



2/20/2015

Certified Mail

Mark Townsend
 INEOS ABS (USA) Corporation
 356 Three Rivers Parkway
 Addyston, OH 45001

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL
 Facility ID: 1431010054
 Permit Number: P0118012
 Permit Type: OAC Chapter 3745-31 Modification
 County: Hamilton

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 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. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
 77 South High Street, 17th Floor
 Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging 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 Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Southwest Ohio Air Quality Agency at (513)946-7777 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Erica R. Engel-Ishida, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA
SWOAQA; Indiana; Kentucky



FINAL

**Division of Air Pollution Control
Permit-to-Install
for
INEOS ABS (USA) Corporation**

Facility ID: 1431010054
Permit Number: P0118012
Permit Type: OAC Chapter 3745-31 Modification
Issued: 2/20/2015
Effective: 2/20/2015



Division of Air Pollution Control
Permit-to-Install
for
INEOS ABS (USA) Corporation

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Authorization

Facility ID: 1431010054
Facility Description: plastic polymer manufacturing
Application Number(s): A0051854
Permit Number: P0118012
Permit Description: The facility has requested federally enforceable restrictions for the ABS Batch Polymerization Process (P001) to incorporate the requirements of Federal Consent Decree 1:09-CV-545 into a federally enforceable permit. The issuance of this Permit to Install will accomplish this.
Permit Type: OAC Chapter 3745-31 Modification
Permit Fee: \$0.00
Issue Date: 2/20/2015
Effective Date: 2/20/2015

This document constitutes issuance to:

INEOS ABS (USA) Corporation
356 Three Rivers Parkway
Addyston, OH 45001-0039

of a Permit-to-Install for the emissions unit(s) identified on the following page.

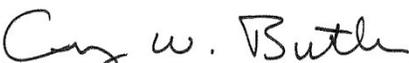
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Southwest Ohio Air Quality Agency
250 William Howard Taft Rd.
Cincinnati, OH 45219
(513)946-7777

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section 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 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


Craig W. Butler
Director



Final Permit-to-Install
INEOS ABS (USA) Corporation
Permit Number: P0118012
Facility ID: 1431010054
Effective Date: 2/20/2015

Authorization (continued)

Permit Number: P0118012

Permit Description: The facility has requested federally enforceable restrictions for the ABS Batch Polymerization Process (P001) to incorporate the requirements of Federal Consent Decree 1:09-CV-545 into a federally enforceable permit. The issuance of this Permit to Install will accomplish this.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Emissions Unit ID:	P001
Company Equipment ID:	ABS #1 POLY
Superseded Permit Number:	14-4577
General Permit Category and Type:	Not Applicable



Final Permit-to-Install
INEOS ABS (USA) Corporation
Permit Number: P0118012
Facility ID: 1431010054
Effective Date: 2/20/2015

A. Standard Terms and Conditions



1. Federally Enforceable Standard Terms and Conditions

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
 - (1) Standard Term and Condition A.2.a), Severability Clause
 - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
 - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
 - (4) Standard Term and Condition A.9., Reporting Requirements
 - (5) Standard Term and Condition A.10., Applicability
 - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
 - (7) Standard Term and Condition A.14., Public Disclosure
 - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
 - (9) Standard Term and Condition A.16., Fees
 - (10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

- a) 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.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of 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. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

- a) 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.

4. Monitoring and Related Record Keeping 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:
 - (1) The date, place (as defined in the permit), and time of sampling or measurements.
 - (2) The date(s) analyses were performed.
 - (3) The company or entity that performed the analyses.
 - (4) The analytical techniques or methods used.
 - (5) The results of such analyses.
 - (6) 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:
 - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Southwest Ohio Air Quality Agency.



- (2) 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 Southwest Ohio Air Quality 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 A.15. below if no deviations occurred during the quarter.
 - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the Southwest Ohio Air Quality 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.
 - (4) This permit is for an emissions unit located at a Title V facility. 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.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Southwest Ohio Air Quality 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).

