



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

To: Interested Parties

Date: December 9, 2014

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

Source Name: Bondline Adhesives Inc.

Permit Level: Registration Administrative Amendment

Permit Number: 163-35154-00124

Source Location: 500 North Woods Avenue
Evansville, Indiana

Type of Action Taken: Changes that are administrative in nature

Notice of Decision: Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the matter referenced above. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

The final decision is available on the IDEM website at: <http://www.in.gov/apps/idem/caats/>
To view the document, select Search option 3, then enter permit 35154.

If you would like to request a paper copy of the permit document, please contact IDEM's central file room:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

(continues on next page)

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days from 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.



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December 9, 2014

Diane Fisher
Bondline Adhesives Inc.
500 N. Woods Avenue
Evansville, IN 47712

Re: 163-35154-00124
Administrative Amendment to
R163-33458-00124

Dear Ms. Fisher:

Bondline Adhesives Inc. was issued a Registration No. R163-33458-00124 on October 4, 2013 for a stationary solvent-based and latex-based adhesives and sealants manufacturing plant located at 500 N. Woods Avenue, Evansville, IN 47712. On November 17, 2014, the Office of Air Quality (OAQ) received an application from the source requesting to replace four (4) storage tanks and remove two (2) storage tanks.

The following is a list of the new emission units:

Four (4) bulk solvent storage tanks using no controls and exhausting outdoors, consisting of:

- (1) Tank T-23, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.
- (2) Tank T-13, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.
- (3) Tank T-63, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.
- (4) Tank T-53, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.

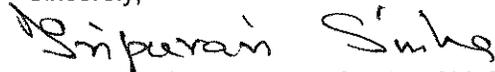
Pursuant to 326 IAC 2-5.5-6(d)(11), this change to the registration is considered administrative amendment because the registration is amended to incorporate a modification that consist of emission unit described under 326 IAC 2-1.1-3(e)(1) through 326 IAC 2-1.1-3(e)(31) (Exemptions).

The source shall continue to operate according to 326 IAC 2-5.5 (Registrations). All other conditions of the registration shall remain unchanged and in effect. Please find attached the entire registration as amended.

A copy of the registration is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Julie Mendez, at (800) 451-6027, press 0 and ask for Julie Mendez or extension 4-1243, or dial (317) 234-1243.

Sincerely,



Tripurari P. Sinha, Ph. D., Section Chief
Permits Branch
Office of Air Quality

TS/JM

Attachments:

Revised Registration
Technical Support Document
Appendix A (Emissions Calculations)

cc: File - Vanderburgh County
Vanderburgh County Health Department
Compliance and Enforcement Branch



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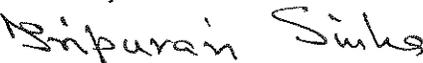
Thomas W. Easterly
Commissioner

**REGISTRATION
OFFICE OF AIR QUALITY**

**Bondline Adhesives Inc.
500 N. Woods Avenue
Evansville, Indiana 47712**

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. R163-33458-00124	
Original signed by: Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: October 4, 2013

Registration Administrative Amendment No. 163-35154-00124	
Issued by:  Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: December 9, 2014

SECTION A

SOURCE SUMMARY

This registration 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 Registrant 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 Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a stationary solvent and latex based adhesives and sealants manufacturer.

Source Address:	500 N. Woods Avenue, Evansville, Indiana 47712
General Source Phone Number:	(812) 423-4651
SIC Code:	2891
County Location:	Vanderburgh County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) One (1) Elastomer Grinding Operation, identified as GR, constructed in 1974, with a maximum capacity of 740 pounds of elastomer and Kaolin per hour, using no controls, and exhausting indoors.
- (b) Six (6) dough mixers with lid and hatch , using no controls, and exhausting indoors consisting of:
 - (1) Mixer 3D1 with a maximum capacity of 200 gallons, constructed in 1974.
 - (2) Mixer 3D2 with a maximum capacity of 200 gallons, constructed in 1989.
 - (3) Mixer 6R with a maximum capacity of 396 gallons, constructed in 1974.
 - (4) Mixer 9R with a maximum capacity of 540 gallons, constructed in 1981.
 - (5) Mixer 10R with a maximum capacity of 648 gallons, constructed in 1986.
 - (6) Mixer 10P with a maximum capacity of 648 gallons, constructed in 1999.
- (c) Six (6) Adhesive Churns/disperser mixers, using no controls, and exhausting indoors consisting of:
 - (1) Disperser mixer 4C, with a maximum capacity of 235 gallons, constructed in 1974.
 - (2) Disperser mixer 5C, with a maximum capacity of 290 gallons, constructed in 1992.
 - (3) Disperser mixer 10C, with a maximum capacity of 580 gallons, constructed in 1974.
 - (4) Disperser mixer 1000C, with a maximum capacity of 1,000 gallons, constructed in 1988.

- (5) Disperser mixer 13C, with a maximum capacity of 690 gallons, constructed in 1987.
- (6) Disperser mixer 15C, with a maximum capacity of 848 gallons, constructed in 1989.
- (d) Six (6) bulk solvent storage tanks using no controls and exhausting outdoors, consisting of:
 - (1) Tank T-23, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.
 - (2) Tank T-13, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.
 - (3) Tank T-63, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.
 - (4) Tank T-53, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.
 - (5) Tank T-H1, comprised of two (2) compartments, each with a maximum capacity of 2,000 gallons, constructed in 2013.
 - (6) Tank T-H2, comprised of two (2) compartments, each with a maximum capacity of 2,000 gallons, constructed in 2013.
- (e) One (1) natural gas-fired boiler, identified as BLR, with a maximum heat input capacity of 0.215 MMBtu/hr, constructed in 1974, and exhausting outside.
- (f) Five (5) natural gas-fired heaters, each with a maximum heat input capacity of less than 0.1 MMBtu/hr.
- (g) Unpaved roads.

