State of Ohio Environmental Protection Agency

RE: FINAL PERMIT TO INSTALL **CERTIFIED MAIL**
LICKING COUNTY

Street Address:
122 S. Front Street
Lazarus Gov. Center **TELE:** (614) 644-3020 **FAX:** (614) 644-2329
Mailing Address:
Lazarus Gov. Center
P.O. Box 1049

Application No: 01-08598

DATE: 8/13/2002

Bayer Corporation Polymers Division
Tim Troutman
1111 O Neill Drive SE
Hebron, OH 43025

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Michael W. Ahern

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA **CDO**

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install	**Issue Date: 8/13/2002**
Terms and Conditions	**Effective Date: 8/13/2002**

FINAL PERMIT TO INSTALL 01-08598

Application Number:	01-08598
APS Premise Number:	0145020221
Permit Fee:	**$1000**
Name of Facility:	Bayer Corporation Polymers Division
Person to Contact:	Tim Troutman
Address:	1111 O Neill Drive SE Hebron, OH 43025

Location of proposed air contaminant source(s) [emissions unit(s)]:
1111 ONeill Drive SE
Hebron, **Ohio**

Description of proposed emissions unit(s):
Line 4, thermoplastic compounding.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements Related to Monitoring and Record keeping Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized

representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio

Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

10. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

11. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit to Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the emissions unit(s) covered by this permit.

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons Per Year
Styrene	6.6
VOC	10.1
PE	0.14
NO_x	3.7
CO	1.5

Emissions Unit ID: **P034**

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P034 - Thermoplastic compounding extruder line no. 4 vented to a thermal oxidizer and acid gas scrubber	OAC rule 3745-31-05 (A)(3)	OAC rule 3745-21-07 (G)
	OAC rule 3745-17-07 (A)(1)	
	OAC rule 3745-17-11 (B)	

Applicable Emissions Limitations/Control Measures	
Volatile organic compound (VOC) emissions shall not exceed 0.30 lb/hr and 1.3 tons/yr.	05(A)(3).
Styrene emissions shall not exceed 0.25 lb/hr and 1.1 ton/yr.	
Visible particulate emissions shall not exceed 10% opacity, as a 6-minute average.	
Particulate emissions (PE) shall not exceed 0.015 lb/hr and 0.07 ton/yr.	
Nitrogen oxide (NO_x) emissions shall not exceed 0.42 lb/hr and 1.86 tons/yr.	
Carbon monoxide (CO) emissions shall not exceed 0.17 lb/hr and 0.74 ton/yr.	
See II.A.2.a below.	
The emission limitation specified in this rule is less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).	
The emission limitation specified in this rule is less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).	
The emission limitation specified in this rule is less stringent than the emission limitations established pursuant to OAC rule 3745-31-	

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions to and shall operate a Recuperative Thermal Oxidizer (RTO) followed by an Acid Gas Scrubber (AGS) while this emissions unit is operating.

2.b The emission unit's 0.40 lb VOC/hr, 0.25 lb Styrene/hr, 0.015 lb PE/hr, 0.42 lb NO_x/hr, 0.17 lb CO/hr, 1.75 tons VOC/yr, 1.1 tons Styrene/yr, 0.07 ton PE/yr, 1.86 tons NO_x/yr and 0.74 ton/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission limitations.

B. Operational Restrictions

1. The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1500 degrees Fahrenheit.

2. The pressure drop across the scrubber shall be continuously maintained within the range of 0.5-3.0 inches of liquid at all times while the emissions unit is in operation.

3. The scrubber liquid flow rate shall be continuously maintained within the range of 85-350 gallons per minute at all times while the emissions unit is in operation.

4. The pH of the scrubber liquor shall be maintained within the range of 7.5 to 9.0.

5. The permittee shall capture at least 90% of the emissions from this emissions unit and vent them to the recuperative thermal oxidizer followed by the acid gas scrubber. The capture hood shall be in the proper capture position and shall be in operation at all times P034 is operating.

6. The recuperative thermal oxidizer shall operate with a destruction efficiency of not less than 99%.

7. The acid gas scrubber shall operate with a control efficiency of not less than 95%.

C. Monitoring and/or Record keeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and

recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. All 3-hour blocks of time during which the combustion temperature within the thermal oxidizer, when the emissions unit was in operation, dropped below 1500 degrees Fahrenheit; and

b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

2. The permittee shall properly operate and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber liquid flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information:

a. The pressure drop across the scrubber, in inches of water on an hourly basis;

b. The scrubber liquid flow rate, in gallons per minute on an hourly basis; and

c. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

3. The permittee shall properly operate and maintain equipment to continuously monitor and record the pH of the scrubber liquor while the emissions unit is in operation. The pH monitor and recorder shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals. The permittee shall collect and record the pH of the scrubber liquor, on a continuous basis.

