



Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

October 29, 2004

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

TO: Interested Parties / Applicant

RE: Galvamet America Corporation / 145-20058-00064

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

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, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FN-REGIS.dot 9/16/03



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

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Commissioner

100 North Senate Avenue
P.O. Box 6015
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October 29, 2004

Mr. Hector Trevino
Galvamet America Corporation
101 West Ohio Street, Suite 2002
Indianapolis, IN 46204

Re: Registered Operation Status,
145-20058-00064

Dear Mr. Trevino:

The application from Galvak, S.A. De C. V. received on September 08, 2004, has been reviewed. Based on the revised emission calculations and the provisions in 326 IAC 2-5.1-2, it has been determined that the following polyurethane forming operations located at 1717 McCall Drive, IN 46176 is classified as registered:

- (a) Polyurethane foaming, identified as emission unit 1, constructed in 2004 and to start operating in August 2005, with a maximum capacity of 6.3 lb/hr of HFC 245fa (No VOC) and 0.6 lb / year of MDI, and exhausting to stack A;
- (b) Natural Gas burner for process heat, identified as emission unit 3, constructed in 2004 and to start operating in August 2005 with a maximum capacity of 2.38 MMBtu/hr , and exhausting to stack vent B;
- (c) Natural gas burner for building heat, identified as emission unit 2, constructed in 2004 with a maximum capacity of 3.73 MMBtu/hr , and exhausting to stack vent C;
- (d) Panel cutting saw, identified as emission unit 4, constructed in 2004, with a maximum capacity of 300 cuts per hour cutting 2" thick by 48" wide panels, using a Siemens PLC as control, and exhausting to a dust collection system; and
- (e) Bulk chemical storage consisting of:
 - (1) Two (2) 5000 gallons MDI vertical storage tanks;
 - (2) Two (2) 5000 gallons Polyol horizontal storage tanks; and
 - (3) One (1) 5000 gallons HFC 245fa blowing agent storage tank.

The following conditions shall be applicable:

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate from the panel cutting saw , identified as emission unit 4, 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 maximum process weight rate for the panel cutting operations is 21,865.22 lb/hr equivalent to 10.93 tons/hr, therefore

$$E = 4.10 \times 10.93^{0.67} = 20.36 \text{ pounds per hour}$$

The panel cutting saw, identified as emission unit 4 will comply with 326 IAC 6-3-2.

The Siemens PLC shall be in operation at all times the panel cutting saw is in operation, in order to comply with this limit.

- (b) 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 forty percent (40%) 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.
- (d) Any change or modification which may increase the potential to emit any combination of HAPs, VOC, NO_x, SO₂, PM or PM₁₀ to twenty five (25) tons per year, or a single HAP to ten (10) tons per year, from this source shall obtain approval from IDEM, OAQ prior to making the change.

This registration is an operating registration issued to this source. The source may operate according to 326 IAC 2-5.1-2.

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 2-5.1-2(f)(3)). The annual notice shall be submitted to:

**Compliance Data Section
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, Chief
Permits Branch
Office of Air Quality

FO/EVP

cc: File – Shelby County
Shelby County Health Department
Air Compliance – D. J. Knotts
Permit Tracking
Compliance Data Section

**Registration
Annual Notification**

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

Company Name:	Galvamet America Corporation
Address:	1717 McCall Drive
City:	Shelbyville, Indiana 46176
Authorized individual:	Hector Trevino
Phone #:	(317) 472 – 2895
Registration #:	145-20058-00064

I hereby certify that Galvamet America Corporation is still in operation and is in compliance with the requirements of Registration 145-20058-00064.

