) * (1 ton/2000lbs)

PTE Total HAP (tons/yr) = Capacity (lb/hr) * HAP Emission Factor (lb/ton) * Max Weight %

PTE PM/PM10/PM2.5 (lb/hr) = Capacity (lb/hr) * PM Emission Factor (lb/ton) * Max Weight % Solids * (1 ton /2000 lbs)

PTE PM/PM10/PM2.5 (tons/yr) = PTE PM (lb/hr) * (1 ton/2000 lbs) * (8760 hr/ 1 yr)



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Jeff Schwartz
President
Nanochem Technologies
1203 Kent St.
Elkhart IN 46514

DATE: Apr. 16, 2010

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
MSOP
039-28766-00684

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Amanda Hennessy Keramida Environmental, Inc.
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07



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Apr. 16, 2010

TO: Elkhart Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Nanochem Technologies
Permit Number: 039-28766-00684

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	BMILLER 4/16/2010 Nanochem Technologies 039-28766-00684 (final)		CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handling Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Jeff Schwartz President Nanochem Technologies 1203 Kent St Elkhart IN 46514 (Source CAATS) <i>Via Confirmed Delivery</i>										
2		Elkhart City Council and Mayors Office 229 South Second Street Elkhart IN 46516 (Local Official)										
3		Elkhart Public Library 300 S 2nd St Elkhart IN 46516-3184 (Library)										
4		Elkhart County Health Department 608 Oakland Avenue Elkhart IN 46516 (Health Department)										
5		Laurence A. McHugh Barnes & Thornburg 100 North Michigan South Bend IN 46601-1632 (Affected Party)										
6		Elkhart County Board of Commissioners 117 North Second St. Goshen IN 46526 (Local Official)										
7		Ms. Amanda Hennessy Keramida Environmental, Inc. 401 N College Ave Indianapolis IN 46202 (Consultant)										
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9												
10												
11												
12												
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