4. The permit to install for emission unit P034 was evaluated based on the actual materials and the design parameters of the emission unit and facility's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by emissions units P022 thru P031 using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Styrene
TLV (mg/m^3): 85

Maximum Hourly Emission Rate (lbs/hr): 0.25
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m^3): 10.73
MAGLC (ug/m^3): 2024

Physical changes to or changes in the method of operation of the emissions unit or facility exhaust after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. Changes in the composition of or use of materials used, or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. Physical changes to the emissions unit or the facility exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy"

a. A description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. Documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. Where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer did not comply with the temperature limitation specified above;

b. All periods of time during which the following scrubber parameters were not maintained at or above the required levels:

i. The static pressure drop across the scrubber; and

ii. The scrubber liquid flow rate.

c. PH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.

The permittee shall also submit quarterly summaries which include a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation. These reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A)(1).

E. Testing Requirements

1. Compliance with the emission limitations in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:
VOC emissions shall not exceed 0.30 lb/hr.

Applicable Compliance Method:
Compliance shall be demonstrated by summing the captured and fugitive emissions. The captured emissions shall be quantified by multiplying the captured emission factor of 1.8918 lbs/1000 lb of product (Testing, 8/14/00 thru 8/16/00) by the maximum throughput of 1200 lbs of product/hr by the control efficiency of the RTO (1-0.99) based on the most recent compliance demonstration (03/13/02). The fugitive emissions shall be quantified by multiplying the fugitive emission factor of 0.2102 lb/1000 lb of product (Testing, 8/14/00

thru 8/16/00) by the maximum throughput of 1200 lbs of product/hr.

b. Emission Limitation:
VOC emissions shall not exceed 1.31 tons/yr.

Applicable Compliance Method:
Compliance shall be demonstrated by multiplying the maximum pound per hour emission rate by 8760 hrs/yr and dividing by 2000 lbs/ton.

c. Emission Limitation:
Styrene emissions shall not exceed 0.25 lb/hr.

Applicable Compliance Method:
Compliance shall be demonstrated by summing the captured and fugitive emissions. The captured emissions shall be quantified by multiplying the captured emission factor of 1.097 lbs/1000 lb of product (Testing, 8/14/00 thru 8/16/00) by the maximum throughput of 1200 lbs of product/hr by the control efficiency of the RTO (1-0.99) based on the most recent compliance demonstration (03/13/02). The fugitive emissions shall be quantified by multiplying the fugitive emission factor of 0.194 lb/1000 lb of product (Testing, 8/14/00 thru 8/16/00) by the maximum throughput of 1200 lbs of product/hr.

d. Emission Limitation:
Styrene emissions shall not exceed 1.1 tons/yr.

Applicable Compliance Method:
Compliance shall be demonstrated by multiplying the maximum pound per hour emission rate by 8760 hrs/yr and dividing by 2000 lbs/ton.

e. Emission Limitation:
Visible particulate emissions shall not exceed 10% opacity, as a 6-minute average.

Applicable Compliance Method:
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03 (B)(1).

f. Emission Limitation:
PE shall not exceed 0.015 lb/hr.

Applicable Compliance Method:

Compliance shall be determined by multiplying the RTOs maximum rated capacity of 2.12 MMbtu/hr by the emission factor of 0.0076lb PE/MMbtu (AP-42, 1.4, 7/98).

g. Emission Limitation:
PE shall not exceed 0.07 ton/yr.

Applicable Compliance Method:
Compliance shall be determined by multiplying the RTOs maximum rated capacity of 2.12 MMbtu/hr by the emission factor of 0.0076lb PE/MMbtu (AP-42, 1.4, 7/98) by 8760 hours/yr and divide by 2000 lbs/ton.

h . Emission Limitation:
NO_x shall not exceed 0.42 lb/hr.

Applicable Compliance Method:
Compliance shall be determined by multiplying the RTOs maximum rated capacity of 2.12 MMbtu/hr by the emission factor of 0.2 lb NO_x/MMbtu (Manufacturer, 09/00).

i. Emission Limitation:
NO_x shall not exceed 1.86 tons/yr.

