



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

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

TO: Interested Parties / Applicant  
DATE: November 21, 2006  
RE: Modern Materials, Inc. / 049-22683-00020  
FROM: Nisha Sizemore  
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, Room 1049, 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.dot 03/23/06



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## Minor Source Operating Permit Renewal OFFICE OF AIR QUALITY

**Modern Materials, Inc.  
435 State Road 25 North  
Rochester, Indiana 46975**

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

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.

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

Operation Permit No.: MSOP 049-22683-00020	
Issued by:Original signed by Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date:November 21, 2006  Expiration Date:November 21, 2011

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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)]

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The Permittee owns and operates a stationary automotive coater plant.

Authorized Individual:	Operations Manager
Source Address:	435 State Road 25 North, Rochester, Indiana 46975
Mailing Address:	435 State Road 25 North, Rochester, Indiana 46975
General Source Phone:	(574) 223-4509
SIC Code:	3479
County Location:	Fulton
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Minor Source, under PSD; Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) One (1) natural gas-fired boiler, identified as MM-1, installed after 1983, with a maximum heat input capacity of 4.18 mmBtu/hr and exhausting to a stack designated as Stack #1.
- (b) One (1) natural gas-fired powder coat curing oven, identified as MM-2, with a maximum heat input capacity of 0.850 mmBtu/hr and exhausting to a stack designated as Stack #17.
- (c) Two (2) natural gas-fired powder coat curing ovens, identified as MM-3 and MM-4, with a maximum heat input capacity of 1.2 mmBtu/hr each and exhausting to stacks designated as Stack #18 and Stack #19.
- (d) One (1) natural gas-fired powder coat curing oven, identified as MM-5, with a maximum heat input capacity of 0.350 mmBtu/hr and exhausting to a stack designated as Stack #6.
- (e) Three (3) natural gas-fired powder coat curing ovens, identified as MM-6, MM-7, and MM-9, with a maximum heat input capacity of 0.5 mmBtu/hr each and exhausting to stacks designated as Stack #8, Stack #9, and Stack #12.
- (f) Two (2) natural gas-fired drying ovens, identified as MM-8 and MM-11, with a maximum heat input capacity of 0.5 mmBtu/hr each and exhausting to stacks designated as Stack #10 and Stack #15.
- (g) One (1) natural gas-fired flash-off oven, identified as MM-10, with a maximum heat input capacity of 0.50 mmBtu/hr and exhausting to a stack designated as Stack #13.
- (h) One (1) natural gas-fired heat cleaning burn-off oven, identified as MM-26, with a maximum heat input capacity of 2.0 mmBtu/hr, a maximum waste capacity of 55 pounds per hour and exhausting to the atmosphere.

- (i) One (1) evaporator, identified as MM-27, used to evaporate the water from the aqueous lines to minimize liquid waste, exhausting to a stack designated as Stack #20.
- (j) Three (3) five-stage\* zinc phosphate lines with a total approximate maximum capacity of 8,040 pounds per hour and exhausting to the atmosphere. One (1) five-stage\* iron phosphate line with a total approximate maximum capacity of 8,040 pounds per hour and exhausting to the atmosphere.  
  
\* a standard five-stage line consists of the following stages: Alkaline wash, pressure Rinse, Phosphate, Pressure Rinse, Seal.
- (k) One (1) hand solvent wash area, identified as MM-27 and exhausting to the atmosphere.
- (l) Three (3) "Job Shop Line" HVLP paint booths, identified as MM-13 through MM-15, each installed in 2001, with a total maximum paint usage rate of 0.188 gallons per hour, particulate matter controlled by dry filters and exhausting to stacks designated as Stack #2 through Stack #5.
- (m) One (1) "Regular Shaft Line" HVLP paint booth, identified as MM-12, installed in 2001, with a maximum paint usage rate of 0.206 gallons per hour, particulate matter controlled by a dry filter and exhausting to a stack designated as Stack #16.
- (n) One (1) "Flanged Shaft Line" HVLP paint booth, identified as MM-17, installed in 2001, with a maximum paint usage rate of 0.342 gallons per hour, particulate matter controlled by a dry filter and exhausting to a stack designated as Stack #11.
- (o) One (1) "Frame Line" HVLP paint booth, identified as MM-18, installed in 2001, with a maximum paint usage rate of 1.00 gallons per hour, particulate matter controlled by a dry filter and exhausting to a stack designated as Stack #14.
- (p) Three (3) powder coat booths, identified as MM-19 through MM-21, each containing an integral recirculation system consisting of a baghouse and exhausting internally.
- (q) Four (4) aluminum oxide blast units, identified as MM-22 through MM-25, with actual density of 130 pounds per cubic foot, MM-22 through MM-24 each has a nozzle with an internal diameter of 4/16 inches and MM-25 has a nozzle with an internal diameter of 5/16 inches, each controlled by a baghouse (designated as B-1, B-2, B-3 and B-7) and exhausting internally.

## **SECTION B GENERAL CONDITIONS**

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

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

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- (a) This permit, M049-22683-00020, 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.3 Term of Conditions [326 IAC 2-1.1-9.5]**

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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.4 Enforceability**

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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.5 Severability**

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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.6 Property Rights or Exclusive Privilege**

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

### **B.7 Duty to Provide Information**

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- (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. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). 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.8 Certification

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- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

## B.9 Annual Notification [326 IAC 2-6.1-5(a)(5)]

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- (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:  
  
Compliance Branch, Office of Air Quality  
Indiana Department of Environmental Management  
100 North Senate Avenue,  
Indianapolis, 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.10 Preventive Maintenance Plan [326 IAC 1-6-3]

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- (a) The Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) 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.
- (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 or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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.11 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to M049-22683-00020 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.12 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 ninety (90) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

B.13 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 the certification 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  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least ninety (90) 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 in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.14 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  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

