



Joseph E. Kernan  
Governor

Lori F. Kaplan  
Commissioner

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April 6, 2004

Mr. Scott Strycker  
Acadia Polymers Corporation  
1201 Gerber Street  
Ligonier, Indiana 46767

Re: Registered Operation Status,  
113-17928-00044

Dear Mr. Strycker:

The application from Acadia Polymers Corporation, received on September 2, 2003, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, the emission units at this motor vehicle parts and accessories manufacturing plant, located at 1201 Gerber Street, Ligonier, Indiana, 46767, are classified as registered:

- (a) One (1) rubber molding facility, with a maximum throughput rate of 700 pounds of rubber components per hour, and exhausting at stack M. This unit was constructed in 1994.
- (b) One (1) rubber extruding line, with a maximum throughput rate of 300 pounds of material per hour. This unit was constructed in 1994.
- (c) One (1) post curing facility, with a maximum throughput rate of 225 pounds of rubber components per hour, and consisting of:
  - (1) Two (2) natural gas-fired post cure ovens, with a total maximum heat input capacity of 1.60 MMBtu per hour, using two (2) baghouses to control visible emissions, and exhausting at stacks I and J. The two (2) ovens were installed in 1994 and the baghouses in 2004.
  - (2) One (1) electric post cure oven, using one(1) baghouse to control visible emissions, and exhausting at stack H. This unit was installed in 1994.
  - (3) One (1) electric post cure oven, exhausting at stack K.. This unit was constructed in 1994.

Note: As per the agreed order with IDEM (Case No. 2002-12411-A), issued on January 20, 2004, the baghouses were installed and used in conjunction with the three (3) post cure ovens to eliminate the visible emissions using bag filters continuously. The bag filters are coated with lime with a maximum throughput of 4.17 pounds of lime per hour. The wax attaches to the lime and is captured by the bag filters having a control efficiency of 99 %. The lime is reused to coat the filters.

- (d) One (1) rubber trimming line, with a maximum throughput rate of 500 pounds of material per hour, controlled by a baghouse, and exhausting at stack Q. This unit was constructed in 1994.
- (e) One (1) sand blasting facility, with a total maximum throughput rate of 1200 pounds of rubber components per hour and a maximum sand abrasive usage of 90 pounds per hour. This unit was constructed in 1994.



- (f) Eleven (11) natural gas-fired combustion units, with a total maximum heat input capacity of 4.62 MMBtu per hour. These units were installed in 1994.
- (g) One (1) liquid nitrogen storage tank, with a maximum storage capacity of 9,000 gallons.
- (h) Thirty (30) rubber presses identified as Press 1 through 30, with a total maximum throughput rate of 700 pounds of rubber components per hour. These units were installed in 1994.

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:
  - (1) 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.
  - (2) 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.
- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from the rubber extruders, trimming, and sand blasting facilities shall not exceed the particulate emission limits in pounds per hour as shown in the table below:

Emission Units	Process Weight		Particulate Emission Limit (lbs/hour)
	(lbs/hour)	(tons/hour)	
Rubber Extrusion	300	0.15	1.15
Rubber Trimming	500	0.25	1.62
Sand Blasting	1200	0.60	2.91

The pounds per hour limitations were calculated with the following equation:

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

$$E = 4.10 P^{0.67}$$

where:

E = rate of emission in pounds per hour and  
P = process weight rate in tons per hour

This registration is a revised registration issued to this source. The source may operate according to 326 IAC 2-5.5-4(a)(3).

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.

Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Sanobar Durrani, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7810 to speak directly to Ms. Durrani. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Original signed by

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

ERG/SD

cc: File - Noble County  
Noble County Health Department  
Air Compliance - Doyle Houser  
Northern Regional Office  
Permit Tracking - Sara Cloe  
Technical Support and Modeling - Michele Boner  
Compliance Branch  
Office of Enforcement

## Registration Annual Notification

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

<b>Company Name:</b>	<b>Acadia Polymers Corporation</b>
<b>Address:</b>	<b>1201 Gerber Street</b>
<b>City:</b>	<b>Ligonier, Indiana 46767</b>
<b>Authorized individual:</b>	<b>Mr. Scott Strycker</b>
<b>Phone #:</b>	<b>260-894-7125</b>
<b>Registration #:</b>	<b>113-17928-00044</b>

I hereby certify that Acadia Polymers Corporation is still in operation and is in compliance with the requirements of Registration 113-17928-00044.

