

February 13, 2002

Les Stoller
The Harter Group, Division of Jami, Inc.
11451 Harter Drive
Middlebury, Indiana 46540

Re: Registered Operation Status,
R 039-13730-00121

Dear Mr. Stoller:

The application from The Harter Group, Division of Jami, Inc., received on December 28, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following office furniture manufacturing source, located at 11451 Harter Drive, Middlebury, Indiana 46540, is classified as registered:

- (a) Two (2) adhesive application spray booths, equipped with high volume, low pressure (HVLP) spray guns and dry filters for overspray control, exhausted through stack S12, capacity: 28 chairs per hour, total.
- (b) Three (3) adhesive application spray booths, equipped with high volume, low pressure (HVLP) spray guns and dry filters for overspray control, exhausted through stack S13, capacity: 28 chairs per hour, total.
- (c) One (1) adhesive application spray booth, equipped with high volume, low pressure (HVLP) spray guns and dry filters for overspray control, exhausted through stack S14, capacity: 28 chairs per hour, total.
- (d) Three (3) adhesive application spray booths, equipped with high volume, low pressure (HVLP) spray guns and dry filters for overspray control, exhausted through stack S15, capacity: 28 chairs per hour, total.
- (e) Three (3) adhesive application spray booths, equipped with high volume, low pressure (HVLP) spray guns and dry filters for overspray control, exhausted through stack S17, capacity: 28 chairs per hour, total.
- (f) One (1) adhesive application spray booth, equipped with high volume, low pressure (HVLP) spray guns and dry filters for overspray control, exhausted through stack S18, capacity: 1 chair per hour.
- (g) Three (3) natural gas-fired air make-up units, known as H1 - H3, heat input capacity: 1.3 million British thermal units per hour, each.
- (h) Seven (7) natural gas-fired radiant heaters, known as H4 - H10, heat input capacity: 0.035 million British thermal units per hour, each.

The following conditions shall be applicable:

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:
 - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period 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.

2. Pursuant to Registration CP 039-9091-00121, issued on December 4, 1997, the particulate matter (PM) from the thirteen (13) adhesive application spray booths shall each be limited by the following:

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

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

The dry filters for overspray control shall be in operation at all times while the thirteen (13) adhesive application spray booths are in operation, in order to comply with this limit.

3. Pursuant to 326 IAC 8-2-12, the surface coating applied to wood furniture and cabinets at the twelve (12) adhesive application spray booths, exhausting to stacks S12, S13, S14, S15 and S17, 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.

4. Any change or modification which may increase the potential to emit a combination of total HAPs, VOC, PM or PM₁₀ to twenty five (25) tons per year or a single HAP to ten (10) tons per year from this source shall require approval from IDEM, OAQ prior to making the change.
5. Any change or modification which increases actual VOC emissions from the one (1) adhesive application spray booth exhausted through stack S18 to fifteen (15) pounds per day or

greater, shall cause the facility to be subject 326 IAC 8-2-12 and shall require prior IDEM, OAQ, approval.

6. Any change or modification which increases actual VOC or NO_x emissions from the entire source to ten (10) tons per year or greater, shall cause the facility to be subject to 326 IAC 2-6 and shall require prior IDEM, OAQ, approval.
7. Records shall be kept of the VOC delivered to the applicators, minus the VOC recovered, in the thirteen (13) adhesive application spray booths. Records shall be kept daily for the one (1) adhesive application spray booth exhausted through stack S18 and monthly for the twelve (12) application spray booths exhausted through stacks S12 - S15 and S17. Records shall be submitted to IDEM, OAQ, upon request.

This registration is a registration renewal issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3)). The annual notice shall be submitted to:

**Compliance Branch
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

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.