**B.15 Source Modification Requirement**

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

**B.16 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][IC13-17-3-2][IC 13-30-3-1]**

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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.17 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]**

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- (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  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification 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.18 Annual Fee Payment [326 IAC 2-1.1-7]**

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- (a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing.
- (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.19 Credible Evidence [326 IAC 1-1-6]**

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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 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 5-1-3 (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 non-overlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**C.4 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.5 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.6 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  
Asbestos Section, Office of Air Quality  
100 North Senate Avenue  
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. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 Accredited 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 Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

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

#### **C.7 Performance Testing [326 IAC 3-6]**

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- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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.8 Compliance Requirements [326 IAC 2-1.1-11]**

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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.9 Compliance Monitoring [326 IAC 2-1.1-11]**

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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.10 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]**

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Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

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

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- (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.12 Response to Excursions or Exceedances

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- (a) Upon detecting an excursion or exceedance, the Permittee shall 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 emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned 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 within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (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;
  - (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 maintain the following records:
  - (1) monitoring data;
  - (2) monitor performance data, if applicable; and
  - (3) corrective actions taken.

**C.13 Actions Related to Noncompliance Demonstrated by a Stack Test**

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- (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 take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) 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.

The response action documents submitted pursuant to this condition do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

**C.14 Malfunctions Report [326 IAC 1-6-2]**

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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.15 General Record Keeping Requirements[326 IAC 2-6.1-5]**

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- (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, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.16 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 Data Section, Office of Air Quality  
100 North Senate Avenue  
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) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) 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) natural gas-fired boiler, identified as MM-1, installed after 1983, with a maximum heat input capacity of 4.18 mmBtu/hr and exhausting to a stack designated as Stack #1.
- (b) One (1) natural gas-fired powder coat curing oven, identified as MM-2, with a maximum heat input capacity of 0.850 mmBtu/hr and exhausting to a stack designated as Stack #17.
- (c) Two (2) natural gas-fired powder coat curing ovens, identified as MM-3 and MM-4, with a maximum heat input capacity of 1.2 mmBtu/hr each and exhausting to stacks designated as Stack #18 and Stack #19.
- (d) One (1) natural gas-fired powder coat curing oven, identified as MM-5, with a maximum heat input capacity of 0.350 mmBtu/hr and exhausting to a stack designated as Stack #6.
- (e) Three (3) natural gas-fired powder coat curing ovens, identified as MM-6, MM-7, and MM-9, with a maximum heat input capacity of 0.5 mmBtu/hr each and exhausting to stacks designated as Stack #8, Stack #9, and Stack #12.
- (f) Two (2) natural gas-fired drying ovens, identified as MM-8 and MM-11, with a maximum heat input capacity of 0.5 mmBtu/hr each and exhausting to stacks designated as Stack #10 and Stack #15.
- (g) One (1) natural gas-fired flash-off oven, identified as MM-10, with a maximum heat input capacity of 0.50 mmBtu/hr and exhausting to a stack designated as Stack #13.
- (h) One (1) natural gas-fired heat cleaning burn-off oven, identified as MM-26, with a maximum heat input capacity of 2.0 mmBtu/hr, a maximum waste capacity of 55 pounds per hour and exhausting to the atmosphere.
- (i) One (1) evaporator, identified as MM-27, used to evaporate the water from the aqueous lines to minimize liquid waste, exhausting to a stack designated as Stack #20.

(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 Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating: Emission limitations for facilities specified in 326 IAC 6-2-1(d)), the PM emissions from one (1) natural gas fired boiler (MM-1) shall not exceed 0.6 pound per million Btu heat input (lb/MMBtu).

#### D.1.2 Incinerator [326 IAC 4-2-2]

- (a) Pursuant to 326 IAC 4-2-2, the natural gas burn-off oven (MM-26), rated at 55 pounds per hour shall:
  - (1) Consist of primary and secondary chambers or the equivalent.
  - (2) Be equipped with a primary burner unless burning only wood products.
  - (3) Comply with 326 IAC 5-1 and 326 IAC 2.

- (4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in subsection (c).
  - (5) Not emit particulate matter in excess of five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air.
  - (6) If any of the requirements of subdivisions (1) through (5) are not met, then the owner or operator shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.
- (b) An owner or operator developing an operation and maintenance plan pursuant to subsection (a)(4) must comply with the following:
- (1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in subsection (a)(5) and include the following:
    - (A) Procedures for receiving, handling, and charging waste.
    - (B) Procedures for incinerator startup and shutdown.
    - (C) Procedures for responding to a malfunction.
    - (D) Procedures for maintaining proper combustion air supply levels.
    - (E) Procedures for operating the incinerator and associated air pollution control systems.
    - (F) Procedures for handling ash.
    - (G) A list of wastes that can be burned in the incinerator.
  - (2) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.
  - (3) The operation and maintenance plan must be readily accessible to incinerator operators.
  - (4) The owner or operator of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.
- (c) The owner or operator of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.

## SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

- (j) Three (3) five-stage\* zinc phosphate lines with a total approximate maximum capacity of 8,040 pounds per hour and exhausting to the atmosphere. One (1) five-stage\* iron phosphate line with a total approximate maximum capacity of 8,040 pounds per hour and exhausting to the atmosphere.

\* a standard five-stage line consists of the following stages: Alkaline wash, pressure Rinse, Phosphate, Pressure Rinse, Seal.

