INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

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

December 28, 2004

TO: Interested Parties / Applicant

RE: Envirotech Extrusion, Inc / 177-20400-00076

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

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December 28, 2004

Mr. Jack Beilfuss
Envirotech Extrusion, Inc.
4810 Woodside Drive
Richmond, IN 47374

Re: Registered Operation Status,
177-20400-00076

Dear Mr. Beilfuss:

The application from Envirotech Extrusion, Inc. received on November 18, 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 resin and ground rubber grinding and extrusion operation located at 4810 Woodside Drive, IN 47374 is classified as registered:

(a) Eight (8) natural gas fired radiant heaters, each with a maximum heat input capacity of 0.15 MMBtu per hour.

(b) Nine (9) natural gas fired radiant heaters, each with a maximum heat input capacity of 0.125 MMBtu per hour.

(c) One (1) pelletizer, identified as EU#5, with one (1) grinder, identified as EU#6, with a maximum capacity of 250 pounds per hour of resin and rubber, equipped with a cyclone for particulate control, identified as CE#3, and exhausting inside the building.

(d) Four (4) extruders, identified as EU#1 through EU#4, each with a maximum capacity of 800 pounds per hour of resin and rubber. EU#1 and EU#2 exhausting through stack S/V01, and EU#3 and EU#4 exhausting through stack S/V02.

(e) Three (3) grinders, identified as EU#8, EU#9 and EU#10, each with a maximum capacity of 1500 pounds per hour of resin and rubber, each equipped with a cyclone for particulate control, identified as CE#2, #4 and #5, respectively, and exhausting inside the building.

(f) One (1) grinder on extruder (EU#4), identified as EU#13, with a maximum capacity of 25 pounds per hour, and equipped with a cyclone for particulate control, identified as CE#6.

(g) One (1) Hot Face Pelletizer, identified as EU#14, with a maximum capacity of 1000 pounds per hour of resin and rubber, and exhausting inside the building.

(h) One (1) extruder, identified as EU#12, with a maximum capacity of 1,200 pounds per hour of resin and rubber, and exhausting through stack S/V03.

(i) One (1) extruder, identified as EU#11, with a maximum capacity of 800 pounds per hour of resin and rubber, and exhausting through stack S/V03.

The following conditions shall be applicable:

(a) Pursuant to 326 IAC 6-3-2 the particulate emissions from the extruders and grinders 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:

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

Facilities	Process Weight Rate (tons/hr)	Allowable Particulate Emissions (lb/hr)
Grinder (EU#8)	0.75	3.38
Grinder (EU#9)	0.75	3.38
Grinder (EU#10)	0.75	3.38
Grinder (EU#6)	0.125	1.018
Grinder (EU#13)	0.0125	0.217
Extruder (EU#1)	0.40	2.22
Extruder (EU#2)	0.40	2.22
Extruder (EU#3)	0.40	2.22
Extruder (EU#4)	0.40	2.22
Extruder (EU#11)	0.40	2.22
Extruder (EU#12)	0.60	2.91
Pelletizer (EU#5)	0.125	1.018
Hot Face Pelletizer (EU#14)	0.50	2.58

(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%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

(d) Any change or modification which may increase the potential to emit any combination of HAPs, VOC, NO_X, SO_2, PM or PM_{10} 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

AY/EVP

cc: File – Wayne County
Wayne 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:	**Envirotech Extrusion, Inc.**
Address:	**4810 Woodside Drive**
City:	**Richmond, Indiana 47374**
Authorized individual:	**Jack Beilfuss**
Phone #:	**(765) 966 – 8068**
Registration #:	**177-20400-00076**

I hereby certify that Envirotech Extrusion, Inc. is still in operation and is in compliance with the requirements of Registration 177-20400-00076.

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:	Envirotech Extrusion, Inc.
Source Location:	4810 Woodside Drive, Richmond, Indiana 47347
County:	Wayne
SIC Code:	3061
Operation Permit No.:	177-20400-00076
Permit Reviewer:	Adeel Yousuf / EVP

The Office of Air Quality (OAQ) has reviewed an application from Envirotech Extrusion, Inc. relating to the construction and operation of resin and ground rubber grinding and extrusion.

Source Definition

This source was originally issued an Exemption (No. 177-13889-00076) on February 26, 2001 relating to the operation of manufacture of recycled rubber and plastic cargo bed liner, horse trailer wall liners, mud flaps, and miscellaneous die cut products. The application to construct two additional Extruders and one Hot Face Pelletizer was received on November 18, 2004. Due to addition of new equipment, the status of this source will change from Exemption to Registration.