Applicable Compliance Method:
Compliance shall be determined by multiplying the RTOs maximum rated capacity of 2.12 MMbtu/hr by the emission factor of 0.2 lb NO_x/MMbtu (Manufacturer, 09/00) by 8760 hours/yr and divide by 2000 lbs/ton.

j. Emission Limitation:
CO shall not exceed 0.17 lb/hr.

Applicable Compliance Method:
Compliance shall be determined by multiplying the RTOs maximum rated capacity of 2.12 MMbtu/hr by the emission factor of 0.08 lb CO/MMbtu (AP-42, 1.4, 7/98).

k. Emission Limitation:
CO shall not exceed 0.74 lb/hr.

Applicable Compliance Method:
Compliance shall be determined by multiplying the RTOs maximum rated capacity of 2.12 MMbtu/hr by the emission factor of 0.08 lb CO/MMbtu (AP-42, 1.4, 7/98).

2. The permittee shall conduct, or have conducted, emission testing on the outlet of the AGS in accordance with the following requirements:

a. The emission testing shall be conducted within 90 days of written notification from the

Central District Office or as specified in an issued Permit to Operate (PTO). (An acceptable compliance demonstration was conducted March 13, 2002.)

b. The emission testing shall be conducted to determine the destruction efficiency of the RTO and/or AGS.

c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates: 40 CFR Part 60, Appendix A Method 25A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The tests shall be conducted while the emissions units are operating under the same conditions as the March 13, 2002 compliance demonstration unless otherwise specified or approved by the Central District Office.

3. The permittee shall conduct, or have conducted, capture efficiency testing on each non-Gala extrusion line in accordance with the following requirements:

a. The emission testing shall be conducted within 90 days of written notification from the Central District Office.

b. The emission testing shall be conducted to determine the capture efficiency of each extrusion line.

c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates: 40 CFR Part 60, Appendix A Method 204D. Alternative U.S. EPA approved test methods or modifications to Method 204D may be used with prior approval from the Central District Office.

d. The tests shall be conducted while the extrusion line being tested is operating under standard conditions unless otherwise specified or approved by the Central District Office.

4. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Central District Office's refusal to accept the results of the emission test(s).

Personnel from the Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the

emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Central District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Central District Office.

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
		OAC rule 3745-17-11 (B)
P035 - Thermoplastic compounding extruder line no. 10 vented to a thermal oxidizer and acid gas scrubber	OAC rule 3745-31-05 (A)(3)	
		OAC rule 3745-21-07 (G)
	OAC rule 3745-17-07 (A)(1)	

Applicable Emissions Limitations/Control Measures	
Volatile organic compound (VOC) emissions shall not exceed 2.02 lbs/hr and 8.8 tons/yr.	The emission limitation specified in this rule is less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).
Styrene emissions shall not exceed 1.24 lb/hr and 5.5 tons/yr.	
Visible particulate emissions shall not exceed 10% opacity, as a 6-minute average.	
Particulate emissions (PE) shall not exceed 0.015 lb/hr and 0.07 ton/yr.	
Nitrogen oxide (NO_x) emissions shall not exceed 0.42 lb/hr and 1.86 tons/yr.	
Carbon monoxide (CO) emissions shall not exceed 0.17 lb/hr and 0.74 ton/yr.	
See II.A.2.a below.	
The emission limitation specified in this rule is less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).	
The emission limitation specified in this rule is less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).	

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions to and shall operate a Recuperative Thermal Oxidizer (RTO) followed by an Acid Gas Scrubber (AGS) while this emissions unit is operating.

2.b The emission unit's 2.02 lbs VOC/hr, 1.24 lbs Styrene/hr, 0.015 lb PE/hr, 0.42 lb NO_x/hr, 0.17 lb CO/hr, 8.8 tons VOC/yr and 5.5 tons Styrene/yr, 0.07 ton PE/yr, 1.86 tons NO_x/yr and 0.74 ton/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission limitations.

B. Operational Restrictions

1. The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1500 degrees Fahrenheit.

2. The pressure drop across the scrubber shall be continuously maintained within the range of 0.5-3.0 inches of liquid at all times while the emissions unit is in operation.

3. The scrubber liquid flow rate shall be continuously maintained within the range of 85-350 gallons per minute at all times while the emissions unit is in operation.

4. The pH of the scrubber liquor shall be maintained within the range of 7.5 to 9.0.

5. The permittee shall capture at least 90% of the emissions from this emissions unit and vent them to the recuperative thermal oxidizer followed by the acid gas scrubber. The capture hood shall be in the proper capture position and shall be in operation at all times P035 is operating.

