



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: October 20, 2008

RE: S. Brown Wood Products. / 019-15781-00078

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

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 enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

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.

Enclosures
FNPER-AM.dot12/3/07



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October 20, 2008

Mr. Steve Brown
S. Brown Wood Products
1400 Service Drive
Sellersburg, IN 47172

Re: Exempt Construction and Operation Status,
019-15781-00078

Dear Mr. Steve Brown:

The application from S. Brown Wood Products, received on April 1, 2002, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following stationary wood products manufacturing source located at 1400 Service Drive, Sellersburg, IN 47172, is classified as exempt from air pollution permit requirements. The source consists of the following existing emission units:

- (a) One (1) spray booth, identified as the Clear Coat Booth, equipped with one (1) high volume low pressure (HVLP) spray gun with paint pot, and equipped with dry filters for pollution control, exhausting through stack SV001 with a flow rate of 14,150 acfm, maximum capacity 21.25 parts per hour, constructed in 1997.
- (b) One (1) spray booth, known as the Adhesive Glue Booth, equipped with air assisted airless spray equipment, and equipped with dry filters for pollution control, exhausting through stack SV004 with a flow rate of 3,725 acfm, maximum capacity 21.25 parts per hour, constructed in 1997.
- (c) One (1) woodworking area, equipped with various woodworking tools, equipped with a baghouse dust collector for pollution control, exhausting through stack SV005 with a flow rate of 11,900 acfm, maximum capacity 21.25 parts per hour, constructed in 1997.
- (d) Two (2) spray booths, identified as Finish Booth No. 1 and Finish Booth No. 2, equipped with overhead lines for assembly, each equipped with one (1) high volume low pressure (HVLP) spray gun with paint pot, and dry filters for pollution control, exhausting through stacks SV002 and SV003, maximum capacity 21.25 parts per hour, each, both constructed in 2002.

The source consists of the following Insignificant Activities:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour (MMBtu/hr):
 - (1) Two (2) 0.175 MMBtu/hr radiant heaters
 - (2) Two (2) 0.120 MMBtu/hr radiant heaters
 - (3) Two (2) 0.300 MMBtu/hr forced air box heaters
- (b) Miscellaneous hand held woodworking tools.

The following conditions shall be applicable:

- (a) Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (b) Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (c) Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

- Airless Spray Application
- Air Assisted Airless Spray Application
- Electrostatic Spray Application
- Electrostatic Bell or Disc Application
- Heated Airless Spray Application
- Roller Coating
- Brush or Wipe Application
- Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

This exemption is the first air approval issued to this source. A copy of the Exemption 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's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

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. If you have any questions on this matter, please contact Christine L. Filutze, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-233-8397 or at 1-800-451-6027 (ext 38397).

Sincerely,

Original signed by

Alfred C. Dumauval, Ph. D., Section Chief
Permits Branch
Office of Air Quality

ACD/clf

cc: File - Clark County
Clark County Health Department
Air Compliance Section
Compliance Data Section
Permits Administrative and Development
Billing, Licensing and Training Section

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

Technical Support Document (TSD) for an Exemption

Source Description and Location

Source Name:	S. Brown Wood Products
Source Location:	1400 Service Drive, Sellersburg, IN 47172
County:	Clark
SIC Code:	2499
Exemption No.:	019-15781-00078
Permit Reviewer:	Christine L. Filutze

On April 1, 2002, the Office of Air Quality (OAQ) received an application from S. Brown Wood Products related to the operation of a stationary wood products manufacturing source.

Existing Approvals

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

- (a) CP 019-4884-00078, issued on April 3, 1996.
- (b) The source has been operating under Permit By Rule following an April 22, 1997 determination by the Clean Manufacturing Technical & Safe Material Institute (CMTI) Purdue University.
- (c) Exemption 019-15732-00078, issued on December 19, 2002.

All conditions from previous approvals were incorporated into this Exemption except the following from CP 019-4884-00078, issued on April 3, 1996:

- (a) Operation Condition No. 6: Pursuant to 326 IAC 6-3 (Process Operations) emissions from the baghouse shall not exceed the allowable particulate matter emission rate of 1.05 pounds per hour.

Reason not incorporated: 326 IAC 6-3 does not apply because the source is located in Clark County and 326 IAC 6-5 applies.
- (b) Operation Condition No. 7: Pursuant to 326 IAC 2-1-3(i)(8), emissions from the woodworking facilities shall not exceed 10% opacity.

Reason not incorporated: Opacity is now covered by 326 IAC 5-1.

