State of Ohio Environmental Protection Agency

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

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

Application No: 01-08968
Fac ID: 0145020221
DATE: 7/12/2005

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

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

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

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

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, Ohio 43215

Sincerely,

Michael W. Ahern

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

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

OhioEPA

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install	**Issue Date: 7/12/2005**
Terms and Conditions	**Effective Date: 7/12/2005**

FINAL PERMIT TO INSTALL 01-08968

Application Number:	01-08968
Facility ID:	0145020221
Permit Fee:	**$750**
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):
Line 8 extruder, motor, drive and ancillary equipment.

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit-To-Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

i. The date, place (as defined in the permit), and time of sampling or measurements.

ii. The date(s) analyses were performed.

iii. The company or entity that performed the analyses.

iv. The analytical techniques or methods used.

v. The results of such analyses.

vi. The operating conditions existing at the time of sampling or measurement.

b. 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.

c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:

i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to

the appropriate Ohio EPA District Office or local air agency. The written 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. See B.8 below if no deviations occurred during the quarter.

iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

iv. If this permit is for an emissions unit located at a Title V facility, then each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

d. The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

2. 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, i.e., upset, 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. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to 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 emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

6. General Requirements

a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification

b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c. This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

d. This permit does not convey any property rights of any sort, or any exclusive privilege.

e. 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 or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. 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 any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.

iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

iv. As authorized by the Act, sample or monitor at reasonable times

substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit-To-Operate Application

a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this permit is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. 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 source(s) covered by this permit.

11. 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.

12. 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.

13. Permit-To-Install

A permit-to-install must be obtained pursuant to OAC Chapter 3745-31 prior to "installation" of "any air contaminant source" as defined in OAC rule 3745-31-01, or "modification", as defined in OAC rule 3745-31-01, of any emissions unit included in this permit.

B. State Only Enforceable Permit-To-Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit 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 of state-only enforceable 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 state-only required 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. 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.

4. Authorization To Install or Modify

If applicable, authorization to install or modify any new or existing emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit 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.

5. Construction of New Sources(s)

This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. 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 this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit 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.

6. 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.

7. Applicability

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

8. Construction Compliance Certification

If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) 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.

9. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly (i.e., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

C. 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

Bayer MaterialScience, LLC **Facility ID: 014502022**
PTI Application: 01-08968
Issued: 7/12/2005

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Emissions Unit ID: **P022**

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01).	OAC rule 3745-31-05(A)(3)	VOC emissions shall not exceed 3.92 lbs/hr and 17.2 tons/yr. Styrene emissions shall not exceed 0.61 lb/hr and 2.7 tons/yr. See III.A.2.a and B.5 -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 III.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 3.92 lbs VOC/hr, 17.2 tons VOC/yr, 0.61 lb Styrene/hr and 2.7 tons Styrene/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission limitations.

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 and P035 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 III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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/hr)
P022	3,000
P023	1,200
P024	1,000
P026	250
P027	5,000
P028	7,000
P029	10,000
P030	12,000
P033	1,200
P034	3,500
P035	8,800

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 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 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:

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, in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (MEK, 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 and P035. 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)
= 0.315 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)
= 0.194 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

MEK = 0.127 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.0225 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)
= 0.015 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.247 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)
= 0.038 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 (MEK, 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 (MEK, 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/hr): 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

   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.

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 exceedences 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)(1).

E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions shall not exceed 3.92 lb/hr.

   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 3000 lbs product/hr 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 3000 lbs product/hr by the fugitive emission factor of 0.315 lbs VOC/1000 lbs of product (Testing 08/14/00 thru 08/16/00).

   b. Emission Limitation:
   VOC emissions shall not exceed 17.2 ton/yr.

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

   c. Emission Limitation:

Styrene emissions shall not exceed 0.61 lb/hr.

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 3000 lbs product/hr 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 3000 lbs product/hr by the fugitive emission factor of 0.1935 lbs Styrene/1000 lbs of product (Testing 08/14/00).

d. Emission Limitation:
Styrene emissions shall not exceed 2.7 tons/yr.