- (k) One (1) hand solvent wash area, identified as MM-27 and exhausting to the atmosphere.
- (l) Three (3) "Job Shop Line" HVLP paint booths, identified as MM-13 through MM-15, each installed in 2001, with a total maximum paint usage rate of 0.188 gallons per hour, particulate matter controlled by dry filters and exhausting to stacks designated as Stack #2 through Stack #5.
- (m) One (1) "Regular Shaft Line" HVLP paint booth, identified as MM-12, installed in 2001, with a maximum paint usage rate of 0.206 gallons per hour, particulate matter controlled by a dry filter and exhausting to a stack designated as Stack #16.
- (n) One (1) "Flanged Shaft Line" HVLP paint booth, identified as MM-17, installed in 2001, with a maximum paint usage rate of 0.342 gallons per hour, particulate matter controlled by a dry filter and exhausting to a stack designated as Stack #11.
- (o) One (1) "Frame Line" HVLP paint booth, identified as MM-18, installed in 2001, with a maximum paint usage rate of 1.00 gallons per hour, particulate matter controlled by a dry filter and exhausting to a stack designated as Stack #14.
- (p) Three (3) powder coat booths, identified as MM-19 through MM-21, each containing an integral recirculation system consisting of a baghouse and exhausting internally.

(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.2.1 Volatile Organic Compounds (VOC) Limitations [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9, the owner or operator shall not allow the discharge into the atmosphere VOC in excess of three and five-tenths (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicator at paint booths MM-12 through MM-15, MM-17 and MM-18, for air dried or forced warm air dried and extreme performance coatings.

#### D.2.2 Volatile Organic Compound (VOC) Limitations, Clean-up Requirements [326 IAC 8-2-9(f)]

Pursuant to 326 IAC 8-2-9(f), all solvents sprayed from the application equipment of paint booths MM-12 through MM-15, MM-17 and MM-18 during cleanup or color changes shall be directed into containers. Said containers shall be closed as soon as the solvent spraying is complete. In addition, all waste solvent shall be disposed of in such a manner that minimizes evaporation.

#### D.2.3 Particulate [326 IAC 6-3-2(d)]

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Pursuant to 326 IAC 6-3-2(d):

- (a) Particulate from paint booths MM-12 through MM-15, MM-17 and MM-18 shall be controlled by dry filters, and the Permittee shall operate the control device in accordance with manufacturer's specifications.
- (b) If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:
  - (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
  - (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

#### D.2.4 Preventive Maintenance Plan [326 IAC 1-6-3]

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

### **Compliance Determination Requirements**

#### D.2.5 Volatile Organic Compounds (VOC)

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Compliance with the VOC content and usage limitations contained in Condition D.2.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

### **Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

#### D.2.6 Record Keeping Requirements

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- (a) To document compliance with Condition D.2.1, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.2.1. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
  - (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
  - (2) The volume weighted VOC content of the coatings used for each month;
  - (3) The cleanup solvent usage for each month;

- (4) The total VOC usage for each month; and
  - (5) The weight of VOCs emitted for each compliance period.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

#### Emissions Unit Description:

- (q) Four (4) aluminum oxide blast units, identified as MM-22 through MM-25, with actual density of 130 pounds per cubic foot, MM-22 through MM-24 each have a nozzle with an internal diameter of 4/16 inches and MM-25 has a nozzle with an internal diameter of 5/16 inches, each controlled by a baghouse (designated as B-1, B-2, B-3 and B-7) and exhausting internally.

(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.3.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the four (4) aluminum oxide blast units MM-22 through MM-25 shall not exceed 1.79, 1.79, 1.79 and 1.35 pounds per hour when operating at a process weight rate of 551.5, 551.5, 551.5 and 383.4 pounds per hour, respectively. The pounds per hour limitations were calculated using 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.3.2 Particulate Control

The baghouses for particulate control shall be in operation and control emissions from the four (4) aluminum oxide blast units MM-22 through MM-25 at all times that the four (4) aluminum oxide blast units MM-22 through MM-25 are in operation.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE 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).

<b>Company Name:</b>	<b>Modern Materials, Inc.</b>
<b>Address:</b>	<b>435 State Road 25 North, Rochester, Indiana 46975</b>
<b>City:</b>	<b>Rochester</b>
<b>Phone #:</b>	<b>(574) 223-4509</b>
<b>MSOP #:</b>	<b>MSOP 049-22683-00020</b>

I hereby certify that Modern Materials, Inc. is  still in operation.  
 no longer in operation.

I hereby certify that Modern Materials, Inc. is  in compliance with the requirements of MSOP 049-22683-00020.  
 not in compliance with the requirements of MSOP 049-22683-00020

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

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.

<b>Noncompliance:</b>

**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 ?\_\_\_\_\_, 100TONS/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:

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

Technical Support Document (TSD) for a  
Minor Source Operating Permit Renewal

**Source Background and Description**

<b>Source Name:</b>	<b>Modern Materials, Inc.</b>
<b>Source Location:</b>	<b>435 State Road 25 North, Rochester, Indiana 46975</b>
<b>County:</b>	<b>Fulton</b>
<b>SIC Code:</b>	<b>3479</b>
<b>Operation Permit No.:</b>	<b>M049-13642-00020</b>
<b>Operation Permit Issuance Date:</b>	<b>May 14, 2001</b>
<b>Permit Renewal No.:</b>	<b>M049-22683-00020</b>
<b>Permit Reviewer:</b>	<b>Alic Bent/EVP</b>

The Office of Air Quality (OAQ) has reviewed an application from Modern Materials, Inc. relating to the operation of a stationary automotive coater plant.

**Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) natural gas-fired boiler, identified as MM-1, installed after 1983, with a maximum heat input capacity of 4.18 mmBtu/hr and exhausting to a stack designated as Stack #1.
- (b) One (1) natural gas-fired powder coat curing oven, identified as MM-2, with a maximum heat input capacity of 0.850 mmBtu/hr and exhausting to a stack designated as Stack #17.
- (c) Two (2) natural gas-fired powder coat curing ovens, identified as MM-3 and MM-4, with a maximum heat input capacity of 1.2 mmBtu/hr each and exhausting to stacks designated as Stack #18 and Stack #19.
- (d) One (1) natural gas-fired powder coat curing oven, identified as MM-5, with a maximum heat input capacity of 0.350 mmBtu/hr and exhausting to a stack designated as Stack #6.
- (e) Three (3) natural gas-fired powder coat curing ovens, identified as MM-6, MM-7, and MM-9, with a maximum heat input capacity of 0.5 mmBtu/hr each and exhausting to stacks designated as Stack #8, Stack #9, and Stack #12.
- (f) Two (2) natural gas-fired drying ovens, identified as MM-8 and MM-11, with a maximum heat input capacity of 0.5 mmBtu/hr each and exhausting to stacks designated as Stack #10 and Stack #15.
- (g) One (1) natural gas-fired flash-off oven, identified as MM-10, with a maximum heat input capacity of 0.50 mmBtu/hr and exhausting to a stack designated as Stack #13.
- (h) One (1) natural gas-fired heat cleaning burn-off oven, identified as MM-26, with a maximum heat input capacity of 2.0 mmBtu/hr, a maximum waste capacity of 55 pounds per hour and exhausting to the atmosphere.

- (i) One (1) evaporator, identified as MM-27, used to evaporate the water from the aqueous lines to minimize liquid waste, exhausting to a stack designated as Stack #20.
- (j) Three (3) five-stage\* zinc phosphate lines with a total approximate maximum capacity of 8,040 pounds per hour and exhausting to the atmosphere. One (1) five-stage\* iron phosphate line with a total approximate maximum capacity of 8,040 pounds per hour and exhausting to the atmosphere.  
  
\* a standard five-stage line consists of the following stages: Alkaline wash, pressure Rinse, Phosphate, Pressure Rinse, Seal.
- (k) One (1) hand solvent wash area, identified as MM-27 and exhausting to the atmosphere.
- (l) Three (3) "Job Shop Line" HVLP paint booths for coating metal parts, identified as MM-13 through MM-15, each installed in 2001, with a total maximum paint usage rate of 0.188 gallons per hour, particulate matter controlled by dry filters and exhausting to stacks designated as Stack #2 through Stack #5.
- (m) One (1) "Regular Shaft Line" HVLP paint booth for coating metal parts, identified as MM-12, installed in 2001, with a maximum paint usage rate of 0.206 gallons per hour, particulate matter controlled by a dry filter and exhausting to a stack designated as Stack #16.
- (n) One (1) "Flanged Shaft Line" HVLP paint booth for coating metal parts, identified as MM-17, installed in 2001, with a maximum paint usage rate of 0.342 gallons per hour, particulate matter controlled by a dry filter and exhausting to a stack designated as Stack #11.
- (o) One (1) "Frame Line" HVLP paint booth for coating metal parts, identified as MM-18, installed in 2001, with a maximum paint usage rate of 1.00 gallons per hour, particulate matter controlled by a dry filter and exhausting to a stack designated as Stack #14.
- (p) Three (3) powder coat booths, identified as MM-19 through MM-21, each containing an integral recirculation system consisting of a baghouse and exhausting internally. (IDEM has determined that there are no emissions from these units)
- (q) Four (4) aluminum oxide blast units, identified as MM-22 through MM-25, with actual density of 130 pounds per cubic foot, MM-22 through MM-24 each has a nozzle with an internal diameter of 4/16 inches and MM-25 has a nozzle with an internal diameter of 5/16 inches, each controlled by a baghouse (designated as B-1, B-2, B-3 and B-7) and exhausting internally.

### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted emission units operating at this source during this review process.

### **Existing Approvals**

The source has been operating under previous approvals including, but not limited to, the following:

- (a) MSOP 049-13642-00020 issued on May 14, 2001; and
- (b) Notice-only Change 049-14544-00020 issued on July 23, 2001.

All conditions from previous approvals were incorporated into this permit.

### Enforcement Issue

There are no enforcement actions pending.

### Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on February 14, 2006.

### Emission Calculations

See Appendix A: pages 1 through 11 of this document for detailed emission calculations.

### Potential to Emit of the Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential to Emit (tons/yr)
PM	76.5
PM-10	76.8
SO <sub>2</sub>	0.3
VOC	32.3
CO	5.9
NO <sub>x</sub>	6.0

HAPs	Potential to Emit (tons/yr)
Xylene	1.11
Toluene	1.46
MIBK	4.06
Lead	0.73
Others	1.38
Total	8.74

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants are less than 100 tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of PM-10 and VOC are greater than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. An MSOP will be issued.
- (b) 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, the source is not a major source of HAPs as defined in 326 IAC 2-7-1(22).

- (c) **Fugitive Emissions**  
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD applicability.

### County Attainment Status

The source is located in Fulton County.

Pollutant	Status
PM-10	Attainment
PM-2.5	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) 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 emissions and NOx are considered when evaluating the rule applicability relating to ozone. Fulton County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (b) Fulton County has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. See the State Rule Applicability for the source section.
- (c) Fulton County has been classified as attainment or unclassifiable in Indiana for all other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (d) On August 7, 2006, a temporary emergency rule took effect revoking the one-hour ozone standard in Indiana. The Indiana Air Pollution Control Board has approved a permanent rule revision to incorporate these changes into 326 IAC 1-4-1. The permanent revision to 326 IAC 1-4-1 will take effect prior to the expiration of the emergency rule.

## Source Status

Existing Source PSD Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	< 250
PM-10	< 100
SO <sub>2</sub>	< 100
VOC	< 100
CO	< 100
NO <sub>x</sub>	< 100
Single HAP	< 10
Combination HAPs	< 25

- (a) This existing source is **not** a major stationary source for the purposes of 326 IAC 2-2 (PSD) because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories.
- (b) These emissions were based on MSOP 049-13642-00020 issued on May 14, 2001.

## Part 70 Permit Determination

### 326 IAC 2-7 (Part 70 Permit Program)

This existing source, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons per year.

