



Joseph E. Kernan  
Governor

Lori F. Kaplan  
Commissioner

October 22, 2004

100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015  
(317) 232-8603  
(800) 451-6027  
www.in.gov/idem

TO: Interested Parties / Applicant

RE: The Matrixx Group / MSOP 163-18955-00170

FROM: Paul Dubenetzky  
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 9/16/03



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## MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY

**The Matrixx Group  
15000 U.S. Highway 41 North  
Evansville, Indiana 47725**

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

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

Operation Permit No.: MSOP 163-18955-00170	
Issued by: Original signed by Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: October 22, 2004  Expiration Date: October 22, 2009

## TABLE OF CONTENTS

<b>A</b>	<b>SOURCE SUMMARY</b> .....	4
A.1	General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]	
A.2	Emission Units and Pollution Control Equipment Summary	
<b>B</b>	<b>GENERAL CONDITIONS</b> .....	8
B.1	Permit No Defense [IC 13]	
B.2	Definitions	
B.3	Effective Date of the Permit [IC 13-15-5-3]	
B.4	Permit Term and Renewal [326 IAC 2-6.1-7(a)] [326 IAC 2-1.1-9.5]	
B.5	Modification to Permit [326 IAC 2]	
B.6	Annual Notification [326 IAC 2-6.1-5(a)(5)]	
B.7	Preventive Maintenance Plan [326 IAC 1-6-3]	
B.8	Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]	
B.9	Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)] [IC 13-14-2-2] [IC 13-17-3-2] [IC 13-30-3-1]	
B.10	Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]	
B.11	Annual Fee Payment [326 IAC 2-1.1-7]	
<b>C</b>	<b>SOURCE OPERATION CONDITIONS</b> .....	12
C.1	Permit Revocation [326 IAC 2-1.1-9]	
C.2	Opacity [326 IAC 5-1]	
C.3	Fugitive Dust Emissions [326 IAC 6-4]	
C.4	Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]	
	<b>Testing Requirements</b>	
C.5	Performance Testing [326 IAC 3-6]	
	<b>Compliance Requirements [326 IAC 2-1.1-11]</b>	
C.6	Compliance Requirements [326 IAC 2-1.1-11]	
	<b>Compliance Monitoring Requirements</b>	
C.7	Compliance Monitoring [326 IAC 2-1.1-11]	
C.8	Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]	
C.9	Actions Related to Noncompliance Demonstrated by a Stack Test	
	<b>Record Keeping and Reporting Requirements</b>	
C.10	Malfunctions Report [326 IAC 1-6-2]	
C.11	General Record Keeping Requirements [326 IAC 2-6.1-5]	
C.12	General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]	
<b>D.1</b>	<b>EMISSIONS UNIT OPERATION CONDITIONS - Blending, extrusion, grinding, welding &amp; cutting.....</b>	17
	<b>Emission Limitations and Standards</b>	
D.1.1	Particulate Matter (PM) [326 IAC 6-1-2(a)]	
	<b>Compliance Determination Requirements</b>	
D.1.2	Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]	
D.1.3	Particulate Control	
<b>D.2</b>	<b>EMISSIONS UNIT OPERATION CONDITIONS - Boilers .....</b>	20
	<b>Emission Limitations and Standards</b>	
D.2.1	Particulate [326 IAC 6-1-2]	

<b>D.3</b>	<b>EMISSIONS UNIT OPERATION CONDITIONS - Parts washing</b> .....	21
	<b>Emission Limitations and Standards</b>	
	D.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]	
	<b>Annual Notification</b> .....	22
	<b>Malfunction Report</b> .....	23

## 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 purchased plastic pellet custom compounding source.

Authorized Individual:	Executive Vice President of Administration
Source Address:	15000 U.S. Highway 41 North, Evansville, Indiana 47725
Mailing Address:	15000 U.S. Highway 41 North, Evansville, Indiana 47725
General Source Phone:	(812) 421-3600
SIC Code:	3087
County Location:	Vanderburgh
Source Location Status:	Nonattainment area for the 8-hour Ozone Standard Attainment area for all other criteria pollutants
Source Status:	Minor Source Operating Permit Minor Source, under PSD and Nonattainment NSR

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

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This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) Twelve (12) silos, identified as S1 through S6, R1, R2, B1, B2 W1 and W2, with a maximum capacity of 35,408 cubic feet and a maximum transfer rate of 25,000 pounds per hour, total.
- (b) Four (4) blenders, identified as BLNDR 2 through 5, constructed in 1999, capacity: 5,000 pounds per hour, each.
- (c) One (1) blender, identified as BLNDR 6, constructed in 1999, equipped with a baghouse exhausting inside, capacity: 5,000 pounds per hour.
- (d) One (1) blender, identified as BLNDR 7, constructed in 2002, capacity: 5,000 pounds per hour.
- (e) One (1) blender, identified as BLNDR 8, constructed in 2003, capacity: 8,000 pounds per hour.
- (f) One (1) blender, identified as BLNDR 9, constructed in 2001, capacity: 500 pounds per hour.
- (g) One (1) extrusion line, identified as NP1, constructed in 1999, with a capacity of 1,400 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-17
  - (3) One (1) water bath

- (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (h) One (1) extrusion line, identified as NP2, constructed in 1999, with a capacity of 3,250 pounds per hour, equipped with a cartridge filter dust collector exhausting inside, consisting of:
- (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-17
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (i) One (1) extrusion line, identified as NP4, constructed in 2001, with a capacity of 4,000 pounds per hour, equipped with a cartridge filter dust collector exhausting inside, consisting of:
- (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-17
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (j) One (1) extrusion line, identified as NE1, constructed in 1999, with a capacity of 1,400 pounds per hour, consisting of:
- (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-9
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (k) One (1) extrusion line, identified as NE2, constructed in 2003, with a capacity of 1,400 pounds per hour, consisting of:
- (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-9
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper

- (6) One (1) classifier
- (l) One (1) extrusion line, identified as NE3, constructed in 2000, with a capacity of 3,000 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-9
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (m) One (1) extrusion line, identified as NX1, constructed in 1999, in the Pilot Plant, with a capacity of 330 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-19
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (n) One (1) extrusion line, identified as NX2, constructed in 1999, in the Pilot Plant, with a capacity of 40 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-19
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (o) One (1) extrusion line, identified as NX3, constructed in 1999, in the Pilot Plant, with a capacity of 25 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-19
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (p) One (1) self-contained plastic scrap grinder, identified as NE1, constructed in 1999, capacity: 300 pounds per hour.