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

MSS/MES

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance - Tony Pelath
Northern Regional Office
Permit Filing - Lisa Lawrence
Air Programs Section- Michele Boner
Compliance Branch - Karen Nowak

Registration Annual Notification

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

Company Name:	The Harter Group, Division of Jami, Inc.
Address:	11451 Harter Drive
City:	Middlebury, IN 46540
Authorized individual:	Les Stoller
Phone #:	219-825-5871
Registration #:	039-13730-00121

I hereby certify that The Harter Group, Division of Jami, Inc. is still in operation and is in compliance with the requirements of Registration **039-13730-00121**.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	The Harter Group, Division of Jami, Inc
Source Location:	11451 Harter Drive, Middlebury, Indiana 46540
County:	Elkhart
SIC Code:	2599
Operation Permit No.:	R 039-13730-00121
Permit Reviewer:	Michael S. Schaffer

The Office of Air Quality (OAQ) has reviewed an application from The Harter Group, Division of Jami, Inc. relating to the operation of an office furniture manufacturing source.

Permitted Emission Units and Pollution Control Equipment

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

- (a) Two (2) adhesive application spray booths, equipped with high volume, low pressure (HVLP) spray guns and dry filters for overspray control, exhausted through stack S12, capacity: 28 chairs per hour, total.
- (b) Three (3) adhesive application spray booths, equipped with high volume, low pressure (HVLP) spray guns and dry filters for overspray control, exhausted through stack S13, capacity: 28 chairs per hour, total.
- (c) One (1) adhesive application spray booth, equipped with high volume, low pressure (HVLP) spray guns and dry filters for overspray control, exhausted through stack S14, capacity: 28 chairs per hour, total.
- (d) Three (3) adhesive application spray booths, equipped with high volume, low pressure (HVLP) spray guns and dry filters for overspray control, exhausted through stack S15, capacity: 28 chairs per hour, total.
- (e) Three (3) adhesive application spray booths, equipped with high volume, low pressure (HVLP) spray guns and dry filters for overspray control, exhausted through stack S17, capacity: 28 chairs per hour, total.
- (f) One (1) adhesive application spray booth, equipped with high volume, low pressure (HVLP) spray guns and dry filters for overspray control, exhausted through stack S18, capacity: 1 chair per hour.
- (g) Three (3) natural gas-fired air make-up units, known as H1 - H3, heat input capacity: 1.3 million British thermal units per hour, each.

- (h) Seven (7) natural gas-fired radiant heaters, known as H4 - H10, heat input capacity: 0.035 million British thermal units per hour, each.

Unpermitted Emission Units and Pollution Control Equipment

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

New Emission Units and Pollution Control Equipment

There are no new facilities/units requiring approval during this review.

Existing Approvals

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

- (a) Registration CP 039-9091-00121, issued on December 4, 1997; and
(b) Amendment A 039-9294-00121, issued on January 2, 1998.

All conditions from previous approvals were incorporated into this registration except the following:

Registration CP 039-9091-00121, issued on December 4, 1997

Conditions 2(c) & 2(d):

Daily inspections shall be performed to verify the placement, integrity and particulate loading of the filters, and

Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Reason not incorporated:

The potential to emit PM or PM₁₀ prior to controls is less than twenty-five (25) tons per year. Therefore, Compliance Monitoring and a Preventive Maintenance Plan is not required.

The requirements of 326 IAC 8-2-12 have been added to this registration as described in the State Rule Applicability - Individual Facilities section of this document.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
S 12	Pad Assembly with Adhesive Application	8	1.0	2,250	Ambient
S 13	Pad Assembly with Adhesive Application	36	2.0	2,250	Ambient
S 14	Pad Assembly with Adhesive Application	36	2.0	9,620	Ambient
S 15	Pad Assembly with Adhesive Application	36	2.0	2,250	Ambient

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
S 17	Pad Assembly with Adhesive Application	29	2.5	9,000	Ambient
S 18 Horizontal	Maintenance Activities	18	2.0	9,620	Ambient

Enforcement Issue

There are no enforcement actions pending.

Recommendation

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

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

An application for the purposes of this review was received on December 28, 2000, with additional information received on February 1, 2002.

Emission Calculations

See pages 1 through 6 of 6 of Appendix A of this document for detailed emissions calculations.