<b>Name (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

**issued April 7, 2004**  
**Indiana Department of Environmental Management**  
**Office of Air Quality**

Technical Support Document (TSD) for a Registration

**Source Background and Description**

Source Name: Acadia Polymers Corporation  
Source Location: 1201 Gerber Street, Ligonier, Indiana 46767  
County: Noble  
SIC Code: 3714  
Operation Permit No.: R113-17928-00044  
Permit Reviewer: ERG/SD

The Office of Air Quality (OAQ) has reviewed an application from Acadia Polymers Corporation relating to the operation of a motor vehicle accessories manufacturing plant.

**Unpermitted Emission Units and Pollution Control Equipment**

The source consists of the following unpermitted facilities/units.

- (a) One (1) rubber molding facility, with a maximum throughput rate of 700 pounds of rubber components per hour, and exhausting at stack M. This unit was constructed in 1994.
- (b) One (1) rubber extruding line, with a maximum throughput rate of 300 pounds of material per hour. This unit was constructed in 1994.
- (c) One (1) post curing facility, with a maximum throughput rate of 225 pounds of rubber components per hour, and consisting of:
  - (1) Two (2) natural gas-fired post cure ovens, with a total maximum heat input capacity of 1.60 MMBtu per hour, using two (2) baghouses to control visible emissions, and exhausting at stacks I and J. The two (2) ovens were installed in 1994 and the baghouses in 2004.
  - (2) One (1) electric post cure oven, using one (1) baghouse to control visible emissions, and exhausting at stack H. This unit was installed in 1994.
  - (3) One (1) electric post cure oven, exhausting at stack K. This unit was constructed in 1994.

Note: As per the agreed order with IDEM (Case No. 2002-12411-A), issued on January 20, 2004, the baghouses were installed and used in conjunction with the three (3) post cure ovens to eliminate the visible emissions using bag filters continuously. The bag filters are coated with lime with a maximum throughput of 4.17 pounds of lime per hour. The wax attaches to the lime and is captured by the bag filters having a control efficiency of 99 %. The lime is reused to coat the filters.

- (d) One (1) rubber trimming line, with a maximum throughput rate of 500 pounds of material per hour, controlled by a baghouse, and exhausting at stack Q. This unit was constructed in 1994.

- (e) One (1) sand blasting facility, with a total maximum throughput rate of 1200 pounds of rubber components per hour and a maximum sand abrasive usage of 90 pounds per hour. This unit was constructed in 1994.
- (f) Eleven (11) natural gas-fired combustion units, with a total maximum heat input capacity of 4.62 MMBtu per hour. These units were installed in 1994.
- (g) One (1) liquid nitrogen storage tank, with a maximum storage capacity of 9,000 gallons.
- (h) Thirty (30) rubber presses identified as Press 1 through 30, with a total maximum throughput rate of 700 pounds of rubber components per hour. These units were installed in 1994.

### **New Emission Units and Pollution Control Equipment Receiving Prior Approval**

There are no new construction activities included in this permit.

### **Existing Approvals**

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

- (a) Registration 113-4048-00044, issued on September 27, 1994.

All conditions from previous approvals have been incorporated into this permit.

### **Enforcement Issue**

- (a) The Permittee did not submit an application for a operating permit within the required time period (i.e. before 12/25/00). IDEM is aware that equipment has been operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment*.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

### **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 2, 2003 with additional information received on November 12, 2003 and November 17, 2003.

### **Emission Calculations**

See Appendix A of this document for detailed emissions calculations (Pages 1 through 10).

### **Potential To Emit of 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/year)
PM	20.0
PM10	15.1
SO <sub>2</sub>	0.02
VOC	15.6
CO	2.99
NO <sub>x</sub>	2.73

HAPs	Potential To Emit (tons/year)
Benzene	5.72E-05
Dichlorobenzene	3.27E-05
Formaldehyde	2.04E-03
Hexane	4.91E-02
Toluene	9.27E-05
Total HAP from EPDM Sulfur Cure	0.04
<b>TOTAL</b>	<b>9.135-02</b>

- (a) The potential to emit (as defined in 326 IAC 2-1.1(16)) of all criteria pollutants is less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-1.1(16)) of all criteria pollutants is less than 25 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-6.1.
- (c) The potential to emit (as defined in 326 IAC 2-1.1(16)) of VOC, PM, and PM10 is greater than levels listed in 326 IAC 2-1.1-3(d)(1), therefore the source is subject to the provisions of 326 IAC 2-5.5.1. A Registration will be issued.
- (d) The potential to emit (as defined in 326 IAC 2-1-1(16)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-1.1(16)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (e) Fugitive Emissions  
 Since this type of operation is not in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

**County Attainment Status**

The source is located in Noble County.

