☒ **Synthetic Minor Determination and/or** ☐ **Netting Determination**
Permit To Install **01-12098**

A. Source Description

Bayer Corporation - Polymers Division operates several compounding thermoplastic resin extruding lines at it's facility in Hebron, Licking County, Ohio. Currently, Bayer has one active Synthetic Minor PTI (01-08968) which effectively restricts the PTE from the facility to less than Title V thresholds for VOC, HAP, and HAPs. This permit allows an increase to the capacity of production lines P022, P023, P024, P026, P029, P033, P034, and P035 and the addition of production lines P036 and P037 without changes to the existing federally enforceable restrictions. The changes to the existing permit consist of language modifications to ensure consistency among all emission units and calculations and removal of short term BAT based emission limitations, where applicable. However, this PTI repeats the existing federally enforceable limits for all the emission units at the facility.

B. Facility Emissions and Attainment Status

Emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 have a potential to emit before (pre) and after (post) this permit as follows:

Emissions	Pre-Synthetic Minor (tons)	Post Synthetic Minor (tons)
VOC	99.9	99.9
HAP	9.9	9.9
HAPs	24.9 (combined)	24.9 (combined)

There is no change to the PTE because this PTI is only allows an increase in the maximum allowable short term throughput for the facility.

C. Source Emissions

The Pre and Post synthetic minor PTE emissions include the existing synthetic minor restrictions specified in PTI 01-08968. These restrictions include all emission units operating at their maximum capacity, HAP content of products and venting to the existing regenerative thermal oxidizer (RTO) and an acid gas scrubber (AGS). Emission units P022, P023, P024, P026, P029, P031, P033, P034, P035, P036 and P037 will increase their combined maximum hourly capacity to 40,350 lbs/hr from 28,950 lbs/hr. However, the federally enforceable restrictions will remain unchanged and assume the following:

Capture efficiency at die face = 85%
Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP
Limitations on VOC, HAP and HAPs content of products as specified in the permit

D. Conclusion

This synthetic minor permit will effectively maintain current restrictions of VOC, HAP and HAPs emissions to less than Title V thresholds. The operational restrictions, record keeping, reporting, and testing requirements will ensure that compliance with this permit is achieved and maintained. The facility-wide individual and combined HAP emissions are effectively limited to less than 9.9 tons per rolling, 12-month period and 24.9 tons per rolling, 12-month period. The VOC emissions are effectively limited to less than 99.0 tons per rolling, 12-month period. All emissions are restricted through the use of the RTO and the AGS and the federally

enforceable limits on the VOC and HAP contents of the products run at the facility. All emissions units were installed after June 29, 1998, therefore, a restriction on HAPs is necessary in order to avoid OAC 3745-31-28 or any proposed MACT.

State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
50 West Town Street, Suite 700
Columbus, OH 43215

TELE: (614) 644-3020 **FAX:** (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

CERTIFIED MAIL

RE: DRAFT PERMIT TO INSTALL
LICKING COUNTY
Application No: 01-12098
Fac ID: 0145020221

	TOXIC REVIEW
	PSD
Y	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

DATE: 2/1/2007

Bayer MaterialScience, LLC
Tim Troutman
1111 O Neill Drive SE
Hebron, OH 43025

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43216-1049.

A Permit to Install may be issued in proposed of final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **$5450** will be due. Please do not submit any payment now.

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. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: **USEPA** **CDO**

LICKING COUNTY

PUBLIC NOTICE
ISSUANCE OF DRAFT PERMIT TO INSTALL **01-12098** FOR AN AIR CONTAMINANT SOURCE FOR
Bayer MaterialScience, LLC

On 2/1/2007 the Director of the Ohio Environmental Protection Agency issued a draft action of a Permit To Install an air contaminant source for **Bayer MaterialScience, LLC**, located at **1111 ONeill Drive SE, Hebron**, Ohio.

Installation of the air contaminant source identified below may proceed upon final issuance of Permit To Install 01-12098:

Expansion and process line upgrade.

Comments concerning this draft action, or a request for a public meeting, must be sent in writing to the address identified below no later than thirty (30) days from the date this notice is published. All inquiries concerning this draft action may be directed to the contact identified below.

Isaac Robinson, Ohio EPA, Central District Office, 122 South Front St, P.O. Box 1049, Columbus, OH 43216-1049 [(614)728-3778]

DRAFT PERMIT TO INSTALL 01-12098

Application Number: 01-12098

Facility ID: 0145020221

Permit Fee: **To be entered upon final issuance**

Name of Facility: Bayer MaterialScience, LLC

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):
Expansion and process line upgrade.