Applicable Compliance Method:
Compliance shall be demonstrated by multiplying the pound per hour emission rate by 8760 hrs/yr 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 and P035 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 III.C.4 above.

f. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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 III.C.4 above.

F. Miscellaneous Requirements

None

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)	OAC rule 3745-31-05(A)(3)	VOC emissions shall not exceed 0.02 lb/hr and 0.1 ton/yr. See III.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 III.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 0.02 lb VOC/hr and 0.1 ton VOC/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission limitations.

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 and P035 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 III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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/hr)
P022	3,000
P023	1,200
P024	1,000
P026	250
P027	5,000
P028	7,000
P029	10,000
P030	12,000
P033	1,200
P034	3,500
P035	8,800

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 at 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.

4. The permittee shall maintain monthly records of the following information:

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, in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (MEK, 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 and P035. 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)
= 0.315 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)
= 0.194 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)
MEK = 0.127 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.0225 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)
= 0.015 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.247 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)
= 0.038 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)
Emissions after control:
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 (MEK, 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 (MEK, 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/hr): 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

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.

   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 exceedences 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)(1).

E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions shall not exceed 0.02 lb/hr.

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the emission unit's maximum capacity of 1200 lbs product/hr 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 0.1 ton/yr.

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hrs/yr 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 and P035 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 III.C.4 above.

   d. Emission Limitation:

The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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 III.C.4 above.

F. Miscellaneous Requirements

None

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)	OAC rule 3745-31-05(A)(3)	VOC emissions shall not exceed 1.31 lbs/hr and 5.7 tons/yr. See III.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 III.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 1.31 lbs VOC/hr and 5.7 tons VOC/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission limitations.

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 and P035 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 III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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/hr)
P022	3,000
P023	1,200
P024	1,000
P026	250
P027	5,000
P028	7,000
P029	10,000
P030	12,000
P033	1,200
P034	3,500
P035	8,800

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 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 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:

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, in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (MEK, 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 and P035. 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)
= 0.315 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)
= 0.194 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)
MEK = 0.127 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.0225 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)
= 0.015 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.247 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)
= 0.038 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)
Emissions after control:
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 (MEK, 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 (MEK, 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/hr): 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

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.

   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 exceedences 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)(1).

E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions shall not exceed 1.31 lbs/hr.

   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 1000 lbs product/hr 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 1000 lbs product/hr by the fugitive emission factor of 0.315 lbs VOC/1000 lbs of product (Testing 08/14/00 thru 08/16/00).

   b. Emission Limitation:
   VOC emissions shall not exceed 5.7 tons/yr.

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hrs/yr 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 and P035 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 III.C.4 above.

d. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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 III.C.4 above.

F. Miscellaneous Requirements

None

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)	OAC rule 3745-31-05(A)(3)	VOC emissions shall not exceed 0.33 lb/hr and 1.4 tons/yr. See III.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 III.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 0.33 lb VOC/hr and 1.4 tons VOC/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission limitations.

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 and P035 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 III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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/hr)
P022	3,000
P023	1,200
P024	1,000
P026	250
P027	5,000
P028	7,000
P029	10,000
P030	12,000
P033	1,200
P034	3,500
P035	8,800

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 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 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:

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, in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (MEK, 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 and P035. 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)
= 0.315 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)
= 0.194 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)
MEK = 0.127 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.0225 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)
= 0.015 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.247 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)
= 0.038 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)
Emissions after control:
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 (MEK, 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 (MEK, 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/hr): 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

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.

   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 exceedences 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)(1).

E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions shall not exceed 0.33 lb/hr.

   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 250 lbs product/hr 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 250 lbs product/hr by the fugitive emission factor of 0.315 lbs VOC/1000 lbs of product (Testing 08/14/00 thru 08/16/00).

   b. Emission Limitation:
   VOC emissions shall not exceed 1.4 ton/yr.

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hrs/yr 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 and P035 combined shall not exceed 99.9 tons per rolling, 12-month period.

Emissions Unit ID: **P026**

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

d. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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 III.C.4 above.

F. Miscellaneous Requirements

None

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)	OAC rule 3745-31-05(A)(3)	VOC emissions shall not exceed 0.09 lb/hr and 0.4 ton/yr. See III.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 III.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/hr and 0.4 ton VOC/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission limitations.

