

PUBLIC NOTICE

Microporous, LLC has applied to the Tennessee Department of Environment and Conservation, Division of Air Pollution Control for renewal of their major source (Title V) operating permit subject to the provisions of Tennessee Air Pollution Control Regulations 1200-03-09-.02(11) (Title V Regulations). A major source operating permit is required by both the Federal Clean Air Act and Tennessee's air pollution control regulations. However, it should be noted that this facility has a current major source operating permit.

The applicant is **Microporous LLC** with a site address of 596 Industrial Park Road, Piney Flats, Tennessee. They have applied for renewal of their existing major source (Title V) operating permit for their rubber and plastic battery mat production facility operation.

EPA has agreed to treat this draft Part 70 permit as a proposed Part 70 permit and to perform its 45-day review provided by the law concurrently with the public notice period. If any substantive comments are received, EPA's 45-day review period will cease to be performed concurrently with the public notice period. In this case, EPA's 45-day review period will start once the public notice period has been completed and EPA receives notification from the Tennessee Air Pollution Control Division that comments have been received and resolved. The status regarding EPA's 45-day review of these permits and the deadline for submitting a citizen's petition can be found at the following website address:

<https://www.epa.gov/caa-permitting/tennessee-proposed-title-v-permits>

Microporous, LLC has also applied for a case-by-case MACT determination for plastic battery mat line #1. The Division of Air Pollution Control's initial decision to approve the case-by-case MACT application is contained in the Notice of MACT Approval.

Copies of the Title V application materials, case-by-case MACT application, Notice of MACT Approval, and the draft permit are available for public inspection during normal business hours at the following locations:

Division of Air Pollution Control
Johnson City Environmental Field
Office
2305 Silverdale Road
Johnson City, TN 37601

and

Tennessee Department of Environment and Conservation
Division of Air Pollution Control
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway
Nashville, TN 37243

Electronic copies of the draft permit and Notice of MACT Approval are available by accessing the TDEC internet site located at:

<https://www.tn.gov/environment/ppo-public-participation/ppo-public-participation/ppo-air.html>

Questions concerning the source(s) may be addressed to James Johnston at (615) 472-1350 or by e-mail at james.johnston@tn.gov.

Interested parties are invited to review these materials and comment. In addition, a public hearing may be requested at which written or oral presentations may be made. To be considered, written comments or requests for a public hearing must be received no later than 4:30 PM on **March 4, 2026**. To assure that written comments are received and addressed in a timely manner, written comments must be submitted using one of the following methods:

1. **Mail, private carrier, or hand delivery:** Address written comments to Ms. Michelle W. Owenby, Director, Division of Air Pollution Control, Davy Crockett Tower, 7th Floor, 500 James Robertson Parkway, Nashville, Tennessee 37243.
2. **E-mail:** Submit electronic comments to air.pollution.control@tn.gov.

A final determination will be made after weighing all relevant comments.

Individuals with disabilities who wish to review information maintained at the above-mentioned depositories should contact the Tennessee Department of Environment and Conservation to discuss any auxiliary aids or services needed to facilitate such review. Such contact may be in person, by writing, telephone, or other means, and should be made no less than ten days prior to the end of the public comment period to allow time to provide such aid or services. Contact the Tennessee Department of Environment and Conservation ADA Coordinator, Davy Crockett Tower, 5th Floor, 500 James Robertson Parkway, Nashville, TN 37243, 1-(615)-532-0200. Hearing impaired callers may use the Tennessee Relay Service, 1-(800)-848-0298.

STATE OF TENNESSEE
AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243



OPERATING PERMIT (TITLE V) Issued Pursuant to Tennessee Air Quality Act

This permit fulfills the requirements of Title V of the Federal Clean Air Act (42 U.S.C. 7661a-7661e) and the federal regulations promulgated thereunder at 40 CFR Part 70. (FR Vol. 57, No. 140, Tuesday, July 21, 1992 p.32295-32312). This permit is issued in accordance with the provisions of paragraph 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations. The permittee has been granted permission to operate an air contaminant source in accordance with emissions limitations and monitoring requirements set forth herein.

Date Issued: [tbd]

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Permit Number: 578138

Date Expires: [tbd 5 yrs minus 1 day]

Issued To:

Microporous, LLC

Installation Address:

596 Industrial Park Road
Piney Flats

Installation Description:

Rubber and Plastic Battery Mat Production Facility

Source 01: 48.5 MMBtu/hr Natural Gas Fired Boiler

Source 07: Rubber Battery Mat Lines #1 and #2

Source 12: Plastic Battery Mat Line #1

Source 18: 10.5 MMBtu/hr Natural Gas Fired Boiler

Source 28: Plastic Battery Mat Line #2

Source 29: 16.7 MMBtu/hr Natural Gas Fired Boiler

Facility ID No.: 82-0153

Renewal Application Due Date:

Between [TBD and TBD]

Primary SIC: 30

Information Relied Upon:

Title V Renewal Application dated March 18, 2020

Additional information dated: March 12, 2025, and April 28, 2025

(continued on the next page)

TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

POST AT INSTALLATION ADDRESS

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SECTION A

GENERAL PERMIT CONDITIONS

A permit issued under the provisions of Tennessee Air Pollution Control Regulations (TAPCR) paragraph 1200-03-09-.02(11) is a permit issued pursuant to the requirements of Title V of the Federal Act and its implementing Federal regulations promulgated at 40 CFR, Part 70.

- A1. Definitions.** Terms not otherwise defined in the permit shall have the meaning assigned to such terms in the referenced regulations.

TAPCR 1200-03 and 0400-30

- A2. Compliance requirement.** All terms and conditions in a permit issued pursuant to TAPCR paragraph 1200-03-09-.02(11), including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act. The permittee shall comply with all conditions of its permit. Except for requirements specifically designated herein as not being federally enforceable (State Only), non-compliance with the permit requirements is a violation of the Federal Act and the Tennessee Air Quality Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Non-compliance with permit conditions specifically designated herein as not being federally enforceable (State Only) is a violation of the Tennessee Air Quality Act and may be grounds for these actions.

TAPCR 1200-03-09-.02(11)(e)2(i) and 1200-03-09-.02(11)(e)1(vi)(I)

- A3. Need to halt or reduce activity.** The need to halt or reduce activity is not a defense for noncompliance. It shall not be a defense for a 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 the permit. However, nothing in this item shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations.

TAPCR 1200-03-09-.02(11)(e)1(vi)(II)

- A4. The permit.** The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

TAPCR 1200-03-09-.02(11)(e)1(vi)(III)

- A5. Property rights.** The permit does not convey any property rights of any sort, or any exclusive privilege.

TAPCR 1200-03-09-.02(11)(e)1(vi)(IV)

- A6. Submittal of requested information.** The permittee shall furnish to the Technical Secretary, within a reasonable time, any information that the Technical Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or termination of the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Technical Secretary copies of records required to be kept by the permit. If the permittee claims that such information is confidential, the Technical Secretary may review that claim and hold the information in protected status until such time that the Board can hear any contested proceedings regarding confidentiality disputes. If the information is desired by EPA, the permittee may mail the information directly to EPA. Any claims of confidentiality for federal purposes will be determined by EPA.

TAPCR 1200-03-09-.02(11)(e)1(vi)(V)

- A7. Severability clause.** The requirements of this permit are severable. A dispute regarding one or more requirements of this permit does not invalidate or otherwise excuse the permittee from their duty to comply with the remaining portion of the permit.

TAPCR 1200-03-09.02(11)(e)1(v)

A8. Fee payment.

(a) The permittee shall pay an annual Title V fee in accordance with TAPCR 1200-03-26-.02(9) based upon the applicable base fee; the applicable permit modification fee(s); the responsible official's choice of actual emissions, allowable emissions, or a combination of actual and allowable emissions; and on the responsible official's choice of annual accounting period. An emission cap of 4,000 tons per year per regulated pollutant per major source SIC Code shall apply to actual or allowable based emission fees. A Title V annual emission fee will not be charged for emissions in excess of the cap. Title V annual emission fees will not be charged for carbon monoxide or for greenhouse gas pollutants solely because they are greenhouse gases.

(b) Title V sources shall pay allowable based emission fees until the beginning of the next annual accounting period following receipt of their initial Title V operating permit. At that time, the permittee shall begin paying their Title V fee based upon the applicable base fee; the applicable permit modification fee(s); and their choice of actual or allowable based fees, or mixed actual and allowable based fees. Once permitted, the Responsible Official may revise their existing fee choice by submitting a written request to the Division no later than December 31 of the annual accounting period for which the fee is due.

(c) When paying annual Title V emission fees, the permittee shall comply with all provisions of TAPCR Rule 1200-03-26-.02 and paragraph 1200-03-09-.02(11) applicable to such fees.

(d) Where more than one allowable emission limit is applicable to a regulated pollutant, the allowable emissions for the regulated pollutants shall not be double counted. Major sources subject to the provisions of TAPCR paragraph 1200-03-26-.02(9) shall apportion their emissions as follows to ensure that their fees are not double counted.

1. Emissions of hazardous air pollutants (HAP) that are included in the particulate matter (including PM₁₀) category or the volatile organic compound category shall be included in those categories.

2. HAP that are not included in either the particulate matter category or volatile organic compound category shall be included in the category of Hazardous Air Pollutants Not Included Above.

3. Each individual HAP is subject to the 4,000 ton cap provisions of TAPCR subparagraph 1200-03-26-.02(2)(i).

4. Major sources that wish to pay annual emission fees for PM₁₀ on an allowable emission basis may do so if they have a specific PM₁₀ allowable emission standard. If a major source has a total particulate emission standard, but wishes to pay annual emission fees on an actual PM₁₀ emission basis, it may do so if the PM₁₀ actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual PM₁₀ emission levels must be made as part of the source's major source operating permit in advance in order to exercise this option. The PM₁₀ emissions reported under these options shall not be subject to fees under the family of particulate emissions. The 4,000 ton cap provisions of TAPCR subparagraph 1200-03-26-.02(2)(i) shall also apply to PM₁₀ emissions.

(e) Emissions of pollutants that do not fall in one of the listed categories shall be included in the category of Miscellaneous Pollutants Not Listed Above. Each miscellaneous pollutant is subject to the 4,000-ton cap provisions.

TAPCR 1200-03-26-.02 and 1200-03-09-.02(11)(e)1(vii)

- A9. Permit revision not required.** A permit revision will not be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or process for changes that are provided for in the permit.

TAPCR 1200-03-09-.02(11)(e)1(viii)

- A10. Inspection and entry.** Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Technical Secretary or an authorized representative to perform the following for the purposes of determining compliance with the permit applicable requirements:

(a) Enter upon, at reasonable times, the permittee's premises where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) As authorized by the Clean Air Act and Chapter 1200-03-10 of the TAPCR, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(e) "Reasonable times" shall be considered to be customary business hours unless reasonable cause exists to suspect noncompliance with the Act, TAPCR Division 1200-03 or any permit issued pursuant thereto and the Technical Secretary specifically authorizes an inspector to inspect a facility at any other time.

TAPCR 1200-03-09-.02(11)(e)3(ii)

A11. Permit shield.

(a) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date of permit issuance, provided that:

1. Such applicable requirements are included and are specifically identified in the permit; or
2. The Technical Secretary, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

(b) Nothing in this permit shall alter or affect the following:

1. The provisions of section 303 of the Federal Act (emergency orders), including the authority of the Administrator under that section. Similarly, the provisions of T.C.A. §68-201-109 (emergency orders) including the authority of the Governor under the section;
2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
3. The applicable requirements of the acid rain program, consistent with section 408(a) of the Federal Act; or
4. The ability of EPA to obtain information from a source pursuant to section 114 of the Federal Act.

(c) Permit shield is granted to the permittee.

(d) The permit shield does not apply to permit changes made under the minor permit modification procedures of TAPCR subpart 1200-03-09-.02(11)(f)5(ii) nor the administrative permit amendment procedures of TAPCR part 1200-03-09-.02(11)(f)4, except that the permit shield may be extended for administrative permit amendments that meet the relevant requirements of TAPCR subparagraph 1200-03-09-.02(11)(e), subparagraph 1200-03-09-.02(11)(f) and subparagraph 1200-03-09-.02(11)(g) for significant permit modifications.

(e) The permit shield does not apply to off-permit changes made under the operational flexibility provisions of TAPCR part 1200-03-09-.02(11)(a)4.

TAPCR 1200-03-09-.02(11)(e)6 and 1200-03-09-.02(11)(f)4(iv)

A12. Permit renewal and expiration.

(a) An application for permit renewal must be submitted at least 180 days, but no more than 270 days, prior to the expiration of this permit. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted.

(b) If the permittee submits a timely and complete application for permit renewal the source will not be considered to be operating without a permit until the Technical Secretary takes final action on the permit application, except as otherwise noted in TAPCR paragraph 1200-03-09-.02(11).

(c) This permit, its shield provided in Condition A11, and its conditions will be extended and effective after its expiration date provided that the source has submitted a timely, complete renewal application to the Technical Secretary.

TAPCR 1200-03-09-.02(11)(f)2 and 3, 1200-03-09-.02(11)(d)1(i)(III), and 1200-03-09-.02(11)(a)2

A13. Reopening for cause.

(a) A permit shall be reopened and revised prior to the expiration of the permit under any of the circumstances listed below:

1. Additional applicable requirements under the Federal Act become applicable to the sources contained in this permit provided the permit has a remaining term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the permit expiration date of this permit, unless the original has been extended pursuant to TAPCR part 1200-03-09-.02(11)(a)2.
2. Additional requirements become applicable to an affected source under the acid rain program.
3. The Technical Secretary or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
4. The Technical Secretary or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(b) Proceedings to reopen and issue a permit shall follow the same proceedings as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists, and not the entire permit. Such reopening shall be made as expeditiously as practicable.

(c) Reopenings for cause shall not be initiated before a notice of such intent is provided to the permittee by the Technical Secretary at least 30 days in advance of the date that the permit is to be reopened except that the Technical Secretary may provide a shorter time period in the case of an emergency. An emergency shall be established by the criteria of T.C.A. 68-201-109 or other compelling reasons that public welfare is being adversely affected by the operation of a source that is in compliance with its permit requirements.

(d) If the Administrator finds that cause exists to terminate, modify, or revoke and reissue a permit as identified in A13, he is required under federal rules to notify the Technical Secretary and the permittee of such findings in writing. Upon receipt of such notification, the Technical Secretary shall investigate the matter in order to determine if he agrees or disagrees with the Administrator's findings. If he agrees with the Administrator's findings, the Technical Secretary shall conduct the reopening in the following manner:

1. The Technical Secretary shall, within 90 days after receipt of such notification, forward to EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate. If the Administrator grants additional time to secure permit applications or additional information from the permittee, the Technical Secretary shall have the additional time period added to the standard 90-day time period.

2. EPA will evaluate the Technical Secretary's proposed revisions and respond as to their evaluation.

3. If EPA agrees with the proposed revisions, the Technical Secretary shall proceed with the reopening in the same manner prescribed under Condition A13(b) and Condition A13(c).

4. If the Technical Secretary disagrees with either the findings or the Administrator that a permit should be reopened or an objection of the Administrator to a proposed revision to a permit submitted pursuant to Condition A13(d), he shall bring the matter to the Board at its next regularly scheduled meeting for instructions as to how he should proceed. The permittee shall be required to file a written brief expressing their position relative to the Administrator's objection and have a responsible official present at the meeting to answer questions for the Board. If the Board agrees that EPA is wrong in their demand for a permit revision, they shall instruct the Technical Secretary to conform to EPA's demand, but to issue the permit under protest preserving all rights available for litigation against EPA.

TAPCR 1200-03-09-.02(11)(f)6 and 7

A14. Permit transference. An administrative permit amendment allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that the following requirements are met:

(a) Transfer of ownership permit application is filed consistent with the provisions of TAPCR paragraph 1200-03-09-.03(6), and

(b) written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Technical Secretary.

TAPCR 1200-03-09-.02(11)(f)4(i)(IV) and 1200-03-09-.03(6)

A15. Air pollution alert. When the Technical Secretary has declared that an air pollution alert, an air pollution warning, or an air pollution emergency exists, the permittee must follow the requirements for that episode level as outlined in TAPCR paragraph 1200-03-09-.03(1) and TAPCR Rule 1200-03-15-.03.

A16. Construction permit required. Except as exempted in TAPCR Rule 1200-03-09-.04, or excluded in TAPCR subparagraph 1200-03-02-.01(1)(aa) or TAPCR subparagraph 1200-03-02-.01(1)(cc), this facility shall not begin the construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants without first having applied for and received from the Technical Secretary a construction permit for the construction or modification of such air contaminant source.

TAPCR 1200-03-09-.01(1)(a)

A17. Notification of changes. The permittee shall notify the Technical Secretary 30 days prior to commencement of any of the following changes to an air contaminant source which would not be a modification requiring a construction permit.

(a) change in air pollution control equipment

(b) change in stack height or diameter

- (c) change in exit velocity of more than 25 percent or exit temperature of more than 15 percent based on absolute temperature.

TAPCR 1200-03-09-.02(7)

- A18. Schedule of compliance.** The permittee will comply with any applicable requirement that becomes effective during the permit term on a timely basis and no later than required by the provisions of the new applicable requirement. If the permittee is not in compliance the permittee must submit a schedule for coming into compliance which must include a schedule of remedial measure(s), including an enforceable set of deadlines for specific actions.

TAPCR 1200-03-09-.02(11)(d)3, 1200-03-09-.03(8), 0400-30-38, 0400-30-39, and 40 CFR Part 70.5(c)

- A19. Title VI.**

(a) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR, Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:

1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to Section 82.156.
2. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to Section 82.158.
3. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to Section 82.161.

(b) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant in the motor vehicle air conditioner (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.

(c) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR, Part 82, Subpart G, Significant New Alternatives Policy Program.

TAPCR 1200-03-09-.03(8)

- A20. 112 (r).** Sources which are subject to the provisions of Section 112(r) of the federal Clean Air Act or any federal regulations promulgated thereunder, shall annually certify in writing to the Technical Secretary that they are properly following their accidental release plan. The annual certification is due in the office of the Technical Secretary no later than January 31 of each year. Said certification will be for the preceding calendar year.