6. Compliance Requirements

- a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted



local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

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:
 - (1) 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.
 - (2) 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.
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - (4) 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 Southwest Ohio Air Quality 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:
 - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - (2) 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.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.



8. 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.

9. 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 Southwest Ohio Air Quality 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 Southwest Ohio Air Quality Agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, 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.)

10. 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) not exempt from the requirement to obtain a Permit-to-Install.

11. Construction of New Sources(s) and Authorization to Install

- a) 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.
- b) If applicable, authorization to install any new 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 has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. 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 permittee shows good cause for any such extension.

- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

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 operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.



13. Construction Compliance Certification

The applicant shall identify the following dates in the "Air Services" facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. 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.

15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

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 by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. 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.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in "Air Services" once the transfer is legally completed. The change must be submitted through "Air Services" within thirty days of the ownership transfer date.

18. 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.

19. 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.



Final Permit-to-Install
INEOS ABS (USA) Corporation
Permit Number: P0118012
Facility ID: 1431010054
Effective Date: 2/20/2015

B. Facility-Wide Terms and Conditions



Final Permit-to-Install
INEOS ABS (USA) Corporation
Permit Number: P0118012
Facility ID: 1431010054
Effective Date: 2/20/2015

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
 - a) None.



Final Permit-to-Install
INEOS ABS (USA) Corporation
Permit Number: P0118012
Facility ID: 1431010054
Effective Date: 2/20/2015

C. Emissions Unit Terms and Conditions



1. P001, ABS #1 POLY

Operations, Property and/or Equipment Description:

Batch emulsion polymerization process for Acrylonitrile, 1-3 Butadiene, and Styrene compounds vented to a Steam-Assisted Flare or Boiler for control of VOC.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC Rule 3745-31-05(A)(3) June 30, 2008 The following process vents and their corresponding control device are associated with this emission unit: Process vents sent to flare for control – 1-3 BD Scrubbing, C&D KT, C&D CLR, and C&D 930 HT. Process vents to boiler for control– C&D PMX, E PMX, E KT, and E HT.	Process vents 1-3 BD Scrubbing, C&D KT, C&D CLR, and C&D 930 HT shall be vented to a steam assisted flare. Process vents C&D PMX, E PMX, E KT, and E HT shall be vented to a boiler with a minimum destruction efficiency of 98% by weight for volatile organic compounds. The control measures specified by 3745-31-05(A)(3) are the same as those specified in 40 CFR Part 63 Subpart JJJ- Group IV Polymers and Resins. See b)(2)a. below.
b.	OAC Rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	The Best Available Technology (BAT) requirements under 3745-31-05(A)(3) do not apply to VOC since the calculated annual emission rate is less than 10 tons/yr. taking into account the federally enforceable rule restrictions in 40 CFR Part 63 Subpart JJJ- Group IV Polymers and Resins. See b)(2)b. below.
c.	OAC Rule 3745-31-05(F)	The permittee has requested federally enforceable restrictions based on the requirements specified in Consent



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Decree 1:09-CV-545. See c)(8)-c)(9) and d)(6).
d.	40 CFR Part 63 Subpart JJJ- Group IV Polymers and Resins	Process vents 1-3 BD Scrubbing, C&D KT, C&D CLR, and C&D 930 HT shall be vented to a steam assisted flare. Process vents C&D PMX, E PMX, E KT, and E HT shall be vented to a boiler with a minimum destruction efficiency of 98% by weight for volatile organic compounds. See b(2)c. and c)(1)-c)(7).

(2) Additional Terms and Conditions

- a. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(b) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

(OAC rule 3745-31-05(A)(3))

- b. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

(OAC rule 3745-31-05(A)(3)(a)(ii))

- c. There shall be no visible emissions from the flare, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

c) Operational Restrictions

- (1) The flare shall be operated at all times when emissions may be vented to it.