6. The recuperative thermal oxidizer shall operate with a destruction efficiency of not less than 99%.

7. The acid gas scrubber shall operate with a control efficiency of not less than 95%.

C. Monitoring and/or Record keeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and

recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. All 3-hour blocks of time during which the combustion temperature within the thermal oxidizer, when the emissions unit was in operation, dropped below 1500 degrees Fahrenheit; and

b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

2. The permittee shall properly operate and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber liquid flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information:

a. The pressure drop across the scrubber, in inches of water on an hourly basis;

b. The scrubber liquid flow rate, in gallons per minute on an hourly basis; and

c. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

3. The permittee shall properly operate and maintain equipment to continuously monitor and record the pH of the scrubber liquor while the emissions unit is in operation. The pH monitor and recorder shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals. The permittee shall collect and record the pH of the scrubber liquor, on a continuous basis.

4. The permit to install for emission unit P035 was evaluated based on the actual materials and the design parameters of the emission unit and facility's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by emissions units P022 thru P031 using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Styrene
TLV (mg/m^3): 85
Maximum Hourly Emission Rate (lbs/hr): 1.24
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m^3): 53.2
MAGLC (ug/m^3): 2024

Physical changes to or changes in the method of operation of the emissions unit or facility exhaust after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. Changes in the composition of or use of materials used, or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. Physical changes to the emissions unit or the facility exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy"

a. A description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. Documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. Where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer did not comply with the temperature limitation specified above;

b. All periods of time during which the following scrubber parameters were not maintained at or above the required levels:

i. The static pressure drop across the scrubber; and

ii. The scrubber liquid flow rate.

c. pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.

The permittee shall also submit quarterly summaries which include a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation. These reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A)(1).

E. Testing Requirements

1. Compliance with the emission limitations in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:
VOC emissions shall not exceed 2.02 lbs/hr.

Applicable Compliance Method:

Compliance shall be demonstrated by summing the captured and fugitive emissions. The captured emissions shall be quantified by multiplying the captured emission factor of 1.8918/1000 lbs of product (Testing, 8/14/00 thru 8/16/00) by the maximum throughput of 8800 lbs of product/hr by the control efficiency of the RTO (1-0.99) based on the most recent compliance demonstration (03/13/02). The fugitive emissions shall be quantified by multiplying the fugitive emission factor of 0.2102 lb/1000 lb of product (Testing, 8/14/00 thru 8/16/00) by the maximum throughput of 8800 lbs of product/hr.

b. Emission Limitation:
VOC emissions shall not exceed 8.8 tons/yr.

Applicable Compliance Method:
Compliance shall be demonstrated by multiplying the maximum pound per hour emission rate by 8760 hrs/yr and dividing by 2000 lbs/ton.

c. Emission Limitation:
Styrene emissions shall not exceed 1.24 lbs/hr.

Applicable Compliance Method:
Compliance shall be demonstrated by summing the captured and fugitive emissions. The captured emissions shall be quantified by multiplying the captured emission factor of 1.1619 lb/1000 lbs of product (Testing, 8/14/00 thru 8/16/00) by the maximum throughput of 8800 lbs of product/hr by the control efficiency of the RTO (1-0.99) based on the most recent compliance demonstration (03/13/02). The fugitive emissions shall be quantified by multiplying the fugitive emission factor of 0.1291 lb/1000 lb of product (Testing, 8/14/00 thru 8/16/00) by the maximum throughput of 8800 lbs of product/hr.

d. Emission Limitation:
Styrene emissions shall not exceed 5.5 tons/yr.

Applicable Compliance Method:
Compliance shall be demonstrated by multiplying the maximum pound per hour emission rate by 8760 hrs/yr and dividing by 2000 lbs/ton.

e. Emission Limitation:
Visible particulate emissions shall not exceed 10% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03 (B)(1).

f. Emission Limitation:
PE shall not exceed 0.015 lb/hr.

Applicable Compliance Method:
Compliance shall be determined by multiplying the RTOs maximum rated capacity of 2.12 MMbtu/hr by the emission factor of 0.0076lb PE/MMbtu (AP-42, 1.4, 7/98).

g. Emission Limitation:
PE shall not exceed 0.07 ton/yr.

Applicable Compliance Method:
Compliance shall be determined by multiplying the RTOs maximum rated capacity of 2.12 MMbtu/hr by the emission factor of 0.0076lb PE/MMbtu (AP-42, 1.4, 7/98) by 8760 hours/yr and divide by 2000 lbs/ton.

h . Emission Limitation:
NO_x shall not exceed 0.42 lb/hr.