County Attainment Status

The source is located in Clark County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Attainment effective July 19, 2007, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.

¹Attainment effective October 23, 2001, for the 1-hour ozone standard for the Louisville area, including Clark County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standard (NAAQS) for purposes of 40 CFR Part 51, Subpart X*. The 1-hour standard was revoked effective June 15, 2005.
Basic nonattainment designation effective federally April 5, 2005, for PM2.5.

- (a) **Ozone Standards**
Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Clark County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM2.5**
Clark County has been classified as nonattainment for PM2.5 in 70 FR 943 dated January 5, 2005. On May 8th, 2008, U.S. EPA promulgated specific New Source Review rules for PM2.5 emissions, and the effective date of these rules was July 15th, 2008. Therefore, direct PM2.5 and SO2 emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.
- (c) **Other Criteria Pollutants**
Clark County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-1.1-3 (Exemptions) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) reviewed an application, submitted by S. Brown Wood Products on April 1, 2002, relating to a revision to their air permit for the operation of a stationary wood products manufacturing source.

S. Brown Wood Products was originally permitted as CP 019-4884-00078, issued on April 3, 1996. A transition application for the Title V program was submitted on November 22, 1996.

On April 22, 1997, a determination was made by the Clean Manufacturing Technical & Safe Material Institute (CMTI) of Purdue University that the source qualified for permit by rule. The Title V transition application was

subsequently withdrawn on August 27, 1997.

On April 1, 2002, the source submitted an application to IDEM, OAQ, indicating that an increase in production capacity would increase VOC PTE to the registration level. IDEM assigned the processing of this permit application to Meteorological Evaluation Services (MES). It was determined that previous approvals for this source had been based on the assumption that the baghouse control device was integral to the woodworking process and that PM and PM₁₀ potential emissions had been determined after controls. However, at the time of the April 1, 2002, application evaluation, the potential to emit PM and PM₁₀ emissions from woodworking processes were evaluated prior to controls as the baghouse control device was not considered integral to the process. This resulted in the source being subject to the Part 70 operating permit program and the source had elected to obtain a FESOP. A Notice of Deficiency (NOD) was issued on April 17, 2002 and IDEM received an adequate response from the source on May 21, 2002. A FESOP was drafted and sent to S. Brown Wood for pre-public notice review on June 7, 2002. However, no permit was issued at this time.

A second NOD, also referred to as "NOD No. 1 continued," was issued to S. Brown Wood on June 7, 2007. S. Brown Wood's response to the information requested in NOD No. 2 on August 29, 2008, was adequate to continue processing their application. Due to an October 1993 ruling, the potential to emit (PTE) calculations were completed after the baghouse controls (see Emission Calculation section below). This results in S. Brown Wood's PTE being at Exemption levels. Thus, S. Brown Wood will be issued an Exemption for this air permit application.

The source consists of the following existing emission units:

- (a) One (1) spray booth, identified as the Clear Coat Booth, equipped with one (1) high volume low pressure (HVLP) spray gun with paint pot, and equipped with dry filters for pollution control, exhausting through stack SV001 with a flow rate of 14,150 acfm, maximum capacity 21.25 parts per hour, constructed in 1997.
- (b) One (1) spray booth, known as the Adhesive Glue Booth, equipped with air assisted airless spray equipment, and equipped with dry filters for pollution control, exhausting through stack SV004 with a flow rate of 3,725 acfm, maximum capacity 21.25 parts per hour, constructed in 1997.
- (c) One (1) woodworking area, equipped with various woodworking tools, equipped with a baghouse dust collector for pollution control, exhausting through stack SV005 with a flow rate of 11,900 acfm, maximum capacity 21.25 parts per hour, constructed in 1997.
- (d) Two (2) spray booths, identified as Finish Booth No. 1 and Finish Booth No. 2, equipped with overhead lines for assembly, each equipped with one (1) high volume low pressure (HVLP) spray gun with paint pot, and dry filters for pollution control, exhausting through stacks SV002 and SV003, maximum capacity 21.25 parts per hour, each, both constructed in 2002.

Insignificant Activities:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour (MMBtu/hr):
 - (1) Two (2) 0.175 MMBtu/hr radiant heaters
 - (2) Two (2) 0.120 MMBtu/hr radiant heaters
 - (3) Two (2) 0.300 MMBtu/hr forced air box heaters
- (b) Miscellaneous hand held woodworking tools.

