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|  | **MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY**  **AIR QUALITY DIVISION** |  |
| EFFECTIVE DATE: February 25, 2021  REVISION DATE: July 26, 2023  ISSUED TO  **Michigan Foam Products, LLC**  State Registration Number (SRN): N3078  LOCATED AT  1820 Chicago Drive SW, Grand Rapids, Kent County, Michigan 49519 | | |
| **RENEWABLE OPERATING PERMIT**  Permit Number: MI-ROP-N3078-2021a  Expiration Date: February 25, 2026  Administratively Complete ROP Renewal Application  Due Between August 25, 2024 and August 25, 2025    This Renewable Operating Permit (ROP) is issued in accordance with and subject to Section 5506(3) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Pursuant to Rule 210(1) of the administrative rules promulgated under Act 451, this ROP constitutes the permittee’s authority to operate the stationary source identified above in accordance with the general conditions, special conditions and attachments contained herein. Operation of the stationary source and all emission units listed in the permit are subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act. | | |

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| **SOURCE-WIDE PERMIT TO INSTALL**  Permit Number: MI-PTI-N3078-2021a  This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(1) of Act 451. Pursuant to Rule 214a of the administrative rules promulgated under Act 451, the terms and conditions herein, identified by the underlying applicable requirement citation of Rule 201(1)(a), constitute a federally enforceable PTI. The PTl terms and conditions do not expire and remain in effect unless the criteria of Rule 201(6) are met. Operation of all emission units identified in the PTI is subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act. |

Michigan Department of Environment, Great Lakes, and Energy

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Heidi Hollenbach, Grand Rapids District Supervisor **TABLE OF CONTENTS**

[AUTHORITY AND ENFORCEABILITY 3](#_Toc64558305)

[A. GENERAL CONDITIONS 4](#_Toc64558306)

[Permit Enforceability 4](#_Toc64558307)

[General Provisions 4](#_Toc64558308)

[Equipment & Design 5](#_Toc64558309)

[Emission Limits 5](#_Toc64558310)

[Testing/Sampling 5](#_Toc64558311)

[Monitoring/Recordkeeping 6](#_Toc64558312)

[Certification & Reporting 6](#_Toc64558313)

[Permit Shield 7](#_Toc64558314)

[Revisions 8](#_Toc64558315)

[Reopenings 8](#_Toc64558316)

[Renewals 9](#_Toc64558317)

[Stratospheric Ozone Protection 9](#_Toc64558318)

[Risk Management Plan 9](#_Toc64558319)

[Emission Trading 9](#_Toc64558320)

[Permit to Install (PTI) 10](#_Toc64558321)

[B. SOURCE-WIDE CONDITIONS 11](#_Toc64558322)

[C. EMISSION UNIT SPECIAL CONDITIONS 12](#_Toc64558323)

[EMISSION UNIT SUMMARY TABLE 12](#_Toc64558324)

[EUPLASTICRESIN 13](#_Toc64558325)

[D. FLEXIBLE GROUP SPECIAL CONDITIONS 16](#_Toc64558326)

[E. NON-APPLICABLE REQUIREMENTS 17](#_Toc64558327)

[APPENDICES 18](#_Toc64558328)

[Appendix 1. Acronyms and Abbreviations 18](#_Toc64558329)

[Appendix 2. Schedule of Compliance 19](#_Toc64558330)

[Appendix 3. Monitoring Requirements 19](#_Toc64558331)

[Appendix 4. Recordkeeping 19](#_Toc64558332)

[Appendix 5. Testing Procedures 19](#_Toc64558333)

[Appendix 6. Permits to Install 19](#_Toc64558334)

[Appendix 7. Emission Calculations 20](#_Toc64558335)

[Appendix 8. Reporting 20](#_Toc64558336)

# AUTHORITY AND ENFORCEABILITY

For the purpose of this permit, the **permittee** is defined as any person who owns or operates an emission unit at a stationary source for which this permit has been issued. The **department** is defined in Rule 104(d) as the Director of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) or his or her designee.

The permittee shall comply with all specific details in the permit terms and conditions and the cited underlying applicable requirements. All terms and conditions in this ROP are both federally enforceable and state enforceable unless otherwise footnoted. Certain terms and conditions are applicable to most stationary sources for which an ROP has been issued. These general conditions are included in Part A of this ROP. Other terms and conditions may apply to a specific emission unit, several emission units which are represented as a flexible group, or the entire stationary source which is represented as a Source-Wide group. Special conditions are identified in Parts B, C, D and/or the appendices.

In accordance with Rule 213(2)(a), all underlying applicable requirements are identified for each ROP term or condition. All terms and conditions that are included in a PTI are streamlined, subsumed and/or is state-only enforceable will be noted as such.

In accordance with Section 5507 of Act 451, the permittee has included in the ROP application a compliance certification, a schedule of compliance, and a compliance plan. For applicable requirements with which the source is in compliance, the source will continue to comply with these requirements. For applicable requirements with which the source is not in compliance, the source will comply with the detailed schedule of compliance requirements that are incorporated as an appendix in this ROP. Furthermore, for any applicable requirements effective after the date of issuance of this ROP, the stationary source will meet the requirements on a timely basis, unless the underlying applicable requirement requires a more detailed schedule of compliance.