- (q) One (1) self-contained plastic scrap grinder, identified as NE2, constructed in 2003, capacity: 300 pounds per hour.
- (r) One (1) self-contained plastic scrap grinder, identified as NE3, constructed in 1999, capacity: 500 pounds per hour.
- (s) One (1) self-contained plastic scrap grinder, identified as NP2/4, constructed in 1999, capacity: 1,000 pounds per hour.
- (t) Two (2) MIG welding stations, capacity: 2 pounds of weld wire per hour, each.
- (u) One (1) stick welding station, capacity: 12 electrodes per hour, weighing 0.09 pounds each.
- (v) One (1) TIG welding station, capacity: 0.5 pounds of weld wire per hour.
- (w) Two (2) oxymethane flame cutting stations, maximum cutting rate: 10 inches per minute.
- (x) One (1) natural gas-fired boiler, identified as Boiler #1, constructed in 1999, exhausting to stack S-5, capacity: 1 million British thermal unit per hour.
- (y) One (1) natural gas-fired boiler, identified as Boiler #2, constructed in 1999, exhausting to stack S-6, capacity: 1 million British thermal unit per hour.
- (z) One (1) parts washer, constructed in 1999, identified as The Parts Washer, with a reservoir capacity of 30 gallons and a maximum usage rate of less than 0.1 gallons per day and 18 gallons of solvent per year.

**SECTION B GENERAL CONDITIONS**

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

**B.1 Permit No Defense [IC 13]**

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This permit to operate does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

**B.2 Definitions**

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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.3 Effective Date of the Permit [IC13-15-5-3]**

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Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

**B.4 Permit Term and Renewal [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5]**

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This permit 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 of this permit do not affect the expiration date.

The Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date. If a timely and sufficient permit application for a renewal has been made, this permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

**B.5 Modification to Permit [326 IAC 2]**

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All requirements and conditions of this operating permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

**B.6 Annual Notification [326 IAC 2-6.1-5(a)(5)]**

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- (a) Annual notification shall be submitted 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) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and 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, P.O. Box 6015  
Indianapolis, IN 46206-6015

- (d) 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.7 Preventive Maintenance Plan [326 IAC 1-6-3]**

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- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days (this time frame is determined on a case by case basis but no more than ninety (90) days) after issuance of this permit, including the following information on each emissions unit:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

The PMP extension notification does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall implement the PMPs, including any required record keeping, as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.
- (c) A copy of the PMP's 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 PMP whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMP does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) 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.8 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]**

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- (a) Permit revisions are governed by the requirements of 326 IAC 2-6.1-6.
- (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, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

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

- (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)]
- (d) No permit amendment or modification is required for the addition, operation or removal of a non-road engine, as defined in 40 CFR 89.2.

**B.9 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 this title or the conditions of this permit or any operating permit revisions;
- (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 processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (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.10 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]**  
Pursuant to [326 IAC 2-6.1-6(d)(3)]:

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- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

B.11 Annual Fee Payment [326 IAC 2-1.1-7]

- (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.

**SECTION C**

**SOURCE OPERATION CONDITIONS**

Entire Source

**C.1 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.2 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.3 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.4 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, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

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 2-7-1(34).

- (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. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

## Testing Requirements

### C.5 Performance Testing [326 IAC 3-6]

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- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. 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, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date.

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by the 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.6 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**

##### **C.7 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.8 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.9 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 emissions unit 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 re-testing in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the re-testing deadline.

- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to non-compliant stack tests.

The response action documents submitted pursuant to this condition do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1.

### **Record Keeping and Reporting Requirements**

#### **C.10 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.11 General Record Keeping Requirements [326 IAC 2-6.1-5]**

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

#### **C.12 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, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

- (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, any quarterly or semi-annual report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

**SECTION D.1**

**EMISSIONS UNITS OPERATION CONDITIONS**

**Emissions Unit Description:**

- (a) Twelve (12) silos, identified as S1 through S6, R1, R2, B1, B2 W1 and W2, with a maximum capacity of 35,408 cubic feet and a maximum transfer rate of 25,000 pounds per hour, total.
- (b) Four (4) blenders, identified as BLNDR 2 through 5, constructed in 1999, capacity: 5,000 pounds per hour, each.
- (c) One (1) blender, identified as BLNDR 6, constructed in 1999, equipped with a baghouse exhausting inside, capacity: 5,000 pounds per hour.
- (d) One (1) blender, identified as BLNDR 7, constructed in 2002, capacity: 5,000 pounds per hour.
- (e) One (1) blender, identified as BLNDR 8, constructed in 2003, capacity: 8,000 pounds per hour.
- (f) One (1) blender, identified as BLNDR 9, constructed in 2001, capacity: 500 pounds per hour.
- (g) One (1) extrusion line, identified as NP1, constructed in 1999, with a capacity of 1,400 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-17
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (h) One (1) extrusion line, identified as NP2, constructed in 1999, with a capacity of 3,250 pounds per hour, equipped with a cartridge filter dust collector exhausting inside, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-17
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (i) One (1) extrusion line, identified as NP4, constructed in 2001, with a capacity of 4,000 pounds per hour, equipped with a cartridge filter dust collector exhausting inside, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-17
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (j) One (1) extrusion line, identified as NE1, constructed in 1999, with a capacity of 1,400 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-9
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier