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

Chris Korleski
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

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or recordkeeping 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 recordkeeping 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 (i.e., postmarked) quarterly 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 Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

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 ninety (90) 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
VOC	99.9
HAP	9.9
HAPs	24.9
PE	1.2

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 - (P022) - thermoplastic compounding extruder line no. 1 vented to a thermal oxidizer and acid gas scrubber (Terms in this permit supercede those identified in PTI 01-08968 issued 7/12/05, PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-02(A)	Volatile organic compound (VOC) emissions shall be less than 10.0 tons/yr. (See A.2.a.)
OAC rule 3745-35-07(B)(1)	See section A.2.c-f below.

2. Additional Terms and Conditions

2.a Permit to Install 01-12098 for this air contaminant source takes into account the use of a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS), whenever this air contaminant source is in operation, as a voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

2.b The emission limitation of 10 tons/yr is greater than the 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 this emission limitation.

2.c Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

2.d VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

2.e The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024,

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P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

2.f The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hr)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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 85% 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 this emissions unit is operating.

6. The RTO shall operate with a destruction efficiency of not less than 99%.

7. The AGS shall operate with a control efficiency of not less than 95%.

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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 permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

   a. the name and production rate of each product produced by each extruder;

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b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

*The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)

Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
= 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
= 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)

Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)
= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Capture and control efficiency:
Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)

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Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) 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/m3): 85
Maximum Hourly Emission Rate (lbs/hr): 2.6
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
MAGLC (ug/m3): 2024

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the “Air Toxic Policy” include the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists’ (ACGIH’s) handbook entitled “TLVs and BEIs” (“Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices”);

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

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

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A).

E. Testing Requirements

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

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a. Emission Limitation:
VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036 and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

b. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036 and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after initial startup of P037.

b. The emission testing shall be conducted on a representative emissions unit (P037) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

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iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO and AGS shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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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 - (P023) - thermoplastic compounding extruder line no. 2 vented to a thermal oxidizer and acid gas scrubber (Terms in this permit supercede those identified in PTI 01-08968 issued 7/12/05, PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-02(A)	Volatile organic compound (VOC) emissions shall be less than 10.0 tons/yr. (See A.2.a.)
OAC rule 3745-35-07(B)	See section A.2.c-f below.

2. Additional Terms and Conditions

2.a Permit to Install 01-12098 for this air contaminant source takes into account the use of a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS), whenever this air contaminant source is in operation, as a voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

2.b The emission limitation of 10 tons/yr is greater than the 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 this emission limitation.

2.c Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

2.d VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

2.e The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023,

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P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

2.f The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hr)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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 85% 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 this emissions unit is operating.

6. The RTO shall operate with a destruction efficiency of not less than 99%.

7. The AGS shall operate with a control efficiency of not less than 95%.

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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 permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

   a. the name and production rate of each product produced by each extruder;

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b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

*The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)

Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
= 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
= 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)

Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)
= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Capture and control efficiency:
Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)

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Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) 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/m3): 85
Maximum Hourly Emission Rate (lbs/hr): 2.6
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
MAGLC (ug/m3): 2024

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the “Air Toxic Policy” include the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists’ (ACGIH’s) handbook entitled “TLVs and BEIs” (“Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices”);

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

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

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A).

E. Testing Requirements

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

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a. Emission Limitation:
VOC emissions from emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

b. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after initial startup of P037 (The Ohio EPA may approve an alternative emissions unit).

b. The emission testing shall be conducted on a representative emissions unit (P037 or an alternative Ohio EPA approved emission unit) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the

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applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO and AGS shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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 - (P024) - thermoplastic compounding extruder line no. 3 vented to a thermal oxidizer and acid gas scrubber (Terms in this permit supercede those identified in PTI 01-08968 issued 7/12/05, PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-02(A)	Volatile organic compound (VOC) emissions shall be less than 10.0 tons/yr. (See A.2.a.)
OAC rule 3745-35-07(B)	See section A.2.c-f below.

2. Additional Terms and Conditions

2.a Permit to Install 01-12098 for this air contaminant source takes into account the use of a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS), whenever this air contaminant source is in operation, as a voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

2.b The emission limitation of 10 tons/yr is greater than the 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 this emission limitation.

2.c Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

2.d VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

2.e The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023,

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P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

2.f The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hr)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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 85% 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 this emissions unit is operating.