TAPCR 1200-03-32-.03(3)

SECTION B

GENERAL CONDITIONS for MONITORING, REPORTING, and ENFORCEMENT

- B1. Recordkeeping.** Monitoring and related record keeping shall be performed in accordance with the requirements specified in the permit conditions for each individual permit unit. In no case shall reports of any required monitoring and record keeping be submitted less frequently than every six months.
- (a) Where applicable, records of required monitoring information include the following:
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 analysis;
 4. The analytical techniques or methods used;
 5. The results of such analyses; and
 6. The operating conditions as existing at the time of sampling or measurement.
- (b) Digital data accumulation which utilizes valid data compression techniques shall be acceptable for compliance determination as long as such compression does not violate an applicable requirement and its use has been approved in advance by the Technical Secretary.

TAPCR 1200-03-09-.02(11)(e)1(iii)

- B2. Retention of monitoring data.** The permittee shall retain records of all required monitoring data and support information for a period of at least 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 for continuous monitoring instrumentation, and copies of all reports required by the permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)(II)II

- B3. Reporting.** Reports of any required monitoring and record keeping shall be submitted to the Technical Secretary in accordance with the frequencies specified in the permit conditions for each individual permit unit. Reports shall be submitted within 60 days of the close of the reporting period unless otherwise noted. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. Reports required under "State only requirements" are not required to be certified by a responsible official.

TAPCR 1200-03-09-.02(11)(e)1(iii)

- B4. Certification.** Except for reports required under "State Only" requirements, any application form, report or compliance certification submitted pursuant to the requirements of this permit shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

TAPCR 1200-03-09-.02(11)(d)4

- B5. Annual compliance certification.** The permittee shall submit annually compliance certifications with terms and conditions contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):
- (a) The identification of each term or condition of the permit that is the basis of the certification;
- (b) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;
- (c) The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method

or means designated in B5(b) above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion* or exceedance** as defined below occurred; and

(d) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* “Excursion” shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** “Exceedance” shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No.144, July 28, 2014, pages 43661 through 43667

B6. Submission of compliance certification. The compliance certification shall be submitted to:

The Tennessee Department of Environment and Conservation Environmental Field Office specified in Section E of this permit	and	Air Enforcement Branch US EPA Region IV 61 Forsyth Street, SW Atlanta, Georgia 30303
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TAPCR 1200-03-09-.02(11)(e)3(v)(IV)

B7. Reserved

B8. Excess emissions reporting.

(a) The permittee shall promptly notify the Technical Secretary when any emission source, air pollution control equipment, or related facility breaks down in such a manner to cause the emission of air contaminants in excess of the applicable emission standards contained in TAPCR Division 1200-03 or any permit issued thereto, or of sufficient duration to cause damage to property or public health. The permittee must provide the Technical Secretary with a statement giving all pertinent facts, including the estimated duration of the breakdown, the probable cause of the deviation, and any corrective actions or preventative measures taken. Violations of the visible emission standard which occur for less than 20 minutes in one day (midnight to midnight) need not be reported. Prompt notification will be within 24 hours of the malfunction and shall be provided by telephone to the Division's Nashville office. The Technical Secretary shall be notified when the condition causing the failure or breakdown has been corrected. In attainment and unclassified areas if emissions other than from sources designated as significantly impacting on a nonattainment area in excess of the standards will not and do not occur over more than a 24-hour period (or will not recur over more than a 24-hour period) and no damage to property and or public health is anticipated, notification is not required.

(b) Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Division's Nashville office at (615) 532-0554 and to the State Civil Defense.

(c) A log of all malfunctions, startups, and shutdowns resulting in emissions in excess of the standards in TAPCR Division 1200-03 or any permit issued thereto must be kept at the plant. All information shall be entered in the log no later than twenty-four (24) hours after the startup or shutdown is complete, or the malfunction has ceased or has been corrected. Any later discovered corrections can be added in the log as footnotes with the reason given for the change. This log must record at least the following:

1. Stack or emission point involved
2. Time malfunction, startup, or shutdown began and/or when first noticed
3. Type of malfunction and/or reason for shutdown
4. Time startup or shutdown was complete or time the air contaminant source returned to normal operation
5. The company employee making entry on the log must sign, date, and indicate the time of each log entry

The information under items 1. and 2. must be entered into the log by the end of the shift during which the malfunction or startup began. For any source utilizing continuous emission(s) monitoring, continuous emission(s) monitoring collection satisfies the above log keeping requirement.

TAPCR 1200-03-20-.03 and .04

B9. Malfunctions, startups and shutdowns - reasonable measures required. The permittee must take all reasonable measures to keep emissions to a minimum during startups, shutdowns, and malfunctions. These measures may include

installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Failures that are caused by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions. This provision does not apply to standards found in 40 CFR, Parts 60(Standards of performance for new stationary sources), 61(National emission standards for hazardous air pollutants) and 63(National emission standards for hazardous air pollutants for source categories).

TAPCR 1200-03-20-.02

B10. Reserved.

B11. **Report required upon the issuance of a notice of violation for excess emissions.** The permittee must submit, within twenty days after receipt of the notice of violation, the data required below. If this data has been made available to the Technical Secretary prior to the issuance of the notice of violation no further action is required of the violating source. However, if the source desires to submit additional information, then this must be submitted within the same 20-day time period. The minimum data requirements are:

- (a) The identity of the stack and/or other emission point where the excess emission(s) occurred;
- (b) The magnitude of the excess emissions expressed in pounds per hour and the units of the applicable emission limitation(s) and the operating data and calculations used in determining the magnitude of the excess emissions;
- (c) The time and duration of the emissions;
- (d) The nature and cause of such emissions;
- (e) For malfunctions, the steps taken to correct the situation and the action taken or planned to prevent the recurrence of such malfunctions;
- (f) The steps taken to limit the excess emissions during the occurrence reported, and
- (g) If applicable, documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good operating practices for minimizing emissions.

Failure to submit the required report within the 20-day period specified shall preclude the admissibility of the data for determination of potential enforcement action.

TAPCR 1200-03-20-.06(2), (3) and (4)

SECTION C

PERMIT CHANGES

- C1. Operational flexibility changes.** The source may make operational flexibility changes that are not addressed or prohibited by the permit without a permit revision subject to the following requirements:
- (a) The change cannot be subject to a requirement of Title IV of the Federal Act or TAPCR Chapter 1200-03-30.
 - (b) The change cannot be a modification under any provision of Title I of the federal Act or TAPCR Division 1200-03.
 - (c) Each change shall meet all applicable requirements and shall not violate any existing permit term or condition.
 - (d) The source must provide contemporaneous written notice to the Technical Secretary and EPA of each such change, except for changes that are below the threshold of levels that are specified in TAPCR Rule 1200-03-09-.04.
 - (e) Each change shall be described in the notice including the date, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change.
 - (f) The change shall not qualify for a permit shield under the provisions of TAPCR part 1200-03-09-.02(11)(e)6.
 - (g) The permittee shall keep a record describing the changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes. The records shall be retained until the changes are incorporated into subsequently issued permits.

TAPCR 1200-03-09-.02(11)(a)4(ii)

- C2. Section 502(b)(10) changes.**
- (a) The permittee can make certain changes without requiring a permit revision, if the changes are not modifications under Title I of the Federal Act or TAPCR Division 1200-03 and the changes do not exceed the emissions allowable under the permit. The permittee must, however, provide the Administrator and Technical Secretary with written notification within a minimum of 7 days in advance of the proposed changes. The Technical Secretary may waive the 7-day advance notice in instances where the source demonstrates in writing that an emergency necessitates the change. Emergency shall be demonstrated by the criteria of TAPCR part 1200-03-09-.02(11)(e)7 and in no way shall it include changes solely to take advantages of an unforeseen business opportunity. The Technical Secretary and EPA shall attach each such notice to their copy of the relevant permit.
 - (b) The written notification must be signed by a facility Title V responsible official and include the following:
 - 1. a brief description of the change within the permitted facility;
 - 2. the date on which the change will occur;
 - 3. a declaration and quantification of any change in emissions;
 - 4. a declaration of any permit term or condition that is no longer applicable as a result of the change; and
 - 5. a declaration that the requested change is not a Title I modification and will not exceed allowable emissions under the permit.
 - (c) The permit shield provisions of TAPCR part 1200-03-09-.02(11)(e)6 shall not apply to Section 502(b)(10) changes.

TAPCR 1200-03-09-.02(11)(a)4(i)

- C3. Administrative amendment.**
- (a) Administrative permit amendments to this permit shall be in accordance with TAPCR part 1200-03-09-.02(11)(f)4. The source may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.
 - (b) The permit shield shall be extended as part of an administrative permit amendment revision consistent with the provisions of TAPCR part 1200-03-09-.02(11)(e)6 for such revisions made pursuant to item (c) of this condition which meet the relevant requirements of TAPCR subparagraph 1200-03-09-.02(11)(e), TAPCR subparagraph 1200-03-09-.02(11)(f) and TAPCR subparagraph 1200-03-09-.02(11)(g) for significant permit modifications.
 - (c) Proceedings to review and grant administrative permit amendments shall be limited to only those parts of the permit for which cause to amend exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)4

- C4. Minor permit modifications.**
- (a) The permittee may submit an application for a minor permit modification in accordance with TAPCR subpart 1200-03-09-.02(11)(f)5(ii).

- (b) The permittee may make the change proposed in its minor permit modification immediately after an application is filed with the Technical Secretary.
- (c) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.
- (d) Minor permit modifications do not qualify for a permit shield.

TAPCR 1200-03-09-.02(11)(f)5(ii)

C5. Significant permit modifications.

- (a) The permittee may submit an application for a significant modification in accordance with TAPCR subpart 1200-03-09-.02(11)(f)5(iv).
- (b) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)5(iv)

C6. New construction or modifications.

Future construction at this facility that is subject to the provisions of TAPCR Rule 1200-03-09-.01 shall be governed by the following:

- (a) The permittee shall designate in their construction permit application the route that they desire to follow for the purposes of incorporating the newly constructed or modified sources into their existing operating permit. The Technical Secretary shall use that information to prepare the operating permit application submittal deadlines in their construction permit.
- (b) Sources desiring the permit shield shall choose the administrative amendment route of TAPCR part 1200-03-09-.02(11)(f)4 or the significant modification route of TAPCR subpart 1200-03-09-.02(11)(f)5(iv).
- (c) Sources desiring expediency instead of the permit shield shall choose the minor permit modification procedure route of TAPCR subpart 1200-03-09-.02(11)(f)5(ii) or group processing of minor modifications under the provisions of TAPCR subpart 1200-03-09-.02(11)(f)5(iii) as applicable to the magnitude of their construction.

TAPCR 1200-03-09-.02(11)(d)1(i)(V)

SECTION D

GENERAL APPLICABLE REQUIREMENTS

D1. Visible emissions.

(a) With the exception of air emission sources exempt from the requirements of TAPCR Chapter 1200-03-05 and air emission sources for which a different opacity standard is specifically provided elsewhere in this permit, the permittee shall not cause, suffer, allow or permit discharge of a visible emission from any air contaminant source with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than 20 minutes in any twenty-four (24) hour period; provided, however, that for fuel burning installations with fuel burning equipment of input capacity greater than 600 million btu per hour, the permittee shall not cause, suffer, allow, or permit discharge of a visible emission from any fuel burning installation with an opacity in excess of 20 percent (6-minute average) except for one six minute period per one hour of not more than 40 percent opacity. Sources constructed or modified after July 7, 1992, shall utilize 6-minute averaging.

(b) Consistent with the requirements of TAPCR Chapter 1200-03-20, due allowance may be made for visible emissions in excess of that permitted under TAPCR Chapter 1200-03-05 which are necessary or unavoidable due to routine startup and shutdown conditions. The facility shall maintain a continuous, current log of all excess visible emissions showing the time at which such conditions began and ended and that such record shall be available to the Technical Secretary or an authorized representative upon request.

TAPCR 1200-03-05-.01(1), TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.02(1)

D2. General provisions and applicability for non-process gaseous emissions. Any person constructing or otherwise establishing a non-portable air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize the best equipment and technology currently available for controlling such gaseous emissions.

TAPCR 1200-03-06-.03(2)

D3. Non-process emission standards. The permittee shall not cause, suffer, allow, or permit particulate emissions from non-process sources in excess of the standards in TAPCR Chapter 1200-03-06.

D4. General provisions and applicability for process gaseous emissions. Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize equipment and technology which is deemed reasonable and proper by the Technical Secretary.

TAPCR 1200-03-07-.07(2)

D5. Particulate emissions from process emission sources. The permittee shall not cause, suffer, allow, or permit particulate emissions from process sources in excess of the standards in TAPCR part 1200-03-07.

D6. Sulfur dioxide emission standards. The permittee shall not cause, suffer, allow, or permit sulfur dioxide emissions from process and non-process sources in excess of the standards in TAPCR Chapter 1200-03-14. Regardless of the specific emission standard, new process sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

D7. Fugitive Dust.

(a) The permittee shall not cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;
2. Application of asphalt, water, or suitable chemicals on dirt roads, material stockpiles, and other surfaces which can create airborne dusts;
3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

(b) The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or 20 minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in TAPCR Chapter 1200-03-20.

TAPCR 1200-03-08

D8. Open burning. The permittee shall comply with the TAPCR Chapter 1200-03-04 for all open burning activities at the facility.

TAPCR 1200-03-04

D9. Asbestos. Where applicable, the permittee shall comply with the requirements of 40 CFR Part 61 when conducting any renovation or demolition activities at the facility.

TAPCR 0400-30-38-.01(2) and 40 CFR, Part 61

D10. Annual certification of compliance. The generally applicable requirements set forth in Section D of this permit are intended to apply to activities and sources that are insignificant emission units or activities. By annual certification of compliance with the conditions in this Section the permittee shall be considered to meet the monitoring and related record keeping and reporting requirements of TAPCR subpart 1200-03-09-.02(11)(e)1(iii) and part 1200-03-10-.04(2)(b)1 and the compliance requirements of TAPCR subpart 1200-03-09-.02(11)(e)3(i). The permittee shall submit compliance certification for these conditions annually.

D11. Emission Standards for Hazardous Air Pollutants. The permittee shall comply with all applicable requirements of TAPCR Chapter 0400-30-38 for all emission sources subject to a requirement contained therein.

D12. Standards of Performance for New Stationary Sources. The permittee shall comply with all applicable requirements of TAPCR chapters 0400-30-39 and 1200-03-16 for all emission sources subject to a requirement contained therein.

D13. Gasoline Dispensing Facilities. The permittee shall comply with all applicable requirements of TAPCR Rule 1200-03-18-.24 for all emission sources subject to a requirement contained therein.

D14. Internal Combustion Engines.

(a) All stationary reciprocating internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR Rule 0400-30-38-.01.

(b) All stationary compression ignition internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR Chapter 0400-30-39.

(c) All stationary spark ignition internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR Chapter 0400-30-39.

TAPCR 0400-30-38 and 39

D15. Maintenance and Repair of Sources. The permittee shall maintain and repair each emission source, associated air pollution control device(s), and compliance assurance monitoring equipment as required to maintain and assure compliance with the specified emission limits.

TAPCR 1200-03-09-.03(8)

SECTION E

SOURCE SPECIFIC EMISSION STANDARDS, OPERATING LIMITATIONS, and MONITORING, RECORDKEEPING and REPORTING REQUIREMENTS

82-0153	Facility Description:	Microporous, LLC manufactures rubber and plastic battery mats used in lead acid batteries.
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Conditions E1 through E3 apply to all sources in Section E of this permit unless otherwise noted.

E1. Fee payment

FEE EMISSIONS SUMMARY TABLE FOR MAJOR SOURCE 82-0153

REGULATED POLLUTANTS	ALLOWABLE EMISSIONS (tons per AAP)	ACTUAL EMISSIONS (tons per AAP)	COMMENTS
PARTICULATE MATTER (PM)	40.08	AEAR	
SO₂	0.20	AEAR	
VOC	161.79	AEAR	
NO_x	16.24	AEAR	
Facility-Wide Total HAP Limit		AEAR	Included in VOC
Facility-Wide Individual HAP Limit		AEAR	
HAZARDOUS AIR POLLUTANTS (HAPs) NOT INCLUDED ABOVE*			
		AEAR	
		AEAR	
		AEAR	
MISCELLANEOUS POLLUTANTS NOT LISTED ABOVE**			
EACH MISC POLLUTANT NOT LISTED ABOVE			
		AEAR	

NOTES

AAP The **Annual Accounting Period (AAP)** is a 12 consecutive month period that **either (a) begins each July 1st and ends June 30th of the following year when fees are paid on a fiscal year basis, or (b) begins January 1st and ends December 31st of the same year when paying on a calendar year basis.** The AAP at the time of permit renewal issuance **began July 1, 2025, and ends June 30, 2026.** The next AAP begins **July 1, 2026, and ends June 30, 2026,** unless a request to change the annual accounting period is submitted by the responsible official as required by subparagraph 1200-03-26-.02(9)(b) of the TAPCR and approved by the Technical Secretary. If the permittee wishes to revise their annual accounting period or their annual emission fee basis as allowed by subparagraph 1200-03-26-.02(9)(b) of the TAPCR, the responsible official must submit the request to the Division in writing on or before December 31 of the annual accounting period for which the fee is due. If a change in fee basis from allowable emissions to actual emissions for any pollutant is requested, the request from the responsible official must include the methods that will be used to determine actual emissions. **Changes in fee bases must be made using the Title V Fee Selection form, form number APC 36 (CN-1583), included as an attachment to this permit and available on the Division of Air Pollution Control's website.**

N/A N/A indicates that no emissions are specified for fee computation.