Permitted Emission Units and Pollution Control Equipment

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

(a) Nine (9) natural gas fired radiant heaters, each with a maximum heat input capacity of 0.125 MMBtu per hour.

(b) One (1) pelletizer, identified as EU#5, with one (1) grinder, identified as EU#6, with a maximum capacity of 250 pounds per hour of resin and rubber, equipped with a cyclone for particulate control, identified as CE#3, and exhausting inside the building.

(c) Four (4) extruders, identified as EU#1 through EU#4, each with a maximum capacity of 800 pounds per hour of resin and rubber. EU#1 and EU#2 exhausting through stack S/V01, and EU#3 and EU#4 exhausting through stack S/V02.

(d) Three (3) grinders, identified as EU#8, EU#9 and EU#10, each with a maximum capacity of 1500 pounds per hour of resin and rubber, each equipped with a cyclone for particulate control, identified as CE#2, #4 and #5, respectively, and exhausting inside the building.

(e) One (1) grinder on extruder (EU#4), identified as EU#13, with a maximum capacity of 25 pounds per hour, and equipped with a cyclone for particulate control, identified as CE#6.

New Emission Units and Pollution Control Equipment

The source consists of the following new emission units and pollution control devices during this review process:

(a) One (1) Hot Face Pelletizer, identified as EU#14, with a maximum capacity of 1000 pounds per hour of resin and rubber, and exhausting inside the building.

(b) One (1) extruder, identified as EU#12, with a maximum capacity of 1,200 pounds per hour of resin and rubber, and exhausting through stack S/V03.

(c) One (1) extruder, identified as EU#11, with a maximum capacity of 800 pounds per hour of resin and rubber, and exhausting through stack S/V03.

(d) Eight (8) natural gas fired radiant heaters, each with a maximum heat input capacity of 0.15 MMBtu per hour.

Existing Approvals

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

(a) Exemption No. 177-13889-00076, issued on February 26, 2001.

All conditions from previous approvals were incorporated into this permit.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (^{o}F)
S/V01	EU#1 & #2	25	1.5	2,500	100
S/V02	EU#3 & #4	25	1.5	2,500	100
S/V03	EU#11 & #12	27	1.5	3,500	100

Recommendation

The staff recommends to the Commissioner that the construction and 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 November 18, 2004, with additional information received on December 7, 2004.

Emission Calculations

See Appendix A of this document for detailed emission calculations (pages 1 through 6).

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, inclulding 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	5.65
PM-10	5.71
SO_2	0.01
VOC	1.56
CO	0.86
NO_x	1.02

HAPs	Potential to Emit (tons/yr)
Methylene Chloride	0.172
Toluene	0.108
Acetophenone	0.093
4-methyl 2-pentanone	0.031
Hexane	0.018
Propylene Oxide	0.020
Napthalene	0.013
Others	0.016
Total	0.47

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of all criteria pollutants is less than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5. A registration will be issued.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-1.1-1(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.

(c) 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.

County Attainment Status

The source is located in Wayne County.

Pollutant	Status
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Not Determined

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

(b) Wayne County has been classified as attainment or unclassifiable in Indiana for all 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.

Source Status

Existing Source (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	3.51
PM-10	3.60
SO_2	0.01
VOC	1.58
CO	1.30
NO_x	1.54
Single HAP	0.17
Combination HAPs	0.48

(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 the information provided in the source's permit applications (see Appendix A for emission calculations).

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit 177-20400-00076, 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) included into this permit.

(b) 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.

State Rule Applicability – Entire Source

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

This source is not subject to this rule because potential uncontrolled emissions of all criteria pollutants are less than 250 tons per year. This source is also not one of the 28 listed source categories. Therefore, this source is not subject to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).

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

This source is not subject to 326 IAC 2-4.1-1 (New Source Toxics Control) because the source has PTE of any HAP less than 10 tons per year and PTE of any combination of HAPs less than 25 tons per year. Therefore, 326 IAC 2-4.1-1 does not apply.

326 IAC 2-6 (Emission Reporting)

This source is located in Wayne 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 the 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 – Individual Facilities

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

Pursuant to 326 IAC 6-3-2 the particulate emissions from the extruders and grinders 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:

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

Facilities	Process Weight Rate (tons/hr)	Allowable Particulate Emissions (lb/hr)
Grinder (EU#8)	0.75	3.38
Grinder (EU#9)	0.75	3.38
Grinder (EU#10)	0.75	3.38
Grinder (EU#6)	0.125	1.018
Grinder (EU#13)	0.0125	0.217
Extruder (EU#1)	0.40	2.22
Extruder (EU#2)	0.40	2.22
Extruder (EU#3)	0.40	2.22
Extruder (EU#4)	0.40	2.22
Extruder (EU#11)	0.40	2.22
Extruder (EU#12)	0.60	2.91
Pelletizer (EU#5)	0.125	1.018
Hot Face Pelletizer (EU#14)	0.50	2.58

These facilities are in compliance with these allowable particulate emissions, since their emissions before control are less than the allowable particulate emissions.