SECTION B

GENERAL CONDITIONS

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

Terms in this registration 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 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration 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.

B.3 Registration Revocation [326 IAC 2-1.1-9]

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

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (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 registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to Registration No. 163-33458-00124 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 registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

- (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 registration.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

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

Indianapolis, IN 46204-2251

- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

B.8 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this registration, the Registrant shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this registration or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

- (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 Registrant's control, the PMPs cannot be prepared and maintained within the above time frame, the Registrant may extend the date an additional ninety (90) days provided the Registrant notifies:

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

The Registrant shall implement the PMPs.

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

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 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 registration:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4:
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant 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).

SECTION D.1

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (e) One (1) natural gas-fired boiler, identified as BLR, with a maximum heat input capacity of 0.215 MMBtu/hr, constructed in 1974, and exhausting outside.

(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 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3(e) (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the natural gas-fired boiler (BLR) shall be limited to 0.6 pounds PM per MMBtu heat input.

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

**REGISTRATION
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Bondline Adhesives, Inc.
Address:	500 N. Woods Avenue
City:	Evansville, Indiana 47712
Phone Number:	(812) 423-4651
Registration No.:	163-33458-00124

I hereby certify that Bondline Adhesives is:

- still in operation.
- no longer in operation.
- in compliance with the requirements of Registration No. 163-33458-00124.
- not in compliance with the requirements of Registration No. 163-33458-00124.

I hereby certify that Bondline Adhesives is:

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

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

Noncompliance:

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

Technical Support Document (TSD) for a Registration Administrative
Amendment

Source Description and Location

Source Name: Bondline Adhesives Inc.
Source Location: 500 N. Woods Avenue, Evansville, IN 47712
County: Vanderburgh
SIC Code: 2891
Registration No.: 163-33458-00124
Registration Issuance Date: October 4, 2013
Registration Administrative Amendment No.: 163-35154-00124
Permit Reviewer: Julie Mendez

On November 17, 2014, the Office of Air Quality (OAQ) received an application from Bondline Adhesives Inc. related to a modification to an existing solvent-based and latex-based adhesives and sealants manufacturing plant.

Existing Approvals

The source was issued Registration No. 163-33458-00124 on October 4, 2013.

County Attainment Status

The source is located in Vanderburgh County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard. ¹
PM _{2.5}	Attainment effective October 27, 2011, for the annual PM _{2.5} standard.
PM _{2.5}	Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM _{2.5} standard.
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.

¹Attainment effective October 18, 2000, for the 1-hour ozone standard for the Evansville area, including Vanderburgh County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour designation was revoked effective June 15, 2005.

*These documents are incorporated by reference. Copies referenced in this section may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Legal Counsel, Indiana Government Center North, Thirteenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.

- (a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Vanderburgh County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x

emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM_{2.5}**
 Vanderburgh County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**
 Vanderburgh County has been classified as attainment or unclassifiable in Indiana for all other regulated pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of PM, criteria pollutants, and hazardous air pollutants are counted toward the determination of 326 IAC 2-5.1-2 (Registrations) applicability.

Status of the Existing Source

The table below summarizes the uncontrolled/unlimited potential to emit of the entire source, prior to the proposed amendment:

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)*								
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Grinding Operations	0.51	0.13	0.01	-	-	-	-	-	-
Dough Mixers	-	-	-	-	-	3.14	-	0.57	0.26 (Xylene)
Churn/ Dispensers	-	-	-	-	-	7.59	-	5.13	2.86 (n-Hexane)
Storage Tanks	-	-	-	-	-	1.57	-	0.78	0.43 (n-Hexane)
Natural Gas Boiler/Heaters	0.004	0.02	0.02	0.001	0.21	0.01	0.17	0.004	0.004 (n-Hexane)
Fugitive Emissions	0.48	0.13	0.01	-	-	5.88	-	3.72	1.52 (Xylene)
Total PTE of Entire Source	1.00	0.27	0.04	0.001	0.21	18.19	0.17	10.20	4.08 (Toluene)
Exemptions Levels	5	5	5	10	10	10	25	25	10
Registration Levels	<25	<25	<25	<25	<25	<25	<100	<25	<10
*These emissions are based upon Appendix A of Technical Support Document for Registration No. 163-33458-00124.									

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Bondline Adhesives Inc. on November 17, 2014, relating to the replacement of four (4) storage tanks and the removal of two (2) storage tanks.

Tanks T-42 and T-32 are removed from the source. Tanks T-23, T-13, T-63, and T-53 are removed from the source and replaced with new tanks with the same unit identifications.

The following is a list of the new emission units:

Four (4) bulk solvent storage tanks using no controls and exhausting outdoors, consisting of:

- (1) Tank T-23, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.
- (2) Tank T-13, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.
- (3) Tank T-63, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.
- (4) Tank T-53, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – Registration Administrative Amendment

The following table is used to determine the appropriate revision level under 326 IAC 2-5.5-6. This table reflects the PTE before controls of the proposed amendment.