AEAR If the permittee is paying annual emission fees on an actual emissions basis, **AEAR** indicates that an **Actual Emissions Analysis** is **Required** to determine the actual emissions of:

- (1) **each regulated pollutant** (Particulate matter [PM], SO₂, VOC, NO_x and so forth. See TAPCR 1200-03-26-.02(2)(i) for the definition of a regulated pollutant.),
- (2) the **“HAP Not Included Above” Category (non-VOC and non-PM HAP not included in a facility-wide limit),** and
- (3) the **Miscellaneous Category**

under consideration during the **Annual Accounting Period.**

* **Hazardous Air Pollutants Not Included Above:** This category is made-up of hazardous air pollutants that are not included in the VOC or PM category, such as HCl and HF, and are not included in a facility-wide HAP emission limitation. **For fee computation,** each individual hazardous air pollutant is subject to the 4,000-ton cap provisions of subparagraph 1200-03-26-.02(2)(i) of the TAPCR.

** **Miscellaneous Pollutants Not Listed Above:** This category is for pollutants that are not included in one of the other categories but for which an emission limitation has been established in this permit (including NSPS pollutants). **For fee computation,** each pollutant in this category is subject to the 4,000-ton cap provisions of subparagraph 1200-03-26-.02(2)(i).

END NOTES

- The permittee shall:**
- (1) Pay Title V **annual fees** (including the emissions fee, base fee, significant modification fee, & minor modification fee), on the emissions and year bases requested by the responsible official and approved by the Technical Secretary, for each annual accounting period (AAP) by the payment deadline(s) established in TAPCR 1200-03-26-.02(9)(a). Fees may be paid on an **actual, allowable, or mixed** emissions basis, and on either a **state fiscal year** or a **calendar year**, provided the requirements of TAPCR 1200-03-26-.02(9)(b) are met. If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within 15 days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8).
 - (2) Sources paying annual fees on an allowable emissions basis: pay annual fees for each AAP no later than April 1 of each year pursuant to TAPCR 1200-03-26-.02(9)(d). TAPCR 1200-03-26-.02(9)(a)2(i)
 - (3) Sources paying annual fees on a calendar year basis and an actual or mixed emissions basis: pay annual allowable based emission fees for each AAP no later than April 1 of each year pursuant to TAPCR 1200-03-26-.02(9)(d), except as allowed by TAPCR 1200-03-26-.02(9)(g)3. TAPCR 1200-03-26-.02(9)(a)2(ii)

- (4) Sources paying annual fees on a fiscal year basis and an actual or mixed emissions basis: for each AAP, pay an estimated 65% of the fee due no later than April 1 of the current fiscal year. The remainder of the fee for each annual accounting period is due no later than August 1 of each year pursuant to TAPCR 1200-03-26-.02(9)(d), except as allowed by TAPCR 1200-03-26-.02(9)(g)3.
TAPCR 1200-03-26-.02(9)(a)2(iii)
- (5) Sources paying annual fees on an actual emissions basis: prepare an **actual emissions analysis** for each AAP and pay **actual based emission fees** pursuant to TAPCR 1200-03-26-.02(9)(d). The **actual emissions analysis** shall include:
- (a) the completed **Fee Emissions Summary Table**,
 - (b) each **actual emissions analysis** required, and
 - (c) the actual emission records for each pollutant and each source as required for actual emission fee determination, or a summary of the actual emission records required for fee determination, as specified by the Technical Secretary or the Technical Secretary's representative. The summary must include sufficient information for the Technical Secretary to determine the accuracy of the calculations. These calculations must be based on the Fee Year basis approved by the Technical Secretary (a state fiscal year [July 1 through June 30] or a calendar year [January 1 through December 31]). These records shall be used to complete the **actual emissions analyses** required by the above **Fee Emissions Summary Table**.
TAPCR 1200-03-26-.02(9)(g)2
- (6) Sources paying annual fees on a Fee Choice of a mixed emissions basis: for all pollutants and all sources for which the permittee has chosen an actual emissions basis, prepare an **actual emissions analysis** for each AAP and pay **actual based emission fees** pursuant to TAPCR 1200-03-26-.02(9)(d). The **actual emissions analysis** shall include:
- (a) the completed **Fee Emissions Summary Table**,
 - (b) each **actual emissions analysis** required, and
 - (c) the actual emission records for each pollutant and each source as required for actual emission fee determination, or a summary of the actual emission records required for fee determination, as specified by the Technical Secretary or the Technical Secretary's representative. The summary must include sufficient information for the Technical Secretary to determine the accuracy of the calculations. These calculations must be based on the Fee Year basis approved by the Technical Secretary (a state fiscal year [July 1 through June 30] or a calendar year [January 1 through December 31]). These records shall be used to complete the **actual emissions analysis**.
- For all pollutants and all sources for which the permittee has chosen an allowable emissions basis, pay allowable based emission fees pursuant to TAPCR 1200-03-26-.02(9)(d).
TAPCR 1200-03-26-.02(9)(g)2
- (7) When paying on an actual or mixed emissions basis, submit the **actual emissions analyses** at the time the fees are paid in full or earlier.
TAPCR 1200-03-26-.02(9)(g)2
- (8) Include with each required AEAR report the following statement signed by the Responsible Official: *"I have reviewed this document in its entirety, and to the best of my knowledge, based on information and belief formed after reasonable inquiry, the statements and information contained in this document are true, accurate, and complete."*
TAPCR 1200-03-09-.02(11)(d)4

The annual fee due dates are specified in TAPCR 1200-03-26-.02(9)(a) and are dependent on the Responsible Official's choice of fee bases as described above. If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within 15 days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8). Emissions for regulated pollutants shall not be double counted as specified in Condition A8(d) of this permit.

Payment of the fee due and the actual emissions analysis (if required) shall be submitted to the Technical Secretary at the following address:

Payment of Fee to:

Tennessee Department of Environment and Conservation
 Division of Fiscal Services
 Consolidated Fee Section – APC
 Davy Crockett Tower, 6th Floor
 500 James Robertson Parkway
 Nashville, Tennessee 37243

Actual Emissions Analyses to:

A “Title V Emissions Summary Form” and the AEAR must be submitted electronically as directed by the Division. Additional information can be found at <https://www.tn.gov/environment/air/inventory.html>

TAPCR 1200-03-26-.02(3), (8), and (9), and TAPCR 1200-03-09-.02(11)(e)1(vii)

E2. Reporting requirements.

- (a) **Semiannual reports.** Semiannual reports shall cover the six-month periods from July 1 to December 31 and January 1 to June 30 and shall be submitted within 60 days after the end of each six-month period. Subsequent reports shall be submitted within 60 days after the end of each 6-month period following the first report. The first semiannual report following issuance of this permit shall cover the following permits and reporting periods:

Permit Number	Reporting Period Begins	Reporting Period Ends
569100	January 1, 2026	day before new permit issuance (with year)
578138	Issuance Date of new permit (with year)	July 1, 2026

These semiannual reports shall include:

- (1) Any monitoring and recordkeeping required by **Conditions E5-1, E6-1, E6-3, E6-4, E6-5, E8-1, E8-3, E8-4, and E8-5** of this permit. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (2) The visible emission evaluation readings from **Condition E3-2** of this permit if required. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (3) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS**. The record of deviations/excursions shall include, at a minimum, the time the deviation/excursion was discovered, the corrective action taken, and the time that the deviation/excursion was rectified.

These reports must be certified by a responsible official consistent with condition B4 of this permit and shall be submitted to The Technical Secretary at the address in Condition E2(b) of this permit.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

- (b) **Annual compliance certification.** The permittee shall submit annually compliance certifications with each term or condition contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

- (1) The identification of each term or condition of the permit that is the basis of the certification;
- (2) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; Such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;
- (3) The status of compliance with each term or condition of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in E2(b)2 above. The certification shall identify each deviation and take it

into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion* or exceedance** as defined below occurred; and

- (4) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* “Excursion” shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** “Exceedance” shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

Annual compliance certifications shall cover the 12-month period from July 1 to June 30 and shall be submitted within 60 days after the end of each 12-month period. The first annual compliance certification following issuance of this permit shall cover the following permits and reporting periods:

Permit Number	Reporting Period Begins	Reporting Period Ends
569100	July 1, 2025	day before new permit issuance (with year)
578138	Issuance Date of new permit (with year)	June 30, 2026

These certifications shall be submitted to: **TN APCD** and **EPA**

**Division of Air Pollution Control
Johnson City Environmental Field Office
2305 Silverdale Road
Johnson City, TN 37601
or
APC.JCEFO@tn.gov**

**and Air Enforcement Branch
US EPA Region IV
61 Forsyth Street, SW
Atlanta, Georgia 30303
or
Through the EPA CDX
(https://cdx.epa.gov/)**

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No.144, July 28, 2014, pages 43661 through 43667
TAPCR 1200-03-09-.02(11)(e)3.(v)

- (c) **NESHAP Reporting Requirements:** Pursuant to 40 CFR §63.7550, the permittee shall submit the NESHAP reports required by **Condition E3-19**. Each NESHAP report shall cover the twelve-month periods from **January 1** through **December 31** and shall be submitted no later than January 31st of each year.

These reports must be certified by a responsible official consistent with condition B4 of this permit and shall be submitted to The Technical Secretary at the following address:

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway
Nashville, TN 37243
e-mail: air.pollution.control@tn.gov

Pursuant to §63.7550(h)(3), the permittee must submit all compliance reports required by Table 9 of Subpart DDDDD electronically to the EPA via the CEDRI. If the reporting form specific to Subpart DDDDD is not available in CEDRI at the time that the report is due, the permittee must submit the report to the Administrator at the address listed below.

Air Enforcement Branch

US EPA Region 4
 61 Forsyth Street, SW
 Atlanta, Georgia 30303-8960

TAPCR 1200-03-09-.03(8)

- (d) **Retention of Records** All records required by any condition in Section E of this permit must be retained for a period of not less than five years. Additionally, these records shall be kept available for inspection by the Technical Secretary or a Division representative.

TAPCR 1200-03-09-.02(11)(e)1.(iii)(II)II

E3. General permit conditions.

E3-1. General Recordkeeping Requirements

- A. All recordkeeping requirements for all data required to be recorded shall follow the following schedules:

For Daily Recordkeeping	For Weekly Recordkeeping	For Monthly Recordkeeping
No later than seven days from the end of the day for which the data is required.	No later than seven days from the end of the week for which the data is required.	No later than 30 days from the end of the month for which the data is required.

- B. The information contained in logs, records, and submittals required by this permit shall be kept at the facility’s address, unless otherwise noted, and provided to the Technical Secretary or a Division representative upon request. Computer-generated logs are acceptable. Compliance is assured by retaining the logs, records, and submittals specified in this permit for a period of not less than five years at the facility’s address. Any logs that have an alternative format may be utilized provided they contain the same information that is required. Logs and records are not required to be submitted semiannually unless specified in **Condition E2** or requested by the Division.

TAPCR 1200-03-10-.02(2)(a)

- E3-2. A.** Unless otherwise specified, visible emissions from this facility shall not exhibit greater than 20% opacity, except for one six-minute period in any one-hour period, and for no more than four six-minute periods in any 24-hour period. A stack is defined as any chimney, flue, conduit, exhaust, vent, or opening of any kind whatsoever, capable of, or used for, the emission of air contaminants.

TAPCR 1200-03-05-.01(1) and 1200-03-05-.03(6)

Compliance Method: The permittee shall demonstrate compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed in Attachment 1. Visible emissions from sources at this facility shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average). Reports and certifications shall be submitted in accordance with **Condition E2** of this permit. If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring.

- B. The permittee shall not cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Reasonable precautions shall include, but are not limited to, the following:

- (a) Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;
- (b) Application of asphalt, water, or suitable chemicals on dirt roads, material stockpiles, and other surfaces which can create airborne dusts;
- (c) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five minutes per hour or 20 minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in TAPCR 1200-03-20. A malfunction is defined as, any sudden and unavoidable failure of process equipment or for a process to operate in an abnormal and unusual manner. Failures that are caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

TAPCR 1200-03-08-.01(1) and 1200-03-08-.01(2)

Compliance Method: When required to demonstrate compliance, fugitive emissions shall be determined by Tennessee Visible Emissions Evaluation Method 4 as adopted by the Tennessee Air Pollution Control Board on April 16, 1986.

- C. Fugitive emissions from roads and parking areas shall not exhibit greater than 10% opacity.

TAPCR 1200-03-08-.03

Compliance Method: When required to demonstrate compliance, fugitive emissions from roads and parking areas shall be determined by utilizing Tennessee Visible Emissions Evaluation (TVEE) Method 1, as adopted by the Tennessee Air Pollution Control Board on April 29, 1982, as amended on September 15, 1982, and August 24, 1984.

- E3-3.** Insignificant activities (as defined at TAPCR 1200-03-09-.04(5)) for this facility are listed in the approved application dated June 9, 2025. Additional insignificant activities may be added and operated at any time with the provision that a written notification shall be submitted to the Technical Secretary, including an updated APC 2 application form along with a truth, accuracy, and completeness statement signed by a responsible official.

TAPCR 1200-03-09-.03(8).

- E3-4.** The permittee shall maintain and repair the emission source, associated air pollution control device(s), and compliance assurance monitoring equipment as required to maintain and assure compliance with the specified emission limits.

TAPCR 1200-03-09-.03(8)

Compliance Method: Records of all repair and maintenance activities required above shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five years. The date each maintenance and repair activity began and/or is scheduled in the permittee maintenance system shall be entered in the log no later than seven days following the start of the repair or maintenance activity. The completion date shall be entered in the log no later than seven days after activity completion.

E3-5. Identification of Responsible Official, Technical Contact, and Billing Contact

- A. The application that was utilized in the preparation of this permit is dated March 18, 2020, and signed by Responsible Official David Phillips, Director of Operations of the permitted facility. Douglas Rich, President, is the current Responsible Official for the facility. If this person terminates employment or is assigned different duties and is no longer a Responsible Official for this facility as defined in part 1200-03-09-.02(11)(b)21 of the Tennessee Air Pollution Control Regulations, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Responsible Official and certification of truth and accuracy. All representations, agreement to terms and conditions, and covenants made by the former Responsible Official that were used in the establishment of the permit terms

and conditions will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements, and/or covenants.

- B. The application dated December 17, 2026, identifies Doug Rich as the Technical Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Principal Technical Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Principal Technical Contact and certification of truth and accuracy.
- C. The application dated December 17, 2026, identifies Doug Rich as the Billing Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Billing Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Billing Contact and certification of truth and accuracy.

NSPS Dc:	40 CFR 60 Subpart Dc, Standards of Performance for New Stationary Sources Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
Conditions E3-6 and E3-7 apply to sources 82-0153-01 and 82-0153-29	

E3-6. Under the Provisions of 40 CFR part 60, subpart Dc—Standards of Performance for New Stationary Sources Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, each boiler (Source 01 and Source 29) is subject to and shall and shall comply with 40 CFR part 60, subpart Dc as construction of each boiler commenced after June 9, 1989, and each boiler “has a maximum design heat input capacity of 29 megawatts (MW) [100 million British thermal units per hour (MMBtu/hr.)] or less, but greater than or equal to 2.9 MW (10 MMBtu/hr.)” 40 CFR §60.40c(a)

The permittee shall comply with the General Provisions in 40 CFR §§60.1 through 60.19 that apply to sources subject to 40 CFR part 60, subpart Dc. These provisions are identified in Table 1 found in Attachment 2. The applicable requirements of 40 CFR part 60, subpart Dc are incorporated into this permit pursuant to TAPCR 1200-03-09-.03(8).

TAPCR 1200-03-09-.03(8)

E3-7. The permittee shall record and maintain records of the amount of natural gas combusted in each boiler subject to 40 CFR Subpart Dc during each calendar month. Alternatively, the permittee shall record and maintain records of the amount of natural gas delivered to the property during each calendar month.

TAPCR 1200-03-09-.03(8) and 40 CFR §60.48c(g)

Compliance Method: The permittee shall record the actual quantity of natural gas combusted or delivered to the property during each calendar month by the source subject to 40 CFR Subpart Dc in example log #1 as found in Attachment 6 or in an alternative format which provides the same information. The log shall be retained in accordance with **Condition E3-1**. The log must indicate whether the record is for natural gas combusted by the source or natural gas delivered to the property. This log shall be reported semi-annually, as required by **Condition E2(a)**.

NESHAP DDDDD	40 CFR 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process
Conditions E3-8 through E3-23 apply to sources 82-0153-01, 52-0153-18, and 82-0153-29	

E3-8. Under the Provisions of 40 CFR part 63, subpart DDDDD— National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial-Commercial-Institutional Boilers and Process Heaters, this facility is subject to 40 CFR part 63, subpart DDDDD, as the boilers are located at a major source of hazardous air pollutants (HAPs).

The applicable requirements of 40 CFR part 63, subpart DDDDD are incorporated into this permit pursuant to 40 CFR §63.7485 and TAPCR 1200-03-09-.03(8) (Attachment 5).

E3-9. Under the subcategories of boilers, these boiler is identified as an “unit designed to burn gas 1 fuels.” A “unit designed to burn gas 1 fuels” is defined as “any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels.”

40 CFR §§63.7499(l) and 63.7575

E3-10. The permittee must meet the requirements in paragraphs (a) and (b) of this condition, except as provided in **Conditions E3-11 and E3-12**. The permittee must meet these requirements at all times the affected unit is operating.

(a) The permittee must meet the following work practice standard in Table 3 to 40 CFR Part 63, Subpart DDDDD [Attachment 3]:

If your unit is . . .	The permittee must meet the following . . .
3. A new or existing boiler without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater	Conduct a tune-up of the boiler annually as specified in 40 CFR §63.7540. Units in the Gas 1 subcategory will conduct this tune-up as a work practice for all regulated emissions under this subpart (40 CFR Part 63, Subpart DDDDD).

40 CFR §63.7500(a)(1)

(b) At all times, the permittee must operate and maintain any affected source (as defined in 40 CFR §63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Technical Secretary that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

40 CFR §63.7500(a)(3)

E3-11. As provided in 40 CFR §63.6(g), EPA may approve use of an alternative to the work practice standards in 40 CFR §63.7500.

40 CFR §63.7500(b)

E3-12. Pursuant to 40 CFR §63.7500(e), boilers and process heaters in the units designed to burn gas 1 fuels are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to Subpart DDDDD, or the operating limits in Table 4 to Subpart DDDDD. *Unit designed to burn gas 1 subcategory* includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels.

E3-13. Pursuant to 40 CFR §63.7500(f) and 40 CFR §63.7505(a), the permittee shall comply with the emission limits, work practice standards, and operating limits. These limits apply at all times the affected unit is operating, except during periods of startup and shutdown.