(40 CFR 63.11(b)(3))

- (2) The flare shall be operated with a flame present at all times when process vents 1-3 BD Scrubbing, C&D KT, C&D CLR, or C&D 930 HT are being vented to the flare. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(40 CFR 63.11(b)(5))



- (3) The permittee shall adhere to the heat content specifications in 40 CFR 63.11(b)(6)(ii), and the maximum tip velocity specifications in 40 CFR 63.11(b)(7) or 40 CFR 63.11(b)(8), or adhere to the requirements in 40 CFR 63.11(b)(6)(i).

As of the date of permit issuance the minimum net heating value for gas being combusted is 300 Btu/scf (11.2 MJ/scm) with a maximum velocity of 60 ft/sec (8.3 m/sec).

(40 CFR 63.11(b)(6)).

- (4) Halogenated batch process vents, as defined in 40 CFR 63.1312, shall not be vented to a flare.

(40 CFR 63.1322(a)(1)(ii))

- (5) When a boiler or process heater is used to comply with the percent reduction requirement specified in paragraph (a)(2), (a)(3), (b)(2), or (b)(3) of 40 CFR 63.1322, the batch process vent, aggregate batch vent stream, or continuous process vent shall be introduced into the flame zone of such a device.

(40 CFR 63.1322(d))

- (6) B006's daily average firebox temperature shall not be below its most recently established daily average operating limit (pursuant to 40 CFR 63.1334) during times when the boiler treats P001 emissions. As of the issuance date of this permit, B006's daily average operating temperature limit while treating P001 emissions was 1238 degrees Fahrenheit.

(40 CFR 63.1334))

- (7) B009's daily average firebox temperature shall not be below its most recently established daily average operating limit (pursuant to 40 CFR 63.1334) during times when the boiler treats P001 emissions. As of the issuance date of this permit, B009's daily average operating temperature limit while treating P001 emissions was 1238 degrees Fahrenheit.

(40 CFR 63.1334))

- (8) As of the Effective Date of this First Amendment to Consent Decree 1:09-CV-545, the permittee shall add steam to the Flare so as to not exceed a steam-to-Vent Gas ratio of 3.6 to 1 (3.6:1) lb. steam/lb. Vent Gas, determined just prior to combustion at the tip of the Flare as a 1 hour Block Average.

(Consent Decree 1:09-CV-545)

- (9) As of the Effective Date of this First Amendment to Consent Decree 1:09-CV-545, the permittee shall operate the Flare with a Net Heating Value of the Flare Gas (NHVFG) of not less than 220 BTU/scf on an one hour Block Average.

(Consent Decree 1:09-CV-545)



d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information;

- a. When process emissions from P001 are vented to the flare a device (including but not limited to a thermocouple, ultra-violet beam sensor, or infrared sensor) capable of continuously detecting the presence of a pilot flame is required;
- b. Hourly records for all periods during which there was no pilot flame for the flare and emissions from P001 were being vented to the flare shall be maintained;
- c. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation; and
- d. This monitoring equipment shall be in operation at all times when batch emission episodes, or portions thereof, that the owner or operator has selected to control are vented to the control device, or at all times when an aggregate batch vent stream is vented to the control device.

(40 CFR 63.1324(c)(2))

(2) The permittee shall maintain records of the following to demonstrate compliance with the operational restrictions specified in section c)(3) of this permit:

- a. The flare design (i.e., steam-assisted, air-assisted or non-assisted); and
- b. All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by 40 CFR 63.1333(e).