Pollutant	Status
PM10	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
Ozone	Attainment
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. Noble County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Noble County has been classified as attainment or unclassifiable for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) Fugitive Emissions  
Since this type of operation is not in one of the 28 listed source categories under 326 IAC 2-2 or 326 IAC 2-3 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.

**Source Status**

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

Pollutant	Emissions (ton/yr)
PM	20.0
PM10	15.1
SO <sub>2</sub>	0.02
VOC	15.6
CO	2.99
NO <sub>x</sub>	2.73

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on potential to emit calculations for this source (see Appendix A).

**Part 70 Permit Determination**

326 IAC 2-7 (Part 70 Permit Program)

This existing source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

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

This status is based on the potential to emit calculations for this source (see Appendix A).

**Federal Rule Applicability**

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source.

- (b) The liquid nitrogen storage tank which has a capacity of 9,000 gallons is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.110b, Subpart Kb) because it does not store volatile organic liquid and its capacity is less than 40 cubic meters (10,567 gallons).
- (c) This source is not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAPs) and for Rubber Tire Manufacturing (326 IAC 14, and 40 CFR Part 63, Subpart XXXX), because this source does not manufacture tires. It manufactures custom molded rubber products used for cars. There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) applicable to this source.

### **State Rule Applicability - Entire Source**

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

This source was a PSD minor source when it was built in 1994 and is not in one (1) of the twenty-eight (28) listed source categories. The potential to emit each criteria pollutant from the entire source is less than 250 tons per year. Therefore, the requirements of 326 IAC 2-2 are not applicable.

#### **326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs))**

This source was constructed prior to the July 27, 1997, applicability date for this rule. Therefore, the source is not subject to the provisions of 326 IAC 2-4.1.

#### **326 IAC 2-6 (Emission Reporting)**

This source is located in Noble County and the potential to emit CO, VOC, NO<sub>x</sub>, PM<sub>10</sub>, and SO<sub>2</sub> 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%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

### **State Rule Applicability - Post Curing Facility, Rubber Molding**

#### **326 IAC 8-1-6 (New Facilities-General Reduction Requirement)**

Although constructed after January 1, 1980, the post curing facility and rubber molding facility do not have potential VOC emissions equal to or greater than twenty-five (25) tons per year. Therefore, the post curing facility and the rubber molding facility are not subject to the provisions of 326 IAC 8-1-6.

### **State Rule Applicability - Extruders, Trimming and Sand Blasting Facilities**

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

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from the rubber extruders, the trimming, and the sand blasting facilities shall not exceed the particulate emission limits in pounds per hour as shown in the table below:

Emission Units	Process Weight		Particulate Emission Limit (lbs/hour)
	(lbs/hour)	(tons/hour)	
Rubber Extrusion	300	0.15	1.15
Rubber Trimming	500	0.25	1.62
Sand Blasting	1200	0.60	2.91

The pounds per hour limitations were calculated with the following equation:

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

$$E = 4.10 P^{0.67}$$

where:

E = rate of emission in pounds per hour and

P = process weight rate in tons per hour

Based on the potential to emit calculations (see Appendix A), the particulate emissions from the rubber extrusion, rubber trimming, and sand blasting facilities are less than the particulate emission limits listed above. Therefore, these facilities are in compliance with this rule.

#### **State Rule Applicability - Liquid Nitrogen Storage Tank**

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

The liquid nitrogen tank which has maximum storage capacity of 9,000 gallons, is not subject to the requirements of 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels) because it does not store volatile organic liquid and is not located in any of the counties listed in 326 IAC 8-9-1(a).

#### **State Rule Applicability - Natural Gas-Fired Combustion Units**

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

The natural gas-fired combustion units are not subject to the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) because particulate emissions from these units are from combustion only.