**Emissions Unit Description: (continued)**

- (k) One (1) extrusion line, identified as NE2, constructed in 2003, with a capacity of 1,400 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-9
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (l) One (1) extrusion line, identified as NE3, constructed in 2000, with a capacity of 3,000 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-9
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (m) One (1) extrusion line, identified as NX1, constructed in 1999, in the Pilot Plant, with a capacity of 330 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-19
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (n) One (1) extrusion line, identified as NX2, constructed in 1999, in the Pilot Plant, with a capacity of 40 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-19
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (o) One (1) extrusion line, identified as NX3, constructed in 1999, in the Pilot Plant, with a capacity of 25 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-19
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (p) One (1) self-contained plastic scrap grinder, identified as NE1, constructed in 1999, capacity: 300 pounds per hour.
- (q) One (1) self-contained plastic scrap grinder, identified as NE2, constructed in 2003, capacity: 300 pounds per hour.

**Emissions Unit Description: (continued)**

- (r) One (1) self-contained plastic scrap grinder, identified as NE3, constructed in 1999, capacity: 500 pounds per hour.
- (s) One (1) self-contained plastic scrap grinder, identified as NP2/4, constructed in 1999, capacity: 1,000 pounds per hour.
- (t) Two (2) MIG welding stations, capacity: 2 pounds of weld wire per hour, each.
- (u) One (1) stick welding station, capacity: 12 electrodes per hour, weighing 0.09 pounds each.
- (v) One (1) TIG welding station, capacity: 0.5 pounds of weld wire per hour.
- (w) Two (2) oxy methane flame cutting stations, maximum cutting rate: 10 inches per minute.

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

**Emission Limitations and Standards**

**D.1.1 Particulate Matter (PM) [326 IAC 6-1-2(a)]**

- (a) Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from each of the eight (8) blenders shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.
- (b) Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from each of the nine (9) extrusion lines shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.
- (c) Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from each of the four (4) plastic scrap grinders shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.
- (d) Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from each of the four (4) welding stations and two (2) flame cutting stations shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

**Compliance Determination Requirements**

**D.1.2 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]**

Within 180 days after issuance of this MSOP, in order to demonstrate compliance with Condition D.1.1(a), the Permittee shall perform PM testing for the one (1) blender exhausting to the baghouse (BLNDR 6) and at least one (1) of the seven (7) uncontrolled blenders (BLNDR 2, 3, 4, 5, 7, 8 or 9) utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C- Performance Testing.

**D.1.3 Particulate Control**

In order to comply with Condition D.1.1, the baghouse for particulate control shall be in operation and control emissions from the one (1) blender, identified as BLNDR 6, at all times that the blender is in operation.

**Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

There are no specific compliance monitoring requirements for these facilities.

## SECTION D.2

## EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

- (x) One (1) natural gas-fired boiler, identified as Boiler #1, constructed in 1999, exhausting to stack S-5, capacity: 1 million British thermal unit per hour.
- (y) One (1) natural gas-fired boiler, identified as Boiler #2, constructed in 1999, exhausting to stack S-6, capacity: 1 million British thermal unit per hour.

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

### Emission Limitations and Standards

#### D.2.1 Particulate [326 IAC 6-1-2]

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Pursuant to 326 6-1-2(b), County Specific Particulate Matter Limitations, the particulate matter (PM) emissions from each of the two (2) 1.00 million British thermal units per hour heat input boilers shall be limited to one-hundredth (0.01) grain per dry standard cubic foot (dscf) of exhaust air.

### SECTION D.3

### EMISSIONS UNIT OPERATION CONDITIONS

#### Emissions Unit Description:

- (z) One (1) parts washer, constructed in 1999, identified as The Parts Washer, with a reservoir capacity of 30 gallons and a maximum usage rate of less than 0.1 gallons per day and 18 gallons of solvent per year.

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

#### Emission Limitations and Standards

##### D.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

**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>The Matrixx Group</b>
<b>Address:</b>	<b>15000 U.S. Highway 41 North</b>
<b>City:</b>	<b>Evansville</b>
<b>Phone #:</b>	<b>(812) 421-3600</b>
<b>MSOP #:</b>	<b>163-18955-00170</b>

I hereby certify that The Matrixx Group is  still in operation.  
 no longer in operation.

I hereby certify that The Matrixx Group is  in compliance with the requirements of MSOP 163-18955-00170  
 not in compliance with the requirements of MSOP 163-18955-00170

<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>



**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

**Source Background and Description**

<b>Source Name:</b>	<b>The Matrixx Group</b>
<b>Source Location:</b>	<b>15000 U.S. Highway 41 North, Evansville, IN 47725</b>
<b>County:</b>	<b>Vanderburgh</b>
<b>SIC Code:</b>	<b>3087</b>
<b>Operation Permit No.:</b>	<b>163-18955-00170</b>
<b>Permit Reviewer:</b>	<b>CarrieAnn Paukowits</b>

The Office of Air Quality (OAQ) has reviewed an application from The Matrixx Group relating to the operation of a purchased plastic pellet custom compounding source.

**Permitted Emission Units and Pollution Control Equipment**

There are no permitted emission units at this source.