Process/ Emission Unit	PTE of Proposed Revision (tons/year)								
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Storage Tank T-13	-	-	-	-	-	0.13	-	0.13	0.13 (Toluene)
Storage Tank T-23	-	-	-	-	-	0.02	-	0.02	0.01 (Xylene)
Storage Tank T-53	-	-	-	-	-	0.35	-	0.19	0.19 (n-Hexane)
Storage Tank T-63	-	-	-	-	-	0.35	-	0.19	0.19 (n-Hexane)
Fugitive Emissions	-	-	-	-	-	0.67	-	0.46	0.25 (Toluene)
Total PTE of Proposed Revision	-	-	-	-	-	1.52	-	0.99	0.55 (n-Hexane)

Pursuant to 326 IAC 2-5.5-6(d)(11), this change to the registration is considered administrative amendment because the registration is amended to incorporate a modification that consists of emission units described under 326 IAC 2-1.1-3(e)(1) (Exemptions).

PTE of the Entire Source After Issuance of the Registration Administrative Amendment

The table below summarizes the uncontrolled/unlimited potential to emit of the entire source, with updated emissions shown as **bold** values and previous emissions shown as ~~strikethrough~~ values.

Process/ Emission Unit	Potential To Emit of the Entire Source with the Revision (tons/year)								
	PM	PM10*	PM2.5*	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Grinding Operations	0.51	0.13	0.01	-	-	-	-	-	-
Dough Mixers	-	-	-	-	-	3.14	-	0.57	0.26 (Xylene)
Churn/ Dispensers	-	-	-	-	-	7.59	-	5.13	2.86 (n-Hexane)
Storage Tanks	-	-	-	-	-	1.57 1.07	-	0.78 0.66	0.43 0.38 (n-Hexane)
Natural Gas Boiler/Heaters	0.004	0.02	0.02	0.001	0.21	0.01	0.17	0.004	0.004 (n-Hexane)
Fugitive Emissions	0.48 4.27	0.13 1.15	0.01 0.12	-	-	5.88	-	3.72 3.61	1.52 1.51 (Xylene)
Total PTE of Entire Source	1.00 4.79	0.27 1.30	0.04 0.14	0.001	0.21	18.19 17.70	0.17	10.20 9.97	4.08 3.95 (Toluene)
Exemptions Levels	<5	<5	<5	<10	<10	<10	<25	<25	<10
Registration Levels	<25	<25	<25	<25	<25	<25	<100	<25	<10
*Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant".									

Note: Although PM, PM10, and PM2.5 fugitive emissions from unpaved roads are not part of the proposed revision, the potential to emit of these pollutants was calculated incorrectly in the Technical Support Document for Registration No. 163-33458-00124. The above table reflects the corrected values.

Note: VOC fugitive emissions from equipment leaks were calculated incorrectly in the Technical Support Document for Registration No. 163-33458-00124. Correcting this error causes the VOC potential to emit before the revision to increase. With the revision, the VOC potential to emit from fugitive equipment leaks decreases due to the removed tanks. The resulting fugitive VOC potential to emit with the revision is 5.88 tons per year.

The table below summarizes the uncontrolled/unlimited potential to emit of the entire source after issuance of this revision. (Note: the table below was generated from the above table, with bold text unbolded and strikethrough text deleted.)

Process/ Emission Unit	Potential To Emit of the Entire Source with the Revision (tons/year)								
	PM	PM10*	PM2.5*	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Grinding Operations	0.51	0.13	0.01	-	-	-	-	-	-
Dough Mixers	-	-	-	-	-	3.14	-	0.57	0.26 (Xylene)
Churn/ Dispensers	-	-	-	-	-	7.59	-	5.13	2.86 (n-Hexane)
Storage Tanks	-	-	-	-	-	1.07	-	0.66	0.38 (n-Hexane)
Natural Gas Boiler/Heaters	0.004	0.02	0.02	0.001	0.21	0.01	0.17	0.004	0.004 (n-Hexane)
Fugitive Emissions	4.27	1.15	0.12	-	-	5.88	-	3.61	1.51 (Xylene)
Total PTE of Entire Source	4.79	1.30	0.14	0.001	0.21	17.70	0.17	9.97	3.95 (Toluene)
Exemptions Levels	<5	<5	<5	<10	<10	<10	<25	<25	10
Registration Levels	<25	<25	<25	<25	<25	<25	<100	<25	<10
*Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant".									

- (a) This revision will not change the registration status of the source, because the uncontrolled/unlimited potential to emit of VOC from the entire source will still be within the ranges listed in 326 IAC 2-5.5-1(b)(1) and the PTE of all other regulated pollutants will still be less than the ranges listed in 326 IAC 2-5.5-1(b)(1). Therefore, the source will still be subject to the provisions of 326 IAC 2-5.5 (Registrations).
- (b) This revision will not change the minor status of the source, because the uncontrolled/unlimited potential to emit of any single HAP will still be less than ten (10) tons per year and the PTE of a combination of HAPs will still be less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.
- (c) GHG
 On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHGs emissions to determine operating permit applicability or PSD applicability to a source or modification.

Federal Rule Applicability Determination

The federal rules applicable to the existing emission units at this source will not change as a result of this revision.

The federal rule applicability for this revision is as follows:

New Source Performance Standards (NSPS)

- (a) The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, 40 CFR 60, Subpart Kb (326 IAC 12), are not included for this proposed revision, since each storage tank has a capacity less than 75 cubic meters.
- (b) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included for this proposed revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

Compliance Assurance Monitoring (CAM)

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

State Rule Applicability Determination

The state rules applicable to the existing emission units at this source will not change as a result of this revision.