Potential To Emit

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

Pollutant	Potential To Emit (tons/year)
PM	23.0
PM ₁₀	23.0
SO ₂	0.011
VOC	6.85
CO	1.52
NO _x	1.82

HAPS	Potential To Emit (tons/year)
Styrene	0.051
Trichloroethylene	1.32
Dimethyl phthalate	0.001
Methyl ethyl ketone	0.00002
Glycol Ethers	0.157
Phosphorous	0.273
Benzene	0.00004
Dichlorobenzene	0.00002
Formaldehyde	0.001
Hexane	0.033
Toluene	0.00006
Nickel	0.00004
Manganese	0.000007
Chromium	0.00003
Cadmium	0.00002
Lead	0.000009
TOTAL	1.83

- (a) The potentials to emit (as defined in 326 IAC 2-5.1-2) of PM, PM₁₀, and VOC are less than twenty-five (25) tons per year and greater than five (5) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPS is less than or equal to twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

Actual Emissions

No previous emission data has been received from the source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

Process/facility	Limited Potential to Emit (tons/year)						
	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPS
Thirteen (13) adhesive application spray booths	2.30	2.30	-	6.75	-	-	1.80
Natural Gas combustion units (H1 - H10)	0.034	0.138	0.011	0.100	1.52	1.82	0.034
Total Emissions	2.33	2.44	0.011	6.85	1.52	1.82	1.83

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM ₁₀	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment, maintenance attainment, or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR Part 52.21.
- (b) Elkhart County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	2.30
PM ₁₀	2.30
SO ₂	0.011
VOC	6.85
CO	1.52
NO _x	1.82

(a) This source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR Part 52.21, the PSD requirements do not apply.

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

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, based on the emissions summarized in this registration, R 039-13730-00121, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

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

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

Federal Rule Applicability

- (a) This source is not subject to the requirements of the New Source Performance Standard, Standards of Performance for Surface Coating of Metal Furniture, 40 CFR Part 60, Subpart EE, because this source does not apply organic coatings to any metal furniture surface.
- (b) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), National Emission Standards for Wood Furniture Manufacturing Operations, 40 CFR 63, Subpart JJ, because this source is not considered a major source according to the provisions of 40 CFR 63, Subpart A.

State Rule Applicability - Entire Source

326 IAC 2-4.1-1 (New Source Toxics Control)

This source is not a major source of HAP emissions. Therefore, 326 IAC 2-4.1-1 is not applicable.

326 IAC 2-6 (Emission Reporting)

This source is located in Elkhart County and the potentials to emit VOC and NO_x are less than ten (10) tons per year and the potentials to emit CO, PM₁₀ and SO₂ are less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity)

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

- (a) Opacity shall not exceed an average of forty percent (40%) 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 Part 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.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

Pursuant to Registration CP 039-9091-00121, issued on December 4, 1997, the particulate matter (PM) from each of the thirteen (13) adhesive application spray booths shall be limited by the following:

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

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

The dry filters for overspray control shall be in operation at all times while the thirteen (13) adhesive application spray booths are in operation, in order to comply with this limit.

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

This source does not have potential VOC emissions of twenty-five (25) tons per year or more. Therefore, 326 IAC 8-1-6 is not applicable.

326 IAC 8-2-6 (Metal furniture coating operations)

The thirteen (13) adhesive application spray booths do not apply primer, topcoat or single coat paints to metal furniture. Therefore, 326 IAC 8-2-6 is not applicable.

326 IAC 8-2-9 (Miscellaneous metal coating operations)

This source does not coat farm machinery, small household appliances, office equipment, industrial machinery or any parts or products under the SIC Code of major groups 33, 34, 35, 36, 37, 38 or 39. Therefore, the requirements of 326 IAC 8-2-9 are not applicable.