**Unpermitted Emission Units and Pollution Control Equipment**

The source consists of the following unpermitted emission units:

- (a) Twelve (12) silos, identified as S1 through S6, R1, R2, B1, B2 W1 and W2, with a maximum capacity of 35,408 cubic feet and a maximum transfer rate of 25,000 pounds per hour, total.
- (b) Four (4) blenders, identified as BLNDR 2 through 5, constructed in 1999, capacity: 5,000 pounds per hour, each.
- (c) One (1) blender, identified as BLNDR 6, constructed in 1999, equipped with a baghouse exhausting inside, capacity: 5,000 pounds per hour.
- (d) One (1) blender, identified as BLNDR 7, constructed in 2002, capacity: 5,000 pounds per hour.
- (e) One (1) blender, identified as BLNDR 8, constructed in 2003, capacity: 8,000 pounds per hour.
- (f) One (1) blender, identified as BLNDR 9, constructed in 2001, capacity: 500 pounds per hour.
- (g) One (1) extrusion line, identified as NP1, constructed in 1999, with a capacity of 1,400 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-17
  - (3) One (1) water bath
  - (4) One (1) air blower

- (5) One (1) chopper
  - (6) One (1) classifier
- (h) One (1) extrusion line, identified as NP2, constructed in 1999, with a capacity of 3,250 pounds per hour, equipped with a cartridge filter dust collector exhausting inside, consisting of:
- (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-17
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (i) One (1) extrusion line, identified as NP4, constructed in 2001, with a capacity of 4,000 pounds per hour, equipped with a cartridge filter dust collector exhausting inside, consisting of:
- (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-17
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (j) One (1) extrusion line, identified as NE1, constructed in 1999, with a capacity of 1,400 pounds per hour, consisting of:
- (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-9
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (k) One (1) extrusion line, identified as NE2, constructed in 2003, with a capacity of 1,400 pounds per hour, consisting of:
- (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-9
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper

- (6) One (1) classifier
- (l) One (1) extrusion line, identified as NE3, constructed in 2000, with a capacity of 3,000 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-9
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (m) One (1) extrusion line, identified as NX1, constructed in 1999, in the Pilot Plant, with a capacity of 330 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-19
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (n) One (1) extrusion line, identified as NX2, constructed in 1999, in the Pilot Plant, with a capacity of 40 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-19
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier
- (o) One (1) extrusion line, identified as NX3, constructed in 1999, in the Pilot Plant, with a capacity of 25 pounds per hour, consisting of:
  - (1) One (1) feed hopper
  - (2) One (1) extruder, exhausting to stack S-19
  - (3) One (1) water bath
  - (4) One (1) air blower
  - (5) One (1) chopper
  - (6) One (1) classifier

- (p) One (1) self-contained plastic scrap grinder, identified as NE1, constructed in 1999, capacity: 300 pounds per hour.
- (q) One (1) self-contained plastic scrap grinder, identified as NE2, constructed in 2003, capacity: 300 pounds per hour.
- (r) One (1) self-contained plastic scrap grinder, identified as NE3, constructed in 1999, capacity: 500 pounds per hour.
- (s) One (1) self-contained plastic scrap grinder, identified as NP2/4, constructed in 1999, capacity: 1,000 pounds per hour.
- (t) Two (2) MIG welding stations, capacity: 2 pounds of weld wire per hour, each.
- (u) One (1) stick welding station, capacity: 12 electrodes per hour, weighing 0.09 pounds each.
- (v) One (1) TIG welding station, capacity: 0.5 pounds of weld wire per hour.
- (w) Two (2) oxy-methane flame cutting stations, maximum cutting rate: 10 inches per minute.
- (x) One (1) natural gas-fired boiler, identified as Boiler #1, constructed in 1999, exhausting to stack S-5, capacity: 1 million British thermal unit per hour.
- (y) One (1) natural gas-fired boiler, identified as Boiler #2, constructed in 1999, exhausting to stack S-6, capacity: 1 million British thermal unit per hour.
- (z) One (1) parts washer, constructed in 1999, identified as The Parts Washer, with a reservoir capacity of 30 gallons and a maximum usage rate of less than 0.1 gallons per day and 18 gallons of solvent per year.

### **Existing Approvals**

The source no existing approvals.

### **Enforcement Issue**

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled "Unpermitted Emission Units and Pollution Control Equipment".
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

**Stack Summary**

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
1	Building vent	36.0	5.31	33,000	Ambient
2	Building vent	36.0	5.31	33,000	Ambient
3	Building vent	36.0	5.31	33,000	Ambient
4	Building vent	26.0	5.31	20,000	Ambient
5	Boiler #1	22.0	1.50	5,000	160
6	Boiler #2	22.0	1.50	5,000	160
7	Space heater	20.0	0.83	2,500	160
8	Water heater	21.0	0.50	1,250	160
9	North side extruder	44.0	1.00	8,900	100
10	Building vent	35.0	2.55	3,500	Ambient
11	Building vent	35.0	4.46	7,500	Ambient
12	Building vent	30.0	2.55	3,500	Ambient
13	Building vent	50.0	2.55	3,500	Ambient
14	Building vent	36.0	5.31	33,000	Ambient
15	Building vent	36.0	5.31	33,000	Ambient
16	Building vent	36.0	5.31	33,000	Ambient
17	South side extruder	44.0	1.00	8,900	100
18	Building vent	36.0	1.27	1,250	Ambient
19	Pilot plant extruder	36.0	1.50	6,500	100
20	Flame hood	34.0	0.75	500	100
21	Kitchen	36.0	1.67	1,700	90
22	QA Lab	36.0	1.50	1,000	Ambient

**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.

An application for the purposes of this review was received on April 15, 2004, with additional information received on June 14, 2004.

**Emission Calculations**

- (a) See pages 1 through 6 of Appendix A of this document for detailed emission calculations.
- (b) The applicant has indicated that Formaldehyde, Acrolein, Acetaldehyde, Propionaldehyde and MEK may be present in the materials processed at this source and may be emitted to the atmosphere at rates less than 0.01 ton per year, each, during the extrusion process.
- (c) Since the plastic is cooled before pelletizing, there are no additional VOC emissions from the pelletizing (classifier) process.
- (d) The scrap grinders are self-contained units with negligible particulate emissions. This has been confirmed with the inspector assigned to the source.