Issuance of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

# A. GENERAL CONDITIONS

## Permit Enforceability

* All conditions in this permit are both federally enforceable and state enforceable unless otherwise noted. **(R 336.1213(5))**
* Those conditions that are hereby incorporated in a state-only enforceable Source-Wide PTI pursuant to Rule 201(2)(d) are designated by footnote one. **(R 336.1213(5)(a), R 336.1214a(5))**
* Those conditions that are hereby incorporated in a federally enforceable Source-Wide PTI pursuant to Rule 201(2)(c) are designated by footnote two. **(R 336.1213(5)(b), R 336.1214a(3))**

## General Provisions

1. The permittee shall comply with all conditions of this ROP. Any ROP noncompliance constitutes a violation of Act 451, and is grounds for enforcement action, for ROP revocation or revision, or for denial of the renewal of the ROP. All terms and conditions of this ROP that are designated as federally enforceable are enforceable by the Administrator of the United States Environmental Protection Agency (USEPA) and by citizens under the provisions of the federal Clean Air Act (CAA). Any terms and conditions based on applicable requirements which are designated as “state-only” are not enforceable by the USEPA or citizens pursuant to the CAA. **(R 336.1213(1)(a))**
2. 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 conditions of this ROP. **(R 336.1213(1)(b))**
3. This ROP may be modified, revised, or revoked for cause. The filing of a request by the permittee for a permit modification, revision, or termination, or a notification of planned changes or anticipated noncompliance does not stay any ROP term or condition. This does not supersede or affect the ability of the permittee to make changes, at the permittee’s own risk, pursuant to Rule 215 and Rule 216. **(R 336.1213(1)(c))**
4. The permittee shall allow the department, or an authorized representative of the department, upon presentation of credentials and other documents as may be required by law and upon stating the authority for and purpose of the investigation, to perform any of the following activities: **(R 336.1213(1)(d))**
   1. Enter, at reasonable times, a stationary source or other premises where emissions-related activity is conducted or where records must be kept under the conditions of the ROP.
   2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the ROP.
   3. Inspect, at reasonable times, any of the following:
      1. Any stationary source.
      2. Any emission unit.
      3. Any equipment, including monitoring and air pollution control equipment.
      4. Any work practices or operations regulated or required under the ROP.
   4. As authorized by Section 5526 of Act 451, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the ROP or applicable requirements.
5. The permittee shall furnish to the department, within a reasonable time, any information the department may request, in writing, to determine whether cause exists for modifying, revising, or revoking the ROP or to determine compliance with this ROP. Upon request, the permittee shall also furnish to the department copies of any records that are required to be kept as a term or condition of this ROP. For information which is claimed by the permittee to be confidential, consistent with the requirements of the 1976 PA 442, MCL §15.231 et seq., and known as the Freedom of Information Act, the person may also be required to furnish the records directly to the USEPA together with a claim of confidentiality. **(R 336.1213(1)(e))**
6. A challenge by any person, the Administrator of the USEPA, or the department to a particular condition or a part of this ROP shall not set aside, delay, stay, or in any way affect the applicability or enforceability of any other condition or part of this ROP. **(R 336.1213(1)(f))**
7. The permittee shall pay fees consistent with the fee schedule and requirements pursuant to Section 5522 of Act 451. **(R 336.1213(1)(g))**
8. This ROP does not convey any property rights or any exclusive privilege. **(R 336.1213(1)(h))**

## Equipment & Design

1. Any collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2).2 **(R 336.1370)**
2. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**

## Emission Limits

1. Unless otherwise specified in this ROP, the permittee shall comply with Rule 301, which states, in part, “Except as provided in Subrules 2, 3, and 4 of this rule, a person shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following:”2 **(R 336.1301(1))**
   1. A 6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity.
   2. A limit specified by an applicable federal new source performance standard.

The grading of visible emissions shall be determined in accordance with Rule 303.

1. The permittee shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:
   1. Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.1 **(R 336.1901(a))**
   2. Unreasonable interference with the comfortable enjoyment of life and property.1**(R 336.1901(b))**

## Testing/Sampling

1. The department may require the owner or operator of any source of an air contaminant to conduct acceptable performance tests, at the owner’s or operator’s expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001(1).2 **(R 336.2001)**
2. Any required performance testing shall be conducted in accordance with Rule 1001(2), Rule 1001(3) and Rule 1003. **(R 336.2001(2), R 336.2001(3), R 336.2003(1))**
3. Any required test results shall be submitted to the Air Quality Division (AQD) in the format prescribed by the applicable reference test method within 60 days following the last date of the test. **(R 336.2001(5))**