E3-14. For new affected sources (as defined in 40 CFR §63.7490), the permittee must demonstrate initial compliance with the applicable work practice standards in Table 3 to 40 CFR part 63, subpart DDDDD within the applicable annual schedule as specified in 40 CFR §63.7515(d) following the initial compliance date specified in 40 CFR §63.7495(a). Thereafter, the permittee is required to complete the applicable annual tune-up as specified in 40 CFR §63.7515(d) [**Condition E3-15**].

40 CFR §63.7510(g)

E3-15. Pursuant to 40 CFR §63.7515(d) and 40 CFR §63.7540(a)(10), the permittee shall conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance if the boiler or process heater has a heat input capacity of 10 MMBtu/hr or greater. Each subsequent annual tune-up must be no more than 13 months after the previous tune-up. Affected sources must maintain onsite and submit, if requested by the Technical Secretary, an annual report containing the information in 40 CFR §63.7540(a)(10)(vi)(A) through (C).

E3-16. The permittee must demonstrate continuous compliance with the work practice standards in Table 3 [Attachment 3] to 40 CFR part 63, subpart DDDDD according to paragraph (a) of this condition.

(a) The permittee must conduct an annual tune-up of the boiler to demonstrate continuous compliance as specified in paragraphs (a)(1) through (a)(6) of this condition. The permittee must conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;

(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;

(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the permittee may delay the inspection until the next scheduled unit shutdown);

(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject;

(5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and

(6) Maintain on-site and submit, if requested by the Technical Secretary, a report containing the information in paragraphs (6)(i) through (6)(iii) of this condition.

(i.) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler;

(ii.) A description of any corrective actions taken as a part of the tune-up; and

(iii.) The type and amount of fuel used over the 12 months prior to the tune-up, **but** only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

40 CFR §63.7540(a)(10)

E3-17. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of start-up.

40 CFR §63.7540(a)(13)

E3-18. Pursuant to 40 CFR §63.7545(a), the permittee shall submit all applicable notifications in 40 CFR §§63.7(b) and (c), 40 CFR 63.8(e), (f)(4) and (6), and 40 CFR 63.9(e) and (f) by the dates specified.

E3-19. Pursuant to 40 CFR §63.7550(c)(5), for facilities subject to tune-up requirements, submit a compliance report with the following information as follows:

- (a) Company and Facility name and address.
- (b) Process unit information, emissions limitations, and operating parameter limitations.
- (c) Date of report and beginning and ending dates of the reporting period.
- (d) The total operating time during the reporting period.
- (e) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.
- (f) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

E3-20. The permittee must keep records according to paragraph (a) of this condition.

- (a) A copy of each notification and report submitted to comply with 40 CFR part 63, subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report submitted, according to the requirements in 40 CFR §63.10(b)(2)(xiv).

40 CFR §63.7555(a)

E3-21. Pursuant to 40 CFR §63.7555(a)(1), (a)(2) and 40 CFR §63.7560, records must be in a form suitable and readily available for expeditious review, according to 40 CFR §63.10(b)(1).

E3-22. As specified in 40 CFR §63.10(b)(1), the permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Records must be kept onsite or accessible from onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. Records may be kept offsite for the remaining 3 years.

E3-23. The permittee shall comply with the General Provisions in 40 CFR §§63.1 through 63.15 that apply to sources subject to 40 CFR part 63, subpart DDDDD. These provisions are identified in Table 10 found in Appendix 5.

TAPCR 1200-03-09-.03(8)

NESHAP B	40 CFR 63 Subpart B, Requirements for Control Technology Determinations for Major Sources in Accordance With Clean Air Act Sections, Sections 112(g) and 112(j)
Condition E3-25 applies to sources 82-0153-12 and 82-0153-28	

E3-25. The permittee shall comply with all applicable requirements contained in 40 CFR 63 Subpart A.

TAPCR 1200-03-09-.03(8) and 40 CFR 63.43(g)(2)(iv)

82-0153-01: Source Identification: One 48.5 MMBtu/hr Natural Gas Fired Boiler.

This boiler is subject to 40 CFR 60, Subpart Dc and 40 CFR 63 Subpart DDDDD.

Conditions E4-1 through E4-7 apply to source 82-0153-01.

- E4-1.** The design heat input rate of the boiler is 48.5 Million British Thermal Units per hour (MMBtu/hr.). Should the permittee need to modify the boiler in a manner that increases the heat input design rate, a construction permit or Title V modification shall first be applied for in accordance with TAPCR 1200-03-09-.01 or 1200-03-09-.02(11)(d)1.(i)(V) prior to making the change.

TAPCR 1200-03-09-.01(1)(d) and the application dated March 18, 2020

Compliance Method: The permittee shall maintain documentation to demonstrate the heat input rate for this source. Documentation shall include, but is not limited to, manufacturer's specifications, purchase records, operating manuals, or a tag affixed to the unit by the manufacturer. These documents shall be kept readily available/accessible and made available upon request by the Technical Secretary or a Division representative.

- E4-2.** Natural Gas only shall be used as fuel for this source. Should the permittee need to modify the boiler in a manner that uses a fuel other than natural gas, a construction permit or Title V modification shall first be applied for in accordance with TAPCR 1200-03-09-.01 or 1200-03-09-.02(11)(d)1.(i)(V) prior to making the change.

TAPCR 1200-03-09-.03(8)

Compliance Method: Compliance with this condition shall be demonstrated with the records required by **Condition E3-7** of this permit.

- E4-3.** Particulate matter emitted from this source shall not exceed 0.36 pound per hour (lb./hr.) on a daily average basis.

TAPCR 1200-03-06-.01(7) and agreement letter dated March 10, 2025 [Attachment 7]

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E4-1**), the use of natural gas as the only fuel source (**Condition E4-2**), and the PM emission factor of 7.6 lbs./10⁶ scf found in AP-42, Chapter 1.4, Table 1.4-2, Natural Gas Combustion.

- E4-4.** Sulfur dioxide emissions from this source shall not exceed 0.029 pound per hour (lb./hr.), on a daily average basis.

TAPCR1200-03-14-.01(3) and the agreement letter dated March 10, 2025 [Attachment 7]

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E4-1**), the use of natural gas as the only fuel source (**Condition E4-2**), and the SO₂ emission factor of 0.6 lbs./10⁶ scf found in AP-42, Chapter 1.4, Table 1.4-2, Natural Gas Combustion.

- E4-5.** Carbon Monoxide emitted from this source shall not exceed 17.49 tons during all intervals of 12-consecutive months.

TAPCR 1200-03-06-.03(2)

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E4-1**), the use of natural gas as the only fuel source (**Condition E4-2**), and the CO emission factor of 84 lbs./10⁶ scf found in AP-42, Chapter 1.4, Table 1.4-1, Natural Gas Combustion.

- E4-6.** Volatile Organic Compounds emitted from this source shall not exceed 1.15 tons during all intervals of 12-consecutive months.

TAPCR 1200-03-06-.03(2)

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E4-1**), the use of natural gas as the only fuel source (**Condition E4-2**), and the VOC emission factor of 5.5 lbs./10⁶ scf found in AP-42, Chapter 1.4, Table 1.4-2, Natural Gas Combustion.

E4-7. Nitrogen Oxides emitted from this source shall not exceed 10.41 tons during all intervals of 12-consecutive months.

TAPCR 1200-03-06-.03(2)

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E4-1**), the use of natural gas as the only fuel source (**Condition E4-2**), the NOx emission factor of 50 lbs./10⁶ scf found in AP-42, Chapter 1.4, Table 1.4-1, Natural Gas Combustion, and the use of a low-NOx burner. The boiler shall not operate unless the low-NOx burner is fully operational. Low NOx vendor specification documents shall be retained and made readily available for inspection by the Technical Secretary or a Division Representative upon request.

<p>82-0153-07 Source Description: Rubber Battery Mat Lines #1 and #2</p> <p style="text-align: center;">Process includes Banbury mixing machines, a silica pump, and finishing line #4 operations (i.e., trimming, grinding, sizing) from finishing line #4 exhausted to Dust Collector #4.</p>
<p>Conditions E5-1 and E5-2 apply to sources 82-0153-07.</p>

E5-1. Particulate matter emitted from this source shall not exceed 0.02 grain per dry standard cubic foot (4.3 pounds per hour).

TAPCR 1200-03-07-.04(1)

Compliance Method: Compliance with the particulate emission limit for baghouse DC-4 shall be assured by maintaining a daily log of the baghouse pressure differential in inches of water column between the gas flow inlet and the gas flow outlet of the baghouse. The pressure drops for baghouse DC-4 shall be no less than 4.0 inches of water and shall be recorded once daily when the source is in operation. The days when the source does not operate shall also be noted. Visual inspections for leaks or damage to the exterior of the baghouse and the baghouse ductwork including the baghouse exhaust shall be conducted daily. (see example log #6 in Attachment 6).

For lower pressure drop reading(s) resulting from replacement of bags or cartridges, the permittee shall record the deviation(s) as such in their daily records. Due allowance will be made for lower pressure drop reading(s) which follow replacement of bags or cartridges provided the permittee establishes to the satisfaction of the Technical Secretary that these lower readings resulted from the replacement of bags or cartridges. If values fall below the established minimum pressure drop value for the baghouse of concern, relevant comments and any action taken shall be noted by the recorder on the daily log. The logs shall denote what maintenance and what repair was done, when it was done, by whom, and when problems were rectified showing date accomplished. Daily inspections and daily log entries of readings and maintenance or a summary of such notations shall be included in each semiannual report in accordance with **Condition E2(a)(1)**.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

E5-2. The baghouse shall be operating when the equipment served by these devices are in operation. Upon the malfunction/failure of any emission control device(s) serving a particular source, the operation of the process(es) served by the device(s) shall be regulated by Chapter 1200-03-20 of the Tennessee Air Pollution Control Regulations. This also applies to any excess emissions due to start-up and shutdowns.

Compliance Method: Following the requirements as identified in TAPCR 1200-03-20.

82-0153-12: Source Identification: Plastic Battery Mat Line #1

This source consists of a mixer, extruder, calendar, extractor, dryer and secondary dryer, pinhole detector, wind-up, and slitter. A condenser and distiller are used to recover material for recycling back into the process. A demister is used to control oil mist. Five activated carbon beds will be used to control TCE emissions.

This source is subject to Subpart B, Sections 63.40 through 63.44 for Clean Air Act Section 112(g) Case-by-Case MACT.

Conditions E6-1 through E6-7 apply to source 82-0153-12.

- E6-1.** The maximum trichloroethylene (TCE) and stabilizer mixture received for plastic battery mat line #1 shall not exceed **160,000** pounds during all intervals of 12-consecutive months. Should the permittee need to modify this source in a manner that increases the material received, a construction permit or Title V modification shall first be applied for in accordance with TAPCR 1200-03-09-.01 or 1200-03-09-.02(11)(d)1.(i)(V) prior to making the change.

Compliance Method: The permittee shall record the actual amount of trichloroethylene (TCE) and stabilizer mixture received each month and during all intervals of 12-consecutive months for plastic battery mat line #1. This record must be maintained, in a form that readily demonstrates compliance with this condition (see example log #2 in Attachment 6). All data, including all required calculations, must be entered in the logs no later than 30 days from the end of the month for which the data is required, and must be maintained at the source location and kept available for inspection by the Technical Secretary or a Division representative upon request. This log shall be reported semi-annually, as required by **Condition E2(a)**.

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(2)(a)

- E6-2.** The as-supplied VOC and HAP content of all VOC and HAP-containing materials to be used by this source, excluding the TCE/Stabilizer mixture, shall be determined from Safety Data Sheets (SDS) or manufacturer or vendor formulation data, which explicitly list the VOC and HAP content. If new materials are used, or if material formulation is changed, logs used to calculate emissions of VOC and HAP shall be updated within 30 days from the initial date of usage of the new or altered material. These records must be maintained at the source location and kept readily available for inspection by the Technical Secretary or a Division representative upon request. These logs must be retained for a period of not less than five years.

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(2)(a)

Compliance Method: Purchase orders and/or invoices for all VOC- and HAP-containing materials, along with current SDS, must be maintained and kept available for inspection by the Technical Secretary or a Division representative. The SDS must explicitly list the VOC and HAP content by weight for all VOC- and HAP-containing materials. If SDS are not available with this information, vendor formulation data containing the required information for those materials must also be maintained. These records must be retained in accordance with **Condition E3-1**. Scanned documents (maintained electronically) may be used to fulfill this requirement.

TAPCR 1200-03-10-.02(2)(a)

- E6-3.** Hazardous Air Pollutants (HAPs) emitted from plastic battery mat line #1 shall not exceed **80.0** tons during all intervals of 12-consecutive months.

TAPCR 1200-03-07-.07(2)

Compliance Method: The permittee shall calculate the actual quantities of non-TCE/stabilizer HAPs emitted from plastic battery mat line #1 during each calendar month using records required by **Condition E6-2**. The permittee shall maintain records of these emissions in a form that readily shows compliance with this condition (see example log #4 in Attachment 6). The permittee shall use the records of non-TCE/stabilizer HAP required by this condition and the records of TCE/Stabilizer emitted required by **Condition E6-1** to calculate the monthly emissions of HAP emitted by plastic battery mat line #1. The permittee shall then use these monthly records to determine the amount of HAP emitted during each period of 12-consecutive months. The permittee shall maintain records of these emissions in a form that readily shows compliance with this condition (see

example logs #2, #4, and #5 in Attachment 6). For the purpose of this limit and fees, the permittee shall assume that the TCE/Stabilizer mixture is 100 percent HAP and 100 percent VOC. This log shall be reported semi-annually, as required by **Condition E2(a)**.

Compliance with this emission limit is also assured by operating the control device(s) at all times plastic battery mat line #1 is in operation and maintaining the plastic battery mat line and control device(s) in accordance with **Condition E6-4** of this permit. All HAP received shall be considered to be emitted.

In addition, the carbon beds shall be monitored and replaced prior to the end of the adsorption capacity at 38-months. Sampling and testing of the carbon material will be conducted on a semi-annual basis and analyzed for available life expectancy to ensure the carbon material is replaced prior to the end of effective adsorption capacity. In the event analysis of the carbon material results in a more frequent carbon material replacement schedule, the material may be replaced with no changes to the permit required. In the event analysis of the carbon material results in a less frequent carbon replacement schedule, the permit may be amended to reflect the more lenient replacement schedule. Analysis of the carbon material, along with a summary of the analysis including, at a minimum, the sampling date, the carbon tetrachloride activity (wt%), the minimum acceptable wt%, and dates in which the carbon material is replaced, must be maintained at the facility and kept readily available for inspection by the Technical Secretary or a Division representative upon request. This log must be retained for a period of not less than five years. Carbon sampling and testing records are **not** required to be reported semi-annually, as required by **Condition E2(a)**.

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(2)(a)

- E6-4.** The minimum recovery efficiency of TCE from the carbon adsorption system shall be 95% during all intervals of 12-consecutive months.

TAPCR 0400-30-38-.01(1)(b)2 40 CFR §§63.40 through 63.44

Compliance Method: The permittee shall use the records in **Condition E6-1** and the equations below to calculate the recovery efficiency of TCE each month, and during all intervals of 12-consecutive months. This recovery efficiency shall be calculated using the following equations:

$$TCE\ Lost\ (\%) = \left[\frac{Received\ TCE\ (\frac{tons}{mo} \text{ or } \frac{tons}{yr} \text{ .})}{TCE\ Processed\ (\frac{tons}{mo} \text{ or } \frac{tons}{yr} \text{ .})} \right] \times 100$$

$$TCE\ Recovered\ (\%) = 100\% - TCE\ Lost\ (\%)$$

“TCE Processed” is defined as the monthly amount of TCE/stabilizer mixture provided to the extractor. For the TCE processed value, the permittee shall record the actual quantity of TCE processed into the Extractor per month. This record must be maintained in a form that readily demonstrates compliance with this condition (see example log #3 in Attachment 6). All data, including all required calculations, must be entered into the log no later than 30 days from the end of the day for which the data is required. This log shall be reported semi-annually, as required by **Condition E2(a)**.

- E6-5.** Volatile organic compounds (VOCs) emitted from plastic battery mat line #1 shall not exceed **80.0** tons during all intervals of 12-consecutive months. This limitation includes VOC emissions from all VOC-containing material(s) and TCE/stabilizer mixture.

TAPCR 1200-03-07-.07(2)

Compliance Method: The permittee shall calculate the actual quantities of **non-TCE/stabilizer** VOCs emitted from plastic battery mat line #1 during each calendar month and during each period of 12-consecutive months. The permittee shall maintain records of these emissions in a form that readily shows compliance with this condition (see example log #4 in Attachment 6).

In addition, the permittee shall keep a log of the **total** VOC emissions [non-TCE/stabilizer VOCs emitted plus the TCE received/emitted (**Condition E6-1**)] by plastic battery mat line #1 during each period of 12-consecutive months. The permittee

shall maintain records of these emissions in a form that readily shows compliance with this condition (see example logs #2, #4, and #5 in Attachment 6).

All data, including all required calculations, must be entered in the logs [logs #2, #4, & #5] no later than 30 days from the end of the month for which the data is required, and must be maintained at the source location and kept available for inspection by the Technical Secretary or a Division representative upon request. These logs [logs #2, #4, & #5] must be retained for a period of not less than five years and shall be reported semi-annually, as required by **Condition E2(a)(1)**.

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(2)(a)

E6-6. Particulate matter emitted from this source shall not exceed 1.93 pounds per hour on a daily average basis.

This emission limitation is established pursuant to applicable standard 1200-03-07-.03(1) and the maximum material input rate of raw material (e.g., silica & polyethylene pellets).

Compliance Method: Compliance with this condition is assured by maintaining proper operation and maintenance of the activated carbon filter control and semi-annual inspection of the demister. Routine preventative maintenance, as required to maintain specified emission limits, shall be performed on the air pollution control devices. Maintenance and inspection records shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five years.