**Potential to Emit (of the Source or Revision) 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.”

<b>Pollutant</b>	<b>Potential to Emit (tons/yr)</b>
PM	54.3
PM <sub>10</sub>	37.6
SO <sub>2</sub>	0.005
VOC	32.7
CO	0.736
NO <sub>x</sub>	0.876

<b>HAPs</b>	<b>Potential to Emit (tons/yr)</b>
Benzene	Negligible
Dichlorobenzene	Negligible
Formaldehyde	< 0.01
Hexane	0.016
Toluene	Negligible
Lead	Negligible
Cadmium	Negligible

HAPs	Potential to Emit (tons/yr)
Chromium	Negligible
Manganese	0.014
Nickel	Negligible
Acrolein	< 0.01
Acetaldehyde	< 0.01
Propionaldehyde	< 0.01
MEK	< 0.01
Total	0.087

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM, PM<sub>10</sub> and VOC are greater than 25 tons per year and the potential to emit PM<sub>10</sub> and VOC are less than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. An MSOP will be issued.
- (b) 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 and Emission Offset applicability.

### County Attainment Status

The source is located in Vanderburgh County.

Pollutant	Status
PM <sub>10</sub>	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
1-Hour Ozone	Attainment
8-Hour Ozone	Basic Nonattainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Vanderburgh County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for nonattainment new source review.

- (b) Vanderburgh County has been classified as attainment or unclassifiable in Indiana for all remaining criteria 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 - Entire Source section of this document.

### **Part 70 Permit Determination**

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

This existing source is 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) any 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. This status has been verified by the OAQ inspector assigned to the source.

### **Federal Rule Applicability**

- (a) This source is a compounding source that may process, but does not manufacture polypropylene resins. Therefore, this source is not subject to the requirements of 40 CFR 60, Subpart DDD, Standards of Performance for VOC Emissions from the Polymer Manufacturing Industry.
- (b) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (c) This source does not process or manufacture an elastomer product as defined by 40 CFR 63.482. Therefore, the requirements of 40 CFR 63, Subpart U, are not applicable.
- (d) This source does not process or manufacture a thermoplastic product as defined by 40 CFR 63.1312. Therefore, the requirements of 40 CFR 63, Subpart JJ, are not applicable.
- (e) This source is a plastic pellet compounding source. The source does not produce plastic composites. Therefore, the requirements of 40 CFR 63, Subpart WWWW, are not applicable.
- (f) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14 and 20 and 40 CFR Parts 61 and 63) applicable to this source.

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

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

This source was constructed in 1999 and has unrestricted potential emissions of PM, PM<sub>10</sub>, SO<sub>2</sub>, and CO less than 250 tons per year. Therefore, this source is a minor source pursuant to 326 IAC 2-2, and the requirements of 326 IAC 2-2, PSD, are not applicable.

326 IAC 2-1.1-5 (Air quality requirements)

The unrestricted potential VOC and NO<sub>x</sub> emissions are less than 100 tons per year. Therefore, this source is also a minor source pursuant to 326 IAC 2-1.1-5 for nonattainment new source review.

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

The operation of this source emits less than ten (10) tons per year of a single HAP and twenty-five (25) tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)

This source is not located in Lake or Porter County with the potential to emit greater than twenty-five (25) tons per year (tpy) of NO<sub>x</sub>, does not emit five (5) tons per year or more of lead and does not required a Part 70 Operating Permit. Therefore, the requirements of 326 IAC 2-6 do 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 6-2-4 (Fugitive Dust Emissions)

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).

**State Rule Applicability – Individual Facilities**

326 IAC 6-1 (County Specific Particulate Matter Limitations)

This source is located in Vanderburgh County. Although the potential particulate matter emissions are less than 100 tons per year, the actual particulate matter emissions are greater than ten (10) tons per year. Therefore, this source, which is not specifically mentioned in 326 IAC 6-1-16, is subject to the requirements of 326 IAC 6-1-2. Pursuant to this rule, the facilities at this source are limited as follows:

- (a) The particulate matter emissions from each of the eight (8) blenders shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)). Initial testing is required to demonstrate compliance with this limit. Operation of the baghouse is required at all times when BLNDR 6 is in operation in order to comply with this rule.

- (b) The particulate matter emissions from each of the nine (9) extrusion lines shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)). Since the particulate emissions from the extrusion lines are negligible, the extrusion lines will comply with this rule.
- (c) The particulate matter emissions from each of the four (4) plastic scrap grinders shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)). Since the particulate emissions from these units are negligible, they will comply with this rule.
- (d) The boilers at this source only burn natural gas. Therefore, pursuant to 326 IAC 6-1-1(b), the requirements of 326 IAC 6-1 are not applicable.
- (e) The particulate matter emissions from each of the four (4) welding stations and two (2) flame cutting stations shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)). Based on the calculations on page 3 of Appendix A, the worst-case emissions from these units is 0.049 pounds per hour from a flame cutting station, equivalent to 0.01 grains per dry standard cubic foot, based on the flow rate of 500 actual cubic feet per minute and a temperature of 100°F. Therefore, the welding and flame cutting will comply with this rule.
- (f) The dropping of materials from the blender to the hopper and from the hopper to the feed hopper is similar to an aggregate dropping operation. It is not an enclosed process. Pursuant to 326 IAC 6-1-2 (g), "Mineral aggregate operations, where the process is totally enclosed, shall comply with the requirements in subsection (a). In addition, 326 IAC 2, 326 IAC 5-1, and 326 IAC 6-4 shall apply in all cases to mineral aggregate operations." Since this is similar to mineral aggregate dropping and it is not enclosed, the material dropping must comply with 326 IAC 5-1 and 326 IAC 6-4.

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

The two (2) boilers at this source were constructed in 1999. Therefore, they are subject to the requirements of 326 IAC 6-2-4. Pursuant to 326 IAC 6-2-4, the particulate from the boilers is limited as follows:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input

Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input

$$Pt = 1.09/(2.0)^{0.26} = 0.91$$

Pursuant to 326 IAC 6-2-4(a), for Q less than 10 mmBtu/hr, Pt shall not exceed 0.6. Therefore, the particulate emissions from the two (2) boilers are limited to 0.6 pound per million British thermal units. Based on AP-42 emission factors, and as shown on page 4 of Appendix A, the potential to emit particulate from the two (2) boilers is as follows:

$$PTE = 0.017 \text{ tons per year} \times 2,000 \text{ lbs/ 1 ton} / 8,760 \text{ hrs/yr} = 0.004 \text{ lbs/hr}$$

$$PTE = 0.004 \text{ lbs/hr} / 2.0 \text{ MMBtu/hr} = 0.002 \text{ lb/MMBtu}$$

Therefore, the two (2) boilers will comply with this rule.