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 and P035 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 III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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/hr)
P022	3,000
P023	1,200
P024	1,000
P026	250
P027	5,000
P028	7,000
P029	10,000
P030	12,000
P033	1,200
P034	3,500
P035	8,800

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.

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:

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, in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (MEK, 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 and P035. 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)
= 0.315 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)
= 0.194 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)
MEK = 0.127 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.0225 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)
= 0.015 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.247 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)
= 0.038 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)
Emissions after control:
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 (MEK, 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 (MEK, 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/hr): 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

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.

   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 exceedences 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)(1).

E. Testing Requirements

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

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

   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/hr 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/yr.

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hrs/yr 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 and P035 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 III.C.4 above.

d. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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 III.C.4 above.

F. Miscellaneous Requirements

None

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)	OAC rule 3745-31-05(A)(3)	VOC emissions shall not exceed 9.16 lbs/hr and 40.1 tons/yr. Styrene emissions shall not exceed 1.43 lb/hr and 6.3 tons/yr. See III.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 III.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 9.16 lbs VOC/hr, 40.1 tons VOC/yr, 1.43 lbs Styrene/hr and 6.3 tons Styrene/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission

limitations.

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 and P035 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 III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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/hr)
P022	3,000
P023	1,200
P024	1,000
P026	250
P027	5,000
P028	7,000
P029	10,000
P030	12,000
P033	1,200
P034	3,500
P035	8,800

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 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 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:

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, in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (MEK, 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 and P035. 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

Emissions Unit ID: **P028**

District Office:

VOC = 1.787 lbs/1000 lbs ABS-Lustran throughput (Testing, 8/14/00 thru 8/16/00); (stack)
= 0.315 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)
= 0.194 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

MEK = 0.127 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.0225 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)
= 0.015 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.247 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)
= 0.038 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Emissions after control:
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 (MEK, 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 (MEK, 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/hr): 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

   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.

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 exceedences 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)(1).

E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions shall not exceed 9.16 lbs/hr.

   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/hr 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/hr by the fugitive emission factor of 0.315 lbs VOC/1000 lbs of product (Testing 08/14/00 thru 08/16/00).

   b. Emission Limitation:
   VOC emissions shall not exceed 40.1 tons/yr.

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

c. Emission Limitation:
Styrene emissions shall not exceed 1.43 lbs/hr.

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/hr 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/hr by the fugitive emission factor of 0.1935 lbs Styrene/1000 lbs of product (Testing 08/14/00).

d. Emission Limitation:
Styrene emissions shall not exceed 6.3 tons/yr.

Applicable Compliance Method:
Compliance shall be demonstrated by multiplying the pound per hour emission rate by 8760 hrs/yr 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 and P035 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 III.C.4 above.

f. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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 III.C.4 above.

F. Miscellaneous Requirements

None

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)	OAC rule 3745-31-05(A)(3)	VOC emissions shall not exceed 0.18 lb/hr and 0.79 ton/yr. See III.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 III.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 0.18 lb VOC/hr and 0.79 tons VOC/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission limitations.

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 and P035 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 III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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/hr)
P022	3,000
P023	1,200
P024	1,000
P026	250
P027	5,000
P028	7,000
P029	10,000
P030	12,000
P033	1,200
P034	3,500
P035	8,800

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.

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:

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, in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (MEK, 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 and P035. 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)
= 0.315 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)
= 0.194 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)
MEK = 0.127 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.0225 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)
= 0.015 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.247 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)
= 0.038 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)
Emissions after control:
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 (MEK, 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 (MEK, 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/hr): 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

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.

   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 exceedences 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)(1).

E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions shall not exceed 0.18 lb/hr.

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the emission unit's maximum capacity of 10,000 lbs product/hr 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 0.79 ton/yr.

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hrs/yr 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 and P035 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 III.C.4 above.

   d. Emission Limitation:
   The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified

in Section 112(b) of Title III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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 III.C.4 above.