#### **State Rule Applicability - Thirty (30) Rubber Presses**

There are no specifically applicable regulations that apply to these emission units.

#### **Conclusion**

The operation of this motor vehicle parts and accessories manufacturing plant shall be subject to the conditions of the attached proposed Registration 113-17928-00044.

**Appendix A: Emission Calculations  
Eleven (11) Combustion Units**

**Company Name:** Acadia Polymers Corporation  
**Address:** 1201 Gerber Street, Ligonier, Indiana 46767  
**Permit:** 113-17928  
**Plt ID:** 113-00044  
**Reviewer:** ERG/SD  
**Date:** September 24, 2003

Heat Input Capacity  
MMBtu/hour

Potential Throughput  
MMCF/year

4.62 (11 Units Total)

40.5

	Pollutant					
Emission Factor (lb/MMCF)	* PM 7.6	* PM10 7.6	SO <sub>2</sub> 0.6	** NO <sub>x</sub> 100	VOC 5.5	CO 84.0
Potential To Emit (tons/year)	0.15	0.15	0.01	2.03	0.11	1.70

\*PM and PM10 emission factors are filterable and condensable PM and PM10 combined.

\*\*Emission factors for Nox (Uncontrolled) = 100 lb/MMCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998).

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

**METHODOLOGY**

Potential Throughput (MMCF/year) = Heat Input Capacity (MMBtu/hr) \* 8760 hours/year \* 1 MMCF/1000 MMBtu

Potential To Emit (tons/year) = Potential Throughput (MMCF/year) \* Emission Factor (lb/MMCF) \* 1 ton/2000 lbs

See next page for HAPs emissions calculations.

**Appendix A: Emission Calculations  
Eleven (11) Combustion Units**

**Company Name:** Acadia Polymers Corporation  
**Address:** 1201 Gerber Street, Ligonier, Indiana 46767  
**Permit:** 113-17928  
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**Reviewer:** ERG/SD  
**Date:** September 24, 2003

**HAPs - Organics**

Emission Factor (lb/MMCF)	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential To Emit (tons/year)	4.25E-05	2.43E-05	1.52E-03	3.65E-02	6.89E-05

**HAPs - Metals**

Emission Factor (lb/MMCF)	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential To Emit (tons/year)	1.01E-05	2.23E-05	2.84E-05	7.70E-06	4.25E-05

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors provided above are from AP-42, Chapter 1.4, Table 1-4.2, 1.4-3 and 1.4-4 (July, 1998). Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations  
Two (2) Post Cure Ovens**

**Company Name:** Acadia Polymers Corporation  
**Address:** 1201 Gerber Street, Ligonier, Indiana 46767  
**Permit:** 113-17928  
**Pit ID:** 113-00044  
**Reviewer:** ERG/SD  
**Date:** September 24, 2003

Heat Input Capacity  
MMBtu/hour

Potential Throughput  
MMCF/year

1.60 (2 Units Total)

14.0

**Pollutant**

	* PM	* PM10	SO <sub>2</sub>	** NO <sub>x</sub>	VOC	CO
Emission Factor (lb/MMCF)	7.6	7.6	0.6	100.0	5.5	84.0
Potential To Emit (tons/year)	0.05	0.05	0.004	0.70	0.04	0.59

\*PM and PM10 emission factors are filterable and condensable PM and PM10 combined.

\*\*Emission factors for Nox (Uncontrolled) = 100 lb/MMCF.

Emission factors from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998).

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

MMCF = 1,000,000 Cubic Feet of Gas

**METHODOLOGY**

Potential Throughput (MMCF/year) = Heat Input Capacity (MMBtu/hr) \* 8760 hours/year \* 1 MMCF/1000 MMBtu

Potential To Emit (tons/year) = Potential Throughput (MMCF/year) \* Emission Factor (lb/MMCF) \* 1 ton/2000 lbs

See next page for HAPs emissions calculations.