This status is based on all the air approvals issued to the source.

## Federal Rule Applicability

- (a) The requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc), are not included in this permit for the natural gas-fired boiler, identified as MM-1 because the heat input capacity of the boiler is less than 10 mmBtu/hr.
- (b) The requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60, Subpart E), are not included in this permit for the natural gas-fired heat cleaning burn-off oven, identified as MM-26 because the waste throughput is less than 50 tons per day.
- (c) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) included in this permit.
- (d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart Mmmm, Surface Coating of Miscellaneous Metal Parts and Products, are not included in this permit because the source is not a major source of HAPs as defined in 40 CFR 63.2.
- (e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart Pppp, Surface Coating of Plastic Parts and Products, are not included in this permit because the source is not a major source of HAPs as defined in 40 CFR 63.2.

- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart T, Halogenated Solvent Cleaning, are not included in this permit because the source is not a major source of HAPs as defined in 40 CFR 63.2.
- (g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart IIII, Surface Coating of Automobiles and Light Duty Trucks, are not included in this permit because the source is not a major source of HAPs as defined in 40 CFR 63.2.
- (h) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) included in this permit.

### **State Rule Applicability – Entire Source**

#### **326 IAC 2-2 (Prevention of Significant Deterioration (PSD))**

This source, constructed prior to 1977, is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2. The potential emissions of all attainment regulated pollutants are less than 250 tons per year each, therefore, this source is not a major PSD source.

#### **326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)):**

The operation of the paint booths will emit less than 10 tons per year of a single HAP and 25 tons per year of a combination of HAPs per booth. Therefore, 326 IAC 2-4.1 does not apply.

#### **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 or Porter counties, 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.

#### **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 the 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.

#### **326 IAC 8-6 (Organic Solvent Emission Limitations)**

This rule applies to sources commencing operation after October 7, 1974 and prior to January 1, 1980, located anywhere in the state, with potential VOC emissions of 100 tons per year or more, and not regulated by any other provision of Article 8. This source has uncontrolled potential VOC emissions of less than 100 tons per year. Therefore, 326 IAC 8-6 does not apply.

### State Rule Applicability – Individual Facilities

#### 326 IAC 4-2-2 (Incinerators):

- (a) The natural gas-fired powder coat curing ovens (MM-3 through MM-7 and MM-9), the natural gas-fired drying ovens (MM-8 and MM-11) and the natural gas-fired flash-off oven MM-10) are not incinerators, as defined by 326 IAC 1-2-34, since they do not burn waste substances. Therefore, the natural gas-fired powder coat curing ovens (MM-3 through MM-7 and MM-9), the natural gas-fired drying ovens (MM-8 and MM-11) and the natural gas-fired flash-off oven MM-10) are not subject to 326 IAC 4-2-2.
- (b) The natural gas burn-off oven (MM-26) is subject to 326 IAC 4-2-2. Pursuant to 326 IAC 4-2-2 (Incinerators), all incinerators shall:
  - (1) consist of primary and secondary chambers or the equivalent;
  - (2) be equipped with a primary burner unless burning wood products;
  - (3) comply with 326 IAC 5-1 and 326 IAC 2;
  - (4) be maintained properly as specified by the manufacturer and approved by the commissioner;
  - (5) be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner;
  - (6) comply with other state and/or local rules or ordinances regarding installation and operation of incinerators;
  - (7) be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented;
  - (8) not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air; and
  - (9) not create a nuisance or a fire hazard.

#### 326 IAC 8-1-6 (New facilities; general reduction requirements)

326 IAC 8-1-6 (New facilities; general reduction requirements) does not apply to the burn-off oven (MM-26), and paint booths MM-12 through MM-15, MM-17 and MM-18 because the potential to emit of VOC is less than 25 tons per year for each unit.

#### 326 IAC 8-3 (Organic Solvent Degreasing Operations)

326 IAC 8-3 (Organic Solvent Degreasing Operations) does not apply to the pretreatment/cleaning iron/zinc phosphate treatment areas, alkaline wash areas and hand wash area because there are no VOCs emitted from these processes.

#### 326 IAC 8-2-9 (Miscellaneous Metal Coating)

This rule applies to metal coating facilities located anywhere in the state that were constructed after July 1, 1990, which have actual volatile organic compound (VOC) emissions of greater than fifteen (15) pounds per day before add-on controls, and which are not otherwise regulated by another provision of Article 8.

The potential to emit of volatile organic compound (VOC) from the paint booths identified as MM12 through MM-15, MM-17 and MM-18 is greater than fifteen (15) pounds per day for each booth. Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the paint booths identified as MM12 through MM-15, MM-17 and MM-18, shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried and extreme performance coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the spray booths are using coating materials that are in compliance with the requirements.

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

Particulate emissions from the one (1) boiler, identified as MM-1, constructed after 1983 is subject to the emission limit requirements in 326 IAC 6-2-4. Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from indirect heating facilities constructed after September 21, 1983 shall be limited by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}} = 0.75 \text{ lb/MMBtu}$$

Where Q = total source capacity (MMBtu/hr)

For this source, Q = 4.18 MMBtu/hr.

For Q less than 10 MMBtu/hr, Pt shall not exceed 0.6 lb/MMBtu, pursuant to 326 IAC 6-2-4(d).