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: Galvamet America Corporation
Source Location: 1717 McCall Drive, Shelbyville, Indiana 46176
County: Shelby
SIC Code: 3448
Registration No.: 145-20058-00064
Permit Reviewer: Femi Ogunsola/EVP

The Office of Air Quality (OAQ) has reviewed an application from Galvak, S.A. De. C. V. relating to the operation of polyurethane forming processes that produces polyurethane form cores which includes the following emission units:

- (a) Polyurethane foaming, identified as emission unit 1, constructed in 2004 and to operate in August 2005, with a maximum capacity of 6.3 lb/hr of HFC 245fa (No VOC) and 0.6 lb / year of MDI, and exhausting to stack A.;
- (b) Natural Gas burner for process heat, identified as emission unit 3, constructed in 2004 and to operate in August 2005 with a maximum capacity of 2.38 MMBtu/hr (3 / hr), and exhausting to stack vent B;
- (c) Natural gas burner for building heat, identified as emission unit 2, constructed in 2004 with a maximum capacity of 3.73 MMBtu/hr, and exhausting to stack vent C;
- (d) Panel cutting saw, identified as emission unit 4, constructed in 2004, with a maximum capacity of 300 cuts per hour cutting 2" thick by 48" wide panels, using a Siemens PLC as control, and exhausting to a dust collection system; and
- (e) Bulk chemical storage consisting of:
 - (1) Two (2) 5000 gallons MDI vertical storage tanks;
 - (2) Two (2) 5000 gallons Polyol horizontal storage tanks; and
 - (3) One (1) 5000 gallons HFC 245fa blowing agent storage tank.

Existing Approvals

There are no existing approvals for this source. This is an initial approval for construction and operation.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

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

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

An application for the purposes of this review was received on September 8, 2004.

Emission Calculations

See Appendix A of this document for detailed emission calculations (pages 1 through 8).

Potential to Emit of the Source Before Controls

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

Pollutant	Potential to Emit (tons/yr)
PM	4.87
PM-10	5.02
SO ₂	0.02
VOC	0.15
CO	2.25
NO _x	2.67

HAP's	Potential to Emit (tons/yr)
Hexane	0.05
MDI/PMDI	0.0005
TOTAL	0.0505

- (a) The potential to emit of all the regulated pollutants at the source is within the registration applicability thresholds stated in 326 IAC 2-5.1-2(a). Therefore, pursuant to 326 IAC 2-5.1-2, this source will be issued a registration.

County Attainment Status

The source is located in Shelby County.

Pollutant	Status
PM-10	Unclassifiable or attainment
SO ₂	Attainment
NO ₂	Unclassifiable or attainment
1-hour Ozone	Unclassifiable or attainment
8-hour Ozone	Basic Nonattainment
CO	Unclassifiable or attainment
Lead	Unclassifiable or attainment

- (a) 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 the ozone standards. Shelby County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for nonattainment new source review.
- (b) Shelby County has been classified as attainment or unclassifiable in Indiana for other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit 145-20058-00064, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

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

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

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) incorporated into this permit.
- (b) The five bulk chemical storage tanks each with storage capacity of 5000 gallons are not subject to the New Source Performance Standard (40 CFR Parts 60.110b, Subpart Kb) because each of the five tanks has storage capacity less than 19,815 gallons (75m³).
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14; 40 CFR Part 61 and 40 CFR Part 63) incorporated into this permit.

This source is not subject to the National Emission Standards for Hazardous Air Pollutants: Flexible Polyurethane Foam Fabrication Operations [40 CFR Part 63, Subpart M], because it is not a major source of HAPs from Polyurethane Foaming operation and not a flexible polyurethane foam fabrication operations. The PTE emission of any single HAP is less than ten (10) tons per 12 consecutive month period and the total combined HAP emission is less than twenty-five (25) tons per 12 consecutive month period.

This source is not subject to the National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam production [40 CFR Part 63, Subpart III] because it is not a major source of HAPs from Flexible Polyurethane Foam production and the source will not produce flexible polyurethane foam. The potential to emit of any single HAP is less than ten (10) tons per 12 consecutive month period and the total combined HAP is less than twenty-five (25) tons per 12 consecutive month period. The provisions of this subpart apply to each new and existing flexible polyurethane foam or rebond foam process that meets the criteria listed in paragraphs (a)(1) through (3) of this section.