(40 CFR 63.11)

(3) When boilers B006 and/or B009 (design heat input capacity is less than 44 MW) are used to incinerate organic compound emissions from emissions unit P001, and the emissions are not used as primary fuel or introduced with the primary fuel, the permittee shall operate and maintain a continuous firebox temperature monitor and recorder for each boiler. The continuous firebox temperature and recorder system must compute and store daily average firebox temperature values for every date this emission unit was in operation. For computation of the daily average, the operating day shall commence at 0000 hours and conclude at 2400 hours. As of the issuance date of this permit, B006 and B009 were the permittee's only boilers subject to this continuous firebox temperature monitoring and recording requirement. Boiler B007 has a design heat input capacity greater than 44 MW and is exempt from these monitoring requirements.

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.

This monitoring equipment shall be in operation at all times when batch emission episodes, or portions thereof, that the owner or operator has selected to control are



vented to the control device, or at all times when an aggregate batch vent stream is vented to the control device

(40 CFR 63.1324(c)(3))

- (4) Group 1 batch process vents or aggregate batch vent streams using a vent system that contains bypass lines that could divert emissions away from a control device used to comply with 40 CFR 63.1322(a) or 40 CFR 63.1322(b) shall comply with either section d.4.a or d.4.b below. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to 40 CFR 63.1324(e).
- a. The permittee shall properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes, or monitor valve position which would allow gas flow to be present. Records shall be generated as specified in 40 CFR 63.1326(e)(3). The flow indicator shall be installed at the entrance to any bypass line that could divert emissions away from the control device and to the atmosphere; or
 - b. The permittee shall secure the bypass line damper or valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the damper or valve is maintained in the non-diverting position and emissions are not diverted through the bypass line. Records shall be generated as specified in 40 CFR 63.1326(e)(4).

(40 CFR 63.1324(e))

- (5) The permittee, except as provided in paragraphs (a)(7) and (a)(8) 40 CFR 63.1326, shall maintain the records specified in paragraphs (a)(1) through (a)(6) of 40 CFR 63.1326 for each batch process vent subject to the group determination procedures of 40 CFR 63.1323. Except for paragraph (a)(1) of 40 CFR 63.1326, the records required by 40 CFR 63.1326(a) are restricted to the information developed and used to make the group determination under 40 CFR 63.1323(b) through 63.1323(g), as appropriate. If the permittee did not need to develop certain information (e.g., annual average batch vent flow rate) to determine the group status, 40 CFR 63.1326(a) does not require that additional information be developed. 40 CFR 63.1326(a)(9) specifies the recordkeeping requirements for Group 2 batch process vents that are exempt from the batch mass input limitation provisions, as allowed under 40 CFR 63.1322(h).

(40 CFR 63.1326(a))

- (6) Except for times of repair, system breakdown, and calibration, the permittee shall operate and maintain instrumentation at all times when process emissions are vented from emission unit P001 to the steam assisted flare that comply with the following requirements ("Flare Monitoring Instruments"):
- a. Directly and continuously measure, calculate, and record (in lbs./hr.) the amount of Vent Gas sent to the Flare as five-minute averages. "Vent Gas" shall be defined as the organic material, nitrogen, and any other gases that flow from the



P001 Process, nitrogen added as purge gas, and any other gases and vapors added to the flare system prior to the tip;