326 IAC 8-1-6 (Volatile Organic Compounds)

This source is not subject to this rule. This rule applies to facilities constructed after January 1980, which have potential VOC emissions of 25 tons or more per year, and are not regulated by any other provisions of 326 IAC 8. All the facilities at this source were constructed after January 1980, but each has potential VOC emissions of less than 25 tons per year, therefore, this rule does not apply.

Conclusion

The construction and operation of the resin and ground rubber grinding and extrusion shall be subject to the conditions of the attached proposed Registraion No. 177-20400-00076.

Appendix A: Emission Calculations

Company Name: Envirotech Extrusions, Inc.
Address City IN Zip: 4810 Woodside Dr., Richmond, IN 47374
Permit No.: 177-20400-00076
Reviewer: Adeel Yousuf / EVP
Date: 12/3/04

Uncontrolled Potential Emissions (tons/year)

	Emissions Generating Activity			
Pollutant	Natural Gas Combustion	Grinders	Extruders	**TOTAL**
PM	0.02	5.37	0.26	5.65
PM10	0.08	5.37	0.26	5.71
SO2	0.01	0.00	0.00	0.01
NOx	1.02	0.00	0.00	1.02
VOC	0.06	0.00	1.50	1.56
CO	0.86	0.00	0.00	0.86
total HAPs	0.02	0.00	0.45	0.47
worst case single HAP	0.018 (Hexane)	0.00	0.17 (Methylene Chloride)	0.17 (Methylene Chloride)
Total emissions based on rated capacity at 8,760 hours/year.				

Controlled Potential Emissions (tons/year)

	Emissions Generating Activity			
Pollutant	Natural Gas Combustion	Grinders	Extruders	**TOTAL**
PM	0.02	3.22	0.26	3.50
PM10	0.08	3.22	0.26	3.56
SO2	0.01	0.00	0.00	0.01
NOx	1.02	0.00	0.00	1.02
VOC	0.06	0.00	1.50	1.56
CO	0.86	0.00	0.00	0.86
total HAPs	0.02	0.00	0.45	0.47
worst case single HAP	0.018 (Hexane)	0.00	0.17 (Methylene Chloride)	0.17 (Methylene Chloride)
Total emissions based on rated capacity at 8,760 hours/year.				

Appendix A: Emissions Calculations
Particulater Matter (PM) Emissions

Company Name: Envirotech Extrusions, Inc.
Address City IN Zip: 4810 Woodside Dr., Richmond, IN 47374
Permit No.: 177-20400-00076
Reviewer: Adeel Yousuf / EVP
Date: 12/3/04

Griner Potential PM/PM10 Emissions

Equipment	Unit ID #	Control Unit	Air Flow Rate	Inlet Grain Loading	Uncontrolled PM/PM10 Emissions	Control Efficiency	Controlled PM/PM10 Emissions
			(acfm)	(gr/dscf)	(ton/yr)	(%)	(ton/yr)
Grinder #1	EU#8	Cyclone (CE#2)	2000	0.022	1.65	40.00	0.99
Grinder #2	EU#9	Cyclone (CE#4)	2000	0.022	1.65	40.00	0.99
Grinder #3	EU#10	Cyclone (CE#5)	2000	0.022	1.65	40.00	0.99
Grinder on Pelletizer	EU#6	Cyclone (CE#3)	1000	0.0074	0.28	40.00	0.17
Grinder on Extruder	EU#13	Cyclone (CE#6)	500	0.0074	0.14	40.00	0.08
				Total (ton/yr):	**5.37**		**3.22**

Methodology

Uncontrolled PM/PM10 Emissions = grain loading (gr/acf outlet) * Flow rate (acfm) * (60 min/hr) * (1 lb/7000 gr) * 4.38 (tons/yr / lb/hr)

Controlled PM/PM10 Emissions = Uncontrolled PM/PM10 Emissions (ton/yr) (1 - Control Efficiency (%))