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

- (a) See Appendix A of this TSD for detailed emission calculations.
- (b) In October 1993 a Final Order Granting Summary Judgment was signed by Administrative Law Judge ("ALJ") Garrettson resolving an appeal filed by Kimball Hospitality Furniture Inc. (Cause Nos. 92-A-J-730 and 92-A-J-833) related to the method by which IDEM calculated potential emissions from woodworking operations. In his findings, the ALJ determined that particulate controls are necessary for the facility to produce its normal product and are integral to the normal operation of the facility, and therefore, potential emissions should be calculated after controls. Based on this ruling, potential emissions for particulate matter were calculated after consideration of the controls.

Permit Level Determination – Exemption

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

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)								Worst Single HAP
	PM	PM10 *	PM2.5	SO ₂	NOx	VOC	CO	Total HAPs	
Surface Coating	0.039	0.039	0.039	0.000	0.000	5.76	0.000	6.21	1.27 Formaldehyde
Heaters	0.010	0.040	0.040	3.13E-03	0.52	0.03	0.44	0.01	
Woodworking	1.60	1.60	1.60	0.000	0.000	0.000	0.000	0.54	
Total PTE of Entire Source	1.64	1.67	1.67	3.13E-03	0.52	5.79	0.44	6.76	
Exemptions Levels	5	5	5	10	10	10	25	25	10
Registration Levels	25	25	25	25	25	25	100	25	10
negl. = negligible * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".									

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of all regulated criteria pollutants are less than the levels listed in 326 IAC 2-1.1-3(e)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3 (Exemptions).
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) included in this Exemption.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 326 IAC 14, (40 CFR Part 63.800 Subpart JJ) are not included in this Exemption because the source is not a major source of hazardous air pollutants.

The source is an existing area source as defined by 40 CFR 63.800, since the source is not a major source of HAPs, the actual emissions for the entire source have not exceeded 5 tons of any one HAP per rolling 12-month period and 12.5 tons of any combination of HAP per rolling 12-month period, and at least 90 percent of the plantwide emissions per rolling 12-month period are associated with the manufacture of wood furniture or wood furniture components (40 CFR 63.800(b)(3)).

- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR 63, Subpart HHHHHH, are not included in this Exemption because the source does not (1) utilize methylene chloride for dried paint stripping; (2) perform spray application of coatings to motor vehicles; or (3) perform spray application of coatings that contain a target HAP, as defined in Subpart HHHHHH.
- (d) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this Exemption.

Compliance Assurance Monitoring (CAM)

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

State Rule Applicability Determination

The following state rules are applicable to the source:

- (a) 326 IAC 2-1.1-3 (Exemptions)
Exemption applicability is discussed under the Permit Level Determination – Exemption section above.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (d) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (1) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (e) 326 IAC 6-1 (Particulate Limitations)
Because the source is located in Clark County but does not have potential particulate emissions greater than 100 tons per year, 326 IAC 6-1-2 (particulate limitations) is not applicable.
- (f) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (g) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.
- (h) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.
- (i) 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating)
Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:
- Airless Spray Application
 - Air Assisted Airless Spray Application
 - Electrostatic Spray Application
 - Electrostatic Bell or Disc Application
 - Heated Airless Spray Application
 - Roller Coating
 - Brush or Wipe Application
 - Dip-and-Drain Application
- High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.
- The existing clear coat booth and the two (2) proposed new finishing booths are equipped with HVLP spray equipment. The adhesive booth is equipped with air assisted airless spray equipment. Therefore, the source is in compliance with this rule.
- (j) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.
- (k) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

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 April 1, 2002.

The operation of this source shall be subject to the conditions of the attached proposed Exemption No. 019-15781-00078. The staff recommends to the Commissioner that this Exemption be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Christine L. Filutze 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) 233-8397 or toll free at 1-800-451-6027 extension 3-8397.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

**Appendix A: Emissions Calculations
Summary**

Company Name: S. Brown Wood Products
Address City IN Zip: 1400 Service Drive, Sellersburg, Indiana 47172
Permit No. 019-15781-00078
Reviewer: Christine L. Filutze
Date: September 29, 2008

Potential To Emit (PTE) Before Controls - tons per year (tpy)

Emission Source	PM	PM10*	PM2.5*	SO2	NOx	VOC	CO	HAPs	Highest Single HAP
Surface Coating	0.039	0.039	0.039	-	-	5.76	-	6.21	1.27 Formaldehyde
Heaters	0.010	0.040	0.040	3.13E-03	0.52	0.03	0.44	0.01	
Woodworking Operations	1.60	1.60	1.60	-	-	-	-	0.54	
Totals	1.64	1.67	1.67	3.13E-03	0.52	5.79	0.44	6.76	