- b. Directly and continuously measure and record (in lbs./hr.) the amount of 1,3-butadiene in the Vent Gas sent to the Flare as five-minute averages;
- c. Directly and continuously measure and record (in lbs./hr.) the amount of steam sent to the Flare as five-minute averages;
- d. Directly and continuously measure, calculate, and record (in BTU/scf) the Net Heating Value of the Vent Gas sent to the Flare as five-minute averages;
- e. Directly and continuously measure and record the amount of natural gas in the vent stream sent to the Flare (in scf) and report the amount of natural gas sent to the Pilots (in scf) as five-minute averages;
- f. Calculate and record (in lbs. steam/lb. Vent Gas) the average steam-to-Vent Gas ratio* at the Flare as five-minute averages and 1-hour Block Averages***;
- g. Directly and continuously measure, calculate, and record (in BTU/scf), the NHVFG**, as five-minute averages and 1-hour Block Averages***;
- h. Implement control logic such that the permittee's computerized control system, when in automatic mode, strives to achieve a steam-to-Vent Gas ratio of 0.9:1 lb. steam/lb. Vent Gas combusted by the Flare. During startup, shutdown, or malfunction as defined pursuant to 40 C.F.R. Part 63, or repair, system breakdown, or calibration, the permittee may vary the steam addition rate manually for the purpose of controlling the amount of smoke from the Flare tip in accordance with requirements under the Title V Permit. During these periods, but while the flare monitoring instruments are still operational, the permittee must still maintain a 1-hour Block Average steam-to-Vent Gas ratio of not greater than 3.6:1 lb. stream/lb. Vent Gas combusted by the Flare as required by section c)(8) and the 1-hour Block Average for NHVFG as required by section c)(9), except as necessary to correct visible emissions that occurred during that 1-hour period. In the event manual control is used to increase steam to address visible emissions, the duration of such manual control shall be no longer than 15 continuous minutes. The permittee shall minimize periods of repair, breakdown and calibration;
- i. Automatically adjust and control the natural gas addition rate to the Flare to maintain the net heating value (heat content) of the Vent Gas sent to the Flare at or above 300 BTU/scf as a five-minute average; The net heating value shall be determined by the methods specified in 40 CFR 63.11(b)(6)(ii); and
- j. For purposes of determining compliance under with the requirements of this permit any five (5)-minute period in which the minimum flow of 1,3-butadiene is less than 1.0 lb./hour shall be considered as "no flow" and any 1-hour Block Average shall not include any five (5)-minute averages for "no flow" conditions.

**The steam to gas ratio shall be calculated using the following equation:*



Ratio of Steam to Vent Gas = (Steam Flow to Flare Tip in lbs. per hr. / (Panametrics total flow in lbs./hr. + Flow Rate of Supplemental Natural Gas to Flare in SCFH / 379.5 (Ideal Gas density) * 16.4(Natural Gas Molecular Weight))

Ideal Gas density = 379.5 SCF/lb-mole (60°F 14.696 psia defined as STP in Crane, Perry's etc.)

Natural Gas MW = 16.4 lbs/lb-mole

*** The Net Heating Value Flare Gas* ("Flare Gas" shall be defined as all gases and vapors present just after the exit from the flare tip, not including entrained air, and consist of the sum of the organic material, nitrogen, and any other gases added to the vent gas collection system, natural gas added as a supplemental fuel, nitrogen added as purge gas, natural gas flowing to the Flare's pilots, and the steam added to the Flare tip) *shall be calculated using the following equation:*

Net Heating Value of the Flare Gas (NHVFG):

$$[5mBd * 19,160 + (5mSuppGas + PilotGas) * 915 + 5mStm * 131]$$

$$[5mVF / 5mVMW * 379.5 + 5mSuppGas + PilotGas + (5mStm / 18.015 * 379.5)]$$

Where:

5mBd = 5-minute average of Flow Rate of Bd to the Flare in lbs/hr,

LHV of Bd = 19,160 BTU/lb (Perry's Chemical Engineer's Handbook)

5mSuppGas = 5-minute average of supplemental natural gas flow to Flare in SCFH,

PilotGas = Natural gas to pilot burners = 150 SCFH (fixed by pilot orifice(s))

LHV Natural Gas = 915 BTU/SCF (based on composition provided by Duke Energy)

5mStm = 5-minute average of Steam Flow Rate to Flare tip in lbs/hr

Heat content of Steam = 131 BTU/lb (delta Enthalpy of steam from 366°F to 77°F)

5mVF = 5-minute average of Vent Gas Flow to the Flare in lbs/hr

5mVMW = 5-minute average of Vent Gas Flow Molecular Weight in lbs/lb-mole

Ideal Gas density = 379.5 SCF/lb-mole (60°F 14.696 psia defined as STP in Crane, Perry's etc.)