6. The RTO shall operate with a destruction efficiency of not less than 99%.

7. The AGS shall operate with a control efficiency of not less than 95%.

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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 permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

   a. the name and production rate of each product produced by each extruder;

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b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

*The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)

Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
= 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
= 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)

Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)
= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Capture and control efficiency:
Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)

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Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) 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/m3): 85
Maximum Hourly Emission Rate (lbs/hr): 2.6
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
MAGLC (ug/m3): 2024

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the “Air Toxic Policy” include the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists’ (ACGIH’s) handbook entitled “TLVs and BEIs” (“Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices”);

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

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

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A).

E. Testing Requirements

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

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a. Emission Limitation:
VOC emissions from emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

b. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after initial startup of P037 (The Ohio EPA may approve an alternative emissions unit).

b. The emission testing shall be conducted on a representative emissions unit (P037 or an alternative Ohio EPA approved emission unit) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the

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applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO and AGS shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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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 ***- (P026) - thermoplastic compounding extruder line no. 5 vented to a thermal oxidizer and acid gas scrubber (Terms in this permit supercede those identified in PTI 01-08968 issued 7/12/05, PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)***

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-02(A)	Volatile organic compound (VOC) emissions shall be less than 10.0 tons/yr. (See A.2.a.)
OAC rule 3745-35-07(B)	See section A.2.c-f below.

2. Additional Terms and Conditions

2.a Permit to Install 01-12098 for this air contaminant source takes into account the use of a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS), whenever this air contaminant source is in operation, as a voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

2.b The emission limitation of 10 tons/yr is greater than the 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 this emission limitation.

2.c Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

2.d VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

2.e The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023,

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P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

2.f The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hr)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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 85% 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 this emissions unit is operating.

6. The RTO shall operate with a destruction efficiency of not less than 99%.

7. The AGS shall operate with a control efficiency of not less than 95%.

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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 permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

   a. the name and production rate of each product produced by each extruder;

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b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

*The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)

Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
= 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
= 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)

Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)
= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Capture and control efficiency:
Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)

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Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) 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/m3): 85
Maximum Hourly Emission Rate (lbs/hr): 2.6
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
MAGLC (ug/m3): 2024

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the “Air Toxic Policy” include the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists’ (ACGIH’s) handbook entitled “TLVs and BEIs” (“Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices”);

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

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

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A).

E. Testing Requirements

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

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a. Emission Limitation:
VOC emissions from emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

b. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after initial startup of P037 (The Ohio EPA may approve an alternative emissions unit).

b. The emission testing shall be conducted on a representative emissions unit (P037 or an alternative Ohio EPA approved emission unit) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the

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applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO and AGS shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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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 - (P027) - thermoplastic compounding extruder line no. 6 vented to a thermal oxidizer and acid gas scrubber (Terms in this permit supercede those identified in PTI 01-08968 issued 7/12/05, PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-02(A)	VOC emissions shall not exceed 0.09 lb/hour and 0.4 ton/year. See II.A.2.a and B.5 thru 7 below. The requirements of this rule also include compliance with requirements of OAC rule 3745-35-07(B).
OAC rule 3745-35-07(B)	See section A.2.b-e below.
OAC rule 3745-21-07(G)	The capture and control efficiencies specified in this rule is less stringent than the capture and control efficiencies established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The emission unit's 0.09 lb VOC/hour and 0.4 ton VOC/year 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.

2.b Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

2.c VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

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2.d The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

2.e The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hour)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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 100% of the emissions from this emissions unit and vent them to the recuperative thermal oxidizer followed by the acid gas scrubber.

6. The RTO shall operate with a destruction efficiency of not less than 99%.

7. The AGS shall operate with a control efficiency of not less than 95%.

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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 permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

   a. the name and production rate of each product produced by each extruder;

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b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

*The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)

Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
= 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
= 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)

Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)
= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Capture and control efficiency:
Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)

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Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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/m3): 85
Maximum Hourly Emission Rate (lbs/hour): 2.6
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
MAGLC (ug/m3): 2024

Physical changes to or changes in the method of operation of the emissions unit 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 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 the 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

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c. physical changes to the emissions unit or its 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 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

6. 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.

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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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A).

E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions shall not exceed 0.09 lb/hour.

   Applicable Compliance Method:
   Compliance may be demonstrated by summing the stack and fugitive emissions. The stack emissions shall be determined by multiplying the emission unit's maximum capacity of 5000 lbs product produced/hour by the stack emission factor of 1.787 lbs VOC/1000 lbs product (Testing 08/14/00 thru 08/16/00) by the destruction efficiency of the thermal oxidizer (1.0-0.99).

   b. Emission Limitation:
   VOC emissions shall not exceed 0.4 ton/year.