F. Miscellaneous Requirements

None

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)	OAC rule 3745-31-05(A)(3)	VOC emissions shall not exceed 0.21 lb/hr and 0.9 tons/yr. See III.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 III.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/hr and 0.9 ton VOC/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission limitations.

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 and P035 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 III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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/hr)
P022	3,000
P023	1,200
P024	1,000
P026	250
P027	5,000
P028	7,000
P029	10,000
P030	12,000
P033	1,200
P034	3,500
P035	8,800

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.

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:

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, in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (MEK, 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 and P035. 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)
= 0.315 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)
= 0.194 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)
MEK = 0.127 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.0225 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)
= 0.015 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.247 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)
= 0.038 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)
Emissions after control:
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 (MEK, 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 (MEK, 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/hr): 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

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.

   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 exceedences 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)(1).

E. Testing Requirements

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

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

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the emission unit's maximum capacity of 12,000 lbs product/hr 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/yr.

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hrs/yr 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 and P035 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 III.C.4 above.

   d. Emission Limitation:
   The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified

in Section 112(b) of Title III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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 III.C.4 above.

F. Miscellaneous Requirements

None

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P031 - thermoplastic compounding extruder screw cleaner furnace (Terms in this permit supercede those identified in PTI 01-08649 issued 12/05/02 and PTI 01-08258 issued 03/15/01)	OAC rule 3745-31-05 (A)(3)	VOC emissions shall not exceed 0.04 lb/hr and 0.2 ton/yr. Particulate emissions (PE) shall not exceed 0.27 lb/hr and 1.2 tons/yr. 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/hr, 0.2 ton VOC/yr, 0.27 lb PE/hr and 1.2 tons PE/yr emission limitations are based on the emission unit's potential to emit vented through the secondary furnace chamber. Therefore, only the 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 1 - General Terms and Conditions of this permit under section (A)(1).

E. Testing Requirements

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

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

   Applicable Compliance Method:
   Compliance may be demonstrated through the manufacturer's emission factor of 0.04 lb/hr (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.

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

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

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

   Applicable Compliance Method:
   Compliance may be demonstrated through the manufacturer's emission factor of 0.27 lb/hr (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/yr.

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

   e. Emission Limitation:

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

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

F. Miscellaneous Requirements

None

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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 01-08761 issued 11/20/03 and PTI 01-08566 issued 08/08/02)	OAC rule 3745-31-05(A)(3)	VOC emissions shall not exceed 0.40 lb/hr and 1.8 tons/yr. See III.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 III.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 0.40 lb VOC/hr and 1.8 tons VOC/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission limitations.

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 and P035 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 III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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/hr)
P022	3,000
P023	1,200
P024	1,000
P026	250
P027	5,000
P028	7,000
P029	10,000
P030	12,000
P033	1,200
P034	3,500
P035	8,800

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 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 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:

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, in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (MEK, 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 and P035. 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)
= 0.315 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)
= 0.194 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)
MEK = 0.127 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.0225 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)
= 0.015 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.247 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)
= 0.038 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)
Emissions after control:
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 (MEK, 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 (MEK, 1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08761 issued 11/20/03 for emission units P033 thru P035 was evaluated based on the actual materials and the design parameters of the emission unit and facility's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy

("Air Toxic Policy") was applied for each pollutant emitted by emissions units P033 thru P035 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/hr): 0.25
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 10.7
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

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.

   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 exceedences 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)(1).

E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions shall not exceed 0.40 lb/hr.

   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 1200 lbs product/hr 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 1200 lbs product/hr by the fugitive emission factor of 0.315 lbs VOC/1000 lbs of product (Testing 08/14/00 thru 08/16/00).

   b. Emission Limitation:
   VOC emissions shall not exceed 1.8 tons/yr.

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hrs/yr 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 and P035 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 III.C.4 above.

d. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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 III.C.4 above.

F. Miscellaneous Requirements

None

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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 01-08761 issued 11/20/03 and PTI 01-08598 issued 08/13/03)	OAC rule 3745-31-05(A)(3)	VOC emissions shall not exceed 1.2 lbs/hr and 5.1 tons/yr. See III.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 III.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 1.2 lbs VOC/hr and 5.1 tons VOC/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission limitations.