Steam MW = 18.015 lbs/lb-mole

Natural Gas MW = 16.4 lbs/lb-mole

**** Block Average Calculation*



When determining heating value averages in BTU/scf and the steam-to-vent gas ratio averages, the "Block Average" shall be calculated in accordance with the following procedure. (1) for any instance in which the 1-3 butadiene flow is zero over a five-minute period, or constitutes a "no flow" five-minute average under d)(6)j. of this permit, the five-minute average heating value shall be assigned a value of zero;(2) beginning at 12:01 AM of each calendar month, add the first twelve, non-zero, five minute average heating values;(3)divide the total of this sum by 12; and (4) repeat this process, beginning with the 13th, non-zero, five-minute average, to calculate the average for each subsequent group or "block" of twelve, non-zero, five minute periods.

(Consent Decree 1:09-CV-545)

- (7) The permittee collect and record the times and dates any halogenated vent streams were vented to the steam assisted flare.

e) Reporting Requirements

- (1) The permittee shall submit semi-annual reports as required by 40 CFR Part 60 Subpart JJJ to the Hamilton County Department of Environmental Services in accordance with 40 CFR 63.1335(e)(6). These reports shall cover the semiannual periods from January 1 to June 30 and July 1 to December 31 of each year and be submitted by August 29 and February 28, respectively. The periodic reports shall contain the information specified in Part II, section A.7.e of the facilities Title V Permit to Operate issued 8/30/2004 and in sections e)(2) and e)(3)below.

(2) Flare reporting requirements:

- a. All dates and times in which the pilot flame was absent or its monitoring device was not operational while emissions from P001 were being vented to the flare;
- b. All dates and times in which emissions from P001 were diverted from the flare to the atmosphere;
- c. All dates and times in which flare bypass line monitoring systems required by section d)(4)a. of this permit were not operational while treating P001 emissions;
- d. All times the emissions or a seal/closure mechanisms required by section d)(4)b. were found unlocked during a monthly inspection;
- e. All dates and times when emissions from P001 were vented to the flare and the information required d)(6) was not collected and recorded*;
- f. All dates and times when the steam-to-Vent Gas ratio of 3.6 to 1 (3.6:1) lb. steam/lb. Vent Gas was exceeded, determined just prior to combustion at the tip of the Flare based on a one hour Block Average*; and
- g. All dates and times when the Net Heating Value of the Flare Gas (NHVFG) was not maintained at a minimum of 220 BTU/scf based on a one hour Block Average*.



* The Reporting Requirements specified in e)(2)e., e)(2)f., and e)(2)g. are not required to be submitted as part of the semi-annual MACT compliance report sent to USEPA.

The reports shall include the date, time, and duration of each such period, as well as reasons for each such deviation and the corrective action taken, if any, to minimize or eliminate these deviations.

(3) Main duct boiler reporting requirements:

- a. All dates in which boilers B006 and B009 were used to treat main duct emissions and their daily average firebox temperatures were less than the temperatures required by sections c)(6) and c)(7) respectively;
- b. All dates and times in which a boiler's temperature monitoring device was not operational while treating P001 emissions;
- c. All dates and times in which P001 emissions were diverted from the boilers to the atmosphere; and
- d. All dates and times in which main duct boiler bypass line monitoring systems required by section d)(4)a. were not operational while treating P001 emissions or seal/closure mechanisms required by section d)(4)b. were found unlocked during a monthly inspection.

The reports shall include the date, time, and duration of each such period, as well as reasons for each such deviation and the corrective action taken, if any, to minimize or eliminate these deviations.

- (4) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations, Control Requirements, and/or Operational Restrictions specified in section b) and c) of these terms and conditions shall be determined in accordance with the following methods:

a. Control Measure:

Process vents 1-3 BD Scrubbing, C&D KT, C&D CLR, and C&D 930 HT shall be vented to a steam assisted flare.