* The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

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

Company Name: S. Brown Wood Products
Address City IN Zip: 1400 Service Drive, Sellersburg, Indiana 47172
Permit No. 019-15781-00078
Reviewer: Christine L. Filutze
Date: September 29, 2008

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency				
Durasyn Clearcoat	7.85	61.49%	0.0%	61.5%	0.0%	30.47%	0.0100	21.250	4.83	4.83	1.03	24.62	4.49	0.70	15.84	75%				
Jowat Adhesive	8.40	2.50%	0.0%	2.5%	0.0%	97.50%	0.0100	21.250	0.21	0.21	0.04	1.07	0.20	1.91	0.22	75%				
Thinner	6.79	100.00%	0.0%	100.0%	0.0%	0.00%	0.0017	21.250	6.79	6.79	0.25	5.89	1.07	0.00		75%				
Subtotal																				
Total															1.32	31.58	5.76	2.61	0.985	

PM Integral Efficiency Factor

METHODOLOGY

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

**Appendix A: Emission Calculations
HAP Emission Calculations
From Surface Coating Operations**

**Company Name: S. Brown Wood Products
Address City IN Zip: 1400 Service Drive, Sellersburg, Indiana 47172
Permit No. 019-15781-00078
Reviewer: Christine L. Filutze
Date: September 29, 2008**

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Ethyl Benzene	Weight % Xylene	Weight % Toluene	Weight % Formaldehyde	Weight % Isobutyl Alcohol	Weight % Ethyl Alcohol	Weight % Isobutyl Acetate	Weight % Dimethyl Ketone	Ethylbenzene Emissions (ton/yr)	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Isobutyl Alcohol Emissions (ton/yr)	Ethyl Alcohol Emissions (ton/yr)	Isobutyl Acetate Emissions (ton/yr)	Dimethyl Ketone Emissions (ton/yr)	
Coatings:																				
Durasyn Clearcoat	7.85	0.0100	21.25	5.00%	15.00%	10.00%	10.00%	10.00%	15.00%	10.00%	10.00%	0.37	1.10	0.73	0.73	0.73	1.10	0.73	0.73	0.73
Jowat Adhesive	8.40	0.0100	21.25	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Thinner	6.79	0.0017	21.25	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wood Products																				
Plywood	1.00	(lbs/unit) 11.630	21.25	0.00%	0.00%	0.00%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.54	0.00	0.00	0.00	0.00	0.00
Total												0.365	1.096	0.731	1.272	0.731	1.096	0.731	0.731	0.731

Total State Potential Emissions

Total HAPs = 6.75 Tons Per Year

METHODOLOGY

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

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

**Company Name: S. Brown Wood Products
Address City IN Zip: 1400 Service Drive, Sellersburg, Indiana 47172
Permit No. 019-15781-00078
Reviewer: Christine L. Filutze
Date: September 29, 2008**

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

1.19

10.42

Pollutant

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.010	0.040	0.0031	0.521	0.029	0.438

*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

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See next page for HAPs emissions calculations.

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

Company Name: S. Brown Wood Products
Address City IN Zip: 1400 Service Drive, Sellersburg, Indiana 47172
Permit No. 019-15781-00078
Reviewer: Christine L. Filutze
Date: September 29, 2008

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.09E-05	6.25E-06	3.91E-04	9.38E-03	1.77E-05

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03	Total HAPs
Potential Emission in tons/yr	2.61E-06	5.73E-06	7.30E-06	1.98E-06	1.09E-05	0.010

Methodology is the same as previous page.

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

**Appendix A: Emission Calculations
Woodworking Operations**

**Company Name: S. Brown Wood Products
Address City IN Zip: 1400 Service Drive, Sellersburg, Indiana 47172
Permit No. 019-15781-00078
Reviewer: Christine L. Filutze
Date: September 29, 2008**

Woodworking Operations 2080 hrs/year = 40 Hour Work Week	
Amount of Sawdust Collected	37.5 tons/year
Collection Efficiency	0.99 percent

Woodworking Operations Based on 8760 hrs/year	
Amount of Sawdust Collected	157.93 tons/year
Collection Efficiency	0.99 percent

Uncontrolled Emissions	
Collected PM, PM10, PM2.5	$(157.93) / 0.99 = 159.53$ tons/year PM, PM10, PM2.5

Controlled Emissions	
Baghouse Control Efficiency	0.99 percent
Controlled PM, PM10, PM2.5	$(159.53) * (1 - 0.99) = 1.60$ tons/year PM, PM10, PM2.5