Appendix A: Emissions Calculations
Extruders

Company Name: Envirotech Extrusions, Inc.
Address City IN Zip: 4810 Woodside Dr., Richmond, IN 47374
Permit No.: 177-20400-00076
Reviewer: Adeel Yousuf / EVP
Date: 12/3/04

Potential Emissions from Extruders

				Volatile Organic Compounds [2], [5]			Particulate Matter [3], [5]			Carbon Monoxide [4]		
Equipment	Unti ID #	Material Extruded	Maximum Throughput (lb/hr)	Emission Factor lb/1000,000lb	Potential Emissions (lb/hr)	Potential Emissions (ton/yr)	Emission Factor lb/1000,000lb	Potential Emissions (lb/hr)	Potential Emissions (ton/yr)	Emission Factor lb/1000,000l	Potential Emissions (lb/hr)	Potential Emissions (ton/yr)
Extruder # 2	EU#1	Resin	280	128.2	0.036	0.157	26.6	7.45E-03	3.26E-02	100	0.028	0.12
		Rubber	520	12.4	0.006	0.028	0.0151	7.85E-06	3.44E-05	n/a		
Extruder # 3	EU#2	Resin	280	128.2	0.036	0.157	26.6	7.45E-03	3.26E-02	100	0.028	0.12
		Rubber	520	12.4	0.006	0.028	0.0151	7.85E-06	3.44E-05	n/a		
Extruder # 4	EU#4	Resin	280	128.2	0.036	0.157	26.6	7.45E-03	3.26E-02	100	0.028	0.12
		Rubber	520	12.4	0.006	0.028	0.0151	7.85E-06	3.44E-05	n/a		
Extruder # 5	EU#3	Resin	280	128.2	0.036	0.157	26.6	7.45E-03	3.26E-02	100	0.028	0.12
		Rubber	520	12.4	0.006	0.028	0.0151	7.85E-06	3.44E-05	n/a		
Extruder # 1	EU#11	Resin	280	128.2	0.036	0.157	26.6	7.45E-03	3.26E-02	100	0.028	0.12
		Rubber	520	12.4	0.006	0.028	0.0151	7.85E-06	3.44E-05	n/a		
Extruder # 6	EU#12	Resin	420	128.2	0.054	0.236	26.6	1.12E-02	4.89E-02	100	0.042	0.18
		Rubber	780	12.4	0.010	0.042	0.0151	1.18E-05	5.16E-05	n/a		
Pelletizer with Grinder	EU#5	Resin	88	128.2	0.011	0.049	26.6	2.34E-03	1.03E-02	100	0.0088	0.04
		Rubber	163	12.4	0.002	0.009	0.0151	2.46E-06	1.08E-05	n/a		
Hot Face Pelletizer	EU#14	Resin	350	128.2	0.045	0.197	26.6	9.31E-03	4.08E-02	100	0.035	0.15
		Rubber	650	12.4	0.008	0.035	0.0151	9.82E-06	4.30E-05	n/a		
		Total (ton/yr):				**1.50**			**0.26**			**0.99**

Methodology:
Potential Emissions (ton/yr) = Maximum Throughput (lb/hr) x Emission Factor (lb/1000,000 lb) x (1/1000,000) x 4.38 (lb/ton / lb/hr)

Notes:
1. For the purpose of calculating potential emissions from extrusion, the worst case rubber or resin emission factors are used.
2. VOC emission factors for the resin are obtained from, "Development of Emission Factors for Ethylene-Vinyl Acetate and Ethylene-Methyl Acrylate Copolymer Processing", published in the Journal of Air and Waste Management, volume 47, p. 1116, 1997.
3. Particulate emission factors for the resin are obtained from, " Development of Emission Factors for Polyethylene Processing", pulished in the Journal of Air and Waste Management, vol. 46, p. 578, 1996.
4. Carbon Monoxide emission factors for the resin are obtained from, "Volatile Emissions During Thermoplastics Processing - A review", published in Advances in Polymer Technology, vol. 12, No. 1 pp 67-77, 1995.
5. VOC and Particulate emission factors for rubber are obtained from AP-42, Chapter 4-12, Manufacture of Rubber Products, Table 4.12-6, 1999.
6. For the purpose of emission calculations, the combined Pelletizer and Grinder are considered as separate piece of machinery.