E6-7. The carbon beds associated with this process have been determined to be inherent process equipment and therefore are not subject to Compliance Assurance Monitoring requirements as set forth in 40 CFR Part 64.1. TAPCR 1200-03-09-.03(8)

<p>82-0153-18: Source Identification: One 10.5 MMBtu/hr Natural Gas Fired Boiler.</p> <p style="text-align: center;">This boiler is subject to 40 CFR 63, Subpart DDDDD.</p>
<p>Conditions E7-1 through E7-7 apply to source 82-0153-18.</p>

E7-1. The design heat input rate of the boiler is 10.5 Million British Thermal Units per hour (MMBtu/hr.). Should the permittee need to modify the boiler in a manner that increases the design heat input rate, a construction permit or Title V modification shall first be applied for in accordance with TAPCR 1200-03-09-.01 or 1200-03-09-.02(11)(d)1.(i)(V) prior to making the change

TAPCR 1200-03-09-.01(1)(d) and the application dated March 18, 2020

Compliance Method: The permittee shall maintain documentation to demonstrate the heat input rate for this source. Documentation shall include, but is not limited to, manufacturer’s specifications, purchase records, operating manuals, or a tag affixed to the unit by the manufacturer. These documents shall be kept readily available/accessible and made available upon request by the Technical Secretary or a Division representative.

E7-2. Natural Gas only shall be used as fuel for this source. Should the permittee need to modify the boiler in a manner that uses a fuel other than natural gas, a construction permit or Title V modification shall first be applied for in accordance with TAPCR 1200-03-09-.01 or 1200-03-09-.02(11)(d)1.(i)(V) prior to making the change.

TAPCR 1200-03-09-.03(8)

Compliance Method: The permittee shall maintain documentation to demonstrate the type of fuel used for this source. Documentation shall include, but is not limited to, manufacturer’s specifications, purchase records, operating manuals, or a tag affixed to the unit by the manufacturer. These documents shall be kept readily available/accessible and made available upon request by the Technical Secretary or a Division representative.

E7-3. Particulate matter emitted from this source shall not exceed 0.08 pound per hour on a daily average basis.

TAPCR 1200-03-06-.01(7) and agreement letter dated March 10, 2025 [Attachment 7]

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E7-1**), the use of natural gas as the only fuel source (**Condition E7-2**), and the PM emission factor of 7.6 lbs./10⁶ scf found in AP-42, Chapter 1.4, Natural Gas Combustion

E7-4. Sulfur dioxide emissions from this source shall not exceed 0.006 pound per hour, on a daily average basis.

TAPCR1200-03-14-.01(3) and agreement letter dated March 10, 2025 [Attachment 7]

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E7-1**), the use of natural gas as the only fuel source (**Condition E7-2**), and the SO₂ emission factor of 0.6 lbs./10⁶ scf found in AP-42, Chapter 1.4, Natural Gas Combustion.

E7-5. Carbon Monoxide emitted from this source shall not exceed 3.79 tons during all intervals of 12-consecutive months.

TAPCR 1200-03-06-.03(2)

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E7-1**), the use of natural gas as the only fuel source (**Condition E7-2**), and the CO emission factor of 84 lbs./10⁶ scf found in AP-42, Chapter 1.4, Natural Gas Combustion

E7-6. Volatile Organic Compounds emitted from this source shall not exceed 0.25 tons during all intervals of 12-consecutive months.

TAPCR 1200-03-06-.03(2)

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E7-1**), the use of natural gas as the only fuel source (**Condition E7-2**), and the VOC emission factor of 5.5 lbs./10⁶ scf found in AP-42, Chapter 1.4, Natural Gas Combustion.

E7-7. Nitrogen Oxides emitted from this source shall not exceed 2.25 tons during all intervals of 12-consecutive months.

TAPCR 1200-03-06-.03(2)

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E7-1**), the use of natural gas as the only fuel source (**Condition E7-2**), the NO_x emission factor of 50 lbs./10⁶ scf found in AP-42, Chapter 1.4, Natural Gas Combustion, and the use of a low-NO_x burner. The boiler shall not operate unless the low-NO_x burner is fully operational. Low NO_x vendor specification documents shall be retained and made readily available for inspection by the Technical Secretary or a Division Representative upon request.

82-0153-28: Source Identification: Plastic Battery Mat Line #2

This source consists of a mixer, extruder, calendar, extractor, dryer and secondary dryer, pinhole detector, wind-up, and slitter. A condenser and distiller are used to recover material for recycling back into the process. A demister is used to control oil mist. Three activated carbon beds will be used to control TCE emissions.

This source is subject to Subpart B, Sections 63.40 through 63.44 for Clean Air Act Section 1112(g) Case-by-Case MACT.

Conditions E8-1 through E8-7 apply to source 82-0153-28.

E8-1. The maximum trichloroethylene (TCE) and stabilizer mixture received for plastic battery mat line #2 shall not exceed **160,000** pounds during all intervals of 12-consecutive months. Should the permittee need to modify this source in a manner that increases the material received, a construction permit or Title V modification shall first be applied for in accordance with TAPCR 1200-03-09-.01 or 1200-03-09-.02(11)(d)1.(i)(V) prior to making the change.

TAPCR 1200-03-09-.03(8) the application received May 21, 2019, and the letter dated September 27, 2019, from the permittee.

Compliance Method: The permittee shall record the actual amount of trichloroethylene (TCE) and stabilizer mixture received each month and during all intervals of 12-consecutive months for plastic battery mat line #2. This record must be maintained, in a form that readily demonstrated compliance with this condition (see example log #2 in attachment 6). All data, including all required calculations, must be entered into the log no later than 30 days from the end of the month for which the data is required. This log shall be reported semi-annually, as required by **Condition E2(a)(1)**.

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(2)(a)

- E8-2.** The as-supplied VOC and HAP content of all VOC and HAP-containing materials to be used by this source, excluding the TCE/Stabilizer mixture, shall be determined from Safety Data Sheets (SDS), or manufacturer or vendor formulation data, which explicitly list the VOC and HAP content. If new materials are used, or if material formulation is changed, logs used to calculate emissions of VOC and HAP shall be updated within 30 days from the initial date of usage of the new or altered material. These records must be maintained at the source location and kept readily available for inspection by the Technical Secretary or a Division representative upon request. These logs must be retained for a period of not less than five years.

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(2)(a)

Compliance Method: Purchase orders and/or invoices for all VOC- and HAP-containing materials, along with current SDS, must be maintained and kept available for inspection by the Technical Secretary or a Division representative. The SDS must explicitly list the VOC and HAP content by weight for all VOC- and HAP-containing materials. If SDS are not available with this information, vendor formulation data containing the required information for those materials must also be maintained. These records must be retained in accordance with **Condition E3-1**. Scanned documents (maintained electronically) may be used to fulfill this requirement.

TAPCR 1200-03-10-.02(2)(a)

- E8-3.** Hazardous Air Pollutants (HAPs) emitted from plastic battery mat line #2 shall not exceed **80.0** tons during all intervals of 12-consecutive months.

TAPCR 1200-03-07-.07(2)

Compliance Method: The permittee shall calculate the actual quantities of **non-TCE/stabilizer** HAPs emitted from plastic battery mat line #2 during each calendar month using records required by **Condition E8-2**. The permittee shall maintain records of these emissions in a form that readily shows compliance with this condition (see example log #4 in Attachment 6). The permittee shall use the records of non-TCE/stabilizer HAP required by this condition and the records of TCE/Stabilizer emitted required by **Condition E8-1** to calculate the monthly emissions of HAP emitted by plastic battery mat line #2. The permittee shall then use these monthly records to determine the amount of HAP emitted during each period of 12-consecutive months. The permittee shall maintain records of these emissions in a form that readily shows compliance with this condition (see example logs #2, #4, and #5 in Attachment 6). For the purpose of this limit and fees, the permittee shall assume that the TCE/Stabilizer mixture is 100 percent HAP and 100 percent VOC. This log shall be reported semi-annually, as required by **Condition E2(a)**.

Compliance with this emission limit is also assured by operating the control device(s) at all times plastic battery mat line #2 is in operation and maintaining the plastic battery mat line and control device(s) in accordance with **Condition E8-4** of this permit. All HAP received shall be considered to be emitted.

In addition, the carbon beds shall be monitored and replaced prior to the end of the adsorption capacity at 38-months. Sampling and testing of the carbon material will be conducted on a semi-annual basis and analyzed for available life expectancy to ensure the carbon material is replaced prior to the end of effective adsorption capacity. In the event analysis of the carbon material results in a more frequent carbon material replacement schedule, the material may be replaced with no changes to the permit required. In the event analysis of the carbon material results in a less frequent carbon replacement schedule, the permit may be amended to reflect the more lenient replacement schedule. Analysis of the carbon material, along with a summary of the analysis including, at a minimum, the sampling date, the carbon tetrachloride activity (wt%), the minimum acceptable wt%, and dates

in which the carbon material is replaced, must be maintained at the facility and kept readily available for inspection by the Technical Secretary or a Division representative upon request. This log must be retained for a period of not less than five years. Carbon sampling and testing records are **not** required to be reported semi-annually, as required by **Condition E2(a)**.

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(2)(a)

- E8-4.** The minimum recovery efficiency of TCE from the carbon adsorption system shall be 95% during all intervals of 12-consecutive months.

TAPCR 0400-30-38-.01(b)2 40 CFR §§63.40 through 63.44

Compliance Method: The permittee shall use the records in **Condition E8-1** and the equations below to calculate the recovery efficiency of TCE each month, and during all intervals of 12-consecutive months. This recovery efficiency shall be calculated using the following equations:

$$TCE\ Lost\ (\%) = \left[\frac{Received\ TCE\ (\frac{tons}{mo} \cdot or\ \frac{tons}{yr} \cdot)}{TCE\ Processed\ (\frac{tons}{mo} \cdot or\ \frac{tons}{yr} \cdot)} \right] \times 100$$

$$TCE\ Recovered\ (\%) = 100\% - TCE\ Lost\ (\%)$$

“TCE Processed” is defined as the monthly amount of TCE/stabilizer mixture provided to the extractor. For the TCE processed value, the permittee shall record the actual quantity of TCE processed into the Extractor per month. This record must be maintained in a form that readily demonstrates compliance with this condition (see example log #3 in Attachment 6). All data, including all required calculations, must be entered into the log no later than 30 days from the end of the day for which the data is required. This log shall be reported semi-annually, as required by **Condition E2(a)**.

- E8-5.** Volatile organic compounds (VOCs) emitted from plastic battery mat line #2 shall not exceed **80.0** tons during all intervals of 12-consecutive months. This limitation includes VOC emissions from all VOC-containing material(s) and TCE/stabilizer mixture.

TAPCR 1200-03-07-.07(2)

Compliance Method: The permittee shall calculate the actual quantities of **non-TCE/stabilizer** VOCs emitted from plastic battery mat line #2 during each calendar month and during each period of 12-consecutive months. The permittee shall maintain records of these emissions in a form that readily shows compliance with this condition (see example log #4 in Attachment 6).

In addition, the permittee shall keep a log of the **total** VOC emissions [non-TCE/stabilizer VOCs emitted plus the TCE received/emitted (**Condition E8-1**)] by plastic battery mat line #2 during each period of 12-consecutive months. The permittee shall maintain records of these emissions in a form that readily shows compliance with this condition (see example logs #2 and #5 in Attachment 6).

All data, including all required calculations, must be entered in the logs [logs #2, #4, & #5] no later than 30 days from the end of the month for which the data is required, and must be maintained at the source location and kept available for inspection by the Technical Secretary or a Division representative upon request. These logs [logs #2, #4, & #5] must be retained for a period of not less than five years and shall be reported semi-annually, as required by **Condition E2(a)(1)**.

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(2)(a)

- E8-6.** Particulate matter emitted from this source shall not exceed 2.36 pounds per hour on a daily average basis.

This emission limitation is established pursuant to applicable standard 1200-03-07-.03(1) and the maximum material input rate of raw material (e.g., silica & polyethylene pellets).

Compliance Method: Compliance with this condition is assured by maintaining proper operation and maintenance of the activated carbon filter control and semi-annual inspection of the demister. Routine preventative maintenance, as required to maintain specified emission limits, shall be performed on the air pollution control devices. Maintenance and inspection records shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five years.

- E8-7.** The carbon beds associated with this process have been determined to be inherent process equipment and therefore are not subject to Compliance Assurance Monitoring requirements as set forth in 40 CFR Part 64.1. TAPCR 1200-03-09-.03(8)

82-0153-29: Source Identification: One 16.7 MMBtu/hr Natural Gas Fired Boiler.

This boiler is subject to 40 CFR 60, Subpart Dc and 40 CFR 63 Subpart DDDDD.
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Conditions E9-1 through E9-7 apply to source 82-0153-29.
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- E9-1.** The design heat input rate of the boiler is 16.7 Million British Thermal Units per hour (MMBtu/hr.). Should the permittee need to modify the boiler in a manner that increases the heat input design rate, a construction permit or Title V modification shall first be applied for in accordance with TAPCR 1200-03-09-.01 or 1200-03-09-.02(11)(d)1.(i)(V) prior to making the change.

TAPCR 1200-03-09-.03(8) and the application dated August 15, 2023, from the permittee.

Compliance Method: The permittee shall maintain documentation to demonstrate the heat input rate for this source. Documentation shall include, but is not limited to, manufacturer's specifications, purchase records, operating manuals, or a tag affixed to the unit by the manufacturer. These documents shall be kept readily available/accessible and made available upon request by the Technical Secretary or a Division representative.

- E9-2.** Only natural gas shall be used as fuel for the boiler. Should the permittee need to modify the boiler in a manner that uses a fuel other than natural gas, a construction permit or Title V modification shall first be applied for in accordance with TAPCR 1200-03-09-.01 or 1200-03-09-.02(11)(d)1.(i)(V) prior to making the change.

TAPCR 1200-03-09-.03(8) and the application received May 21, 2019, from the permittee.

Compliance Method: Compliance with this condition shall be demonstrated with the records required by Condition **E3-7** of this permit.

- E9-3.** Particulate matter (PM) emitted from the boiler shall not exceed 0.12 pounds per hour (lbs./hr.) on a daily average basis.

TAPCR 1200-03-06-.01(7) and the agreement letter dated November 14, 2019, from the permittee [Attachment 7].

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E9-1**), the use of natural gas as the only fuel source (**Condition E9-2**), and the PM emission factor of 7.6 lbs./10⁶ scf found in AP-42, Chapter 1.4, Table 1.4-2, Natural Gas Combustion.

- E9-4.** Sulfur dioxide (SO₂) emitted from the boiler shall not exceed 0.01 pounds per hour (lbs./hr.) on a daily average basis.

TAPCR 1200-03-14-.01(3) and the agreement letter dated November 14, 2019, from the permittee [Attachment 7].

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E9-1**), the use of natural gas as the only fuel source (**Condition E9-2**), and the SO₂ emission factor of 0.6 lbs./10⁶ scf found in AP-42, Chapter 1.4, Table 1.4-2, Natural Gas Combustion.

- E9-5.** Carbon monoxide (CO) emitted from the boiler shall not exceed 6.01 tons during all intervals of 12-consecutive months.

TAPCR 1200-03-06-.03(2)

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E9-1**), the use of natural gas as the only fuel source (**Condition E9-2**), and the CO emission factor of 84 lbs./10⁶ scf found in AP-42, Chapter 1.4, Table 1.4-1, Natural Gas Combustion.

- E9-6.** Volatile organic compounds (VOCs) emitted from the boiler shall not exceed 0.39 tons during all intervals of 12-consecutive months.

TAPCR 1200-03-06-.03(2)

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E9-1**), the use of natural gas as the only fuel source (**Condition E9-2**), and the VOC emission factor of 5.5 lbs./10⁶ scf found in AP-42, Chapter 1.4, Table 1.4-2, Natural Gas Combustion.

- E9-7.** Nitrogen oxides (NOx) emitted from the boiler shall not exceed 3.58 tons during all intervals of 12-consecutive months.

TAPCR 1200-03-06-.03(2)

Compliance Method: Compliance with this emission limitation is assured by the design heat input rate of the boiler (**Condition E9-1**), the use of natural gas as the only fuel source (**Condition E9-2**), the NOx emission factor of 50 lbs./10⁶ scf found in AP-42, Chapter 1.4, Table 1.4-1, Natural Gas Combustion, and the use of a low-NOx burner. The boiler shall not operate unless the low-NOx burner is fully operational. Low NOx vendor specification documents shall be retained and made readily available for inspection by the Technical Secretary or a Division Representative upon request.

ATTACHMENT 1
OPACITY MATRIX DECISION TREE for VISIBLE EMISSION EVALUATION EPA
METHOD 9

Dated June 18, 1996
Amended September 11, 2013

Decision Tree PM for Opacity for Sources Utilizing EPA Method 9*

Notes:

PM = Periodic Monitoring required by 1200-03-09-.02(11)(e)(iii).

This Decision Tree outlines the criteria by which major sources can meet the periodic monitoring and testing requirements of Title V for demonstrating compliance with the visible emission standards set forth in the permit. It is not intended to determine compliance requirements for EPA's Compliance Assurance Monitoring (CAM) Rule (formerly referred to as Enhanced Monitoring – Proposed 40 CFR 64).

Examine each emission unit using this Decision Tree to determine the PM required.*

Use of continuous emission monitoring systems eliminates the need to do any additional periodic monitoring.

Visible Emission Evaluations (VEEs) are to be conducted utilizing EPA Method 9. The observer must be properly certified to conduct valid evaluations.

Typical Pollutants

Particulates, VOC, CO, SO₂, NO_x, HCl, HF, HBr, Ammonia, and Methane.

Initial observations are to be repeated within 90 days of startup of a modified source, if a new construction permit is issued for modification of the source.

A VEE conducted by TAPCD personnel after the Title V permit is issued will also constitute an initial reading.

Reader Error

EPA Method 9, Non-NSPS or NESHAPS stipulated opacity standards: The TAPCD guidance is to declare non-compliance when the highest six-minute average** exceeds the standard plus 6.8% opacity (e.g. 26.8% for a 20% standard).