Since 0.75 lb/mmBtu > 0.6 lb/mmBtu, the PM emissions from boiler MM-1 are limited at 0.60 lb/mmBtu.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2(d), particulate from paint booths MM-12 through MM-15, MM-17 and MM-18:

- (a) Shall be controlled by dry filters, and the Permittee shall operate the control device in accordance with manufacturer's specifications.
- (b) If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:
  - (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
  - (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

- (a) The particulate from the three (3) aluminum oxide blast units MM-22 through MM-24 shall each be limited by the following when operating at a process weight rate of 551.5 pounds per hour, each:

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

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

$$E = 4.10 * (551.5 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb})^{0.67} = 1.79 \text{ lbs PM/hr}$$

Controlled Compliance calculation:

$$\text{Uncontrolled PM emissions} * (1 - \text{control efficiency}) = \text{Controlled PM emissions} \\ 14.67 \text{ tons PM/yr} * (1-0.98) = 0.293 \text{ tons PM/yr}$$

$$(0.293 \text{ tons PM/yr}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 0.07 \text{ lbs PM/hr}$$

The respective baghouses shall be in operation at all times the three (3) aluminum oxide blast units MM-22 through MM-24 are in operation, in order to comply with this limit.

- (b) The particulate from the one (1) aluminum oxide blast unit MM-25 shall be limited by the following when operating at a process weight rate of 383.4 pounds per hour:

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

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

$$E = 4.10 * (383.4 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb})^{0.67} = 1.35 \text{ lbs PM/hr}$$

Controlled Compliance calculation:

$$\text{Uncontrolled PTE PM (tons/yr)} * (1 - \text{control efficiency}) = \text{Controlled PTE PM (tons/yr)} \\ 16.79 \text{ tons PM/yr} * (1-0.98) = 0.336 \text{ tons PM/yr}$$

$$(0.336 \text{ tons PM/yr}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 0.08 \text{ lbs PM/hr}$$

The baghouse shall be in operation at all times the one (1) aluminum oxide blast unit MM-25 is in operation, in order to comply with this limit.

- (c) Pursuant to 326 IAC 6-3-1(b)(4), the burn-off oven is exempt from 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) because the potential to emit of PM from the oven is less than 0.551 pound per hour.
- (d) IDEM has determined that the three (3) powder coat booths, identified as MM-19 through MM-21, are totally enclosed and are not emitting particulate emissions. Therefore, the requirements of 326 IAC 6-3-2 do not apply.

## **Compliance Requirements**

Permits issued under 326 IAC 2-6 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-6.1-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The four (4) aluminum oxide blast units, designated as MM-22 through MM-25 have low allowable emissions. Therefore, there are no compliance monitoring conditions included in this permit for these units.

## **Conclusion**

The operation of this automotive coater plant shall be subject to the conditions of the Minor Source Operating Permit 049-22683-00020.

## Appendix A: Emission Calculations

**Company Name: Modern Materials, Inc.**  
**Address City IN Zip: 435 State Road 25 North, Rochester, IN 46975**  
**Permit No.: MSOP 049-22683-00020**  
**Reviewer: AB/EVP**

<b>Uncontrolled Potential Emissions (tons/year)</b>					
Emissions Generating Activity					
Pollutant	Natural Gas Combustion	Incinerator (MM-26)	Aluminum Oxide Blast Units (MM-22 though MM-25)	Surface Coating MM-12 through MM-15, MM-17 and MM-18	<b>TOTAL</b>
PM	0.10	0.80	60.79	14.76	76.5
PM10	0.43	0.80	60.79	14.76	76.8
SO2	0.03	0.30	0.00	0.00	0.3
NOx	5.60	0.40	0.00	0.00	6.0
VOC	0.31	0.40	0.00	31.56	32.3
CO	4.70	1.20	0.00	0.00	5.9
total HAPs	0.034	0.00	0.00	8.74	8.8
worst case single HAP	0.033	0.00	0.00	4.06	4.1
Total emissions based on rated capacity at 8,760 hours/year.					
<b>Controlled Potential Emissions (tons/year)</b>					
Emissions Generating Activity					
Pollutant	Natural Gas Combustion	Incinerator (MM-26)	Aluminum Oxide Blast Units (MM-22 though MM-25)	Surface Coating MM-12 through MM-15, MM-17 and MM-18	<b>TOTAL</b>
PM	0.10	0.80	1.22	0.74	2.9
PM10	0.43	0.80	1.22	0.74	3.2
SO2	0.03	0.30	0.00	0.00	0.3
NOx	5.60	0.40	0.00	0.00	6.0
VOC	0.31	0.40	0.00	31.56	32.3
CO	4.70	1.20	0.00	0.00	5.9
total HAPs	0.034	0.00	0.00	8.74	8.8
worst case single HAP	0.033	0.00	0.00	4.06	4.1
Total emissions based on rated capacity at 8,760 hours/year, after control.					

**Appendix A: Emissions Calculations  
VOC and Particulate  
From Surface Coating Operations**

Company Name: Modern Materials, Inc.  
Address City IN Zip: 435 State Road 25 North, Rochester, IN 46975  
Permit Number: MSOP 049-22683-00020  
Reviewer: AB/EVP