Appendix A: Emissions Calculations
Immersion Cleaning Operation

Company Name: Envirotech Extrusions, Inc.
Address City IN Zip: 4810 Woodside Dr., Richmond, IN 47374
Permit No.: 177-20400-00076
Reviewer: Adeel Yousuf / EVP
Date: 12/3/04

HAPs Emission Calculation

	Polyethylene			Ethylene Vinyl Acetate			SBR Reprocessed Rubber			EPDM Reprocessed Rubber		
Pollutants	Emission Factor	Maximum Annual Throughput	Potential Emissions	Emission Factor	Maximum Annual Throughput	Potential Emissions	Emission Factor	Maximum Annual Throughput	Potential Emissions	Emission Factor	Maximum Annual Throughput	Potential Emissions
	(lb/million lb)	(lb/yr)	(ton/yr)	(lb/million lb)	(lb/yr)	(ton/yr)	(lb/million lb)	(lb/yr)	(ton/yr)	(lb/million lb)	(lb/yr)	(ton/yr)
Formaldehyde	0.06	9,887,850	0.00030	0.08	9,887,850	0.00040	0.00	23,394,653	0.00000	0.00	13,331,647	0.00000
Acetaldehyde	0.05	9,887,850	0.00025	0.04	9,887,850	0.00020	0.00	23,394,653	0.00000	0.00	13,331,647	0.00000
Propionaldehyde	0.02	9,887,850	0.00010	0.01	9,887,850	0.00005	0.00	23,394,653	0.00000	0.00	13,331,647	0.00000
Methyl Ethyl Ketone	0.02	9,887,850	0.00010	0.00	9,887,850	0.00000	0.00	23,394,653	0.00000	0.00	13,331,647	0.00000
4-methyl-2-pentanone	0.00	9,887,850	0.00000	0.00	9,887,850	0.00000	2.66	23,394,653	0.03111	0.00	13,331,647	0.00000
Acetophenone	0.00	9,887,850	0.00000	0.00	9,887,850	0.00000	3.32	23,394,653	0.03884	8.18	13,331,647	0.05453
Cumene	0.00	9,887,850	0.00000	0.00	9,887,850	0.00000	0.00	23,394,653	0.00000	1.82	13,331,647	0.01213
Methylene Chloride	0.00	9,887,850	0.00000	0.00	9,887,850	0.00000	13.20	23,394,653	0.15440	2.69	13,331,647	0.01793
Napthalane	0.00	9,887,850	0.00000	0.00	9,887,850	0.00000	0.00	23,394,653	0.00000	1.96	13,331,647	0.01307
Propylene Oxide	0.00	9,887,850	0.00000	0.00	9,887,850	0.00000	1.76	23,394,653	0.02059	0.00	13,331,647	0.00000
Toluene	0.00	9,887,850	0.00000	0.00	9,887,850	0.00000	9.26	23,394,653	0.10832	0.00	13,331,647	0.00000
Total HAPs (ton/yr)			**0.001**			**0.001**			**0.353**			**0.098**

Total Combined HAPs = 0.45 ton/yr
Worst Case Single HAP = 0.17 ton/yr

Methdology:
Potential Emissions = Emission Factor (lb/million lb) x Maximum Throughput (lb/yr) (1/1000,000) x (1 ton/2000 lb)

Notes:

Journal of Air and Waste Management, volume 47, p. 1116, 1997.
2. HAP emission factors for Ethylene Vinyl Acetate are obtained from, " Development of Emission Factors for Polyethylene Processing", pulished in the Journal of Air and Waste Management, vol. 46, p. 578, 1996.
3. HAP emission factors for rubber are obtained from AP-42, Chapter 4-12, Manufacture of Rubber Products, Table 4.12-6, 1999.

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

Company Name: Envirotech Extrusions, Inc.
Address City IN Zip: 4810 Woodside Dr., Richmond, IN 47374
Permit No.: 177-20400-00076
Reviewer: Adeel Yousuf / EVP
Date: 12/3/04

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
2.3	20.4

Facilities	**MMBtu/hr**
Eight (8) natural gas fired radiant heaters, with each rated at 0.15 MMBtu/hr	1.2
Nine (9) natural gas fired radiant heaters, with each rated at 0.125 MMBtu/hr	1.125
Total	**2.325**

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.02	0.08	0.01	1.02	0.06	0.86

*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).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM Btu/hr 0.3 - < 100

HAPs Emissions

Company Name: Envirotech Extrusions, Inc.
Address City IN Zip: 4810 Woodside Dr., Richmond, IN 47374
Permit No.: 177-20400-00076
Reviewer: Adeel Yousuf / EVP
Date: 12/3/04

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	2.139E-05	1.222E-05	7.638E-04	1.833E-02	3.462E-05	1.916E-02

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	5.092E-06	1.120E-05	1.426E-05	3.870E-06	2.139E-05	5.581E-05

Methodology is the same as page 16. 1.922E-02

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