## Monitoring/Recordkeeping

1. Records of any periodic emission or parametric monitoring required in this ROP shall include the following information specified in Rule 213(3)(b)(i), where appropriate. **(R 336.1213(3)(b))**
   1. The date, location, time, and method of sampling or measurements.
   2. The dates the analyses of the samples were performed.
   3. The company or entity that performed the analyses of the samples.
   4. The analytical techniques or methods used.
   5. The results of the analyses.
   6. The related process operating conditions or parameters that existed at the time of sampling or measurement.
2. All required monitoring data, support information and all reports, including reports of all instances of deviation from permit requirements, shall be kept and furnished to the department upon request for a period of not less than 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings, or other original data records, for continuous monitoring instrumentation and copies of all reports required by the ROP. **(R 336.1213(1)(e), R 336.1213(3)(b)(ii))**

## Certification & Reporting

1. Except for the alternate certification schedule provided in Rule 213(3)(c)(iii)(B), any document required to be submitted to the department as a term or condition of this ROP shall contain an original certification by a Responsible Official which state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**
2. A Responsible Official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The USEPA address is: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**
3. The certification of compliance shall be submitted annually for the term of this ROP as detailed in the special conditions, or more frequently if specified in an applicable requirement or in this ROP. **(R 336.1213(4)(c))**
4. The permittee shall promptly report any deviations from ROP requirements and certify the reports. The prompt reporting of deviations from ROP requirements is defined in Rule 213(3)(c)(ii) as follows, unless otherwise described in this ROP. **(R 336.1213(3)(c))**
   1. For deviations that exceed the emissions allowed under the ROP, prompt reporting means reporting consistent with the requirements of Rule 912 as detailed in Condition 25. All reports submitted pursuant to this paragraph shall be promptly certified as specified in Rule 213(3)(c)(iii).
   2. For deviations which exceed the emissions allowed under the ROP and which are not reported pursuant to Rule 912 due to the duration of the deviation, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe reasons for each deviation and the actions taken to minimize or correct each deviation.
   3. For deviations that do not exceed the emissions allowed under the ROP, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe the reasons for each deviation and the actions taken to minimize or correct each deviation.
5. For reports required pursuant to Rule 213(3)(c)(ii), prompt certification of the reports is described in Rule 213(3)(c)(iii) as either of the following: **(R 336.1213(3)(c))**
   1. Submitting a certification by a Responsible Official with each report which states that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
   2. Submitting, within 30 days following the end of a calendar month during which one or more prompt reports of deviations from the emissions allowed under the ROP were submitted to the department pursuant to Rule 213(3)(c)(ii), a certification by a Responsible Official which states that; “based on information and belief formed after reasonable inquiry, the statements and information contained in each of the reports submitted during the previous month were true, accurate, and complete.” The certification shall include a listing of the reports that are being certified. Any report submitted pursuant to Rule 213(3)(c)(ii) that will be certified on a monthly basis pursuant to this paragraph shall include a statement that certification of the report will be provided within 30 days following the end of the calendar month.
6. Semiannually for the term of the ROP as detailed in the special conditions, or more frequently if specified, the permittee shall submit certified reports of any required monitoring to the appropriate AQD District Office. All instances of deviations from ROP requirements during the reporting period shall be clearly identified in the reports. **(R 336.1213(3)(c)(i))**
7. On an annual basis, the permittee shall report the actual emissions, or the information necessary to determine the actual emissions, of each regulated air pollutant as defined in Rule 212(6) for each emission unit utilizing the emissions inventory forms provided by the department. **(R 336.1212(6))**
8. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the appropriate AQD District Office. The notice shall be provided not later than two business days after the start-up, shutdown, or discovery of the abnormal conditions or malfunction. Notice shall be by any reasonable means, including electronic, telephonic, or oral communication. Written reports, if required under Rule 912, must be submitted to the appropriate AQD District Supervisor within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5) and shall be certified by a Responsible Official in a manner consistent with the CAA.2 **(R 336.1912)**

## Permit Shield

1. Compliance with the conditions of the ROP shall be considered compliance with any applicable requirements as of the date of ROP issuance if either of the following provisions is satisfied. **(R 336.1213(6)(a)(i), R 336.1213(6)(a)(ii))**
   1. The applicable requirements are included and are specifically identified in the ROP.
   2. The permit includes a determination or concise summary of the determination by the department that other specifically identified requirements are not applicable to the stationary source.

Any requirements identified in Part E of this ROP have been identified as non-applicable to this ROP and are included in the permit shield.

1. Nothing in this ROP shall alter or affect any of the following:
   1. The provisions of Section 303 of the CAA, emergency orders, including the authority of the USEPA under Section 303 of the CAA. **(R 336.1213(6)(b)(i))**
   2. The liability of the owner or operator of this source for any violation of applicable requirements prior to or at the time of this ROP issuance. **(R 336.1213(6)(b)(ii))**
   3. The applicable requirements of the acid rain program, consistent with Section 408(a) of the CAA. **(R 336.1213(6)(b)(iii))**
   4. The ability of the USEPA to obtain information from a source pursuant to Section 114 of the CAA. **(R 336.1213(6)(b)(iv))**
2. The permit shield shall not apply to provisions incorporated into this ROP through procedures for any of the following:
   1. Operational flexibility changes made pursuant to Rule 215. **(R 336.1215(5))**
   2. Administrative Amendments made pursuant to Rule 216(1)(a)(i)-(iv). **(R 336.1216(1)(b)(iii))**
   3. Administrative Amendments made pursuant to Rule 216(1)(a)(v) until the amendment has been approved by the department. **(R 336.1216(1)(c)(iii))**
   4. Minor Permit Modifications made pursuant to Rule 216(2). **(R 336.1216(2)(f))**
   5. State-Only Modifications made pursuant to Rule 216(4) until the changes have been approved by the department. **(R 336.1216(4)(e))**
3. Expiration of this ROP results in the loss of the permit shield. If a timely and administratively complete application for renewal is submitted not more than 18 months, but not less than 6 months, before the expiration date of the ROP, but the department fails to take final action before the end of the ROP term, the existing ROP does not expire until the renewal is issued or denied, and the permit shield shall extend beyond the original ROP term until the department takes final action. **(R 336.1217(1)(c), R 336.1217(1)(a))**