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
<b>Job Shop Line (MM-13 through MM-15)</b>																
300-103	8.2	79.25%	39.3%	40.0%	40.7%	60.02%	0.00198	2.920	5.52	3.28	0.02	0.45	0.08	0.01	5.46	75%
300-218	8.5	73.10%	0.0%	73.1%	0.0%	17.80%	0.00641	26.400	6.21	6.21	1.05	25.24	4.61	0.42	34.91	75%
300-1010	9.6	53.00%	29.6%	23.4%	33.5%	39.00%	0.00641	1.430	3.38	2.25	0.02	0.49	0.09	0.05	5.76	75%
300-27A	9.0	64.67%	0.0%	64.7%	0.0%	16.57%	0.00091	1.290	5.82	5.82	0.01	0.16	0.03	0.00	35.13	75%
300-Hi Temp Black	8.8	50.57%	0.0%	50.6%	0.0%	41.00%	0.00496	0.790	4.45	4.45	0.02	0.42	0.08	0.02	10.85	75%
300-1331	9.6	53.00%	29.6%	23.4%	33.5%	39.00%	0.00534	0.120	3.38	2.25	0.00	0.03	0.01	0.00	5.76	75%
300-Black Waterborne	9.1	57.58%	40.3%	17.3%	43.8%	33.91%	0.00894	214.000	2.80	1.57	3.01	72.20	13.18	8.09	4.64	75%
300-Acrylic Black	8.6	63.00%	55.5%	7.5%	58.1%	99.93%	0.00894	5.470	1.54	0.65	0.03	0.76	0.14	0.17	0.65	75%
300-Conductive	8.6	64.20%	55.5%	8.7%	58.1%	99.93%	0.00894	5.470	1.79	0.75	0.04	0.88	0.16	0.16	0.75	75%
300-Cortec	8.8	100.00%	95.0%	5.0%	0.0%	40.00%	0.00488	210.000	0.44	0.44	0.45	10.82	1.97	0.00	1.10	75%
300-CAT Yellow	9.3	36.08%	0.0%	36.1%	0.0%	51.00%	0.00661	0.160	3.36	3.36	0.00	0.09	0.02	0.01	6.58	75%
300-White	10.8	29.35%	0.0%	29.4%	0.0%	56.90%	0.00496	0.001	3.17	3.17	0.00	0.00	0.00	0.00	5.57	75%
350-Black	9.5	53.80%	43.4%	10.4%	49.2%	63.00%	0.00496	2.210	1.93	0.98	0.01	0.26	0.05	0.05	1.56	75%
300-DRA Gray	8.0	48.00%	0.0%	48.0%	0.0%	55.00%	0.00496	19.000	3.84	3.84	0.36	8.69	1.59	0.43	6.98	75%
Subtotal											5.02	120.49	21.99	9.42		
<b>Regular Shaft Line (MM-12)</b>																
350-Black	9.5	53.80%	43.4%	10.4%	49.2%	63.00%	0.00017	2000.000	1.93	0.98	0.33	8.02	1.46	1.63	1.56	75%
Subtotal											0.33	8.02	1.46	1.63		
<b>Flanged Shaft Line (MM-17)</b>																
300-103	8.2	79.25%	39.3%	40.0%	40.7%	60.02%	0.00017	2000.000	5.52	3.28	1.11	26.73	4.88	0.63	5.46	75%
300-Cortec	8.8	100.00%	95.0%	5.0%	0.0%	40.00%	0.00017	1429.000	0.44	0.44	0.11	2.57	0.47	0.00	1.10	75%
Subtotal											1.22	29.30	5.35	0.63		
<b>Frame Line (MM-18)</b>																
350-Black	9.5	53.80%	43.4%	10.4%	49.2%	63.00%	0.00150	428.000	1.93	0.98	0.63	15.15	2.76	3.08	1.56	75%
Subtotal											0.63	15.15	2.76	3.08		
<b>Potential Emissions</b>											<b>7.21</b>	<b>172.96</b>	<b>31.56</b>	<b>14.76</b>		

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)  
Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)  
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)  
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)  
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)  
Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)  
Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)  
Total = Worst Coating + Sum of all solvents used

**Appendix A: Emission Calculations  
HAP Emission Calculations**

**Company Name: Modern Materials, Inc.  
Address City IN Zip: 435 State Road 25 North, Rochester, IN 46975  
Permit Number: MSOP049-22683-00020  
Permit Reviewer: AB/EVP**

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Ethylbenzene	Weight % MIBK	Weight % Glycol Ethers	Weight % Cobalt	Weight % Chromium	Weight % Lead Compound	Weight % Antimony Compound	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Ethylbenzen e Emissions (ton/yr)	MIBK Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)	Cobalt Emissions (ton/yr)	Lead Compounds Emissions (ton/yr)	Antimony Compounds Emissions (ton/yr)	
<b>Regular Shaft Line (MM-12)</b>																					
350-Black	11.3	0.00017	2000.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.20%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	
<b>Flanged Shaft Line (MM-17)</b>																					
300-103	8.2	0.00017	2360.000	0.00%	10.00%	0.00%	20.00%	0.00%	0.20%	0.00%	5.00%	5.00%	0.00	1.44	0.00	2.88	0.00	0.03	0.72	0.72	
<b>Frame Line (MM-18)</b>																					
350-Black	11.3	0.00150	650.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Total Potential Emissions **0.00    1.44    0.00    2.88    0.00    0.06    0.72    0.72**

**METHODOLOGY**

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/200

**Appendix A: Emission Calculations  
HAP Emission Calculations**

**Company Name: Modern Materials, Inc.  
Address City IN Zip: 435 State Road 25 North, Rochester, IN 46975  
Permit Number: MSOP049-22683-00020  
Permit Reviewer: AB/EVP**

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Ethylbenzene	Weight % MIBK	Weight % Glycol Ethers	Weight % Manganese	Weight % Lead	Weight % Antimony Compound	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Ethylbenzene Emissions (ton/yr)	MIBK Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)	Manganese Emissions (ton/yr)	Lead Emissions (ton/yr)	Antimony Compound Emissions (ton/yr)
<b>Job Shop Line (MM-13 through MM-15)</b>																			
300-103	8.2	0.00198	2.920	0.00%	10.00%	0.00%	20.00%	0.00%	0.00%	5.00%	5.00%	0.00	0.02	0.00	0.04	0.00	0.00	0.01	0.01
300-218	8.5	0.00641	26.400	0.00%	0.00%	0.00%	18.00%	5.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	1.13	0.32	0.00	0.00	0.00
300-1010	9.6	0.00641	1.430	0.00%	0.00%	0.00%	0.00%	12.80%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00
300-27A	9.0	0.00091	1.290	0.00%	0.00%	0.00%	0.00%	10.00%	0.00%	5.00%	5.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300-Hi Temp Black	8.8	0.00496	0.790	50.00%	0.00%	0.00%	0.00%	0.00%	10.00%	0.00%	0.00%	0.08	0.00	0.00	0.00	0.00	0.02	0.00	0.00
300-1331	9.6	0.00534	0.120	0.00%	0.00%	0.00%	0.00%	12.80%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300-CAT Yellow	9.3	0.00661	0.160	0.00%	0.00%	0.00%	15.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
300-White	10.8	0.00496	0.001	19.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300-High Gloss	8.0	0.00496	2.210	28.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.11	0.00	0.02	0.00	0.00	0.00	0.00	0.00
300-DRA Gray	8.0	0.00496	19.000	28.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.92	0.00	0.17	0.00	0.00	0.00	0.00	0.00