The following state rules are applicable to the proposed revision:

- (a) 326 IAC 2-5.5 (Registrations)
Registration applicability is discussed under the Permit Level Determination – Registration section above.
- (b) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
None of the tanks are subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each new tank is less than twenty-five (25) tons per year.
- (c) There are no other 326 IAC 8 Rules that are applicable to the new units.

Proposed Changes

The following changes listed below are due to the proposed revision. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

1. Section A.2 is updated to reflect the removal of Tanks T-42 and T-32 and the replacement of Tanks T-23, T-13, T-63, and T-53.

A.2 Emission Units and Pollution Control Equipment Summary

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

- (d) ~~Eight (8)~~ **Six (6)** bulk solvent storage tanks using no controls and exhausting outdoors, consisting of:
- (1) ~~Tank T-23, with a maximum capacity of 3,000 gallons constructed in 1986.~~ **Tank T-23, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.**
 - (2) ~~Tank T-13, with a maximum capacity of 3,000 gallons constructed in 1986.~~ **Tank T-13, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.**
 - (3) ~~Tank T-63, with a maximum capacity of 3,000 gallons constructed in 1989.~~ **Tank T-63, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.**
 - (4) ~~Tank T-53, with a maximum capacity of 3,000 gallons constructed in 1989.~~ **Tank T-53, approved in 2014 for construction, with a maximum capacity of 3,000 gallons.**
 - (5) ~~Tank T-42, with a maximum capacity of 2,000 gallons constructed in 1988.~~
 - (6) ~~Tank T-32, with a maximum capacity of 2,000 gallons constructed in 1988.~~
 - (75) Tank T-H1, comprised of two (2) compartments, each with a maximum capacity of 2,000 gallons, constructed in 2013.
 - (86) Tank T-H2, comprised of two (2) compartments, each with a maximum capacity of 2,000 gallons, constructed in 2013.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on November 17, 2014.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed Registration Administrative Amendment No. 163-35154-00124. The staff recommends to the Commissioner that this Registration Administrative Amendment be approved.

IDEM Contact

- (a) Questions regarding this proposed registration can be directed to Julie Mendez at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-1243 or toll free at 1-800-451-6027 extension 4-1243.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>

- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

**Appendix A: Emissions Calculations
Summary**

Company Name: Bondline Adhesives, Inc.
Address City IN Zip: 500 N. Woods Avenue, Evansville, IN 47712
Permit Number: 163-35154-00124
Reviewer: Julie Mendez

		Unlimited/Uncontrolled Potential to Emit (ton/yr)						
		PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO
Dough Mixers		-	-	-	-	-	3.14	-
Churns/Dispersers		-	-	-	-	-	7.59	-
Storage Tanks		-	-	-	-	-	1.07	-
Grinding Operations		0.51	0.13	0.01	-	-	-	-
Combustion Sources		0.004	0.02	0.02	0.001	0.21	0.01	0.17
Fugitive Emissions	Equipment Leaks	-	-	-	-	-	5.88	-
	Unpaved Roads	4.27	1.15	0.12	-	-	-	-
Total		4.79	1.30	0.14	0.001	0.21	17.70	0.17

		Unlimited/Uncontrolled Potential to Emit (ton/yr)					
		Toluene	n-Hexane	Xylene	Ethylbenzene	Ethylene Glycol	Total HAPs
Dough Mixers		0.22	0.01	0.26	0.07	0.0001	0.57
Churns/Dispersers		2.25	2.86	0.01	0.003	-	5.13
Storage Tanks		0.26	0.38	0.02	0.01	-	0.66
Grinding Operations		-	-	-	-	-	-
Combustion Sources		0.00001	0.004	-	-	-	0.004
Fugitive Emissions	Equipment Leaks	1.21	0.34	1.51	0.55	-	3.61
	Unpaved Roads	-	-	-	-	-	-
Total		3.95	3.60	1.80	0.62	0.0001	9.97

**Appendix A: Emissions Calculations
Mixer Emission Calculations**

Company Name: Bondline Adhesives, Inc.
Address City IN Zip: 500 N. Woods Avenue, Evansville, IN 47712
Permit Number: 163-35154-00124
Reviewer: Julie Mendez