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hours/year and dividing by 2000 lbs/ton.

   c. Emission Limitation:
   VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

   Applicable Compliance Method:
   Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

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d. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after initial startup of P037 (The Ohio EPA may approve an alternative emissions unit).

b. The emission testing shall be conducted on a representative emissions unit (P037 or an alternative Ohio EPA approved emission unit) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO and AGS shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on

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a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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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 - (P028) - thermoplastic compounding extruder line no. 7 vented to a thermal oxidizer and acid gas scrubber (Terms in this permit supercede those identified in PTI 01-08968 issued 7/12/05, PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05	VOC emissions shall not exceed 1.10 lbs/hour and 4.8 tons/year. Styrene emissions shall not exceed 0.67 lb/hour and 2.9 tons/year. See II.A.2.a and B.5 thru 7 below. The requirements of this rule also include compliance with requirements of OAC rule 3745-35-07(B).
OAC rule 3745-35-07(B)	OAC rule 3745-35-07(B)
OAC rule 3745-21-07(G)	The capture and control efficiencies specified in this rule is less stringent than the capture and control efficiencies established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The emission unit's 1.10 lbs VOC/hour, 4.8 tons VOC/year, 0.67 lbs Styrene/hour and 2.9 tons Styrene/year 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.

2.b Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

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2.c VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

2.d The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

2.e The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hour)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

The process weight rates listed above are each emission unit's maximum capacity therefore, no monitoring, record keeping or reporting requirements are necessary.

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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.

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5. The permittee shall capture 100% of the emissions from this emissions unit and vent them to the recuperative thermal oxidizer followed by the acid gas scrubber.

6. The RTO shall operate with a destruction efficiency of not less than 99%.

7. The AGS 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.

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4. The permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

   a. the name and production rate of each product produced by each extruder;

   b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

   c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

   The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

   *The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

   VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
   = 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)
   Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
   = 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)
   1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
   = 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

   Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
   = 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)
   Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)

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= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Capture and control efficiency:
Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)
Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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/m3): 85
Maximum Hourly Emission Rate (lbs/hour): 2.6
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
MAGLC (ug/m3): 2024

Physical changes to or changes in the method of operation of the emissions unit 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 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 the 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

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"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 its 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 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

6. 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:

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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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A).

E. Testing Requirements

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

a. Emission Limitation:
VOC emissions shall not exceed 1.10 lbs/hour.

Applicable Compliance Method:
Compliance may be demonstrated by summing the stack and fugitive emissions. The stack emissions shall be determined by multiplying the emission unit's maximum capacity of 7000 lbs product produced/hour by the stack emission factor of 1.787 lbs VOC/1000 lbs product (Testing 08/14/00 thru 08/16/00) by the destruction efficiency of the thermal oxidizer (1.0-0.99). The fugitive emissions shall be determined by multiplying the emission unit's maximum capacity of 5000 lbs product produced/hour by the fugitive emission factor of 0.139 lbs VOC/1000 lbs of product (Testing 08/14/00 thru 08/16/00).

b. Emission Limitation:
VOC emissions shall not exceed 4.8 tons/year.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hours/year and dividing by 2000 lbs/ton.

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c. Emission Limitation:
Styrene emissions shall not exceed 0.67 lbs/hour.

Applicable Compliance Method:
Compliance may be demonstrated by summing the stack and fugitive emissions. The stack emissions shall be determined by multiplying the emission unit's maximum capacity of 7000 lbs product produced/hour by the stack emission factor of 1.097 lbs Styrene/1000 lbs product (Testing 08/14/00) by the destruction efficiency of the thermal oxidizer (1.0-0.99). The fugitive emissions shall be determined by multiplying the emission unit's maximum capacity of 5000 lbs product produced/hour by the fugitive emission factor of 0.085 lbs Styrene/1000 lbs of product (Testing 08/14/00).

d. Emission Limitation:
Styrene emissions shall not exceed 2.9 tons/year.

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

e. Emission Limitation:
VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

f. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after initial startup of P037 (The Ohio EPA may approve an alternative emissions unit).

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b. The emission testing shall be conducted on a representative emissions unit (P037 or an alternative Ohio EPA approved emission unit) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

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f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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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 - (P029) - thermoplastic compounding extruder line no. 8 vented to a thermal oxidizer and acid gas scrubber (Terms in this permit supercede those identified in PTI 01-08968 issued 7/12/05, PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-02(A)	Volatile organic compound (VOC) emissions shall be less than 10.0 tons/yr. (See A.2.a.)
OAC rule 3745-35-07(B)	See section A.2.c-f below.