## Revisions

1. For changes to any process or process equipment covered by this ROP that do not require a revision of the ROP pursuant to Rule 216, the permittee must comply with Rule 215. **(R 336.1215, R 336.1216)**
2. A change in ownership or operational control of a stationary source covered by this ROP shall be made pursuant to Rule 216(1). **(R 336.1219(2))**
3. For revisions to this ROP, an administratively complete application shall be considered timely if it is received by the department in accordance with the time frames specified in Rule 216. **(R 336.1210(10))**
4. Pursuant to Rule 216(1)(b)(iii), Rule 216(2)(d) and Rule 216(4)(d), after a change has been made, and until the department takes final action, the permittee shall comply with both the applicable requirements governing the change and the ROP terms and conditions proposed in the application for the modification. During this time period, the permittee may choose to not comply with the existing ROP terms and conditions that the application seeks to change. However, if the permittee fails to comply with the ROP terms and conditions proposed in the application during this time period, the terms and conditions in the ROP are enforceable. **(R 336.1216(1)(c)(iii), R 336.1216(2)(d), R 336.1216(4)(d))**

## Reopenings

1. A ROP shall be reopened by the department prior to the expiration date and revised by the department under any of the following circumstances:
   1. If additional requirements become applicable to this stationary source with three or more years remaining in the term of the ROP, but not if the effective date of the new applicable requirement is later than the ROP expiration date. **(R 336.1217(2)(a)(i))**
   2. If additional requirements pursuant to Title IV of the CAA become applicable to this stationary source. **(R 336.1217(2)(a)(ii))**
   3. If the department determines that the ROP contains a material mistake, information required by any applicable requirement was omitted, or inaccurate statements were made in establishing emission limits or the terms or conditions of the ROP. **(R 336.1217(2)(a)(iii))**
   4. If the department determines that the ROP must be revised to ensure compliance with the applicable requirements. **(R 336.1217(2)(a)(iv))**

## Renewals

1. For renewal of this ROP, an administratively complete application shall be considered timely if it is received by the department not more than 18 months, but not less than 6 months, before the expiration date of the ROP. **(R 336.1210(9))**

## Stratospheric Ozone Protection

1. If the permittee is subject to Title 40 of the Code of Federal Regulations (CFR), Part 82 and services, maintains, or repairs appliances except for motor vehicle air conditioners (MVAC), or disposes of appliances containing refrigerant, including MVAC and small appliances, or if the permittee is a refrigerant reclaimer, appliance owner or a manufacturer of appliances or recycling and recovery equipment, the permittee shall comply with all applicable standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F.
2. If the permittee is subject to 40 CFR Part 82 and performs a service on motor (fleet) vehicles when this service involves refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed by the original equipment manufacturer. The term MVAC as used in Subpart B does not include the air-tight sealed refrigeration system used for refrigerated cargo or an air conditioning system on passenger buses using Hydrochlorofluorocarbon-22 refrigerant.

## Risk Management Plan

1. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall register and submit to the USEPA the required data related to the risk management plan for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 40 CFR 68.130. The list of substances, threshold quantities, and accident prevention regulations promulgated under 40 CFR Part 68, do not limit in any way the general duty provisions under Section 112(r)(1).
2. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall comply with the requirements of 40 CFR Part 68, no later than the latest of the following dates as provided in 40 CFR 68.10(a):
   1. June 21, 1999,
   2. Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or
   3. The date on which a regulated substance is first present above a threshold quantity in a process.
3. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR Part 68.
4. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall annually certify compliance with all applicable requirements of Section 112(r) as detailed in Rule 213(4)(c)). **(40 CFR Part 68)**

## Emission Trading

1. Emission averaging and emission reduction credit trading are allowed pursuant to any applicable interstate or regional emission trading program that has been approved by the Administrator of the USEPA as a part of Michigan’s State Implementation Plan. Such activities must comply with Rule 215 and Rule 216. **(R 336.1213(12))**