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

The facilities at this source are subject to 326 IAC 6-1, which is more stringent than the requirements of 326 IAC 6-3-2 for these processes, since many of the processes would be exempt from 326 IAC 6-3 for other reasons. Therefore, pursuant to 326 IAC 6-3-1(c)(3), the facilities at this source are exempt from the requirements of 326 IAC 6-3.

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

Each facility at this source, all constructed after 1980, has potential VOC emissions less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.

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

The parts washer at this source was constructed after July 1, 1990, but does have a remote solvent reservoir. Therefore, the parts washer is subject only to 326 IAC 8-3-2 for cold cleaner degreasers. Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the Permittee shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

#### Testing Requirements

Initial testing will be required for the blender, identified as BLNDR 6, exhausting to a baghouse, and at least one (1) of the uncontrolled blenders. These tests are required to demonstrate compliance with 326 IAC 6-1. The test results may also be used to establish site-specific emission factors for the blending operations.

#### Conclusion

The operation of this purchased plastic pellet custom compounding source shall be subject to the conditions of the **Minor Source Operating Permit 163-18955-00170**.

## Indiana Department of Environmental Management Office of Air Quality

### Addendum to the Technical Support Document for a Minor Source Operating Permit

<b>Source Name:</b>	<b>The Matrixx Group</b>
<b>Source Location:</b>	<b>15000 U.S. Highway 41 North, Evansville, IN 47725</b>
<b>County:</b>	<b>Vanderburgh</b>
<b>Permit No.:</b>	<b>MSOP 163-18955-00170</b>
<b>SIC Code:</b>	<b>3087</b>
<b>Permit Reviewer:</b>	<b>CarrieAnn Paukowits</b>

On August 17, 2004, the Office of Air Quality (OAQ) had a notice published in the Evansville Courier, Evansville, Indiana, stating that The Matrixx Group had applied for a permit to operate a purchased plastic pellet custom compounding source with a baghouse and a filter as controls. The notice also stated that OAQ proposed to issue a permit and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Upon further review, the OAQ has decided to make the following change to the permit. The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded**):

#### Change 1:

This source is subject to 326 IAC 6-1, County Specific Particulate Matter Limitations. Pursuant to 326 IAC 6-1-1(b), particulate limitations shall not be established for combustion units that burn only natural gas at sources or facilities identified in sections 8.1, 9, and 12 through 18 of 326 IAC 6-1, as long as the units continue to burn only natural gas. This statement was incorrectly applied to the two (2) natural gas-fired boilers (Boiler #1 and Boiler #2) in the Technical Support Document. Although the facilities only burn natural gas, they are not listed in 326 IAC 6-1-16. Therefore, the requirements of 326 IAC 6-1-2 are applicable. Pursuant to 326 IAC 6-1-2(b)(3), the boilers are limited to a particulate matter content of no greater than one-hundredth (0.01) grain per dry standard cubic foot (dscf) of exhaust air. Therefore, pursuant to 326 IAC 6-2-1(e), the requirements of 326 IAC 6-2-4 are not applicable. Condition D.2.1 has been revised as follows:

#### D.2.1 Particulate [326 IAC ~~6-2-4~~ **6-1-2**]

- (a) Pursuant to 326 IAC ~~6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)~~ **6-1-2(b), County Specific Particulate Matter Limitations**, the particulate matter (PM) emissions from each of the two (2) 1.00 million British thermal units per hour heat input boilers shall be limited to ~~0.6 pound per million British thermal units heat input~~ **one-hundredth (0.01) grain per dry standard cubic foot (dscf) of exhaust air.**

This limitation is based on the following equation:

$$P_t = \frac{1.09}{Q^{0.26}}$$

- (b) ~~Pursuant to 326 IAC 6-2-4 (a), for Q less than 10 mmBtu/hr, P<sub>t</sub> shall not exceed 0.6. Therefore, the particulate emissions from the two (2) boilers are limited to 0.6 pound per million British thermal units.~~

Appendix A: Emission Calculations

Company Name: The Matrixx Group  
 Address City IN Zip: 15000 U.S. Highway 41 North, Evansville, IN 47725  
 Permit Number: 163-18955  
 Plt ID: 163-00170  
 Reviewer: CarrieAnn Paukowits  
 Application Date: April 15, 2004