2. Additional Terms and Conditions

2.a Permit to Install 01-12098 for this air contaminant source takes into account the use of a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS), whenever this air contaminant source is in operation, as a voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

2.b The emission limitation of 10 tons/yr is greater than the 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 this emission limitation.

2.c Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

2.d VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

2.e The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023,

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P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

2.f The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hr)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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 85% 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 this emissions unit is operating.

6. The RTO shall operate with a destruction efficiency of not less than 99%.

7. The AGS shall operate with a control efficiency of not less than 95%.

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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 permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

   a. the name and production rate of each product produced by each extruder;

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b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

*The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)

Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
= 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
= 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)

Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)
= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Capture and control efficiency:
Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)

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Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) 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/m3): 85
Maximum Hourly Emission Rate (lbs/hr): 2.6
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
MAGLC (ug/m3): 2024

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the “Air Toxic Policy” include the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists’ (ACGIH’s) handbook entitled “TLVs and BEIs” (“Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices”);

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

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

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A).

E. Testing Requirements

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

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a. Emission Limitation:
VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

b. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after initial startup of P037 (The Ohio EPA may approve an alternative emissions unit).

b. The emission testing shall be conducted on a representative emissions unit (P037 or an alternative Ohio EPA approved emission unit) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the

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applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO and AGS shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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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 - (P030) - thermoplastic compounding extruder line no. 9 vented to a thermal oxidizer and acid gas scrubber (Terms in this permit supercede those identified in PTI 01-08968 issued 7/12/05, PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05	VOC emissions shall not exceed 0.21 lb/hour and 0.9 tons/year. See II.A.2.a and B.5 thru 7 below. The requirements of this rule also include compliance with requirements of OAC rule 3745-35-07(B).
OAC rule 3745-35-07(B)	See II.A.2.b-e below.
OAC rule 3745-21-07(G)	The capture and control efficiencies specified in this rule is less stringent than the capture and control efficiencies established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The emission unit's 0.21 lb VOC/hour and 0.9 ton VOC/year 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.

2.b Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

2.c VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

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2.d The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

2.e The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hour)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

The process weight rates listed above are each emission unit's maximum capacity therefore, no monitoring, record keeping or reporting requirements are necessary.

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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 100% of the emissions from this emissions unit and vent them to the recuperative thermal oxidizer followed by the acid gas scrubber.

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6. The RTO shall operate with a destruction efficiency of not less than 99%.

7. The AGS 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 permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

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a. the name and production rate of each product produced by each extruder;

b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

*The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)
Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
= 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
= 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)
Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)
= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

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Capture and control efficiency:
Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)
Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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/m3): 85
Maximum Hourly Emission Rate (lbs/hour): 2.6
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
MAGLC (ug/m3): 2024

Physical changes to or changes in the method of operation of the emissions unit 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 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 the 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;

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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 its 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 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

6. 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.

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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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A).

E. Testing Requirements

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

a. Emission Limitation:
VOC emissions shall not exceed 0.21 lb/hour.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the emission unit's maximum capacity of 12,000 lbs product produced/hour by the stack emission factor of 1.787 lbs VOC/1000 lbs product (Testing 08/14/00 thru 08/16/00) by the destruction efficiency of the thermal oxidizer (1.0-0.99).

b. Emission Limitation:
VOC emissions shall not exceed 0.9 ton/year.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hours/year and dividing by 2000 lbs/ton.

c. Emission Limitation:
VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

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d. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after initial startup of P037 (The Ohio EPA may approve an alternative emissions unit).

b. The emission testing shall be conducted on a representative emissions unit (P037 or an alternative Ohio EPA approved emission unit) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a

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consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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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 - (P031) - thermoplastic compounding extruder screw cleaner furnace (Terms in this permit supercede those identified in PTI 01-08968 issued 7/12/05, PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05	VOC emissions shall not exceed 0.04 lb/hour and 0.2 ton/year. Particulate emissions (PE) shall not exceed 0.27 lb/hour and 1.2 tons/year. Visible particulate emissions shall not exceed 10% opacity, as a 6-minute average. See II.A.2.a-b below.
OAC rule 3745-17-07 (A)(1)	The emission limitation specified in this rule is less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).
OAC rule 3745-17-11 (B)	The emission limitation specified in this rule is less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).
OAC rule 3745-21-07 (G)	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 Emissions from this emission unit shall be vented to the secondary furnace chamber.