- (1) Produces flexible polyurethane or rebond foam;
 - (2) Emits a HAP, except as provided in paragraph (c)(2) of this section; and
 - (3) Is located at a plant site that is a major source
- (d) This source is not subject to the provisions of 40 CFR 64, Compliance Assurance Monitoring. In order for this rule to apply, a specific emissions unit must meet three criteria for a given pollutant:
- (1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant;
 - (2) The unit uses a control device to achieve compliance with any such emission limitation or standard, and
 - (3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal or greater than 100 percent of the amount required for a source to be classified as a major source.

For this source, no unit has potential pre-control emissions of a regulated air pollutant that are equal or greater than 100 tons per year. Therefore, 40 CFR 64 is not applicable.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Shelby County and the potential to emit VOC is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in 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 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 (Particulate Emission Limitations for Manufacturing Processes)

The particulate from the panel cutting saw, identified as emission unit 4, 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 maximum process weight rate for the panel cutting operations is 21,865.22 lb/hr equivalent to 10.93 tons/hr, therefore

$$E = 4.10 \times 10.93^{0.67} = 20.36 \text{ pounds per hour}$$

The panel cutting saw, identified as emission unit 4 will comply with 326 IAC 6-3-2.

The Siemens PLC shall be in operation at all times the panel cutting saw is in operation, in order to comply with this limit.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

The operation of polyurethane foaming process is not subject to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) because the potential to emit VOC is less than 1 tons per year.

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

The operation of polyurethane foaming process will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 8-9 (Volatile Organic Liquid Storage Tanks)

This source is located in Shelby County therefore it is not subject to the requirement of 326 IAC 8-9 (Volatile Organic Liquid Storage Tanks).

Conclusion

The operation of this polyurethane foaming operations shall be subject to the conditions of the attached proposed **Registration No. 145-20058-00064**.

Appendix A: Emission Calculations

Company Name: Galvak, S.A. De C. V.
Address City IN Zip: 1717 McCall Drive, Shelbyville, IN 46176
Plt ID: R145-20058-00064
Reviewer: FO/EVP
Date: 10/11/2004

Uncontrolled Potential Emissions (tons/year)				
Emissions Generating Activity				
Pollutant	Polyurethane Foaming Operations	Natural Gas Combustion	Panel Cutting Operations	TOTAL
PM	0.00	0.05	4.82	4.87
PM ₁₀	0.00	0.20	4.82	5.02
SO ₂	0.00	0.02	0.00	0.02
NO _x	0.00	2.67	0.00	2.67
VOC	0.0005	0.15	0.00	0.1505
CO	0.00	2.25	0.00	2.25
total HAPs	0.0005	0.05	0.00	0.05
worst case single HAP	0.0005	0.05	0.00	0.05
Total emissions based on rated capacity at 8,760 hours/year.				
Controlled Potential Emissions (tons/year)				
Emissions Generating Activity				
Pollutant	Polyurethane Foaming Operations	Natural Gas Combustion	Panel Cutting Operations	TOTAL
PM	0.00	0.05	4.82	4.87
PM ₁₀	0.00	0.20	4.82	5.02
SO ₂	0.00	0.02	0.00	0.02
NO _x	0.00	2.67	0.00	2.67
VOC	0.0005	0.15	0.00	0.1505
CO	0.00	2.25	0.00	2.25
total HAPs	0.0005	0.05	0.00	0.05
worst case single HAP	0.0005	0.05	0.00	0.05
Total emissions based on rated capacity at 8,760 hours/year, after control.				