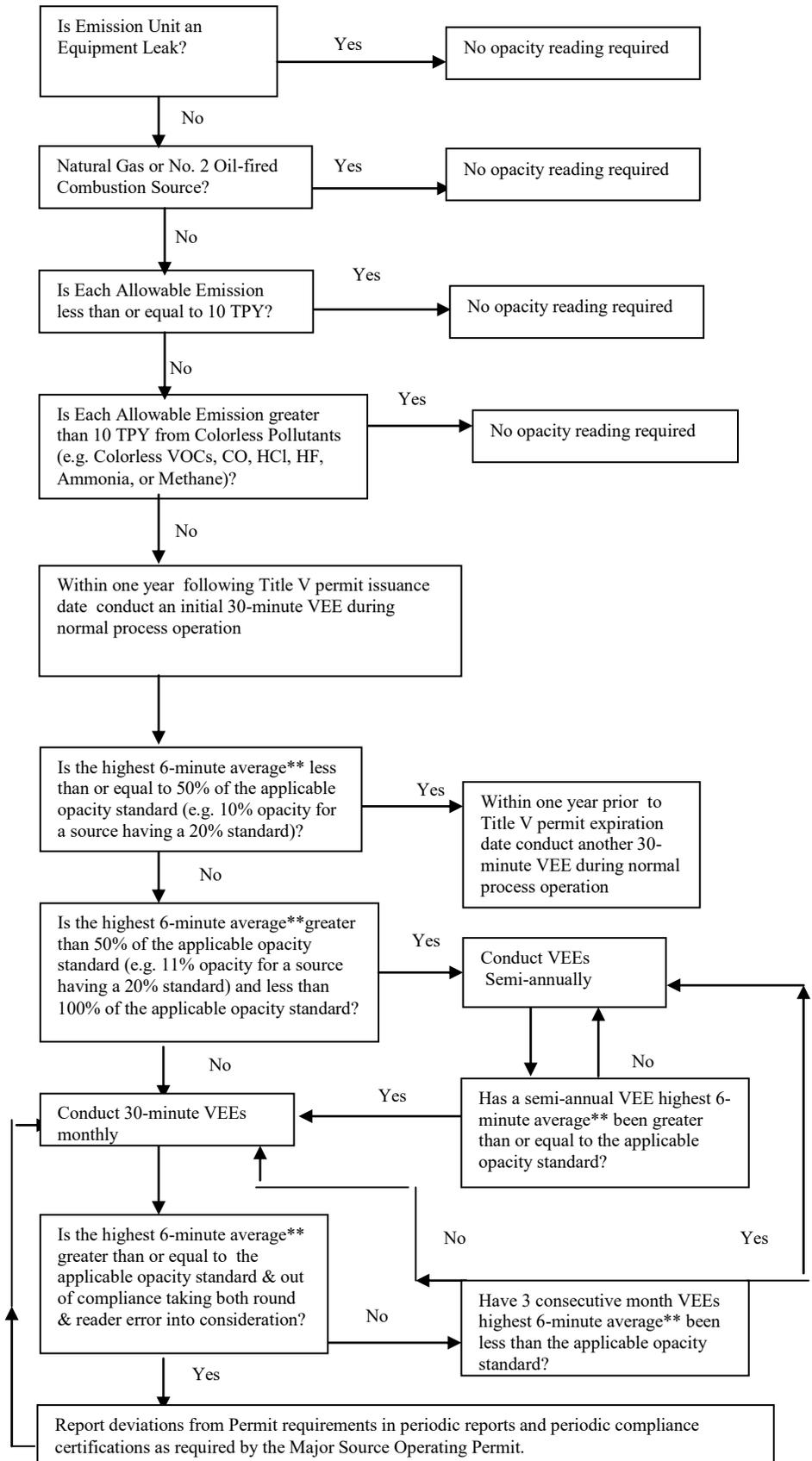
EPA Method 9, NSPS or NESHAPS stipulate opacity standards:

EPA guidance is to allow only engineering round. No allowance for reader error is given.

*Not applicable to Asbestos manufacturing subject to 40 CFR 61.142

**Or second highest six-minute average, if the source has an exemption period stipulated in either the regulations or in the permit.

Dated June 18, 1996
Amended September 11, 2013



Attachment 2

Applicability of General Provisions to 40 CFR 60, Subpart Dc

Table 1: Applicability of General Provisions to 40 CFR Part 60, Subpart Dc

The permittee must meet each requirement in the following table that applies

General Provisions Citation 40 CFR	Subject of Citation	Applies to Subpart	Explanation
§60.1	General Applicability of the General Provisions	Yes	General/Initial applicability determination; applicability after standard established.
§60.2	Definitions	Yes	General Definitions. Additional Terms defined in §60.41c.
§60.3	Units and Abbreviations	Yes	General Units and Abbreviations.
§60.4	Address	Yes	Addresses for regional EPA offices and State/Local Agencies.
§60.5	Determination of Construction or Modification	Yes	Outlines Administrator's (Technical Secretary) authority on whether actions by the owner/operator are construction or modification.
§60.6	Review of Plans	Yes	Outlines Administrator's (Technical Secretary) authority to review plans and provide technical advice to owner/operator due to construction or modification.
§60.7	Notification and Recordkeeping	Yes	General notification and recordkeeping guidelines.
§60.8	Performance Tests	Yes	General performance test guidelines. §60.8(f) does not apply to this subpart.
§60.9	Availability of Information	Yes	General notification to the public of information obtained by the Administrator (Technical Secretary)
§60.10	State Authority	Yes	Outlines the State/local authority regarding emission standards, limitations, permit approvals, etc.
§60.11	Compliance with Standards and Maintenance Requirements	Yes	General compliance and maintenance requirements.
§60.12	Circumvention	Yes	Circumventing standards applicable to a source.
§60.13	Monitoring Requirements	Yes	General monitoring requirements.
§60.14	Modification	Yes	General requirements pertaining to modification of a source.
§60.15	Reconstruction	Yes	General requirements pertaining to reconstruction of a source.
§60.16	Priority List	No	Prioritized major source categories.
§60.17	Incorporations by Reference	Yes	Outline of materials incorporated by reference per the Director of Federal Register.
§60.18	General Control Device Requirements	Yes	General requirements for control devices used to comply with applicable subparts of 40 CFR parts 60 and 61.
§60.19	General Notification and Reporting Requirements	Yes	General requirements for notification and reporting.

Attachment 3

Work Practice Standards to 40 CFR 63, Subpart DDDDD

Table 3: Work Practice Standards to 40 CFR Part 63, Subpart DDDDD

¹As stated in 40 CFR §63.7500, the permittee must comply with the following applicable work practice standards:

If your unit is . . .	You must meet the following . . .
1. A new or existing boiler or process heater with a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or a limited use boiler or process heater	Conduct a tune-up of the boiler or process heater every 5 years as specified in §63.7540.
2. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of less than 10 million Btu per hour in the unit designed to burn heavy liquid or unit designed to burn solid fuel subcategories; or a new or existing boiler or process heater with heat input capacity of less than 10 million Btu per hour, but greater than 5 million Btu per hour, in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid	Conduct a tune-up of the boiler or process heater biennially as specified in §63.7540.
3. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater	Conduct a tune-up of the boiler or process heater annually as specified in §63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this subpart. Units in all other subcategories will conduct this tune-up as a work practice for dioxins/furans.
4. An existing boiler or process heater located at a major source facility, not including limited use units	Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operated under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least one year between January 1, 2008 and the compliance date specified in §63.7495 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items a. to e. appropriate for the on-site technical hours listed in §63.7575:
	a. A visual inspection of the boiler or process heater system.
	b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.
	c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator.
	d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.
e. A review of the facility's energy management program and provide recommendations for improvements consistent with the definition of energy management program, if identified.	

If your unit is . . .	You must meet the following . . .
4. An existing boiler or process heater located at a major source facility, not including limited use units (Continued)	<p>f. A list of cost-effective energy conservation measures that are within the facility's control.</p> <p>g. A list of the energy savings potential of the energy conservation measures identified.</p> <p>h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.</p>
5. An existing or new boiler or process heater subject to emission limits in Table 1 or 2 or 11 through 13 to this subpart during startup	<p>a. You must operate all CMS during startup.</p> <p>b. For startup of a boiler or process heater, you must use one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, liquefied petroleum gas, clean dry biomass, and any fuels meeting the appropriate HCl, mercury and TSM emission standards by fuel analysis.</p> <p>c. You have the option of complying using either of the following work practice standards.</p> <p>(1) If you choose to comply using definition (1) of "startup" in §63.7575, once you start firing fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices except limestone injection in fluidized bed combustion (FBC) boilers, dry scrubber, fabric filter, and selective catalytic reduction (SCR). You must start your limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR systems as expeditiously as possible. Startup ends when steam or heat is supplied for any purpose, OR</p> <p>(2) If you choose to comply using definition (2) of "startup" in §63.7575, once you start to feed fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices so as to comply with the emission limits within 4 hours of start of supplying useful thermal energy. You must engage and operate PM control within one hour of first feeding fuels that are not clean fuels². You must start all applicable control devices as expeditiously as possible, but, in any case, when necessary to comply with other standards applicable to the source by a permit limit or a rule other than this subpart that require operation of the control devices. You must develop and implement a written startup and shutdown plan, as specified in §63.7505(e).</p> <p>d. You must comply with all applicable emission limits at all times except during startup and shutdown periods at which time you must meet this work practice. You must collect monitoring data during periods of startup, as specified in §63.7535(b). You must keep records during periods of startup. You must provide reports concerning activities and periods of startup, as specified in §63.7555.</p>

<p>6. An existing or new boiler or process heater subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart during shutdown</p>	<p>e. You must operate all CMS during shutdown. While firing fuels that are not clean fuels during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices, except limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR but, in any case, when necessary to comply with other standards applicable to the source that require operation of the control device. If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, refinery gas, and liquefied petroleum gas. You must comply with all applicable emissions limits at all times except for startup or shutdown periods conforming with this work practice. You must collect monitoring data during periods of shutdown, as specified in §63.7535(b). You must keep records during periods of shutdown. You must provide reports concerning activities and periods of shutdown, as specified in §63.7555.</p>
--	--

¹The work practice standards applicable to source 29 are highlighted.

² As specified in §63.7555(d)(13), the source may request an alternative timeframe with the PM controls requirement to the permitting authority (state, local, or tribal agency) that has been delegated authority for this subpart by EPA. The source must provide evidence that (1) it is unable to safely engage and operate the PM control(s) to meet the “fuel firing + 1 hour” requirement and (2) the PM control device is appropriately designed and sized to meet the filterable PM emission limit. It is acknowledged that there may be another control device that has been installed other than ESP that provides additional PM control (e.g., scrubber).

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Attachment 4

Reporting Requirements to 40 CFR 63, Subpart DDDDD

Table 9: Reporting Requirements to 40 CFR Part 63, Subpart DDDDD

As stated in 40 CFR 60 §63.7550, the permittee must comply with the following requirements for reports:

You must submit a(n)	The report must contain . . .	You must submit the report . . .
1. Compliance report	<p>a. Information required in 40 CFR §63.7550(c)(1) through (5); and</p> <p>b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards for periods of startup and shutdown in Table 3 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in 40 CFR §63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and</p> <p>c. If you have a deviation from any emission limitation (emission limit and operating limit) where you are not using a CMS to comply with that emission limit or operating limit, or a deviation from a work practice standard for periods of startup and shutdown, during the reporting period, the report must contain the information in 40 CFR §63.7550(d); and</p> <p>d. If there were periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in 40 CFR §63.8(c)(7), or otherwise not operating, the report must contain the information in §63.7550(e)</p>	Semiannually, annually, biennially, or every 5 years according to the requirements in §63.7550(b).

TAPCR 1200-03-09-.03(8)

Attachment 5

Applicability of General Provisions to 40 CFR 63, Subpart DDDDD

Table 10: Applicability of General Provisions to 40 CFR Part 63, Subpart DDDDD

The permittee must meet each requirement in the following table that applies

General Provisions Citation 40 CFR	Subject	Applies to subpart DDDDD	Explanation
§63.1	Applicability	Yes.	General/Initial applicability determination; applicability after standard established.
§63.2	Definitions	Yes.	General Definitions. Additional terms defined in 40 CFR §63.7575
§63.3	Units and Abbreviations	Yes.	General Units and Abbreviations.
§63.4	Prohibited Activities and Circumvention	Yes.	Prohibited Activities, Circumvention, Fragmentation
§63.5	Preconstruction Review and Notification Requirements	Yes.	Applicability of preconstruction review and notification. Requirements for existing, newly, constructed/reconstructed sources.
§63.6	Compliance with Standards and Maintenance Requirements	Yes/No	<ul style="list-style-type: none"> • Applicability for compliance with standards and maintenance requirements; compliance dates for new/reconstructed/existing sources. • Not applicable to 40 CFR §63.6(e)(1)(i). See 40 CFR §63.7500(a)(3) for the general duty requirement. • Not applicable to 40 CFR §§63.6(e)(1)(ii), 63.6(e)(3), 63.6(f)(1), §63.6(h)(1), and §63.6(h)(2) to (h)(9) [Subpart DDDDD specifies opacity as an operating limit not an emission standard.] • Applicable to 40 CFR §63.6(g), except 40 CFR §63.7555(d)(13) specifies the procedure for application and approval of an alternative timeframe with the PM controls requirement in the startup work practice (2). • Applicable to 40 CFR §63.6(i) - Facilities may also request extensions of compliance for the installation of combined heat and power, waste heat recovery, or gas pipeline or fuel feeding infrastructure as a means of complying with this subpart
§63.7	Performance Testing Requirements	Yes/No	<ul style="list-style-type: none"> • Applicability and performance test dates; use of alternative test methods; data analysis, recordkeeping, reporting; waiver of tests. • Not applicable to 40 CFR §63.7(e)(1) - Subpart DDDDD specifies conditions for conducting performance tests at §63.7520(a) to (c).

General Provisions Citation 40 CFR	Subject	Applies to subpart DDDDD	Explanation
§63.8	Applicability and Conduct of Monitoring	Yes/No	<ul style="list-style-type: none"> • Applicability for monitoring requirements. • Not applicable to 40 CFR §63.8(c)(1)(i) – See 40 CFR §63.7500(a)(3). • Not applicable to 40 CFR §63.8(c)(1)(iii) <p>Applicable to 40 CFR §63.8(d)(3), except for the last sentence, which refers to a startup, shutdown, and malfunction plan. Startup, shutdown, and malfunction plans are not required.</p>
§63.9	Notification Requirements	Yes.	Initial notifications, compliance extensions, performance tests, opacity observations, compliance status, etc.
§63.10(a), (b)(1)	Recordkeeping and Reporting Requirements	Yes/No	<ul style="list-style-type: none"> • General recordkeeping/reporting requirements performance tests, start-up/shutdown, malfunction, excess emissions, continuous opacity, etc. • Not applicable to 40 CFR §63.10(b)(2)(ii) - See 40 CFR §63.7555(d)(7) for recordkeeping of occurrence and duration and 40 CFR §63.7555(d)(8) for actions taken during malfunctions • Not applicable to 40 CFR §§63.10(b)(2)(iv) and (v), 63.10(b)(3), 63.10(c)(10) and (11) [See 40 CFR §63.7555(d)(7) for recordkeeping of occurrence and duration and 40 CFR §63.7555(d)(8) for actions taken during malfunctions], 63.10(c)(15), 63.10(d)(3), and 63.10(d)(5) [See 40 CFR §63.7550(c)(11) for malfunction reporting requirements]
§63.11	Control Device Requirements	No.	The applicability of this section is set out in 40 CFR §63.1(a)(4).
§63.12	State Authority and Delegation	Yes.	Section 112(l) of the Act directs the Technical Secretary to delegate to each State, when appropriate, the authority to implement and enforce standards and other requirements
§63.13	Addresses	Yes.	Addresses for regional EPA offices and State Local Agencies.
§63.14	Incorporation by Reference	Yes.	Outline of materials incorporated by reference per the Director of Federal Register
§63.15	Availability of Information	Yes.	All reports, records, and other information collected by the Technical Secretary are available to the public; if an permittee is required to submit information entitled to protection from disclosure under section 114(c) of the Act, the permittee may submit such information separately.

Permit number 578138
TBD, 2030

Expiration Date:

§63.16	Performance Track Provisions	Yes.	General requirements for Performance Track member facilities.
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Attachment 6

Example Logs

Example Log #1: Monthly Natural Gas Combusted or Delivered Log at Source #____
Year_____

Month	Natural Gas Combusted or Delivered (ft ³)	Month	Natural Gas Combusted or Delivered (ft ³)
January		July	
February		August	
March		September	
April		October	
May		November	
June		December	

Example Log #2 – Trichloroethylene/Stabilizer Mixture Received at Source #____ **Year:**_____

Month	TCE/Stabilizer Mixture Received (Pounds)	TCE/Stabilizer Mixture Received Previous 11 Months (pounds)	TCE/Stabilizer Mixture Received (lbs./12-consecutive months)
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

Note: The total pounds per 12-consecutive month value is the sum of the pounds in the 11 months preceding the month just completed plus the pounds in the month just completed. If data is not available for the 12 months preceding the initial use of this Table, this value will be equal to the value for pounds per month. For the second month, it will be the sum of the first month and the second month. Indicate in parentheses the number of months summed [i.e. 6 (2) represents 6 tons processed in 2 months.]

Permit number 578138
TBD, 2030

Expiration Date:

Example Log #3 – TCE Processed Log for: Line #: _____ Source # _____ Year _____

Month	TCE Processed (pounds)	TCE Processed Previous 11 Months (pounds)	TCE Processed (lbs./12-consecutive months)
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

Example Log #4 – Monthly Non-TCE/Stabilizer Material Usage and VOC/HAP Emissions

Month: _____ Year: _____

Month/Year:								Emissions					
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Material ID	Material Name	Material Usage (gal/month or lb/mo)	Material Density (lb/gal)	VOC Content (wt% or lb VOC/gal)	HAP ₁ Content (wt% or lb HAP ₁ /gal)	HAP ₂ ¹ Content (wt% or lb HAP ₂ /gal)	Total HAP Content (wt% or lb HAP ₁ /gal)	VOC (lb/mo)	VOC (ton/mo)	HAP ₁ (lb/mo)	HAP ₁ (ton/mo)	Total HAP (lb/mo)	Total HAP (ton/mo)
Total													

¹ The columns for individual HAP should be repeated for each HAP contained in the materials used. Monthly emissions shall be calculated for each individual HAP. Identify each HAP by name and/or CAS# in the appropriate column headings.