2.b The emission unit's 0.04 lb VOC/hour, 0.2 ton VOC/year, 0.27 lb PE/hour and 1.2 tons PE/year emission limitations are based on the emission unit's potential to emit vented through the secondary furnace chamber. Therefore, only the

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monitoring, record keeping or reporting requirements of the secondary chamber are necessary to ensure compliance with these emission limitations.

B. Operational Restrictions

1. The combustion temperature within the secondary chamber when the emissions unit is in operation, shall not be less than 1400 degrees Fahrenheit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the secondary chamber 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 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 all times during which the combustion temperature within the secondary chamber, when the emissions unit was in operation, dropped below 1400 degrees Fahrenheit.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all times during which the secondary chamber temperature does not comply with the temperature limitation specified above and the emissions unit is in operation.

   All reports are due by the dates described in Part I - General Terms and Conditions of this permit under section (A).

E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions shall not exceed 0.04 lb/hour.

   Applicable Compliance Method:
   Compliance may be demonstrated through the manufacturer's emission factor of 0.04 lb/hour (PTI application, 08/07/02).

   If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18.

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b. Emission Limitation:
VOC emissions shall not exceed 0.2 ton/year.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hours/year and dividing by 2000 lbs/ton.

c. Emission Limitation:
PE emissions shall not exceed 0.27 lb/hour.

Applicable Compliance Method:
Compliance may be demonstrated through the manufacturer's emission factor of 0.27 lb/hour (PTI application, 08/07/02).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

d. Emission Limitation:
PE emissions shall not exceed 1.2 tons/year.

Applicable Compliance Method:
Compliance shall be demonstrated by multiplying the pound per hour emission rate by 8760 hours/year 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. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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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 - (P033) - thermoplastic compounding extruder line no. 5A vented to a thermal oxidizer and acid gas scrubber (Terms in this permit supercede those identified in PTI 01-08968 issued 7/12/05, PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-02(A)	Volatile organic compound (VOC) emissions shall be less than 10.0 tons/yr. (See A.2.a)
OAC rule 3745-35-07(B)	See section A.2. c-f below.

2. Additional Terms and Conditions

2.a Permit to Install 01-12098 for this air contaminant source takes into account the use of a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS), whenever this air contaminant source is in operation, as a voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

2.b The emission limitation of 10 tons/yr is greater than the 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 this emission limitation.

2.c Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

2.d VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

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2.e The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

2.f The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hr)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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 85% 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 this emissions unit is operating.

6. The RTO shall operate with a destruction efficiency of not less than 99%.

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7. The AGS 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 permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

   a. the name and production rate of each product produced by each extruder;

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b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

*The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)
Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
= 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
= 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)
Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)
= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Capture and control efficiency:

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Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)
Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) 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/m3): 85
Maximum Hourly Emission Rate (lbs/hr): 2.6
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
MAGLC (ug/m3): 2024

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the “Air Toxic Policy” include the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists’ (ACGIH’s) handbook entitled “TLVs and BEIs” (“Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices”);

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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 its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A).

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E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

   Applicable Compliance Method:
   Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

   b. Emission Limitation:
   The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

   Applicable Compliance Method:
   Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

   a. The emission testing shall be conducted within 60 days after initial startup of P037 (The Ohio EPA may approve an alternative emissions unit).

   b. The emission testing shall be conducted on a representative emissions unit (P037 or an alternative Ohio EPA approved emission unit) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

   c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

      i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

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ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO and AGS shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

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F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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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 - (P034) - thermoplastic compounding extruder line no. 4 vented to a thermal oxidizer and acid gas scrubber ((Terms in this permit supercede those identified in PTI 01-08968 issued 7/12/05, PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-02(A)	Volatile organic compound (VOC) emissions shall be less than 10.0 tons/yr. (See A.2.a.)
OAC rule 3745-35-07(B)	See section A.2. c-f below.

2. Additional Terms and Conditions

2.a Permit to Install 01-12098 for this air contaminant source takes into account the use of a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS), whenever this air contaminant source is in operation, as a voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

2.b The emission limitation of 10 tons/yr is greater than the 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 this emission limitation.

2.c Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

2.d VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

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2.e The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

2.f The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hr)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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 85% 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 this emissions unit is operating.