## Permit to Install (PTI)

1. The process or process equipment included in this permit shall not be reconstructed, relocated, or modified unless a PTI authorizing such action is issued by the department, except to the extent such action is exempt from the PTI requirements by any applicable rule.2 **(R 336.1201(1))**
2. The department may, after notice and opportunity for a hearing, revoke PTI terms or conditions if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of the PTI or is violating the department’s rules or the CAA.2 **(R 336.1201(8), Section 5510 of Act 451)**
3. The terms and conditions of a PTI shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by the PTI. If a new owner or operator submits a written request to the department pursuant to Rule 219 and the department approves the request, this PTI will be amended to reflect the change of ownership or operational control. The request must include all of the information required by Subrules (1)(a), (b) and (c) of Rule 219. The written request shall be sent to the appropriate AQD District Supervisor, EGLE.2**(R 336.1219)**
4. If the installation, reconstruction, relocation, or modification of the equipment for which PTI terms and conditions have been approved has not commenced within 18 months of the original PTI issuance date, or has been interrupted for 18 months, the applicable terms and conditions from that PTI, as incorporated into the ROP, shall become void unless otherwise authorized by the department. Furthermore, the person to whom that PTI was issued, or the designated authorized agent, shall notify the department via the Supervisor, Permit Section, EGLE, AQD, P. O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or modification of the equipment allowed by the terms and conditions from that PTI.2 **(R 336.1201(4))**

**Footnotes:**

1This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

2This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

# B. SOURCE-WIDE CONDITIONS

Part B outlines the Source-Wide Terms and Conditions that apply to this stationary source. The permittee is subject to these special conditions for the stationary source in addition to the general conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply to this source, NA (not applicable) has been used in the table. If there are no Source-Wide Conditions, this section will be left blank.

# C. EMISSION UNIT SPECIAL CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no conditions specific to individual emission units, this section will be left blank.

## EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

| **Emission Unit ID** | **Emission Unit Description**  **(Including Process Equipment & Control Device(s))** | **Installation**  **Date/**  **Modification Date** | **Flexible Group ID** |
| --- | --- | --- | --- |
| EUPLASTICRESIN | Preex 9000 vacutrans batch-type resin pre-expander, canvas holding bags, Hirsch-Gruppe adjustable wall mold, hot room, wire cutting operations including one (1) GP-11000 Autowire slabbing system~~\*~~, embossing area, and other associated operations to produce expanded polystyrene (EPS) foam. The pre-expander is controlled by a regenerative thermal oxidizer (RTO). Emissions generated from the wire cutting operations are exhausted into the general in-plant environment. | 07-03-2002 /  05-04-2006 /  09-07-2011 /  09-21-2022 | NA |

## EUPLASTICRESIN

**EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Preex 9000 vacutrans batch-type resin pre-expander, canvas holding bags, Hirsch-Gruppe adjustable wall mold, hot room, wire cutting operations including one (1) GP-11000 Autowire slabbing system, embossing area, and other associated operations to produce expanded polystyrene (EPS) foam. Emissions generated from the wire cutting operations are exhausted into the general in-plant environment.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

The pre-expander is controlled by a regenerative thermal oxidizer (RTO).

**I. EMISSION LIMIT(S)**

| **Pollutant** | **Limit** | **Time Period/Operating Scenario** | **Equipment** | **Monitoring/**  **Testing Method** | **Underlying Applicable Requirements** |
| --- | --- | --- | --- | --- | --- |
| 1. VOCs | 115.0 tpy2 | 12-month rolling time period as determined at the end of each calendar month | EUPLASTICRESIN | SC V.1, V.2, V.3, VI.2, VI.3, VI.4, VI.5, VI.6, VI.7, VI.8, VI.10 | **R 336.1205**  **R 336.1702(a)** |
| 1. VOCs | 1909.0 lbs per  8 hours1 | 8 hours | EUPLASTICRESIN | SC V.1, V.2, V.3, VI.2, VI.3, VI.4, VI.5, VI.6, VI.7, VI.8, VI.10 | **R 336.1225** |
| 1. VOCs | 1.13 pph2 | Hourly | Pre-expander emissions vented through the RTO, SV02 | SC V.1, V.2, V.3, VI.2, VI.4, VI.6, VI.7, VI.8, VI.10 | **R 336.1225**  **R 336.1702(a)** |
| 1. Cumene | 129 lb/yr1 | 12-month rolling time period as determined at the end of each calendar month | EUPLASTICRESIN | SC V.2, V.3, VI.3, VI.6, VI.8, VI.9, VI.10 | **R 336.1225** |

**II. MATERIAL LIMIT(S)**

1. The VOC content of the EPS beads used in EUPLASTICRESIN shall not exceed 6.3pounds per 100 pounds of EPS beads processed, based upon a 12-month rolling time period as determined at the end of each month.2 **(R 336.1205, R 336.1225, R 336.1702(a))**

2. The permittee shall limit the throughput of EPS beads at the EUPLASTICRESIN pre-expander according to the formula below, based upon a 12-month rolling time period as determined at the end of each calendar month.2   
**(R 336.1205, R 336.1225, R 336.1702(a))**

*Ui* = Pounds of EPS beads from lot i used during the month.

*Vi* = VOC content of EPS beads from lot i, in pounds of VOC per 100 pounds of beads.

*PE* = Weight fraction of VOC in the raw beads that is emitted during pre-expansion. The default value for this shall be 25.0 percent; the actual tested value may be used with the approval of the AQD District Supervisor.