Calculations submitted by applicant and verified by IDEM

Solvent Blend Emissions Data

	Dough Mixers						Churns/Dispersers					
Mixer	3D1	3D2	6R	9R	10P	10R	4C	5C	10C	1000C	13C	15C
Mixer Capacity (gal)	200	200	396	540	648	648	235	290	580	1000	690	848
Product	M5025B	M3001FB	M4055	M4055	M4012	M4012	S3004M	S3003M	C1016TL	C1016TL	S4054	S4060CT
Batch Size (gal/batch)	168	175	330	400	504	504	210	250	500	900	560	650
Batch Time (minutes)	840	840	840	840	840	840	510	510	510	510	510	510
Batches/yr	626	626	626	626	626	626	1,031	1,031	1,031	1,031	1,031	1,031
VOC Emissions (lb/batch)	0.71	1.23	0.49	0.57	3.53	3.53	2.42	2.89	1.93	3.48	2.34	1.66
HAP Emissions (lb/batch)												
Toluene	7.07E-01	2.30E-04	3.01E-04	3.50E-04	6.58E-04	6.58E-04	0.00E+00	0.00E+00	7.02E-01	1.26E+00	9.31E-01	1.47E+00
N-hexane	0.00E+00	6.75E-03	0.00E+00	0.00E+00	1.93E-02	1.93E-02	1.30E+00	1.55E+00	6.62E-01	1.19E+00	7.41E-01	1.01E-01
Xylene	0.00E+00	0.00E+00	3.86E-01	4.48E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-02	0.00E+00
Ethylbenzene	0.00E+00	0.00E+00	1.01E-01	1.17E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.50E-03	0.00E+00
Ethylene Glycol	0.00E+00	0.00E+00	0.00E+00	1.83E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total HAP	7.07E-01	6.98E-03	4.87E-01	5.66E-01	2.00E-02	2.00E-02	1.30E+00	1.55E+00	1.36E+00	2.45E+00	1.70E+00	1.57E+00
VOC Emissions (ton/yr)	0.22	0.38	0.15	0.18	1.10	1.10	1.25	1.49	1.00	1.79	1.21	0.86
HAP Emissions (ton/yr)												
Toluene	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.65	0.48	0.76
N-hexane	0.00	0.00	0.00	0.00	0.01	0.01	0.67	0.80	0.34	0.61	0.38	0.05
Xylene	0.00	0.00	0.12	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Ethylbenzene	0.00	0.00	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ethylene Glycol	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 HAP	0.22	0.00	0.15	0.18	0.01	0.01	0.67	0.80	0.70	1.26	0.88	0.81

Notes

See TSD Appendix B of 163-33458-00124 for emission formula calculations

- Emissions calculated in accordance with 40 CFR 63, Subpart GGG Equations 11 and 18 for emissions from vapor displacement from transfer of material and emissions from natural heating of the raw material due to shear during mixing, respectively.
- Emissions from each dough mixer (3D1, 3D2, 6R, 9R, 10P, 10R) are calculated for each of the following steps:
 - Vapor displacement from transferring solvent from bulk storage to a 55-gallon drum.
 - Vapor displacement from transferring solvent and solids to the dough mixer.
 - Product heating during mixing due to product shear.
 - Vapor displacement from transferring finished product from the dough mixer to a fill tank.
 - Vapor displacement from transferring finished product from the fill tank to the final product container.
- Emissions from each adhesive/churn disperser mixer (4C, 5C, 10C, 1000C, 13C, 15C) are calculated for each of the following steps:
 - Vapor displacement from transferring solvent, from the bulk storage tanks, and solids to the mixer.
 - Product heating during mixing due to product shear.
 - Vapor displacement from transferring finished product from the mixer to a final product container.

Appendix A: Emissions Calculations
Vapor and Liquid Phase Material Compositions Used in SOCMF Fugitive Calculations

Company Name: Bondline Adhesives, Inc.
 Address City IN Zip: 500 N. Woods Avenue, Evansville, IN 47712
 Permit Number: 163-35154-00124
 Reviewer: Julie Mendez

Calculations submitted by applicant and verified by IDEM

Storage Tanks Liquid Phase Composition

Material	% Composition
Toluene	0.5567
N-hexane	0.1400
Xylene	0.0645
Ethylbenzene	0.0148
n-Heptane	0.0598
hexane (excludes N-hexane)	0.1147
Acetone	0.0487
Ethylene Glycol	0.0008

%Composition based on total material usages of the storage tanks.

Storage Tank Vapor Phase Composition

Material	% Composition
Toluene	0.2419
N-hexane	0.3533
Xylene	0.0211
Ethylbenzene	0.0059
n-Heptane	-
hexane (excludes N-hexane)	-
Acetone	-
Ethylene Glycol	-

%Composition based on HAP speciation for tank emissions.

Liquid Phase - Dough Mixers - 3D1, 3D2, 6R, 9R, 10P, 10R

Material	% Composition
Toluene	0.1265
N-hexane	0.0006
Xylene	0.4124
Ethylbenzene	0.0943
n-Heptane	0.3585
hexane (excludes N-hexane)	0.0000
Acetone	0.0000
Ethylene Glycol	0.0077

%Composition based on total material usages at the dough mixers.

Vapor Phase - Dough Mixers - 3D1, 3D2, 6R, 9R, 10P, 10R

Material	% Composition
Toluene	0.0706
N-hexane	0.0045
Xylene	0.0831
Ethylbenzene	0.0217
n-Heptane	0.8200
hexane (excludes N-hexane)	0.0000
Acetone	0.0000
Ethylene Glycol	0.0000

%Composition based on speciation of vapor displacement emissions at the dough mixers.

Liquid Phase Adhesive Churn/Dispersers - 4C, 5C, 1000C, 13C, 15C, 10C

Material	% Composition
Toluene	0.6755
N-hexane	0.1368
Xylene	0.0117
Ethylbenzene	0.0027
n-Heptane	0.0000
hexane (excludes N-hexane)	0.1177
Acetone	0.0555
Ethylene Glycol	0.0000

%Composition based on total material usages at the adhesive/churn/dispersers.

Vapor Phase - Adhesive Churn/Dispersers - 4C, 5C, 1000C, 13C, 15C, 10C

Material	% Composition
Toluene	0.2472
N-hexane	0.3142
Xylene	0.0014
Ethylbenzene	0.0004
n-Heptane	0.0000
hexane (excludes N-hexane)	0.2702
Acetone	0.1667
Ethylene Glycol	0.0000

%Composition based on speciation of vapor displacement emissions at the adhesive/churn/dispersers.