Process	SCC	Throughput in ton/hr	Emission Factors in lbs/ton of Product			Potential emissions (lbs/hr)			Potential emissions (tons/year)			C.E. for PM and PM10	Controlled Emissions (lbs/hr)		Controlled Emissions (tons/year)	
			PM	PM10	VOC	PM	PM10	VOC	PM	PM10	VOC		PM	PM10	PM	PM10
Blender (BLNDR 2)	-----	2.5000	0.674	0.674	0	1.684	1.684	0.000	7.38	7.38	0.00	0.0%	1.6838	1.6838	7.375	7.375
Blender (BLNDR 3)	-----	2.5000	0.674	0.674	0	1.684	1.684	0.000	7.38	7.38	0.00	0.0%	1.6838	1.6838	7.375	7.375
Blender (BLNDR 4)	-----	2.5000	0.674	0.674	0	1.684	1.684	0.000	7.38	7.38	0.00	0.0%	1.6838	1.6838	7.375	7.375
Blender (BLNDR 5)	-----	2.5000	0.674	0.674	0	1.684	1.684	0.000	7.38	7.38	0.00	0.0%	1.6838	1.6838	7.375	7.375
Blender (BLNDR 6)	-----	2.5000	0.674	0.674	0	1.684	1.684	0.000	7.38	7.38	0.00	99.9%	0.0017	0.0017	0.007	0.007
Blender (BLNDR 7)	-----	2.5000	0.674	0.674	0	1.684	1.684	0.000	7.38	7.38	0.00	0.0%	1.6838	1.6838	7.375	7.375
Blender (BLNDR 8)	-----	4.0000	0.674	0.674	0	2.694	2.694	0.000	11.80	11.80	0.00	0.0%	2.6941	2.6941	11.800	11.800
Blender (BLNDR 9)	-----	0.2500	0.674	0.674	0	0.168	0.168	0.000	0.74	0.74	0.00	0.0%	0.1684	0.1684	0.738	0.738
Maximum Total Throughput	-----	19.2500	0.674	0.674	0	12.965	12.965	0.000	56.79	56.79	0.00	0.0%	12.9652	12.9652	56.788	56.788
<b>Blenders: Total Throughput after Extrusion Bottleneck**</b>	-----	<b>7.423</b>	<b>0.674</b>	<b>0.674</b>	<b>0</b>	<b>5.00</b>	<b>5.00</b>	<b>0.00</b>	<b>21.9</b>	<b>21.9</b>	<b>0.00</b>	<b>0.0%</b>	<b>5.00</b>	<b>5.00</b>	<b>21.9</b>	<b>21.9</b>
Extruder (NP1)	-----	0.700	0	0	1	0.000	0.000	0.700	0.00	0.00	3.07	0.0%	0.000	0.000	0.000	0.000
Extruder (NP2)	-----	1.625	0	0	1	0.000	0.000	1.625	0.00	0.00	7.12	0.0%	0.000	0.000	0.000	0.000
Extruder (NP4)	-----	2.000	0	0	1	0.000	0.000	2.000	0.00	0.00	8.76	0.0%	0.000	0.000	0.000	0.000
Extruder (NE1)	-----	0.700	0	0	1	0.000	0.000	0.700	0.00	0.00	3.07	0.0%	0.000	0.000	0.000	0.000
Extruder (NE2)	-----	0.700	0	0	1	0.000	0.000	0.700	0.00	0.00	3.07	0.0%	0.000	0.000	0.000	0.000
Extruder (NE3)	-----	1.500	0	0	1	0.000	0.000	1.500	0.00	0.00	6.57	0.0%	0.000	0.000	0.000	0.000
Extruder (NX1)	-----	0.165	0	0	1	0.000	0.000	0.165	0.00	0.00	0.72	0.0%	0.000	0.000	0.000	0.000
Extruder (NX2)	-----	0.020	0	0	1	0.000	0.000	0.020	0.00	0.00	0.09	0.0%	0.000	0.000	0.000	0.000
Extruder (NX3)	-----	0.013	0	0	1	0.000	0.000	0.013	0.00	0.00	0.05	0.0%	0.000	0.000	0.000	0.000
<b>Extruders: Maximum Total Throughput</b>	-----	<b>7.423</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0.000</b>	<b>0.000</b>	<b>7.42</b>	<b>0.00</b>	<b>0.00</b>	<b>32.5</b>	<b>0.0%</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Totals:</b>						<b>5.00</b>	<b>5.00</b>	<b>7.42</b>	<b>21.9</b>	<b>21.9</b>	<b>32.5</b>		<b>5.00</b>	<b>5.00</b>	<b>21.9</b>	<b>21.9</b>

\*\* The maximum throughput at the extruders is less than the maximum throughput at the blenders. Therefore, the extruders create a bottleneck.

\* - Average Emission Factor Based on Cast Film Extruder @ 470F, 40% capture from hood.

**Methodology**

All Emission Factors are taken from similar processes.

Potential Emissions = (E.F. in lb./ton) \* (throughput in ton/hour) \* 8760 hrs/yr / 2000 lbs/hr

Controlled Emissions = Potential Emissions \* (1-controlled efficiency)

Extruder VOC average E.F. from State of Wisconsin DNR Stack Test Results Summary sent to SPI, dated 12/5/1997 and approved for FESOP 019-9668-00091

**PM/PM10 emission factor for blending based on mass balance calculations for the entire process assuming all particulate is emitted during blending:**

Total Raw Materials (lbs)	Total Collected after Entire Process (lbs)	Water Content (%)	Water Evaporated (lbs)	Material Unaccounted For (lbs)	Particulate Emission Factor (lbs/ton)
47877	47813	0.10%	47.877	16.123	0.674

**Methodology**

Water Evaporated = Total Raw Materials (lbs) x Weight % Water

Material Unaccounted for = Total Raw Materials (lbs) - (Total Collected after Entire process (lbs) + Water Evaporated (lbs))

Particulate Emission Factor (lbs/ton) = Material Unaccounted for (lbs) / (Total Raw Materials (lbs)/2,000 lbs/ton)

For conservatism, grinding is assumed to have the same emission factor as blending

**Appendix A: Emission Calculations  
Plastic Pellet Handling  
Unrestricted Potential Emissions**

**Company Name:** The Matrixx Group  
**Address City IN Zip:** 15000 U.S. Highway 41 North, Evansville, IN 47725  
**Permit Number:** 163-18955  
**Plt ID:** 163-00170  
**Reviewer:** CarrieAnn Paukowits  
**Application Date:** April 15, 2004

**Plastic Pellet Handling**

**PM**

Alternative Dropping (Blender to hopper)	12.5 ton/hr x	0.2892 lb/ton	/ 2000 lb/ton x	8760 hr/yr =	15.83 tons/yr	AP-42 Ch. 13.2.4 (Fifth edition, 1/95)
Alternative Dropping (Hopper to feed hopper)	12.5 ton/hr x	0.2892 lb/ton	/ 2000 lb/ton x	8760 hr/yr =	15.83 tons/yr	
Total emissions before controls:					31.7 tons/yr	

**PM-10**

Alternative Dropping (Blender to hopper)	12.5 ton/hr x	0.1368 lb/ton	/ 2000 lb/ton x	8760 hr/yr =	7.49 tons/yr	AP-42 Ch. 13.2.4 (Fifth edition, 1/95)
Alternative Dropping (Hopper to feed hopper)	12.5 ton/hr x	0.1368 lb/ton	/ 2000 lb/ton x	8760 hr/yr =	7.49 tons/yr	
Total emissions before controls:					15.0 tons/yr	

**\*\* aggregate handling emission factor \*\***

The following calculations determine the amount of emissions created by dropping of material, based on 8760 hours of use and AP-42 13.2.4 (Fifth edition, 1/95).