[9] VOC Emissions (lb/mo) = [3] Material Usage (gal/mo) * [4] Material Density (lb/gal) * [5] VOC Content (wt%), or
 [9] VOC Emissions (lb/mo) = [3] Material Usage (gal/mo) * [5] VOC Content (lb/gal)

[10] VOC Emissions (ton/mo) = [9] VOC Emissions (lb/mo) / 2,000 lb/ton

[11] HAP₁ Emissions (lb/mo) = [3] Material Usage (gal/mo) * [4] Material Density (lb/gal) * [6] HAP₁ Content (wt%), or
 [11] HAP₁ Emissions (lb/mo) = [3] Material Usage (gal/mo) * [6] HAP₁ Content (lb/gal)

Example Log #6 - General Control Device Monitoring

20XX DAILY <CONTROL DEVICE> <MONITORED PARAMETER> READINGS FOR SOURCE XX, <CONTROL DEVICE ID>

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

1st Shift Shift Start Time: _____ Shift End Time: _____
 2nd Shift Shift Start Time: _____ Shift End Time: _____
 3rd Shift Shift Start Time: _____ Shift End Time: _____

Day	Time		<Process Source> operating?		<Control Device> operating?		<Monitored Parameter> <units>	Comments / Corrective Actions	Initials	
	Reading	Inspection	Yes	No	Yes	No			Reading	Inspection
1			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
2			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
3			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
4			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
5			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
6			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
7			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
8			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
9			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
10			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
11			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
12			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
13			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
14			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
15			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
16			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
17			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
18			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
19			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
20			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
21			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
22			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
23			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
24			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
25			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
26			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
27			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
28			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
29			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
30			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

Attachment 7

Facility Agreement Letter(s)

November 14, 2019

VIA E-MAIL: Air.Pollution.Control@tn.gov

Tennessee Department of Environment
and Conservation
Division of Air Pollution Control (TDAPC)
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243

**RE: Permit Agreement Letter
Microporous, LLC
596 Industrial Park Road, Piney Flats
Emission Source Reference No. 82-0153 / Permit No. 976950**

Dear Ms. Owenby:

On behalf of Microporous, LLC, the following permit limitations are agreed upon for the 16.666 MMBtu/hr Boiler located at the above referenced facility:

- Particulate matter (PM) emitted from the boiler shall not exceed 0.12 pounds per hour (lbs./hr.).
- Sulfur dioxide (SO₂) emitted from the boiler shall not exceed 0.01 pounds per hour (lbs./hr.).

Microporous, LLC intends to assure compliance with these limitations by monitoring emissions from the boiler based on fuel usage and application of AP-42 emission factors for natural gas combustion.

Should you have any questions or require additional information, please contact Steve Powell at (423) 538-7111 (email: steve.powell@microporous.net) or Amy Spann of EnSafe at (615) 255-9300.

On behalf of Microporous, LLC, I agree to the above limitations. I am authorized to represent and bind the facility in environmental affairs.

Respectfully,


Jim Franklin
VP of Operations

Cc: Jill Pratt @ Jill.Pratt@tn.gov
Amy Spann

March 10, 2025

Mr. James Johnston, PE
Deputy Director, Division of Air Pollution Control
Tennessee Department of Environment and Conservation
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway
Nashville, Tennessee 37243

via email: James.Johnston@tn.gov

**RE: Emissions Limitation Agreement
Microporous, LCC – Piney Flats, Tennessee (#82-0153)**

Dear Mr. Johnston:

By means of this correspondence, we are hereby submitting this agreement letter for sulfur dioxide (SO₂) and particulate matter (PM) emissions for two boilers. Microporous, LLC agrees to accept limits of SO₂ and PM for the boilers that are lower than allowable under applicable standards. Specifically, Microporous, LLC agrees to the following limitations:

<u>Source</u>	<u>SO₂ emissions</u>	<u>PM Emissions</u>
01 Boiler rated at 48.5 MMBTU/hr	0.029 lb/hr	0.36 lb/hr
18 Boiler rated at 10.5 MMBTU/hr	0.006 lb/hr	0.08 lb/hr

Microporous, LLC intends to assure compliance with these limitations by monitoring emissions from the boilers based on fuel usage and application of AP-42 emission factors for natural gas combustion.

Please contact Steve Powell at 423-722-2038 or via email at steve.powell@microporous.net should you have questions or need additional information. On behalf of Microporous, LLC, I agree to the above limitations. I am authorized to represent and bind the facility in environmental affairs.

Respectfully,

Microporous, LLC

Douglas Rich

Douglas Rich
President

From: [Air.Pollution.Control](#)
To: [APC Permitting](#)
Subject: Fw: Title V Renewal Application
Date: Wednesday, March 18, 2020 3:32:52 PM
Attachments: [4003_001.pdf](#)

From: Powell, Steve <steve.powell@microporous.net>
Sent: Wednesday, March 18, 2020 15:06
To: Air.Pollution.Control <Air.Pollution.Control@tn.gov>
Subject: [EXTERNAL] FW: Title V Renewal Application

From: Powell, Steve
Sent: Wednesday, March 18, 2020 3:25 PM
To: APC JCEFO <APC.JCEFO@tn.gov>
Cc: Hammitt, Scott <scott.hammitt@microporous.net>; 'Amy Spann' <aspann@Ensafe.com>
Subject: Title V Renewal Application

Please accept the attached renewal application for Emission Source 82-0153 in accordance with Condition A12(MM2) of the existing permit (#569100).

PERMIT RENEWAL APPLICATION

MICROPOROUS, LLC
596 INDUSTRIAL PARK ROAD
PINEY FLATS, TENNESSEE 37686

EMISSION SOURCE REFERENCE NO. 82-0153

EnSafe Project Number
0888806970

Prepared for:



Microporous, LLC
596 Industrial Park Road
Piney Flats, Tennessee 37686

March 2020

220 Athens Way, Suite 410
Nashville, Tennessee 37228
615-255-9300 | 800-588-7962
www.ensafe.com



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APPENDICES

Appendix A	Facility Location Map and Process Flow Diagram
Appendix B	TDEC Title V Permit Application Forms
Appendix C	Emission Calculations



1.0 INTRODUCTION

The Microporous plant is located in the Tri-Cities Industrial Park in the city of Piney Flats, Tennessee, a small community situated in Sullivan County. Figure 1 in Appendix A presents a topographic map of the plant site and surrounding area. The process flow diagram included as Figure 2 in Appendix A. A description of current plant operations is provided below.

The Microporous facility manufactures rubber and plastic battery mat separators used in lead acid batteries. The primary products are the FLEX-SIL[®], ACE-SIL[®], MICROPOR-SIL[®], and CELLFORCE[®] separators.

The Microporous facility utilizes raw, imported rubber as the base ingredient for the FLEX-SIL[®], ACE-SIL[®], and MICROPOR-SIL[®] products. The raw rubber is combined with various materials in the Banbury process. The Banbury process heats up the mixture and extrudes a thick rubber sheet which is then cut into pieces and sent through a curing process, either vulcanizing or by use of the dynamitron accelerator, to crosslink the rubber sheet. The rubber sheet is then sent through a drying process and onto the finishing lines where the mat is cut, sized, and fiberglass backings can be applied for specific product needs. The finished mats are then packaged for shipment to the customer.

In addition to the rubber battery mat manufacturing process, the north side of the facility houses the existing plastic battery mat line, which produces the CELLFORCE[®] separator. In this process, polyethylene is mixed with silica and oil to form a material base which is then extruded into a thin sheet. This thin sheet is then sent through an extraction operation, which is a solvent bath containing trichloroethylene (TCE), to drive off the excess oil in the battery mat. The polyethylene mat is then dried, wound, cut, and stored for shipment to the customer.

A detailed description of permitted emission units associated with manufacturing operations is included in Section 2. A discussion of applicable regulatory requirements is in Section 3. The required Tennessee Department of Environment and Conservation (TDEC) Title V permit application forms are in Appendix B and emission calculations are in Appendix C.



2.0 EMISSION UNITS

2.1 Plastic Battery Mat Lines — Trichloroethylene Solvent Usage

Sources 82-0153-12 and 28 include plastic battery mat extrusion lines which use a TCE bath as part of the process to extract excess oil from the battery mat. The TCE bath is totally enclosed in a sealed room and emissions from the room are drawn off via fans and combined with waste heat and TCE emissions from the dryer. The exhaust stream is directed through condensation and distillation units to separate TCE from the oil residue drawn off the battery mat. The recovered TCE goes into a storage tank and will be reused in the bath area; residual oil is reused in the raw material mixing step for product preparation. Volatile emissions from the system are controlled by a series of activated carbon beds for both lines, a portion of which are in operation at any one time, while the remaining beds operate in a cleaning cycle. The activated carbon beds are steam cleaned to release the captured TCE which is then returned to the system for reuse. The TCE cycle is considered to be a closed loop system and the carbon beds serve to control excess emissions from the operation. The TCE recovery system is estimated to be approximately 97-98% efficient.

2.2 Materials Handling — Silica, Polyethylene, and Rubber Dust

The facility unloads silica from railcars and trucks into silica silos and transfers silica from the silos into a day tank. Similarly, the facility unloads polyethylene from railcars and trucks into polyethylene silos and transfers polyethylene from the silos into day tanks. The facility unloads rubber dust from bulk bags prepared at the existing facility in an enclosed room (with minimal emissions to the atmosphere) and transfers rubber dust from the unloading room to a day tank. Each silo and day tank is equipped with a bin vent filter to control emissions of particulate matter. All silos are located outdoors. The day tanks are located indoors. The silica and rubber dust day tanks exhaust to the atmosphere; however, the polyethylene day tank exhausts inside the building (with minimal anticipated emissions to the atmosphere). Note that the new silica and rubber dust day tanks can be considered insignificant (see Section 2.4).

2.3 Natural Gas-Fired Boilers

Microporous utilizes three natural gas-fired boilers to provide process heat for various operations; these include Source 82-0153-01 rated at 48.5 million British Thermal Units per hour (MMBtu/hr), Source 82-0153-22 rated at 10.5 MMBtu/hr, and Source 82-0153-29 rated at 16.666 MMBtu/hr.

2.4 Insignificant Activities

Insignificant activities are listed on the APC 2 form included in Appendix B.

3.0 REGULATORY REVIEW

Microporous has completed a review of the regulatory applicability of state and federal air quality regulations. Select federal requirements are addressed below.

3.1 Compliance Assurance Monitoring Requirements

The compliance assurance monitoring (CAM) Rule was promulgated by United States Environmental Protection Agency in October 1997. The rule defines the monitoring, reporting, and recordkeeping criteria necessary for a source to provide a reasonable assurance of compliance with emission limitations and standards. The CAM requirements apply to those pollutants emitted from a source that meets all three of the following criteria:

- The emission unit was fitted with a control device to meet an emission limit established in a rule published before November 15, 1990.
- The potential-to-emit of the uncontrolled emission unit exceeds any of the major source thresholds for a regulated pollutant.
- The control device was required by a regulation other than:
 - Section 111 or 112 of the Clean Air Act (CAA) (National Emission Standards for Hazardous Air Pollutants promulgated after November 15, 1990. Sources regulated by 40 Code of Federal Regulations (CFR) 61 are affected by CAM).
 - A regulation under Title IV of the CAA Amendments of 1990 (Acid Rain).
 - A regulation under Title VI of the CAA Amendments of 1990 (Ozone Depleting Substances).
 - Required to obtain emission reduction credits.
 - 40 CFR 70.4(b)(12) or 40 CFR 71.6(a)(13) — new source review permits.

The carbon beds used to control TCE emissions from both of the plastic battery mat extrusion lines were previously determined to be inherent process equipment and, therefore, are not subject to CAM regulations in 40 CFR 64.1. No other CAM-applicable units have been identified at the facility.

3.2 New Source Performance Standards

Sources 82-0153-01 (Boiler #1) and Source 82-0153-29 (Boiler #3) were constructed after June 9, 1989 and have a maximum design heat input capacity between 10 MMBtu/hr and 100 MMBtu/hr; therefore, these boilers are be subject to 40 CFR 60 Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*.

3.3 National Emission Standards for Hazardous Air Pollutants

3.3.1 Subpart DDDDD

The three boilers used for process heat are considered industrial boilers located at a major source of hazardous air pollutants; therefore, the boilers are subject to 40 CFR 63 Subpart DDDDD, *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*.

3.3.2 Subpart T

The plastic battery mat line is not subject to 40 CFR 63 Subpart T, *National Emission Standards for Halogenated Solvent Cleaning*. This regulation applies to certain "solvent cleaning machines" using halogenated hazardous air pollutant (HAP) solvent, per 40 CFR 63.460(a). Per 40 CFR 63.461, a "solvent cleaning machine" is defined as "any device or piece of equipment that uses halogenated HAP solvent liquid or vapor *to remove soils from surfaces of materials,*" and "soils" is defined as "*contaminants* that are removed from the parts being cleaned" (emphasis added). However, Microporous' use of TCE is in an extrusion/extraction process, not a "solvent cleaning machine." Microporous' process utilizes TCE to extract excess oil *from the matrix* (not just the surface) of sheets of battery separator mats. Additionally, Microporous purposefully incorporates oil into the matrix of the product formulation; the oil is not a "contaminant" and thus is not covered under the definition of "soils." See also U.S. EPA Applicability Determinations, Document Control Numbers M970028 and M990006.

Additionally, 40 CFR 63 Subpart T references Standard Industrial Classification (SIC) codes 33 (Primary Metals), 34 (Fabricated Metal Products), 36 (Electronics and Other Electrical Equipment), and 37 (Transportation Equipment).¹ Microporous' primary SIC codes are 3069 (Fabricated Rubber Products, Not Elsewhere Classified) and 3089 (Plastic Products, Not Elsewhere Classified).

¹ Federal Register, Volume 65, Number 175, Page 54419



The plastic battery mat lines have been determined to not be subject to Subpart T based on a 2003 a regulatory analysis (as it pertained to the existing plastic battery mat line) presented to the TDEC and the U.S. Environmental Protection Agency (EPA). Per an email from Mr. Haidar Al-Rawi of TDEC to Ms. Amy Spann of EnSafe dated August 28, 2003, Mr. Paul Almodovar, the EPA MACT group leader at the time, confirmed that 40 CFR 63 Subpart T did not apply to the plastic battery mat line, and Mr. Keith Barnett of the EPA indicated that a carbon adsorber with 90-95% control efficiency would be sufficient for the control of TCE. Given TDEC and EPA's historical concurrence on this issue, Microporous contends that this interpretation continues to be maintained for each of the plastic battery mat lines.



Appendix A
Facility Location Map and Process Flow Diagram

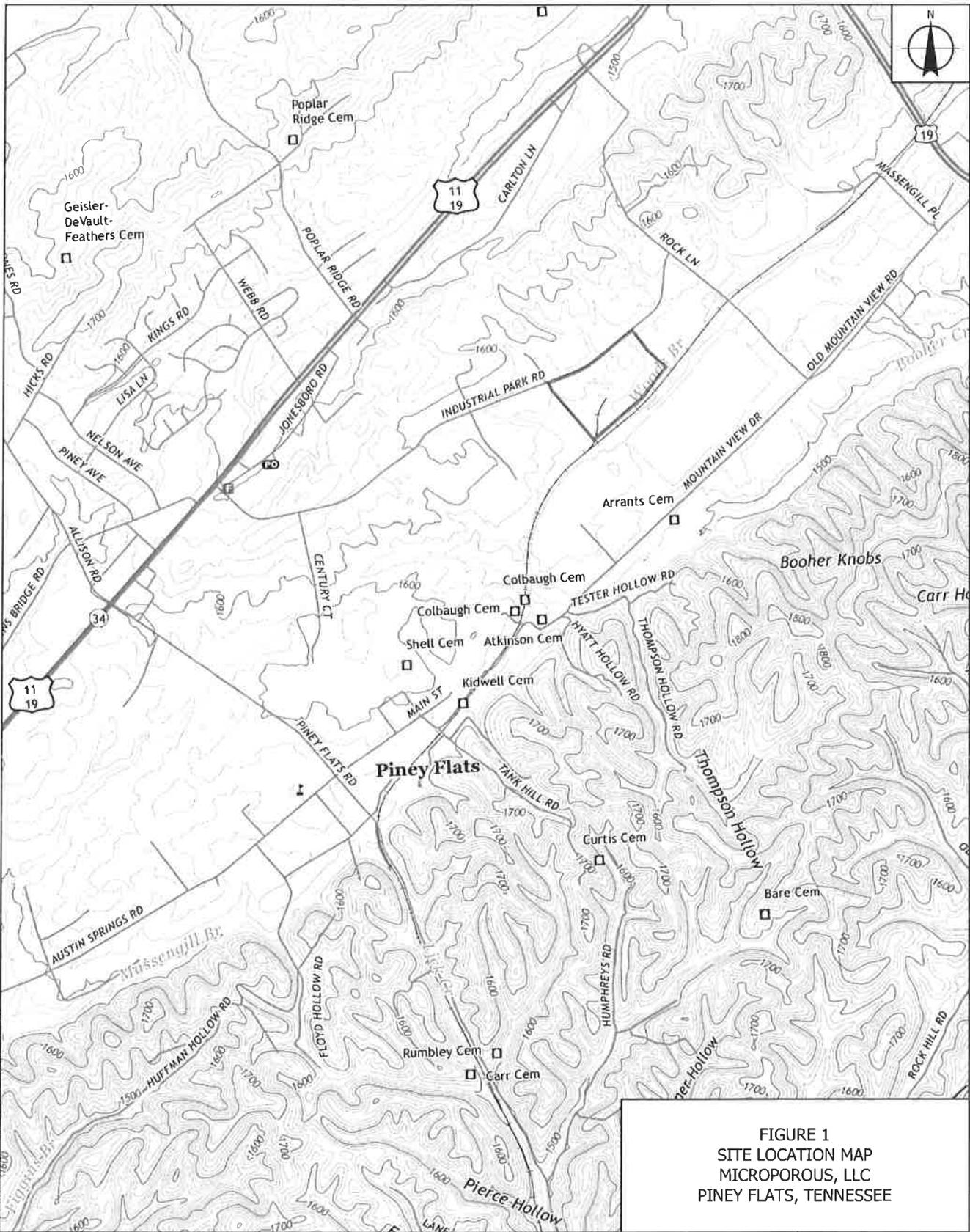


FIGURE 1
SITE LOCATION MAP
MICROPOROUS, LLC
PINEY FLATS, TENNESSEE

LEGEND
 SUBJECT PROPERTY BOUNDARY

NAD 1983 STATE PLANE
 TENNESSEE FEET
 0 1,000 2,000
 SCALE IN FEET

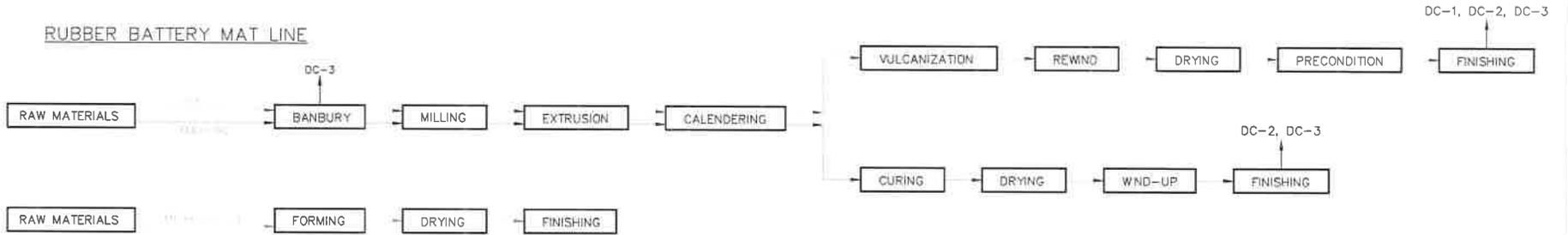
REQUESTED BY: AS
 DRAWN BY: JDL
 DATE: 5/21/2019
 PROJECT: 0888806970