**Appendix A: Emissions Calculations
Filling and Storage Emissions
Polyurethane Foaming Operation**

**Company Name: Galvak, S.A. De C.V.
Address City IN Zip: 1717 McCall Drive, Shelbyville, IN 46176
Plt ID: 145-20058-00064
Reviewer: Femi Ogunsola
Date: 10/13/2004**

The working losses can be estimated from the following expression:

$$Lw = Qw * (1 / 359) * (273.15 / Tamb) * (VPamb / 760) * Mw * Kmdi$$

Where:

Lw Represents the working losses in lb/year.
 Qw Is the annual throughput of MDI pumped to the tank in ft3/year.
 Tamb Is the storage temperature in °K.
 Vpamb Is the vapor pressure of MDI at the storage temperature in mm Hg
 Mw Is the molecular weight of MDI (250.26)
 Kmdi Is the adjustment factor to the vapor pressure that is a function of MDI concentration in the feedstock and the storage temperature.

Qw	2,167,494.00 Kg/year	With density of MDI (from MSDS)	1.25 g/ml
	4,778,457.27 Lb/year		2709368 Lt/year
Tamb	20 °C		95640.67 ft3/year
	253.15 °K		
Mw	250.26		
VP amb	0.00000542 mm Hg		
K mdi	0.12	5% MDI	
Lw=	6.15644E-05 lb/year		

Notes:

Pure MDI is a solid at room temperature and even though MDI/PMDI is a liquid at room temperature, both have a very low vapor pressure. There will be minor to almost negligible releases occurring during filling or storage due to changes in temperature from day to night.

Working losses occur when MDI/PMDI vapor that is present over the liquid in a storage tank is displaced from the tank by the addition of MDI/PMDI liquid during tank filling. A reasonable worst-case estimate of working losses can be made based on the size and number of storage tanks, the average storage temperature, and the number of times each tank is filled in one year.

The calculations that follow demonstrate that working losses of MDI/PMDI will be very low under most normal storage circumstances

Appendix A: Emissions Calculations
Process Emissions
Polyurethane Foaming Operation

Company Name: Galvak, S.A. De C.V.
Address City IN Zip: 1717 McCall Drive, Shelbyville, IN 46176
Plt ID: 145-20058-00064
Reviewer: Femi Ogunsola
Date: 10/13/2004

The enclosed process losses can be estimated from the following expression:

$$Lc = \text{Vair} * (1 / 359) * (273.15 / T\text{proc}) * (\text{VPMDI} / 760) * \text{Mw} * \text{KMDI}$$

Where:

Lc Emissions lb./year.
Vair Annual volume of displaced air in ft3/year.
Tproc Process temperature in °K. (maximum temperature of the MDI).
Vpmdi Vapor pressure of MDI in mm Hg. at process temperature.
Mw 250.26 (this is the molecular weight of MDI).
Kmdi Adjustment factor to the vapor pressure that is a function of MDI concentration in the feedstock and the temperature.

Calculating Annual Volume of Displaced Air (Vair)

Blend consumed	690 kg/hr	Operation by year	6132 hrs
	1521.174 lb/hr	Line use factor	0.7
Consumed by year	9327839 lb/year		
a) Vair = (Area/piece)(No. Pieces/year)(Thickness)		Thickness	6 inches
			0.1524 m
		Area of panel	6 m2/sheet
Vair=	224,284.03 m3/año	Line Speed	4 m/min
	7,920,500.88 ft3/año		4 m2/min
		sheet/hr	40
b) By volume of displaced air (length for wide multiplying by thickness)		Production by Year	1,200,000 m2
Vair	182,880.00 m3/year		
	6,458,334.05 ft3/year		

Maximum Process Temperature in °K

The maximum temperature is the oven (curing) temperature of : **60 °C**
140 °F
213.15 °K

Vapor Pressure of MDI @ process temp °K (VPMDI)

The pressure vapor @ process temperature is : **0.000508 mm Hg**

Adjustment factor (KMDI)

Adjustment factor @ process temperature and % MDI **0.2** See Table MDI/PMDI Adjustment factor
% MDI (MSDS) **5%**