326 IAC 8-2-12 (Wood furniture and cabinet coating)

- (a) The potential to emit VOC from the one (1) adhesive application spray booth exhausting through stack S18 is less than fifteen (15) pounds per day. Therefore, the requirements of 326 IAC 8-2-12 are not applicable to that booth.
- (b) The potential VOC emissions from any of the twelve (12) adhesive application spray booths, exhausting to stacks S12, S13, S14, S15 and S17, are greater than fifteen (15) pounds per day and the source is located in Elkhart County. Therefore, the requirements of 326 IAC 8-2-12 may be applicable. Pursuant to 326 IAC 8-1-0.5, coating is defined as the application of protective, functional, or decorative films. The adhesives applied at the twelve (12) adhesive application spray booths are functional films. Therefore, the requirements of 326 IAC 8-2-12 are applicable to those facilities. Pursuant to 326 IAC 8-2-12, 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 source uses HVLP Spray Application in each of the twelve (12) adhesive application spray booths, exhausting to stacks S12, S13, S14, S15 and S17. Therefore the twelve (12) adhesive application spray booths are in compliance with this rule.

326 IAC 8-11 (Wood Furniture Coatings)

This source is located in Elkhart County. Therefore, 326 IAC 8-11 is not applicable.

Conclusion

The operation of this office furniture manufacturing source shall be subject to the conditions of the attached proposed registration R 039-13730-00121.

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

**Company Name: The Harter Group, Division of Jami, Inc.
Address City IN Zip: 11451 Harter Drive, Middlebury, Indiana 46540
Registration: 039-13730
Plt ID: 039-00121
Reviewer: Michael S. Schaffer
Date: December 28, 2000**

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

Units : Three (3) Radiant Heaters (H1 - H3)
@ 1.3 MMBtu/hr each

3.90

34.16

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.032	0.130	0.010	1.71	0.094	1.43

*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 page 2 for HAPs emissions calculations.

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

Company Name: The Harter Group, Division of Jami, Inc.
Address City IN Zip: 11451 Harter Drive, Middlebury, Indiana 46540
Registration: 039-13730
Plt ID: 039-00121
Reviewer: Michael S. Schaffer
Date: December 28, 2000

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.59E-05	2.05E-05	1.28E-03	3.07E-02	5.81E-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	8.54E-06	1.88E-05	2.39E-05	6.49E-06	3.59E-05	0.032

Methodology is the same as page 1.

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

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

**Company Name: The Harter Group, Division of Jami, Inc.
Address City IN Zip: 11451 Harter Drive, Middlebury, Indiana 46540
Registration: 039-13730
Plt ID: 039-00121
Reviewer: Michael S. Schaffer
Date: December 28, 2000**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Units : Seven (7) Radiant Heaters (H4 - H10) @ 0.035 MMBtu/hr each
0.245	2.15	

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.002	0.008	0.001	0.107	0.006	0.090

*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 page 4 for HAPs emissions calculations.

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

Company Name: The Harter Group, Division of Jami, Inc.
Address City IN Zip: 11451 Harter Drive, Middlebury, Indiana 46540
Registration: 039-13730
Plt ID: 039-00121
Reviewer: Michael S. Schaffer
Date: December 28, 2000

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	2.25E-06	1.29E-06	8.05E-05	1.93E-03	3.65E-06

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	5.37E-07	1.18E-06	1.50E-06	4.08E-07	2.25E-06	0.002

Methodology is the same as page 3.

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: State Potential Emissions Calculations VOC and Particulate From Surface Coating Operations

Company Name: The Harter Group, Division of Jami Inc.
Address City IN Zip: 11451 Harter Drive, Middlebury, IN 46540
Registration: 039-13730
Plt ID: 039-00121
Reviewer: Michael S. Schaffer
Date: December 28, 2000