**Appendix A: Emission Calculations  
Two (2) Post Cure Ovens**

**Company Name:** Acadia Polymers Corporation  
**Address:** 1201 Gerber Street, Ligonier, Indiana 46767  
**Permit:** 113-17928  
**Pit ID:** 113-00044  
**Reviewer:** ERG/SD  
**Date:** September 24, 2003

**HAPs - Organics**

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMCF)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential To Emit (tons/year)	1.472E-05	8.410E-06	5.256E-04	1.261E-02	2.383E-05

**HAPs - Metals**

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMCF)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential To Emit (tons/year)	3.504E-06	7.709E-06	9.811E-06	2.663E-06	1.472E-05

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors provided above are from AP-42, Chapter 1.4, Table 1-4.2, 1.4-3 and 1.4-4 (July, 1998). Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations  
VOC, HAP and PM/PM10 Emissions  
From Rubber Extrusion**

**Company Name:** Acadia Polymers Corporation  
**Address:** 1201 Gerber Street, Ligonier, Indiana 46767  
**Permit:** 113-17928  
**Plt ID:** 113-00044  
**Reviewer:** ERG/SD  
**Date:** September 24, 2003

Emission Unit	Max. Usage Rate (lb/hour)	* Emission Factor for VOC (lb pollutant/lb rubber)	PTE of VOC (lbs/hour)	PTE of VOC (ton/year)	* Emission Factor for Total HAP (lb pollutant/lb rubber)	PTE of HAP (lb/hour)	PTE of HAP (ton/year)	* Emission Factor for PM/PM10 (lb pollutant/lb rubber)	PTE of PM/PM10 (lb/hour)	PTE of PM/PM10 (ton/year)
Extrusion	300	3.52E-06	1.06E-03	4.63E-03	2.99E-05	8.97E-03	0.04	2.67E-08	8.0E-06	3.51E-05
<b>TOTAL SUM</b>				<b>4.63E-03</b>			<b>0.04</b>			<b>3.51E-05</b>

\* There is no emission factor available for rubber extrusion in AP-42, therefore the emission factor used above is for the worst case rubber material (EPDM Sulfur Cure or Ethylene-Propylene-Diene-Mixture 1) based on the Rubber Manufacturers Association (RMA), Table 4.12-6 - Extruder (1994).

**METHODOLOGY**

Potential To Emit (lb/hour) = Max. Usage Rate (lb/hour) \* Emission Factor (lb pollutant / lb rubber)

Potential To Emit (ton/year) = Max. Usage Rate (lb/hour) \* Emission Factor (lb pollutant / lb rubber) \* 8760 hours/year \* 1 ton/2000 lbs

**Appendix A: Emission Calculations  
VOC, HAP and PM/PM10 Emisions  
From Mold Cleaning**

**Company Name:** Acadia Polymers Corporation  
**Address:** 1201 Gerber Street, Ligonier, Indiana 46767  
**Permit:** 113-17928  
**Plt ID:** 113-00044  
**Reviewer:** ERG/SD  
**Date:** September 24, 2003

Emission Unit	Max. Usage Rate (lb/hour)	Emission Factor for VOC ( %)	PTE (lbs/hour)	Of VOC (tons/year)
Rubber Molding	700	0.0831%	0.58	2.55
<b>TOTAL</b>				<b>2.55</b>

\* Emission factors for VOC are from Trelleborg Industries Study (1994).  
 There are no PM/PM10 emissions from the rubber molding operation.

**METHODOLOGY**

Potential To Emit (lb/hour) = Max. Usage Rate (lb/hour) \* Emission Factor for VOC (%)

Potential To Emit (ton/year) = Max. Usage Rate (lb/hour) \* Emission Factor for VOC (%) \* 8760 hours/year \* 1 ton/2000 lbs

**Appendix A: Emissions Calculations**  
**VOC Emissions**  
**From Post Curing Facility**

**Company Name:** Acadia Polymers Corporation  
**Address:** 1201 Gerber Street, Ligonier, Indiana 46767  
**Permit:** 113-17928  
**Plt ID:** 113-00044  
**Reviewer:** ERG/SD  
**Date:** September 24, 2003

Emission Unit	Max. Usage Rate (lb/hour)	Percent Material Post Cured ( % )	* Emission Factor for VOC ( % )	PTE of VOC (lb/hour)	PTE of VOC (ton/year)
Post Curing	225	61%	2.14%	2.93	12.9
<b>TOTAL</b>					<b>12.9</b>

\* Emission factors for VOC are from Trelleborg Industries Study (1994).  
There are no PM/PM10 emissions from the press curing operation.