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 and P035 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 III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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/hr)
P022	3,000
P023	1,200
P024	1,000
P026	250
P027	5,000
P028	7,000
P029	10,000
P030	12,000
P033	1,200
P034	3,500
P035	8,800

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 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 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:

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, in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (MEK, 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 and P035. 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)
= 0.315 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)
= 0.194 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)
MEK = 0.127 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)
= 0.0225 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)
= 0.015 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.247 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)
= 0.038 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)
Emissions after control:
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 (MEK, 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 (MEK, 1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08761 issued 11/20/03 for emission units P033 thru P035 was evaluated based on the actual materials and the design parameters of the emission unit and facility's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy

("Air Toxic Policy") was applied for each pollutant emitted by emissions units P033 thru P035 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/hr): 0.25
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 10.7
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

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.

   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 exceedences 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)(1).

E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions shall not exceed 1.2 lbs/hr.

   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 3500 lbs product/hr 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 3500 lbs product/hr by the fugitive emission factor of 0.315 lbs VOC/1000 lbs of product (Testing 08/14/00 thru 08/16/00).

   b. Emission Limitation:
   VOC emissions shall not exceed 5.1 tons/yr.

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hrs/yr 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 and P035 combined shall not exceed 99.9 tons per rolling, 12-month period.

Emissions Unit ID: **P034**

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

d. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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 III.C.4 above.

F. Miscellaneous Requirements

None

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

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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 01-08761 issued 11/20/03 and PTI 01-08598 issued 08/13/03)	OAC rule 3745-31-05(A)(3)	VOC emissions shall not exceed 2.93 lbs/hr and 12.8 tons/yr. See III.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 III.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 2.93 lbs VOC/hr and 12.8 tons VOC/yr emission limitations are based on the emission unit's potential to emit vented through the above referenced control equipment. Therefore, only the monitoring, record keeping or reporting requirements of the control equipment are necessary to ensure compliance with these emission limitations.

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 and P035 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 III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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/hr)
P022	3,000
P023	1,200
P024	1,000
P026	250
P027	5,000
P028	7,000
P029	10,000
P030	12,000
P033	1,200
P034	3,500
P035	8,800

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 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 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:

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, in pounds per 1000 pounds of product, from each extruder;

c. the total emission rate of VOC and each individual HAP (MEK, 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 and P035. 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)

= 0.315 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)

= 0.194 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (fugitive)

MEK = 0.127 lb/1000 lbs ABS-Lustran throughput (Testing, 8/14/00); (stack)

= 0.0225 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)

= 0.015 lb/1000 lbs ABS - Lustran throughput (Testing, 5/31/00); (fugitive)

Acrylonitrile = 0.247 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)

= 0.038 lb/1000 lbs PC-Makrolon throughput (Testing, 5/31/00); (fugitive)

Emissions after control:

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 (MEK, 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 (MEK, 1,3-butadiene, acrylonitrile, styrene, chlorobenzene) and combined HAPs, in tons.

5. Permit to install 01-08761 issued 11/20/03 for emission units P033 thru P035 was evaluated based on the actual materials and the design parameters of the emission unit and facility's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy

("Air Toxic Policy") was applied for each pollutant emitted by emissions units P033 thru P035 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/hr): 0.25
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 10.7
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

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.

   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 exceedences 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)(1).

E. Testing Requirements

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

   a. Emission Limitation:
   VOC emissions shall not exceed 2.93 lbs/hr.

   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 8800 lbs product/hr 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 8800 lbs product/hr by the fugitive emission factor of 0.315 lbs VOC/1000 lbs of product (Testing 08/14/00 thru 08/16/00).

   b. Emission Limitation:
   VOC emissions shall not exceed 12.8 tons/yr.

   Applicable Compliance Method:
   Compliance may be demonstrated by multiplying the pound per hour emission rate by 8760 hrs/yr 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 and P035 combined shall not exceed 99.9 tons per rolling, 12-month period.

Emissions Unit ID: **P035**

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

d. Emission Limitation:
The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emission units P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034 and P035 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 III.C.4 above.

F. Miscellaneous Requirements

None