*DE* = VOC destruction efficiency (percent of VOC in the inlet to the thermal oxidizer that is destroyed in the thermal oxidizer) of the thermal oxidizer. The default value for this shall be 98.0 percent; the actual tested value may be used with the approval of the AQD District Supervisor.

3. The permittee shall limit the throughput of EPS beads at the EUPLASTICRESIN pre-expander according to the formula below, based upon 8 hours of operation.1 **(R 336.1225)**

*Ui* = Pounds of EPS beads from lot i used during 8 hours.

*Vi* = VOC content of EPS beads from lot i, in pounds of VOC per 100 pounds of beads.

*PE* = Weight fraction of VOC in the raw beads that is emitted during expansion. The default value for this shall be 25.0 percent; the actual tested value may be used with the approval of the AQD District Supervisor.

*DE* = VOC destruction efficiency (percent of VOC in the inlet to the thermal oxidizer that is destroyed in the thermal oxidizer) of the thermal oxidizer. The default value for this shall be 98.0 percent; the actual tested value may be used with the approval of the AQD District Supervisor.

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. Input feed to the pre-expander shall cease immediately, consistent with safe operating procedures, upon initiation of the RTO bypass. Input feed to the pre-expander shall not restart until the RTO is back online and functioning properly.2 **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**

2. The permittee shall not operate the pre-expander unless a malfunction abatement plan (MAP) as described in Rule 911(2), is implemented and maintained.

1. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
2. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
3. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.2 **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910, R 336.1911)**

**IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device in the combustion chamber of the RTO to monitor and record the temperature on a continuous basis, during operation of the RTO.2 **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**

2. The permittee shall not input feed into the pre-expander unless it is vented to the RTO and the RTO is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining a minimum VOC destruction efficiency in the regenerative thermal oxidizer of 98.0 percent by weight and a minimum combustion temperature of 1500°F.2 **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**

3. The permittee shall equip and maintain the RTO with an audible and visual alarm system to alert operators of RTO bypass.2 **(R 336.1205, R 336.1225, R 336.1702, R 336.1910)**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall follow a sampling schedule approved by the AQD District Supervisor to determine the VOC content, as received, of EPS beads used in EUPLASTICRESIN. The samples shall represent the full range of VOC content of EPS beads used in EUPLASTICRESIN and shall support an estimate of the production-weighted average VOC content of product from EUPLASTICRESIN. The permittee shall use sampling and analysis methods approved by the AQD District Supervisor.2 **(R 336.1205, R 336.1225, R 336.1702(a))**

2. Within 180 days after commencement of trial operation of the RTO, the permittee shall verify the VOC emission rates from the pre-expander and RTO and the RTO VOC destruction efficiency by testing at the owner’s expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.2 **(R 336.1205, R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**

3. In order to use a value higher than 25% for PE (the weight fraction of VOC in the raw beads that is emitted during expansion) in SC II.2 and II.3, the permittee shall determine the weight fraction of VOC in the raw beads that is emitted during pre‑expansion across the full range of VOC content of EPS beads used in EUPLASTICRESIN and the full range of product densities produced in EUPLASTICRESIN. The permittee shall use sampling and analysis methods approved by the AQD District Supervisor.2 **(R 336.1205, R 336.1225, R 336.1702(a))**

4. The permittee shall conduct the required sampling and analysis outlined in SC V.3 on an annual basis or on an alternate sampling schedule or analysis approved by the AQD District Supervisor.2 **(R 336.1205, R 336.1225, R 336.1702(a))**

1. The permittee shall verify the VOC emission rates from the pre-expander and RTO and the RTO VOC destruction efficiency, at a minimum, every five years from the date of the last test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
2. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days before testing of the time and place performance tests will be conducted. **(R 336.1213(3))**

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.2 **(R 336.1205, R 336.1225, R 336.1702)**

1. The permittee shall keep, in a satisfactory manner, a separate record of the pounds of VOC per 100 pounds of EPS beads for each shipment of EPS beads received. All records shall be kept on file at the facility and made available to the Department upon request.2 **(R 336.1205, R 336.1225, R 336.1702(a))**
2. The permittee shall keep, in a satisfactory manner, 8 hour, monthly and 12-month rolling time period records of the throughput of EPS beads at the pre-expander portion of EUPLASTICRESIN. The permittee shall keep all records on file at the facility and made available to the Department upon request.2  **(R 336.1205, R 336.1225, R 336.1702(a))**
3. The permittee shall keep, in a satisfactory manner, records of the VOC content, as received, of each lot of EPS beads used in EUPLASTICRESIN. The permittee shall keep all records of VOC content determinations on file at the facility and made available to the Department upon request.2  **(R 336.1205, R 336.1702(a))**
4. The permittee shall keep, in a satisfactory manner, 8 hour, monthly and 12-month rolling time period records of the VOC emission rate from EUPLASTICRESIN using the method detailed in Appendix 7. The permittee shall keep all records on file at the facility and made available to the Department upon request.2 **(R 336.1205, R 336.1702(a))**
5. The permittee shall record the weight fraction of the total VOC emissions emitted at pre-expansion and the VOC destruction efficiency of the thermal oxidizer.2 **(R 336.1205, R 336.1225, R 336.1702(a))**
6. The permittee shall calculate and keep a record of the pounds of VOC per 100 pounds of EPS beads used at pre-expansion, for each calendar month and for a 12-month rolling time period, as determined at the end of each calendar month.2 **(R 336.1205, R 336.1225, R 336.1702)**
7. The permittee shall monitor and record, in a satisfactory manner, the regenerative thermal oxidizer combustion chamber temperature on a continuous basis in a manner and with instrumentation acceptable to the Air Quality Division. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. The permittee shall keep all records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request.2 **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**
8. The permittee shall keep the following information on a calendar month basis for EUPLASTICRESIN:
9. Pounds of each cumene-containing material used.
10. Cumene content, in pounds per pound, of each cumene-containing material used.
11. Calculations determining the monthly amount of cumene processed in pounds per calendar month.
12. Calculations determining the cumulative amount of cumene processed during the first 12-months and the annual amount of cumene processed thereafter, in pounds per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request.1 **(R 336.1225)**