Material	Density (lb/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (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 tons per year	lb VOC /gal solids	Transfer Efficiency
Cleaner																
BIOACT 105 CLEANER 105	6.67	100.00%	0.00%	100.0%	0.00%	25.00%	0.005	28.0	6.67	6.67	0.93	22.4	4.09	0.00	26.7	75%
Adhesive																
HYDRAFAST-EN M6186	9.34	47.10%	47.10%	0.0%	53.10%	0.47%	0.143	28.0	0.00	0.00	0.00	0.00	0.00	21.7	0.00	75%
HYDRAFAST-EN DC-12230	9.30	85.00%	85.00%	0.0%	94.78%	11.00%	0.027	28.0	0.00	0.00	0.00	0.00	0.00	1.15	0.00	75%
HYDRAFAST-EN DC11907	9.34	43.00%	43.00%	0.0%	48.16%	0.22%	0.0004	28.0	0.00	0.00	0.00	0.00	0.00	0.07	0.00	75%
R&D (Stack S18)																
PVA 67.65.64	6.76	78.30%	50.00%	28.3%	40.50%	25.00%	0.025	1.0	3.22	1.91	0.05	1.15	0.21	0.04	7.65	75%
MET-L-ETCH W4K288	9.55	86.00%	0.00%	86.0%	0.00%	25.00%	0.025	1.0	8.21	8.21	0.21	4.93	0.90	0.04	32.9	75%
PICRIN 1043	12.09	100.00%	0.10%	99.9%	0.15%	0.00%	0.025	1.0	12.1	12.1	0.30	7.25	1.32	0.00	N/A	75%
ACETONE 840	6.61	100.00%	100.00%	0.0%	39.62%	0.00%	0.025	1.0	0.00	0.00	0.00	0.00	0.00	0.00	N/A	75%
GLS 1001	12.84	50.00%	0.00%	50.0%	0.00%	59.00%	0.002	1.0	6.42	6.42	0.01	0.31	0.06	0.01	10.9	75%
LUPERSOL DDM-9 12900	9.04	100.00%	1.50%	98.5%	1.63%	0.00%	0.00005	1.0	9.05	8.90	0.00	0.01	0.00	0.00	N/A	75%
MINERAL SPRITS 66/3	6.42	100.00%	0.00%	100.0%	0.00%	0.00%	0.006	1.0	6.42	6.42	0.04	0.92	0.17	0.00	N/A	75%
								PM	Control Efficiency	90.00%						
										Uncontrolled	1.54	37.0	6.75	23.0		
										Controlled	1.54	37.0	6.75	2.30		

State Potential Emissions

Add worst case coating to all solvents

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

HAP Emission Calculations

Company Name: The Harter Group, Jami Inc.
Plant Location: 11451 Harter Drive, Middlebury, IN 46540
County: Elkhart
Registration: 039-13730
PLT ID: 039-00121
Permit Reviewer: Michael S. Schaffer
Date: December 28, 2000

Material	Density (lb/gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Styrene	Weight % Trichloroethylene	Weight % Dimethyl phthalate	Weight % Methyl ethyl ketone	Weight % Glycol Ethers	Weight % Phosphorous	Styrene (tons/yr)	Trichloroethylene (tons/yr)	Dimethyl phthalate (tons/yr)	Methyl ethyl ketone (tons/yr)	Glycol Ethers (tons/yr)	Phosphorous (tons/yr)	
Cleaner																
BIOACT 105 CLEANER 105	6.67	0.005	28.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	
Adhesive																
HYDRAFAST-EN M6186	9.34	0.143	28.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	
HYDRAFAST-EN DC-12230	9.30	0.027	28.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	
HYDRAFAST-EN DC11907	9.34	0.0004	28.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	
R&D																
PVA 67.65.64	6.76	0.025	1.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	
MET-L-ETCH W4K288	9.55	0.025	1.0	0.00%	0.00%	0.00%	0.00%	15.00%	26.10%	0.00	0.00	0.00	0.00	0.157	0.273	
PICRIN 1043	12.09	0.025	1.0	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00	1.32	0.00	0.00	0.00	0.00	
ACETONE 840	6.61	0.025	1.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	
GLS 1001	12.84	0.002	1.0	45.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.051	0.00	0.00	0.00	0.00	0.00	
LUPERSOL DDM-9 12900	9.04	0.00005	1.0	0.00%	0.00%	32.00%	1.00%	0.00%	0.00%	0.00	0.00	0.001	0.00002	0.00	0.00	
MINERAL SPRITS 66/3	6.42	0.006	1.0	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 HAPs:										(tons/yr):	0.051	1.32	0.001	0.00002	0.157	0.273
										(tons/yr):	1.80					

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