6. The RTO shall operate with a destruction efficiency of not less than 99%.

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7. The AGS 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 permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

   a. the name and production rate of each product produced by each extruder;

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b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

*The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)
Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
= 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
= 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)
Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)
= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Capture and control efficiency:

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Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)
Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) 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/m3): 85
Maximum Hourly Emission Rate (lbs/hr): 2.6
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
MAGLC (ug/m3): 2024

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the “Air Toxic Policy” include the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists’ (ACGIH’s) handbook entitled “TLVs and BEIs” (“Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices”);

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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 its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A).

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E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

   Applicable Compliance Method:
   Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

   b. Emission Limitation:
   The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

   Applicable Compliance Method:
   Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

   a. The emission testing shall be conducted within 60 days after initial startup of P037 (The Ohio EPA may approve an alternative emissions unit).

   b. The emission testing shall be conducted on a representative emissions unit (P037 or an alternative Ohio EPA approved emission unit) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

   c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

      i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

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ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO and AGS shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

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F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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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 - (P035) - thermoplastic compounding extruder line no. 10 vented to a thermal oxidizer and acid gas scrubber (Terms in this permit supercede those identified in PTI 01-08968 issued 7/12/05, PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-02(A)	Volatile organic compound (VOC) emissions shall be less than 10.0 tons/yr. (See A.2.a.)
OAC rule 3745-35-07(B)	See section A.2. c-f below.

2. Additional Terms and Conditions

2.a Permit to Install 01-12098 for this air contaminant source takes into account the use of a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS), whenever this air contaminant source is in operation, as a voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

2.b The emission limitation of 10 tons/yr is greater than the 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 this emission limitation.

2.c Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

2.d VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

2.e The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023,

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P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

2.f The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hr)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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 85% 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 this emissions unit is operating.

6. The RTO shall operate with a destruction efficiency of not less than 99%.

7. The AGS shall operate with a control efficiency of not less than 95%.

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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 permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

   a. the name and production rate of each product produced by each extruder;

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b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

*The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)
Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
= 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
= 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)
Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)
= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Capture and control efficiency:

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Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)
Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) 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/m3): 85
Maximum Hourly Emission Rate (lbs/hr): 2.6
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
MAGLC (ug/m3): 2024

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the “Air Toxic Policy” include the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists’ (ACGIH’s) handbook entitled “TLVs and BEIs” (“Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices”);

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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 its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A).

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E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

   Applicable Compliance Method:
   Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

   b. Emission Limitation:
   The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

   Applicable Compliance Method:
   Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

   a. The emission testing shall be conducted within 60 days after initial startup of P037 (The Ohio EPA may approve an alternative emissions unit).

   b. The emission testing shall be conducted on a representative emissions unit (P037 or an alternative Ohio EPA approved emission unit) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

   c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

      i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

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ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO and AGS shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

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F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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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 - (P036) - Thermoplastic compounding extruder line No. 5 consisting of a ZSK Mega extruder, water bath, and pelletizer.

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-02(A)	Volatile organic compound (VOC) emissions shall be less than 10.0 tons/yr. (See A.2.a.)
OAC rule 3745-35-07(B)	See section A.2.c-f below.

2. Additional Terms and Conditions

2.a Permit to Install 01-12098 for this air contaminant source takes into account the use of a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS), whenever this air contaminant source is in operation, as a voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

2.b The emission limitation of 10 tons/yr is greater than the 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 this emission limitation.

2.c Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

2.d VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

2.e The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

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2.f The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hr)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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 85% 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 this emissions unit is operating.

6. The RTO shall operate with a destruction efficiency of not less than 99%.

7. The AGS 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

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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 permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

a. the name and production rate of each product produced by each extruder;

b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

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c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

*The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)
Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)
1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
= 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)
Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
= 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)
Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)
= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)
Capture and control efficiency:
Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)
Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

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e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) 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/m3): 85
Maximum Hourly Emission Rate (lbs/hr): 2.6
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
MAGLC (ug/m3): 2024

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

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 its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A).

E. Testing Requirements

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

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a. Emission Limitation:
VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

b. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after initial startup of P037 (The Ohio EPA may approve an alternative emissions unit).

b. The emission testing shall be conducted on a representative emissions unit (P037 or an alternative Ohio EPA approved emission unit) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the

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applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO and AGS shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.

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 - (P037) - Thermoplastic compounding extruder line KKMC32 consisting of a ASK-40 Mega compunder extruder, water bath, and pelletizer.

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-02(A)	Volatile organic compound (VOC) emissions shall be less than 10.0 tons/yr. (See A.2.a.)
OAC rule 3745-35-07(B)	See section A.2.c-f below.