1. The permittee shall keep, in a manner satisfactory to the AQD District Supervisor, records of all RTO bypass events that include the date and time of each bypass, the length of the bypass, and the reason for the bypass.2 **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**

**See Appendix 7**

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked orreceived by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

1. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
2. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than the startup of the RTO.2 **(R 336.1201(7)(a))**

**See Appendix 8**

**VIII. STACK/VENT RESTRICTION(S)**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

| **Stack & Vent ID** | **Maximum Exhaust Diameter / Dimensions**  **(inches)** | **Minimum Height Above Ground**  **(feet)** | **Underlying Applicable Requirements** |
| --- | --- | --- | --- |
| 1. SV-02 | 24.0 2 | 30.6 2 | **R 336.1225,**  **40 CFR 52.21(c) & (d)** |
| 1. SV-03 | 16 2 | 27.2 2 | **R 336.1225,**  **40 CFR 52.21(c) & (d)** |
| 1. SV-EXH01 | 37 2 | 27.0 2 | **R 336.1225,**  **40 CFR 52.21(c) & (d)** |
| 1. SV-EXH02 | 37 2 | 27.3 2 | **R 336.1225,**  **40 CFR 52.21(c) & (d)** |

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

1 This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

2 This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

# D. FLEXIBLE GROUP SPECIAL CONDITIONS

Part D outlines the terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.

# E. NON-APPLICABLE REQUIREMENTS

At the time of the ROP issuance, the AQD has determined that no non-applicable requirements have been identified for incorporation into the permit shield provision set forth in the General Conditions in Part A pursuant to Rule 213(6)(a)(ii).

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| **APPENDICES** |

## Appendix 1. Acronyms and Abbreviations

|  |  |  |  |
| --- | --- | --- | --- |
| **Common Acronyms** | | **Pollutant / Measurement Abbreviations** | |
| AQD | Air Quality Division | acfm | Actual cubic feet per minute |
| BACT | Best Available Control Technology | BTU | British Thermal Unit |
| CAA | Clean Air Act | °C | Degrees Celsius |
| CAM | Compliance Assurance Monitoring | CO | Carbon Monoxide |
| CEM | Continuous Emission Monitoring | CO2e | Carbon Dioxide Equivalent |
| CEMS | Continuous Emission Monitoring System | dscf | Dry standard cubic foot |
| CFR | Code of Federal Regulations | dscm | Dry standard cubic meter |
| COM | Continuous Opacity Monitoring | °F | Degrees Fahrenheit |
| Department/  department | Michigan Department of Environment, Great Lakes, and Energy | gr | Grains |
| HAP | Hazardous Air Pollutant |
| EGLE | Michigan Department of Environment, Great Lakes, and Energy | Hg | Mercury |
| hr | Hour |
| EU | Emission Unit | HP | Horsepower |
| FG | Flexible Group | H2S | Hydrogen Sulfide |
| GACS | Gallons of Applied Coating Solids | kW | Kilowatt |
| GC | General Condition | lb | Pound |
| GHGs | Greenhouse Gases | m | Meter |
| HVLP | High Volume Low Pressure\* | mg | Milligram |
| ID | Identification | mm | Millimeter |
| IRSL | Initial Risk Screening Level | MM | Million |
| ITSL | Initial Threshold Screening Level | MW | Megawatts |
| LAER | Lowest Achievable Emission Rate | NMOC | Non-methane Organic Compounds |
| MACT | Maximum Achievable Control Technology | NOx | Oxides of Nitrogen |
| MAERS | Michigan Air Emissions Reporting System | ng | Nanogram |
| MAP | Malfunction Abatement Plan | PM | Particulate Matter |
| MSDS | Material Safety Data Sheet | PM10 | Particulate Matter equal to or less than 10 microns in diameter |
| NA | Not Applicable |
| NAAQS | National Ambient Air Quality Standards | PM2.5 | Particulate Matter equal to or less than 2.5  microns in diameter |
| NESHAP | National Emission Standard for Hazardous Air Pollutants | pph | Pounds per hour |
| ppm | Parts per million |
| NSPS | New Source Performance Standards | ppmv | Parts per million by volume |
| NSR | New Source Review | ppmw | Parts per million by weight |
| PS | Performance Specification | % | Percent |
| PSD | Prevention of Significant Deterioration | psia | Pounds per square inch absolute |
| PTE | Permanent Total Enclosure | psig | Pounds per square inch gauge |
| PTI | Permit to Install | scf | Standard cubic feet |
| RACT | Reasonable Available Control Technology | sec | Seconds |
| ROP | Renewable Operating Permit | SO2 | Sulfur Dioxide |
| SC | Special Condition | TAC | Toxic Air Contaminant |
| SCR | Selective Catalytic Reduction | Temp | Temperature |
| SNCR | Selective Non-Catalytic Reduction | THC | Total Hydrocarbons |
| SRN | State Registration Number | tpy | Tons per year |
| TEQ | Toxicity Equivalence Quotient | µg | Microgram |
| USEPA/EPA | United States Environmental Protection Agency | µm | Micrometer or Micron |
| VOC | Volatile Organic Compounds |
| VE | Visible Emissions | yr | Year |