**Appendix A: Emissions Calculations
SOCMI Calculations - Fugitive Components
VOC and HAP Emissions**

Company Name: Bondline Adhesives, Inc.
Address City IN Zip: 500 N. Woods Avenue, Evansville, IN 47712
Permit Number: 163-35154-00124
Reviewer: Julie Mendez

Tank Farm

			Fugitive Emissions							
Components	Total # of Components	Average SOCMI w/out Ethylene Emission Factor (lb/hr/component)	Total VOC Emission Rate (lb/hr)	Total VOC Emission Rate (tpy)	Total Toluene Emission Rate (tpy)	Total Xylene Emission Rate (tpy)	Total Ethylbenzene Emission Rate (tpy)	Total N-Hexane Emission Rate (tpy)	Total HAP Emission Rate (tpy)	
Valves	Gas	4	0.0089	0.036	0.156	0.038	0.003	0.001	0.055	0.097
	Light Liquid	12	0.0035	0.042	0.184	0.102	0.012	0.003	0.026	0.143
	Heavy Liquid	0	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Connectors	Gas	18	0.0029	0.052	0.229	0.055	0.005	0.001	0.081	0.142
	Light Liquid	45	0.0005	0.023	0.099	0.055	0.006	0.001	0.014	0.076
	Heavy Liquid	0	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total				0.152	0.667	0.250	0.026	0.006	0.175	0.458

Adhesive Churn/Dispersers - 4C, 5C, 1000C, 13C, 15C, 10C

			Fugitive Emissions							
Components	Total # of Components	Average SOCMI w/out Ethylene Emission Factor (lb/hr/component)	Total VOC Emission Rate (lb/hr)	Total VOC Emission Rate (tpy)	Total Toluene Emission Rate (tpy)	Total Xylene Emission Rate (tpy)	Total Ethylbenzene Emission Rate (tpy)	Total N-Hexane Emission Rate (tpy)	Total HAP Emission Rate (tpy)	
Valves	Gas	12	0.0089	0.107	0.47	0.116	0.001	0.000	0.147	0.263
	Light Liquid	17	0.0035	0.060	0.26	0.176	0.003	0.001	0.036	0.215
	Heavy Liquid	0	0.0007	0.000	0.00	0.000	0.000	0.000	0.000	0.000
Connectors	Gas	42	0.0029	0.122	0.53	0.132	0.001	0.000	0.168	0.300
	Light Liquid	60	0.0005	0.030	0.13	0.088	0.002	0.000	0.018	0.108
	Heavy Liquid	0	0.0001	0.000	0.00	0.000	0.000	0.000	0.000	0.000
Total				0.318	1.392	0.512	0.006	0.001	0.368	0.887

Dough Mixers - 3D1, 3D2, 6R, 9R, 10P, 10R

			Fugitive Emissions							
Components	Total # of Components	Average SOCMI w/out Ethylene Emission Factor (lb/hr/component)	Total VOC Emission Rate (lb/hr)	Total VOC Emission Rate (tpy)	Total Toluene Emission Rate (tpy)	Total Xylene Emission Rate (tpy)	Total Ethylbenzene Emission Rate (tpy)	Total N-Hexane Emission Rate (tpy)	Total HAP Emission Rate (tpy)	
Pumps	Light Liquid	21	0.0386	0.811	3.550	0.449	1.464	0.335	0.002	2.250
	Heavy Liquid	0	0.0161	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Valves	Gas	0	0.0089	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Light Liquid	1	0.0035	0.004	0.015	0.002	0.006	0.001	0.000	0.010
	Heavy Liquid	0	0.0007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Connectors	Gas	0	0.0029	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Light Liquid	4	0.0005	0.002	0.008	0.001	0.003	0.001	0.000	0.005
	Heavy Liquid	0	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total				0.816	3.573	0.452	1.474	0.337	0.002	2.265

Mixer CT1 and CT2, Polybutene Tank

			Fugitive Emissions							
Components	Total # of Components	Average SOCMI w/out Ethylene Emission Factor (lb/hr/component)	Total VOC Emission Rate (lb/hr)	Total VOC Emission Rate (tpy)	Total Toluene Emission Rate (tpy)	Total Xylene Emission Rate (tpy)	Total Ethylbenzene Emission Rate (tpy)	Total N-Hexane Emission Rate (tpy)	Total HAP Emission Rate (tpy)	
Pumps	Light Liquid	0	0.0386	0.000	0.00	-	-	-	-	0.00
	Heavy Liquid	1	0.0161	0.016	0.07	-	-	-	-	0.00
Valves	Gas	2	0.0089	0.018	0.08	-	-	-	-	0.00
	Light Liquid	0	0.0035	0.000	0.00	-	-	-	-	0.00
	Heavy Liquid	3	0.0007	0.002	0.01	-	-	-	-	0.00
Connectors	Gas	7	0.0029	0.020	0.09	-	-	-	-	0.00
	Light Liquid	0	0.0005	0.000	0.00	-	-	-	-	0.00
	Heavy Liquid	11	0.0001	0.001	0.00	-	-	-	-	0.00
Total				0.057	0.250	0.000	0.000	0.000	0.000	0.000

Total			1.343	5.882	1.214	1.506	0.345	0.546	3.610
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Operating Hours:	8760
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1. Average SOCMI emissions factors based on components not in ethylene service. This facility does not have any components in ethylene service. (<http://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/socmi.pdf>)
2. Conservatively assume 100% of material handled is VOC. Use of acetone and methyl acetate, both of which are not VOC, is not accounted for when calculating the VOC PTE. Also, components for the CT-mixers and polybutene tank, which only handle materials with negligible VOC or negligible volatility, are considered to be in heavy liquid service to conservatively estimate VOC PTE.