Total Potential Emissions

**1.11    0.02    0.18    1.18    0.37    0.02    0.01    0.01**

**METHODOLOGY**

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs

**Appendix A: Emission Calculations  
Incinerator**

**Company Name: Modern Materials, Inc.**  
**Address City IN Zip: 435 State Road 25 North, Rochester, IN 46975**  
**Permit Number: MSOP 049-22683-00020**  
**Reviewer: AB/EVP**

<b>THROUGHPUT</b> lbs/hr 55
-----------------------------------

**THROUGHPUT**  
 ton/yr  
 240.9

	POLLUTANT				
	PM	SO2	CO	VOC	NOX
Emission Factor in lb/ton	7.0	2.5	10.0	3.0	3.0
Potential Emissions in ton/yr	0.8	0.3	1.2	0.4	0.4

**Methodology**

Emission factors are from AP 42 (5th Edition 1/95) Table 2.1-12, Uncontrolled emission factors for industrial/commercial refuse combustors, multiple chambers

Throughput (lb/hr) \* 8760 hr/yr \* ton/2000 lb = throughput (ton/yr)

Abrasive Blasting - Confined

Company Name: Modern Materials, Inc.  
 Address City IN Zip: 435 State Road 25 North, Rochester, IN 46975  
 Permit Number: MSOP 049-22683-00020  
 Reviewer: AB/EVP

Three (3) Aluminum Blast Units MM-22 through MM-24

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)  
 FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =  
 D = Density of abrasive (lb/ft3) From Table 2 =  
 D1 = Density of sand (lb/ft3) =  
 ID = Actual nozzle internal diameter (in) =  
 ID1 = Nozzle internal diameter (in) from Table 3 =

255
130
99
0.25
0.25

Flow Rate (FR) (lb/hr) = 334.848 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =  
 FR = Flow Rate (lb/hr) =  
 w = fraction of time of wet blasting =  
 N = number of nozzles =

0.010
334.848
0
1

Uncontrolled Emissions =	3.35 lb/hr
One Unit	14.67 ton/yr
Three Units	44.00 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)² x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations**

**Abrasive Blasting - Confined**

**Company Name:** Modern Materials, Inc.  
**Address City IN Zip:** 435 State Road 25 North, Rochester, IN 46975  
**Permit Number:** MSOP 049-22683-00020  
**Reviewer:** AB/EVP

**One (1) Aluminum Blast Unit MM-25**

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Table 2 - Density of Abrasives (lb/ft3)**

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

**Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)**

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

**Calculations**

*Adjusting Flow Rates for Different Abrasives and Nozzle Diameters*

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)  
 FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =  
 D = Density of abrasive (lb/ft3) From Table 2 =  
 D1 = Density of sand (lb/ft3) =  
 ID = Actual nozzle internal diameter (in) =  
 ID1 = Nozzle internal diameter (in) from Table 3 =

292
130
99
0.3125
0.3125

**Flow Rate (FR) (lb/hr) = 383.434 per nozzle**

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =  
 FR = Flow Rate (lb/hr) =  
 w = fraction of time of wet blasting =  
 N = number of nozzles =

0.010
383.434
0 %
1

<b>Uncontrolled Emissions =</b>	<b>3.83 lb/hr</b>
One Unit	<b>16.79 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)² x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emissions Calculations  
 Natural Gas Combustion Only  
 MM BTU/HR <100  
 Small Boilers**

**Company Name: Modern Materials, Inc.  
 Address City IN Zip: 435 State Road 25 North, Rochester, IN 46975  
 Permit Number: MSOP 049-22683-00020  
 Reviewer: AB/EVP**

Heat Input Capacity  
 MMBtu/hr

Potential Throughput  
 MMCF/yr

4.2

36.6

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.03	0.14	0.01	1.83	0.10	1.54

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emissions Calculations  
 Natural Gas Combustion Only  
 MM BTU/HR <100  
 Small Boilers  
 HAPs Emissions**

**Company Name: Modern Materials, Inc.**  
**Address City IN Zip: 435 State Road 25 North, Rochester, IN 46975**  
**Permit Number: MSOP 049-22683-00020**  
**Reviewer: AB/EVP**

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.845E-05	2.197E-05	1.373E-03	3.296E-02	6.225E-05

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	9.154E-06	2.014E-05	2.563E-05	6.957E-06	3.845E-05

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100**

**Ten (10) Various Natural Gas-Fired Ovens  
Company Name: Modern Materials, Inc.  
Address City IN Zip: 435 State Road 25 North, Rochester, IN 46975  
Permit Number: MSOP 049-22683-00020  
Reviewer: AB/EVP**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

8.6

75.3

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.07	0.29	0.02	3.77	0.21	3.16

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emissions Calculations**

**Natural Gas Combustion Only**

**MM BTU/HR <100**

**Ten (10) Various Natural Gas-Fired Ovens**

**HAPs Emissions**

**Company Name: Modern Materials, Inc.**  
**Address City IN Zip: 435 State Road 25 North, Rochester, IN 46975**  
**Permit Number: MSOP 049-22683-00020**  
**Reviewer: AB/EVP**

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	7.910E-05	4.520E-05	2.825E-03	6.780E-02	1.281E-04

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.883E-05	4.143E-05	5.274E-05	1.431E-05	7.910E-05

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.