**PM**

$$E_f = k \cdot (0.0032) \cdot (U/5)^{1.3} / (M/2)^{1.4}$$

$$= 0.2892 \text{ lb/ton}$$

where k = 0.74 (particle size multiplier)  
 U = 8 mile/hr mean wind speed  
 M = 0.1 % material moisture content

**PM-10**

$$E_f = k \cdot (0.0032) \cdot (U/5)^{1.3} / (M/2)^{1.4}$$

$$= 0.1368 \text{ lb/ton}$$

where k = 0.35 (particle size multiplier)  
 U = 8 mile/hr mean wind speed  
 M = 0.1 % material moisture content

**Appendix A: Emissions Calculations  
Welding and Thermal Cutting**

**Company Name:** The Matrixx Group  
**Address City IN Zip:** 15000 U.S. Highway 41 North, Evansville, IN 47725  
**Permit Number:** 163-18955  
**Pit ID:** 163-00170  
**Reviewer:** CarrieAnn Paukowits  
**Application Date:** April 15, 2004

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING												
Submerged Arc	0	0		0.036	0.011			0.000	0.000	0.000	0	0.000
Metal Inert Gas (MIG)(carbon steel)	2	2		0.0055	0.0005			0.022	0.002	0.000	0	0.002
Stick (E7018 electrode)	1	1.08		0.0211	0.0009			0.023	0.001	0.000	0	0.001
Tungsten Inert Gas (TIG)(carbon steel)	1	0.5		0.0055	0.0005			0.003	0.000	0.000	0	0.000
Oxyacetylene(carbon steel)	0	0		0.0055	0.0005			0.000	0.000	0.000	0	0.000
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene	0	0	0	0.1622	0.0005	0.0001	0.0003	0.000	0.000	0.000	0.000	0.000
Oxymethane	2	1	10	0.0815	0.0002		0.0002	0.098	0.000	0.000	0.000	0.000
Plasma**	0	0	0	0.0039				0.000	0.000	0.000	0.000	0.000
<b>EMISSION TOTALS</b>												
Potential Emissions lbs/hr								0.145	0.003	0.00	0.00	0.003
Potential Emissions lbs/day								3.49	0.078	0.00	0.00	0.078
Potential Emissions tons/year								0.637	0.014	0.00	0.00	0.014

**METHODOLOGY**

\*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

\*\*Emission factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for plasma cutting is for 8 mm thick rather than 1 inch, and the maximum metal thickness is not used in calculating the emissions.

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lb

**Appendix A: Emission Calculations  
Cold Cleaning**

**Company Name:** The Matrixx Group  
**Address City IN Zip:** 15000 U.S. Highway 41 North, Evansville, IN 47725  
**Permit Number:** 163-18955  
**Plt ID:** 163-00170  
**Reviewer:** CarrieAnn Paukowits  
**Application Date:** April 15, 2004

Material	Usage (gal/day)	Density (lbs/gal)	Volume % VOC	Weight % VOC	Weight % HAP	VOC Emissions (tons/yr)	HAP Emissions (tons/yr)
<b>Degreaser</b>							
Safety Kleen	0.1	6.8	100.00%	100.00%	0.00%	0.124	0.00

**Methodology**

VOC emissions (tons/yr) = Usage (gal/day) x Density (lbs/gal) x Weight % VOC x 365 days/yr / 2,000 lbs/ton

HAP emissions (tons/yr) = Usage (gal/day) x Density (lbs/gal) x Weight % HAP x 365 days/yr / 2,000 lbs/ton

There are no HAPs in this material.

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

**Company Name:** The Matrixx Group  
**Address City IN Zip:** 15000 U.S. Highway 41 North, Evansville, IN 47725  
**Permit Number:** 163-18955  
**Pit ID:** 163-00170  
**Reviewer:** CarrieAnn Paukowits  
**Application Date:** April 15, 2004

**Two (2) boilers rated at 1.0 MMBtu/hr each**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
2.00	17.5

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100 **see below	5.50	84.0
Potential Emission in tons/yr	0.017	0.067	0.005	0.876	0.048	0.736

\*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

See page 6 for HAPs emissions calculations.

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

**Company Name: The Matrixx Group**  
**Address City IN Zip: 15000 U.S. Highway 41 North, Evansville, IN 47725**  
**Permit Number: 163-18955**  
**Plt ID: 163-00170**  
**Reviewer: CarrieAnn Paukowits**  
**Date: April 15, 2004**

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.10E-03	Dichlorobenzene 1.20E-03	Formaldehyde 7.50E-02	Hexane 1.80E+00	Toluene 3.40E-03
Potential Emission in tons/yr	1.84E-05	1.05E-05	6.57E-04	1.58E-02	2.98E-05

HAPs - Metals						
Emission Factor in lb/MMcf	Lead 5.00E-04	Cadmium 1.10E-03	Chromium 1.40E-03	Manganese 3.80E-04	Nickel 2.10E-03	<b>Total</b>
Potential Emission in tons/yr	4.38E-06	9.64E-06	1.23E-05	3.33E-06	1.84E-05	<b>0.017</b>

Methodology is the same as page 5.

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