**Appendix A: Emissions Calculations
Storage Tank Calculations
VOC and HAP Emissions**

Company Name: Bondline Adhesives, Inc.
Address City IN Zip: 500 N. Woods Avenue, Evansville, IN 47712
Permit Number: 163-35154-00124
Reviewer: Julie Mendez

Unit	Material Stored	Throughput (gal/yr)	VOC		Toluene		Xylene		Ethylbenzene		n-Hexane		Total HAP	
			(lbs/yr)	(tons/yr)	(lbs/yr)	(ton/yr)	(lbs/yr)	(ton/yr)	(lbs/yr)	(ton/yr)	(lbs/yr)	(ton/yr)	(lbs/yr)	(ton/yr)
T-23	Xylene Solvent	245,857	31.00	0.02	0.02	0.00001	24.22	0.01	6.76	0.003			31.00	0.02
T-13	Toluene	1,727,315	262.89	0.13	262.89	0.13							262.89	0.13
T-63	64% Hexane Solvent Blend	466,008	700.07	0.35							376.10	0.19	376.10	0.19
T-53	Hexane Solvent	494,537	702.77	0.35							377.74	0.19	377.74	0.19
T-H1a ^a	Xylene Solvent	245,857	26.71	0.01	0.02	0.00001	20.87	0.01	5.82	0.003			26.71	0.01
T-H1b ^a	Toluene	1,727,315	253.86	0.13	253.86	0.13							253.86	0.13
T-H2a ^a	n-Heptane Solvent	185,864	159.02	0.08	0.03	0.00002					0.84	0.0004	0.87	0.0004
T-H2b ^a	Methyl Acetate	-	Not a VOC										Not a HAP	
Total				1.07		0.26		0.02		0.01		0.38		0.66

^a Tanks T-H1 and T-H2 are two horizontal tanks each comprised of two compartments. Each compartment will be storing a different solvent and the calculations are reflective of that. Calculations submitted by applicant and verified by IDEM.

Note:
US EPA TANKS Version 4.0.9d software used to determine breathing and working losses

Methodology:
Emissions (ton/yr) = Emissions (lb/yr) / 2,000 (lb/ton)
n-Hexane Emissions (lb/yr) = Hexane Emissions (lb/yr) * n-Hexane Content (%)

**Appendix A: Emissions Calculations
Natural Gas Combustion for Heaters**

Company Name: Bondline Adhesives, Inc.
Address City IN Zip: 500 N. Woods Avenue, Evansville, IN 47712
Permit Number: 163-35154-00124
Reviewer: Julie Mendez

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
0.483	1020	4.1

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tc	3.94E-03	0.02	0.02	1.24E-03	0.21	0.01	0.17

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 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
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

Emission Factor in lb/l	HAPs - Organics					Total - Organics
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tc	4.4E-06	2.5E-06	1.6E-04	3.7E-03	7.0E-06	3.9E-03

Emission Factor in lb/l	HAPs - Metals					Total - Metals
	Lead	Cadmium	Chromium	Manganese	Nickel	
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tc	1.0E-06	2.3E-06	2.9E-06	7.9E-07	4.4E-06	1.1E-05

Total HAPs	3.9E-03
Worst HAP	3.7E-03

Methodology is the same as above.

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
Grinding Operations
Particulate Emissions**

Company Name: Bondline Adhesives, Inc.
Address City IN Zip: 500 N. Woods Avenue, Evansville, IN 47712
Permit Number: 163-35154-00124
Reviewer: Julie Mendez

Calculations submitted by applicant and verified by IDEM

Material

	PM Particle Size Multiplier (k)	PM ₁₀ Particle Size Multiplier (k)	PM _{2.5} Particle Size Multiplier (k)	Wind Speed (U) (mph)	Moisture Content (M) (%)	Basis
Kaolin	0.74	0.35	0.053	1.3	0.25	AP-42, Section 13.2.4, M is the lowest moisture content of the allowable range, U is the lowest wind speed of the range because the process is indoors.

Process Throughput

	Hourly Process Rate (tph)	Annual Process Rate (tpy)	Material
Grinding	0.37	3,239	Elastomer + Kaolin

Emission Factors

	PM Emission Factor (lb/ton)	PM ₁₀ Emission Factor (lb/ton)	PM _{2.5} Emission Factor (lb/ton)	Basis
Grinding Loading	7.55E-03	3.57E-03	5.41E-04	AP-42, Section 13.2.4, Equation 1: Emission Factor (lb/ton) = k(0.0032)* (U/5) ^{1.3} / (M/2) ^{1.4}
Grinding	3.00E-01	7.20E-02	4.86E-03	AP-42 Section 11.19.2, Table 11.19.2-2 for Fines Screening (SCC 3-05-020-21)
Grinding Unloading	7.55E-03	3.57E-03	5.41E-04	AP-42, Section 13.2.4, Equation 1: Emission Factor (lb/ton) = k(0.0032)* (U/5) ^{1.3} / (M/2) ^{1.4}

Notes

AP-42 Section 11.19.2 EF not available for PM2.5, so PM2.5 estimated using the PM10 EF and the ratio of th PM2.5/PM10 EF for controlled screening operations