2. Additional Terms and Conditions

2.a Permit to Install 01-12098 for this air contaminant source takes into account the use of a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS), whenever this air contaminant source is in operation, as a voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

2.b The emission limitation of 10 tons/yr is greater than the 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 this emission limitation.

2.c Emissions from this emission unit shall be vented to a recuperative thermal oxidizer (RTO) followed by an acid gas scrubber (AGS).

2.d VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

2.e The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

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2.f The maximum process weight rates of the following emissions units shall not exceed the following values:

Emissions unit ID	Maximum Process Weight Rate (lb/hr)
P022	4,000
P023	1,800
P024	2,000
P026	350
P027	5,000
P028	7,000
P029	12,000
P030	12,000
P033	1,500
P034	5,000
P035	10,000
P036	2,500
P037	1,200

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, 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 85% 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 this emissions unit is operating.

6. The RTO shall operate with a destruction efficiency of not less than 99%.

7. The AGS 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

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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 permittee shall maintain monthly records of the following information P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037:

a. the name and production rate of each product produced by each extruder;

b. the name of each product produced and the associated emission factor for VOC and each HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds per 1000 pounds of product, from each extruder;

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c. the total emission rate of VOC and each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene), in pounds, from each extruder;

The emission rate shall be quantified by summing the emission rate from each extruder. The emissions from each extruder shall be determined by summing stack emissions, for emission units P023, P027, P029, P030 and P031, with the stack and fugitive emissions, for emission units P022, P024, P026, P028, P033, P034, P035, P036, and P037. Stack emissions shall be determined by multiplying the production rate by the appropriate stack emission factor* by the control efficiency (1.0 - 0.99) established during the most recent stack test. Fugitive emissions shall be determined by multiplying the production rate by the appropriate fugitive emission factor*.

*The permittee shall use the following worst case emission factors unless product specific emission factors are available and approved by the Central District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.139 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (fugitive)

Styrene = 1.097 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.085 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

1,3 Butadiene = 0.083 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (stack)
= 0.006 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.019 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (stack)
= 0.044 lb/1000 lbs ABS - Lustran throughput (Testing, 8/16/00); (fugitive)

Chlorobenzene = 0.213 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (stack)
= 0.017 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Capture and control efficiency:
Capture efficiency at die face = 85% (based on testing witnessed by Ohio EPA 12/8/00)
Control equipment (RTO) = 99% destruction efficiency of VOC and any HAP (stack test conducted 04/22/02)

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d. the facility-wide emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons; and

e. the facility-wide rolling, 12-month summation of the emission rate of VOC, each individual HAP (1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08649 issued 12/05/02 for emission units P022 thru P031 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 to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) 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/m3): 85
   Maximum Hourly Emission Rate (lbs/hr): 2.6
   Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 111.5
   MAGLC (ug/m3): 2024

6. The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(b), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes that can affect the parameters used in applying the “Air Toxic Policy” include the following:

   a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists’ (ACGIH’s) handbook entitled “TLVs and BEIs” (“Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices”);

   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

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

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

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.

2. The permittee shall submit quarterly deviation reports showing any deviation from the VOC, individual HAP or combined HAPs rolling, 12-month emission limitations. The permittee shall also submit quarterly deviation reports showing any exceedances of the VOC and/or HAP emission factors (pounds of pollutant per 1000 pounds of product). These reports shall include a description of the deviation, as well as the corrective actions that were taken to achieve compliance.

3. All reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A).

E. Testing Requirements

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

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a. Emission Limitation:
VOC emissions from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 99.9 tons per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

b. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title II of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P035, P036, and P037 combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be demonstrated by the record keeping found in Part II.C.4 above.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after initial startup of P037 (The Ohio EPA may approve an alternative emissions unit).

b. The emission testing shall be conducted on a representative emissions unit (P037 or an alternative Ohio EPA approved emission unit) to demonstrate compliance with the federally enforceable emission limitations for VOC, HAP, and HAPs contained in Sections II.A.2.d-e. of this permit.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s):

i. The worst case emission factors listed in Section II.C.4.c. shall be verified through the use of 40 CFR Part 60, Appendix A Methods 1 through 4, 25 or 25A, and 18 or 40 CFR Part 63, Appendix A Method 320. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

ii. The capture efficiency at the die face shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the

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applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the RTO and AGS shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

F. Miscellaneous Requirements

1. The terms and conditions of this emission unit A.1 thru C.4 and D.1 thru E.2 are federally enforceable.