Applicable Compliance Method:

Consent Decree 1:09-CV-545 required the permittee to conduct an evaluation of the steam assisted flare controlling Emission Unit P001 using Passive Fourier Transform Infrared Spectroscopy (PFTIR). This evaluation was conducted in November 2009. The summary of the PFTIR evaluation was submitted to the United States EPA on April 16, 2012, [IneosAddyston Flare PFTIR Testing](#).



After review of the PFTIR evaluation it was determined that optimal destruction efficiency is ensured by compliance with the Operational Restrictions specified in section c) of these terms and conditions.

b. Control Measure:

Process vents C&D PMX, E PMX, E KT, and E HT shall be vented to a boiler with a minimum destruction efficiency of 98% by weight for volatile organic compounds.

Applicable Compliance Method:

Compliance has been demonstrated during the following (most recent) stack test at the facility:

B006

Date Tested: 8/28/07

Destruction Efficiency: 99.86%

B007

Date Tested: 4/1/08

Destruction Efficiency: 99.96%

B009

Date Tested: 2/28/14

Destruction Efficiency: 99.51%

If required, additional testing to determine the control efficiency shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and 40 CFR 63.116.

c. Emission Limitation:

There shall be no visible emissions from the flare, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22.



d. Operational Restriction:

The flare shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

Applicable Compliance Method:

Compliance may be demonstrated by the information collected and recorded in d)(1).

e. Operational Restriction:

The permittee shall adhere to the heat content specifications in 40 CFR 63.11(b)(6)(ii), and the maximum tip velocity specifications in 40 CFR 63.11(b)(7) or 40 CFR 63.11(b)(8), or adhere to the requirements in 40 CFR 63.11(b)(6)(i).

As of the date of permit issuance the minimum net heating value for gas being combusted is 300 Btu/scf (11.2 MJ/scm) with a maximum velocity of 60 ft/sec (8.3 m/sec).

Applicable Compliance Method:

Compliance may be demonstrated by the information collected and recorded in d)(2).

f. Operational Restriction:

Halogenated batch process vents, as defined in 40 CFR 63.1312, shall not be vented to a flare.

Applicable Compliance Method:

Compliance shall be demonstrated by the information collected and recorded in d)(7).

g. Operational Restriction:

B006's daily average firebox temperature shall not be below its most recently established daily average operating limit (pursuant to 40 CFR 63.1334) during times when the boiler treats P001 emissions. As of the issuance date of this permit, B006's daily average operating temperature limit while treating P001 emissions was 1238 degrees Fahrenheit.

Applicable Compliance Method:

Compliance shall be demonstrated by the information collected and recorded in d)(3).



h. Operational Restriction:

B009's daily average firebox temperature shall not be below its most recently established daily average operating limit (pursuant to 40 CFR 63.1334) during times when the boiler treats P001 emissions. As of the issuance date of this permit, B009's daily average operating temperature limit while treating P001 emissions was 1238 degrees Fahrenheit.

Applicable Compliance Method:

Compliance shall be demonstrated by the information collected and recorded in d)(3).

i. Operational Restriction:

As of the Effective Date of this First Amendment to Consent Decree 1:09-CV-545, the permittee shall add steam to the Flare so as to not exceed a steam-to-Vent Gas ratio of 3.6 to 1 (3.6:1) lb. steam/lb. Vent Gas, determined just prior to combustion at the tip of the Flare as a 1 hour Block Average.

Applicable Compliance Method:

Compliance shall be demonstrated by the information collected and recorded in d)(6)(f).

j. Operational Restriction:

As of the Effective Date of this First Amendment to Consent Decree 1:09-CV-545, the permittee shall operate the Flare with a Net Heating Value of the Flare Gas (NHVFG) of not less than 220 BTU/scf on an one hour Block Average.

Applicable Compliance Method:

Compliance shall be demonstrated by the information collected and recorded in d)(6)(g).

g) Miscellaneous Requirements

(1) None.