Emissions

	PM Emission Rate (lb/hr)	PM ₁₀ Emission Rate (lb/hr)	PM _{2.5} Emission Rate (lb/hr)	PM Emission Rate (ppd)	PM ₁₀ Emission Rate (ppd)	PM _{2.5} Emission Rate (ppd)	PM Emission Rate (tpy)	PM ₁₀ Emission Rate (tpy)	PM _{2.5} Emission Rate (tpy)
Grinding Loading	2.79E-03	1.32E-03	2.00E-04	6.70E-02	3.17E-02	4.80E-03	1.22E-02	5.79E-03	8.76E-04
Grinding	1.11E-01	2.66E-02	1.80E-03	2.66E+00	6.39E-01	4.32E-02	4.86E-01	1.17E-01	7.88E-03
Grinding Unloading	2.79E-03	1.32E-03	2.00E-04	6.70E-02	3.17E-02	4.80E-03	1.22E-02	5.79E-03	8.76E-04
Total	0.1165	0.0293	0.0022	2.7959	0.7023	0.0528	0.5103	0.1282	0.0096

Appendix A: Emissions Calculations

**Unpaved Road
Fugitive Dust Emissions**

Company Name: Bondline Adhesives, Inc.
Address City IN Zip: 500 N. Woods Avenue, Evansville, IN 47712
Permit Number: 163-35154-00124
Reviewer: Julie Mendez

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (11/2006).

Potential Solvent Received =	3,435,407	gal/yr (maximum solvent used for mixers, with 10% increase to account for CT-1 and CT-2)
	11,547	ton/yr (maximum solvent used for mixers, with 10% increase to account for CT-1 and CT-2)
Potential Solids Received =	23,094	ton/yr (conservatively assume 2x potential solvent received for conservative calculation of roadway emissions)
Potential Finished Product Shipped =	34,642	ton/yr (conservatively assume sum of solvent and solids received for conservative calculation of roadway emissions)

Process	Vehicle Type	Maximum Weight of Vehicle (ton)	Maximum Weight of Load (ton)	Maximum Weight of Vehicle and Load (ton/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (miles/trip)	Maximum one-way miles (miles/yr)
Solvent Receiving Trucks Entering Full	Truck	22.5	19.5	42.0	592	24,874	700	0.13	79
Solvent Receiving Trucks Leaving Empty	Truck	22.5	0	22.5	592	13,327	700	0.13	79
Solids Receiving Trucks Entering Full	Truck	22.5	16.0	38.5	1,443	55,571	700	0.13	191
Solids Receiving Trucks Leaving Empty	Truck	22.5	0	22.5	1,443	32,476	700	0.13	191
Finished Product Trucks Entering Empty	Truck	22.5	0	22.5	3,464	77,943	700	0.13	459
Finished Product Trucks Leaving Full	Truck	22.5	10.0	32.5	3,464	112,585	700	0.13	459
Total					11,000	316,777			1,458

Average Vehicle Weight Per Trip =	28.8	tons/trip
Average Miles Per Trip =	0.133	miles/trip

Unmitigated Emission Factor, $E_f = k[(s/12)^a][(W/3)^b]$ (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	6.4	6.4	6.4	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-1 municipal solid waste landfills plant road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	28.8	28.8	28.8	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E * [(365 - P)/365]$

Mitigated Emission Factor, $E_{ext} =$	$E * [(365 - P)/365]$
where P =	120 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f =$	8.73	2.36	0.24	lb/mile
Mitigated Emission Factor, $E_{ext} =$	5.86	1.58	0.16	lb/mile

Vehicle Type	Unmitigated PTE of PM (ton/yr)	Unmitigated PTE of PM10 (ton/yr)	Unmitigated PTE of PM2.5 (ton/yr)	Mitigated PTE of PM (ton/yr)	Mitigated PTE of PM10 (ton/yr)	Mitigated PTE of PM2.5 (ton/yr)
All Traffic	6.37	1.72	0.17	4.27	1.15	0.12
Totals	6.37	1.72	0.17	4.27	1.15	0.12

Methodology

Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PTE = Potential to Emit



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Michael R. Pence
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Thomas W. Easterly
Commissioner

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

TO: Diane Fisher
Bondline Adhesives Inc.
500 N. Woods Avenue
Evansville, IN 47712

DATE: December 9, 2014

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

SUBJECT: Final Decision
Registration Administrative Amendment
163-35154-00124

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

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

A copy of the final decision and supporting materials has also been sent via standard mail to:
OAQ Permits Branch Interested Parties List

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

Final Applicant Cover letter.dot 6/13/2013

Mail Code 61-53

IDEM Staff	VHAUN 12/9/2014 Bondline Adhesives Inc. 163-35154-00124 FINAL		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

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1		Diane Fisher Bondline Adhesives Inc. 500 N Woods Avenue Evansville IN 47712 (Source CAATS)		CONFIRMED DELIVERY								
2		Evansville City Council and Mayors Office 1NW MLK Blvd, Rm 302 Evansville IN 47708 (Local Official)										
3		Vanderburgh County Commissioners 1 NW MLK Blvd, Rm 305 Evansville IN 47708 (Local Official)										
4		Mr. Don Mottley Save Our Rivers 6222 Yankeetown Hwy Boonville IN 47601 (Affected Party)										
5		Vanderburgh County Health Dept. 420 Milberry Street Evansville IN 47713-1888 (Health Department)										
6		Mr. Mark Wilson Evansville Courier & Press P.O. Box 268 Evansville IN 47702-0268 (Affected Party)										
7		Evansville EPA 100 E. Walnut St. Suite 100, Newsome Center Evansville IN 47713 (Local Official)										
8		David Boggs 216 Western Hills Dr Mt Vernon IN 47620 (Affected Party)										
9		John Blair 800 Adams Ave Evansville IN 47713 (Affected Party)										
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