**METHODOLOGY**

Potential To Emit (lb/hour) = Max. Usage Rate (lb/hour) \* Reduction (%) \* Emission Factor (%)

Potential To Emit (ton/year) = Max. Usage Rate (lb/hour) \* Reduction (%) \* Emission Factor (%) \* 8760 hours/year \* 1 ton/2000 lbs

**Appendix A: Emission Calculations  
PM/PM10 Emissions  
From Rubber Trimming**

**Company Name:** Acadia Polymers Corporation  
**Address:** 1201 Gerber Street, Ligonier, Indiana 46767  
**Permit:** 113-17928  
**Plt ID:** 113-00044  
**Reviewer:** ERG/SD  
**Date:** September 24, 2003

		<b>PTE After Control</b> (tons/year)	<b>PTE Before Control</b> (tons/year)
*PM Control Equipment = Baghouse			
Grain Loading in grains/acf	0.01	1.28	25.5
Air Flow Rate in acf/min	<b>3400</b>		
Control Efficiency in %	95%		

\* Assume all PM emission are equal to PM10 emissions.

**METHODOLOGY**

PTE of PM/PM10 (lbs/hour) = Outlet grain loading (gr/acf) \* Air flow rate (acf/minute) \* 60 minutes/hour \* 1 lb/7000 grains

**OR**

**POTENTIAL TO EMIT IN TONS PER YEAR USING AMOUNT OF DUST COLLECTED**

<b>Pollutant</b>	<b>Dust Collected (lbs/hour)</b>	<b>Potential to Emit (tons/year)</b>
PM/PM10	0.81	3.58

\* Assume all PM emissions are equal to PM10 emisisions  
 Control = Baghouse with 99 % control 90%

**METHODOLOGY**

PTE of PM/PM10 (tons/year) = Actual Dust collected (lbs/hour) \* 8760 hours/year \* 1 ton/2000 lbs \* 1/Control Efficiency %

**Appendix A: Emission Calculations  
PM/PM10 Emissions  
From Sand Blasting**

**Company Name:** Acadia Polymers Corporation  
**Address:** 1201 Gerber Street, Ligonier, Indiana 46767  
**Permit:** 113-17928  
**Plt ID:** 113-00044  
**Reviewer:** ERG/SD  
**Date:** September 24, 2003

Media	Max. Shot Usage Rate (lbs/hr)	*PM Emission Factor (lb PM/lb Abrasive)	*PM/PM10 Emission Factor (lb PM10/lb PM10)	PTE of PM (lbs/hr) (ton/year)		PTE of PM/PM10 (lbs/hr) (tons/year)	
Sand	90.0	0.041	0.70	3.69	16.2	2.58	11.3
<b>TOTAL</b>					<b>16.2</b>		<b>11.3</b>

\*Emission Factors are from Air Quality Permits by Stappa Alapco, Section 3 "Abrasive Blasting".

**METHODOLOGY**

Potential to Emit PM/PM10 (lbs/hour) = Max. Shot Usage (lbs/hour) \* Emission Factor (lbs/lbs)

Potential to Emit PM/PM10 (tons/year) = Max. Shot Usage (lbs/hour) \* 8760 hours/year \* Emission Factor (lbs PM/lbs) \* 1ton/ 2000 lbs

**Appendix A: Emission Calculations  
Summary**

**Company Name:** Acadia Polymers Corporation  
**Address:** 1201 Gerber Street, Ligonier, Indiana 46767  
**Permit:** 113-17928  
**Pit ID:** 113-00044  
**Reviewer:** ERG/SD  
**Date:** September 24, 2003

**POTENTIAL TO EMIT IN TONS PER YEAR**

<b>Emission Units</b>	<b>PM</b>	<b>PM10</b>	<b>SO2</b>	<b>NOx</b>	<b>VOC</b>	<b>CO</b>
Combustions	0.15	0.15	0.01	2.03	0.11	1.70
Ovens	0.05	0.05	0.00	0.70	0.04	0.59
Rubber Extrusion	3.51E-05	3.51E-05			4.63E-03	
Rubber Molding					2.55	1.7
Post Curing					12.9	
Rubber Trimming	3.58	3.58				
Sand Blasting	16.2	11.3				
<b>TOTAL</b>	<b>20.0</b>	<b>15.1</b>	<b>0.02</b>	<b>2.73</b>	<b>15.6</b>	<b>3.99</b>