Applicable Compliance Method:
Compliance shall be determined by multiplying the RTOs maximum rated capacity of 2.12 MMbtu/hr by the emission factor of 0.2 lb NO_x/MMbtu (Manufacturer, 09/00).

i. Emission Limitation:
NO_x shall not exceed 1.86 tons/yr.

Applicable Compliance Method:
Compliance shall be determined by multiplying the RTOs maximum rated capacity of 2.12 MMbtu/hr by the emission factor of 0.2 lb NO_x/MMbtu (Manufacturer, 09/00) by 8760 hours/yr and divide by 2000 lbs/ton.

j. Emission Limitation:
CO shall not exceed 0.17 lb/hr.

Applicable Compliance Method:
Compliance shall be determined by multiplying the RTOs maximum rated capacity of 2.12 MMbtu/hr by the emission factor of 0.08 lb CO/MMbtu (AP-42, 1.4, 7/98).

k. Emission Limitation:
CO shall not exceed 0.74 lb/hr.

Applicable Compliance Method:
Compliance shall be determined by multiplying the RTOs maximum rated capacity of 2.12 MMbtu/hr by the emission factor of 0.08 lb CO/MMbtu (AP-42, 1.4, 7/98).

2. The permittee shall conduct, or have conducted, emission testing on the outlet of the AGS in accordance with the following requirements:

a. The emission testing shall be conducted within 90 days of written notification from the Central District Office or as specified in an issued Permit to Operate (PTO). (An acceptable compliance demonstration was conducted March 13, 2002.)

b. The emission testing shall be conducted to determine the destruction efficiency of the RTO and/or AGS.

c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates: 40 CFR Part 60, Appendix A Method 25A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The tests shall be conducted while the emissions units are operating under the same conditions as the March 13, 2002 compliance demonstration unless otherwise specified or approved by the Central District Office.

3. The permittee shall conduct, or have conducted, capture efficiency testing on each non-Gala extrusion line in accordance with the following requirements:

a. The emission testing shall be conducted within 90 days of written notification from the Central District Office.

b. The emission testing shall be conducted to determine the capture efficiency of each extrusion line.

c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates: 40 CFR Part 60, Appendix A Method 204D. Alternative U.S. EPA approved test methods or modifications to Method 204D may be used with prior approval from the Central District Office.

d. The tests shall be conducted while the extrusion line being tested is operating under

standard conditions unless otherwise specified or approved by the Central District Office.

4. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Central District Office's refusal to accept the results of the emission test(s).

Personnel from the Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Central District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Central District Office.

F. Miscellaneous Requirements

None

NEW SOURCE REVIEW FORM B

PTI Number: 01-08598 Facility ID: 0145020221

FACILITY NAME Bayer Corporation Polymers Division

FACILITY DESCRIPTION Line 4, thermoplastic compounding CITY/TWP Hebron

SIC CODE 3087 SCC CODE 30800901 EMISSIONS UNIT ID P034

EMISSIONS UNIT DESCRIPTION thermoplastic compounding extruder line no. 4 with thermal oxidizer and acid gas scrubber

DATE INSTALLED 07/02

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter				0.015	0.07
PM_{10}					
Sulfur Dioxide					
Organic Compounds				0.40	1.75
Nitrogen Oxides				0.42	1.86
Carbon Monoxide				0.17	0.74
Lead					
Other: Air Toxics	styrene			0.25	1.1

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?
See additional terms and conditions.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? y

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaiminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? x YES ____ NO

IDENTIFY THE AIR CONTAMINANTS: styrene

NEW SOURCE REVIEW FORM B

PTI Number: 01-08598 Facility ID: 0145020221

FACILITY NAME Bayer Corporation Polymers Division

FACILITY DESCRIPTION Line 4, thermoplastic compounding CITY/TWP Hebron

Emissions Unit ID: **P035**

SIC CODE 3087 SCC CODE 30800901 EMISSIONS UNIT ID P035

EMISSIONS UNIT DESCRIPTION thermoplastic compounding extruder line no. 10 with thermal oxidizer and acid gas scrubber

DATE INSTALLED 07/02

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter				0.015	0.07
PM_{10}					
Sulfur Dioxide					
Organic Compounds				2.02	8.8
Nitrogen Oxides				0.42	1.86
Carbon Monoxide				0.17	0.74
Lead					
Other: Air Toxics	styrene			1.24	5.5

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?
See additional terms and conditions.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? y

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? $

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaiminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? x YES ____ NO

IDENTIFY THE AIR CONTAMINANTS: styrene