Therefore

Lc= **0.7717 lb/year** Emissions from MDI with real production and operation hours.
0.3500 Kg/year
Lc= **0.9465 lb/year** Estimating rate release for all year (100% of production)
0.4292 Kg/year

NOTES:

Methylenebis (phenyl isocyanate) (MDI) and polymeric diphenylmethane diisocyanate (PMDI) mixture is used in conjunction with a polyol blend in the manufacture of insulated panel. A two component system, using a polyol blend (Component A) is mixed with a MDI/PMDI mixture (Component B) through a special designed nozzle is dispersed onto laminator backing, enclosed between an upper and lower sheet, and passed through an oven for curing. This produces rigid foam panels that are used as insulation material.

The emissions from open processes can be estimated, when the volume of the mold is known (space between two sheets) or can be determined, by calculating the total volume of air displaced from the operations at the temperature of the process. A reasonable worst-case estimate of emissions can be made based on the volume produced per year and the maximum temperature.

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

**Company Name: Galvak, S.A. De C.V.
Address City IN Zip: 1717 McCall Drive, Shelbyville, IN 46176
Plt ID: 145-20058-00064
Reviewer: Femi Ogunsola
Date: 10/13/2004**

Process Heat

Heat Input Capacity Potential Throughput
MMBtu/hr MMCF/yr

2.38

20.8

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.02	0.08	0.01	1.04	0.06	0.88

*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

Small Industrial Boiler

HAPs Emissions

Company Name: Galvak, S.A. De C.V.

Address City IN Zip: 1717 McCall Drive, Shelbyville, IN 46176

Plt ID: 145-20058-00064

Reviewer: Femi Ogunsola

Date: 10/13/2004

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0000	0.0000	0.0008	0.0188	0.0000

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0000	0.0000	0.0000	0.0000	0.0000

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: Galvak, S.A. De C.V.
Address City IN Zip: 1717 McCall Drive, Shelbyville, IN 46176
Plt ID: 145-20058-00064
Reviewer: Femi Ogunsola
Date: 10/13/2004**

Building Heat

Heat Input Capacity Potential Throughput
MMBtu/hr MMCF/yr

3.73

32.7

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.03	0.12	0.01	1.63	0.09	1.37

*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

Small Industrial Boiler

HAPs Emissions

Company Name: Galvak, S.A. De C.V.
Address City IN Zip: 1717 McCall Drive, Shelbyville, IN 46176
Plt ID: 145-20058-00064
Reviewer: Femi Ogunsola
Date: 10/13/2004

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0000	0.0000	0.0012	0.0294	0.0001

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0000	0.0000	0.0000	0.0000	0.0000

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: Process Particulate Emissions

Company Name: Galvak, S.A. De C.V.
 Address City IN Zip: 1717 McCall Drive, Shelbyville, IN 46176
 Permit Number: R 145-20058-00064
 Reviewer: Femi Ogunsola/EVP
 Date: 10/21/2004

Potential Emission (tons/year)				
Process	Total PM Collected at Dry Collector (pounds/hour)	Control Efficiency	Potential Hours per Year of Operation	Total Potential PM Emission (ton/year)
Panel Cutting	1.125	99.98%	8760	4.9285
Total PM Potential Emissions before control				4.93
Total PM Potential Emissions after control				0.05
Methodology				
PM Potential (ton/yr) = PM collected (lb/hr) / % collector efficiency * potential hours / 2000 Total emissions based on rated capacity at 8,760 hours of operation per year and source controls.				
326 IAC 6-3-2 Compliance Calculation				
Process	Process Weight lbs/hr	Process Weight tons/hr	Emission Rate Allowable Limit lbs/hr	Potential Emission Rate lbs/hr
Panel Cutting (2" x 48" x 3m)	21865.22	10.93	20.36	0.011
				(Will comply)
Methodology				
$E = (4.10 * P^{0.67})$ (For process weights less than 60,000 lbs/hr) where: E = allowable emission rate in lbs/hr P = process weight in tons/hr				