\*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

## Appendix 2. Schedule of Compliance

The permittee certified in the ROP application that this stationary source is in compliance with all applicable requirements and the permittee shall continue to comply with all terms and conditions of this ROP. A Schedule of Compliance is not required. **(R 336.1213(4)(a), R 336.1119(a)(ii))**

## Appendix 3. Monitoring Requirements

Specific monitoring requirement procedures, methods or specifications are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

## Appendix 4. Recordkeeping

Specific recordkeeping requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

## Appendix 5. Testing Procedures

There are no specific testing requirement plans or procedures for this ROP. Therefore, this appendix is not applicable.

## Appendix 6. Permits to Install

The following table lists any Permit to Install and/or Operate, that relates to the identified emission units or flexible groups as of the effective date of this ROP. This includes all Permits to Install and/or Operate that are hereby incorporated into Source-Wide PTI No. MI-PTI-N3078-2021a. PTIs issued after the effective date of this ROP, including amendments or modifications, will be identified in Appendix 6 upon renewal.

| **Permit to Install Number** | **Description of Equipment** | **Corresponding Emission Unit(s) or**  **Flexible Group(s)** |
| --- | --- | --- |
| 211-02E | Preex 9000 vacutrans batch-type resin pre-expander, canvas holding bags, Hirsch-Gruppe adjustable wall mold, hot room, wire cutting operations including one (1) GP-11000 Autowire slabbing system\*, embossing area, and other associated operations to produce expanded polystyrene (EPS) foam. | EUPLASTICRESIN |

The following table lists the ROP amendments or modifications issued after the effective date of ROP No. MI-ROP-N3078-2021.

| **Permit to Install Number** | **ROP Revision Application Number -**  **Issuance Date** | **Description of Equipment or Change** | **Corresponding Emission Unit(s) or Flexible Group(s)** |
| --- | --- | --- | --- |
| 211-02F | 202300074 /  July 26, 2023 | The changes were to incorporate PTI No. 211-02F into the ROP, which was to install a regenerative thermal oxidizer on the pre-expander to allow for an increase in production without an increase in emissions. | EUPLASTICRESIN |

## Appendix 7. Emission Calculations

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in EUPLASTICRESIN.

I. The pounds of VOC per 100 pounds of EPS beads used in the processes during a calendar period shall be calculated as follows:



where:

*P* = Pounds of VOC per 100 pounds of EPS beads used in the processes during the calendar period.

*Ui* = Pounds of EPS beads from lot *i* used during the calendar period.

*Vi* = VOC content of EPS beads from lot *i*, in pounds of VOC per 100 pounds of beads.

II. For each lot of EPS beads (*i*) used in the processes, the VOC emission for the calendar period shall be calculated as follows:

where:

*Ei* = VOC emissions due to use of EPS beads from lot *i* during the calendar period, in pounds.

*Ui*, *Vi* = As above.

*PE* = Weight fraction of VOC in the raw beads that is emitted during pre-expansion. The default value for this shall be 25.0 percent; the actual tested value may be used with the approval of the AQD District Supervisor.

*DE* = VOC destruction efficiency (percent of VOC in the inlet to the thermal oxidizer that is destroyed in the thermal oxidizer) of the thermal oxidizer. The default value for this shall be 98.0 percent; the actual tested value may be used with the approval of the AQD District Supervisor.

III. The total VOC emission for the calendar period due to the use in the processes of all lots of EPS beads shall be calculated as follows:



where:

*T* = Total VOC emissions during the calendar period, in pounds.

*Ei* = As above.

## Appendix 8. Reporting

**A. Annual, Semiannual, and Deviation Certification Reporting**

The permittee shall use EGLE, AQD, Report Certification form (EQP 5736) and EGLE, AQD, Deviation Report form (EQP 5737) for the annual, semiannual and deviation certification reporting referenced in the Reporting Section of the Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Alternative formats must meet the provisions of Rule 213(4)(c) and Rule 213(3)(c)(i), respectively, and be approved by the AQD District Supervisor.

**B. Other Reporting**

Specific reporting requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, Part B of this appendix is not applicable.