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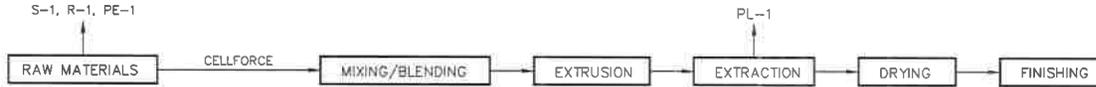
H:\2018 Projects\BETTY Microporous\Plan\050797_Microporous_Process_Flow_Diagram - 5.21.19.dwg

SOURCE: U.S. Geological Survey, Bluff City Quadrangle, Tennessee [Map]. 2919, 1:24,000, 7.5 Minute Series.

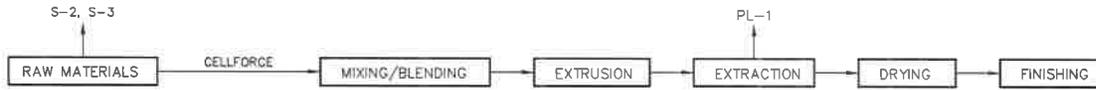
RUBBER BATTERY MAT LINE



PLASTIC BATTERY MAT LINE 1



PLASTIC BATTERY MAT LINE 2



SUPPORTING EQUIPMENT

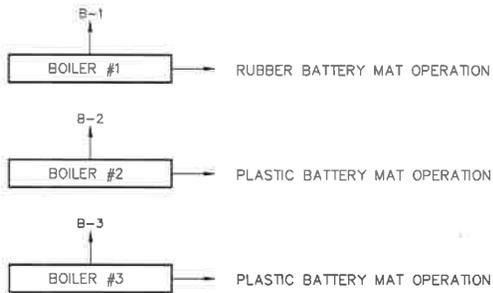


FIGURE 2
PROCESS FLOW DIAGRAM
MICROPOROUS, LLC
PINEY FLATS, TENNESSEE

LEGEND

- ACE-SIL MICROPOR-SIL
- FLEX-SIL CELLFORCE

NOT TO SCALE

REQUESTED BY:	AS	ENSAFE <small>Creative thinking. Custom solutions.</small> 800.582.7962 www.ensafe.com
DRAWN BY:	JDL	
DATE:	3/17/2020	
PROJECT:	088806970	



Appendix B
TDEC Title V Permit Application Forms



**TITLE V PERMIT APPLICATION
 INDEX OF AIR POLLUTION PERMIT APPLICATION FORMS**

Section 1: Identification and Diagrams		
This application contains the following forms:	APC Form 1, Facility Identification	1
	APC Form 2, Operations and Flow Diagrams	1

Section 2: Emission Source Description Forms		
		Total number of this form
This application contains the following forms (one form for each incinerator, printing operation, fuel burning installation, etc.):	APC Form 3, Stack Identification	11
	APC Form 4, Fuel Burning Non-Process Equipment	3
	APC Form 5, Stationary Gas Turbines or Internal Combustion Engines	0
	APC Form 6, Storage Tanks	0
	APC Form 7, Incinerators	0
	APC Form 8, Printing Operations	0
	APC Form 9, Painting and Coating Operations	0
	APC Form 10, Miscellaneous Processes	8
	APC Form 33, Stage I and Stage II Vapor Recovery Equipment	0
	APC Form 34, Open Burning	0

Section 3: Air Pollution Control System Forms		
		Total number of this form
This application contains the following forms (one form for each control system in use at the facility):	APC Form 11, Control Equipment - Miscellaneous	0
	APC Form 13, Adsorbers	2
	APC Form 14, Catalytic or Thermal Oxidation Equipment	0
	APC Form 15, Cyclones/Settling Chambers	0
	APC Form 17, Wet Collection Systems	0
	APC Form 18, Baghouse/Fabric Filters	6

(OVER)

Section 4: Compliance Demonstration Forms

		Total number of this form
This application contains the following forms (one form for each incinerator, printing operation, fuel burning installation, etc.):	APC Form 19, Compliance Certification - Monitoring and Reporting - Description of Methods for Determining Compliance	11
	APC Form 20, Continuous Emissions Monitoring	0
	APC Form 21, Portable Monitors	0
	APC Form 22, Control System Parameters or Operating Parameters of a Process	1
	APC Form 23, Monitoring Maintenance Procedures	7
	APC Form 24, Stack Testing	0
	APC Form 25, Fuel Sampling and Analysis	0
	APC Form 26, Record Keeping	5
	APC Form 27, Other Methods	0
	APC Form 28, Emissions from Process Emissions Sources / Fuel Burning Installations / Incinerators	11
	APC Form 29, Emissions Summary for the Facility or for the Source Contained in This Application	1
	APC Form 30, Current Emissions Requirements and Status	11
	APC Form 31, Compliance Plan and Compliance Certification	1
APC Form 32, Air Monitoring Network	0	

Section 5: Statement of Completeness and Certification of Compliance

I have reviewed this application in its entirety and to the best of my knowledge, and based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate, and complete. I have provided all the information that is necessary for compliance purposes and this application consists of 105 pages and they are numbered from page 1 to 105. The status of this facility's compliance with all applicable air pollution control requirements, including the enhanced monitoring and compliance certification requirements of the Federal Clean Air Act, is reported in this application along with the methods to be used for compliance demonstration.

Name and Title of Responsible Official

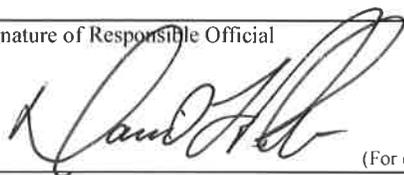
Telephone Number with Area Code

David Phillips - Director of Operations

423-722-2033

Signature of Responsible Official

Date of Application



3/18/20

(For definition of responsible official, see instructions for APC Form 1)

State of Tennessee
 Department of Environment and Conservation
 Division of Air Pollution Control
 William R. Snodgrass Tennessee Tower
 312 Rosa L. Parks Avenue, 15th Floor
 Nashville, TN 37243
 Telephone: (615) 532-0554



APC 1

**TITLE V PERMIT APPLICATION
 FACILITY IDENTIFICATION**

SITE INFORMATION			
1. Organization's legal name Microporous, LLC		For APC Use Only	APC company point no.
2. Site name (if different from legal name)			APC Log/Permit no.
3. Site address (St./Rd./Hwy.) 596 Industrial Park Road		NAICS or SIC Code SIC 3069 / 3089	
City or distance to nearest town Piney Flats		Zip code 37686	County name Sullivan
4. Site location (in Lat./Long)	Latitude 4,034,781 (UTM)	Longitude 294,385 (UTM)	
CONTACT INFORMATION (RESPONSIBLE OFFICIAL)			
5. Responsible official contact David Phillips		Phone number with area code 423-722-2033	
6. Mailing address (St./Rd./Hwy.) 596 Industrial Park Road		Fax number with area code	
City Piney Flats	State TN	Zip code 37686	Email address david.phillips@microporous.net
CONTACT INFORMATION (TECHNICAL)			
7. Principal technical contact Steve Powell		Phone number with area code 423-772-2038	
8. Mailing address (St./Rd./Hwy.) 596 Industrial Park Road		Fax number with area code	
City Piney Flats	State TN	Zip code 37686	Email address steve.powell@microporous.net
CONTACT INFORMATION (BILLING)			
11. Billing contact Steve Powell		Phone number with area code 423-772-2038	
12. Mailing address (St./Rd./Hwy.) 596 Industrial Park Road		Fax number with area code	
City Piney Flats	State TN	Zip code 37686	Email address steve.powell@microporous.net
TYPE OF PERMIT REQUESTED			
13. Permit requested for:			
Initial application to operate :	<input type="checkbox"/>	Minor permit modification :	<input type="checkbox"/>
Permit renewal to operate :	<input checked="" type="checkbox"/>	Significant modification :	<input type="checkbox"/>
Administrative permit amendment :	<input type="checkbox"/>	Construction permit :	<input type="checkbox"/>

(OVER)

HAZARDOUS AIR POLLUTANTS, DESIGNATIONS, AND OTHER PERMITS ASSOCIATED WITH FACILITY		
<p>14. Is this facility subject to the provisions governing prevention of accidental releases of hazardous air contaminants contained in Chapter 1200-03-32 of the Tennessee Air Pollution Control regulations?</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p style="margin-left: 20px;">If the answer is Yes, are you in compliance with the provisions of Chapter 1200-03-32 of the Tennessee Air Pollution Control regulations?</p>		
<div style="display: flex; justify-content: space-around;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>		
<p>15. If facility is located in an area designated as " Non-Attainment" or " Additional Control", indicate the pollutant(s) for the designation. Sulfur Dioxide (2010) - Sullivan County (Nonattainment)</p>		
<p>16. List all valid Air Pollution permits issued to the <u>sources contained in this application</u> [identify all permits with most recent permit numbers and emission source reference numbers listed on the permit(s)]. Title V Operating Permit #569100 Construction Permit #976950</p>		
<p>17. Page number :</p> <p style="text-align: center;">11</p>	<p>Revision number:</p> <p style="text-align: center;">Renewal</p>	<p>Date of revision:</p> <p style="text-align: center;">03/2020</p>



**TITLE V PERMIT APPLICATION
 OPERATIONS AND FLOW DIAGRAMS**

1. Please list, identify, and describe briefly process emission sources, fuel burning installations, and incinerators that are contained in this application. Please attach a flow diagram for this application.

- 82-0153-01: One (1) 48.5 MMBtu/hr Natural Gas-Fired Boiler
- 82-0153-07: Rubber Sizing Operation
- 82-0153-12: Plastic Battery Mat Extension Operation
- 82-0153-13, -14, -15: Transfer of Silica, Polyethylene, and Rubber Dust Operation
- 82-0153-18: One (1) 10.5 MMBtu/hr Natural Gas-Fired Boiler
- 82-0153-23: Transfer of Silica Powder to Storage Silo #2 with Bin Vent Control
- 82-0153-24: Transfer of Silica Powder to Storage Silo #3 with Bin Vent Control
- 82-0153-28: Plastic Battery Mat Line #2
- 82-0153-29: One (1) 16.666 MMBtu/hr Natural Gas-Fired Boiler

2. List all insignificant activities which are exempted because of size or production rate and cite the applicable regulations.

Natural gas-fired drying ovens	TAPCR 1200-03-09-.04(5)(a)4.(i)
Ammonia Hood	TAPCR 1200-03-09-.04(5)(a)4.(i)
Extrusion Process	TAPCR 1200-03-09-.04(5)(a)4.(i)
Dynamitron Accelerator	TAPCR 1200-03-09-.04(5)(a)4.(i)
Transfer of polyethylene to Polyethylene Storage Silo #2 with fabric filter control	TAPCR 1200-03-09-.04(5)(a)4.(i)
Internal transfer of silica, rubber dust, and polyethylene to day tank	TAPCR 1200-03-09-.04(5)(a)4.(i)
Pin hole detectors for plastic batter mat quality control	TAPCR 1200-03-09-.04(5)(a)4.(i)
Oil mist extractors	TAPCR 1200-03-09-.04(5)(a)4.(i)
Vacuum cleaning systems for housekeeping purposes	TAPCR 1200-03-09-.04(5)(f)28)

3. Are there any storage piles?

YES _____ NO X

4. List the states that are within 50 miles of your facility.

North Carolina, Virginia, Kentucky

5. Page number:

12

Revision Number:

Renewal

Date of Revision:

03/2020



**TITLE V PERMIT APPLICATION
 EMISSION SUMMARY FOR THE FACILITY OR FOR THE
 SOURCES CONTAINED IN THIS APPLICATION**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: **Microporous, LLC**

EMISSIONS SUMMARY TABLE – CRITERIA AND SELECTED POLLUTANTS

2. Complete the following emissions summary for regulated air pollutants at this facility or for the sources contained in this application.

Air Pollutant	Summary of Maximum Allowable Emissions		Summary of Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour- Item 4, APC 28)	Tons per Year	Reserved for State use (Pounds per Hour- Item 4, APC 28)
PM-10	NA		Fraction of TSP is PM-10	
Particulate Matter (TSP)	47.8		<47.8	
Sulfur Dioxide	0.19		<0.19	
Volatile Organic Compounds	161.8		<161.8	
Carbon Monoxide	27.3		<27.3	
Lead	NA		NA	
Nitrogen Oxides	18.5		<18.5	
Total Reduced Sulfur	NA		NA	
Mercury	NA		NA	
Asbestos	NA		NA	
Beryllium	NA		NA	
Vinyl Chlorides	NA		NA	
Fluorides	NA		NA	
Gaseous Fluorides	NA		NA	
Greenhouse Gases in CO ₂ Equivalent	36,160 metric tons		<36,160 metric tons	

(Continued on next page)



**TITLE V PERMIT APPLICATION
 COMPLIANCE PLAN AND COMPLIANCE CERTIFICATION**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
Microporous, LLC

2. List all the process emission source(s) or fuel burning installation(s) or incinerator(s) that are part of this application.

- 82-0153-01: One (1) 48.5 MMBtu/hr Natural Gas-Fired Boiler
- 82-0153-07: Rubber Sizing Operation
- 82-0153-12: Plastic Battery Mat Extension Operation
- 82-0153-13, -14, -15: Transfer of Silica, Polyethylene, and Rubber Dust Operation
- 82-0153-18: One (1) 10.5 MMBtu/hr Natural Gas-Fired Boiler
- 82-0153-23: Transfer of Silica Powder to Storage Silo #2 with Bin Vent Control
- 82-0153-24: Transfer of Silica Powder to Storage Silo #3 with Bin Vent Control
- 82-0153-28: Plastic Battery Mat Line #2
- 82-0153-29: One (1) 16,666 MMBtu/hr Natural Gas-Fired Boiler

COMPLIANCE PLAN AND CERTIFICATION

3. Indicate that source(s) which are contained in this application are presently in compliance with all applicable requirements, by checking the following:

- A. Attached is a statement of identification of the source(s) currently in compliance. We will continue to operate and maintain the source(s) to assure compliance with all the applicable requirements for the duration of the permit.
- B. APC 30 form(s) includes new requirements that apply or will apply to the source(s) during the term of the permit. We will meet such requirements on a timely basis.

4. Indicate that there are source(s) that are contained in this application which are not presently in full compliance, by checking both of the following:

- A. Attached is a statement of identification of the source(s) not in compliance, non-complying requirement(s), brief description of the problem, and the proposed solution.
- B. We will achieve compliance according to the following schedule:

Action	Deadline

Progress reports will be submitted:

Start date: N/A and every 180 days thereafter until compliance is achieved.

5. State the compliance status with any applicable compliance assurance monitoring and compliance certification requirements that have been promulgated under section 114(a)(3) of the Clean Air Act as of the date of submittal of this APC 31.

N/A

6. Page number:
15

Revision number:
Renewal

Date of revision:
03/2020

State of Tennessee
 Department of Environment and Conservation
 Division of Air Pollution Control
 William R. Snodgrass Tennessee Tower
 312 Rosa L. Parks Avenue, 15th Floor
 Nashville, TN 37243
 Telephone: (615) 532-0554



APC 4

TITLE V PERMIT APPLICATION FUEL BURNING NON-PROCESS EQUIPMENT

GENERAL IDENTIFICATION AND DESCRIPTION				
1. Facility name: Microporous, LLC				
2. Stack ID or flow diagram point identification (s): 82-0153-01				
FUEL BURNING EQUIPMENT DESCRIPTION				
3. List all fuel burning equipment that is at this fuel burning installation (please complete an APC 4 form for each piece of fuel burning equipment). One (1) 48.5 MMBtu/hr Natural Gas Fired Boiler				
4. Fuel burning equipment identification number: 82-0153-01				
5. Fuel burning equipment description: Natural gas-fired boiler				
6. Year of installation or last modification of fuel burning equipment.				
7. Furnace type: Natural gas-fired		8. Manufacturer model number (if available):		
9. Location of this fuel burning installation in UTM coordinates: UTM Vertical: _____ UTM Horizontal: _____				
10. Normal operating schedule: 24 Hrs./Day 7 Days/Wk. 365 Days/Yr.				
FUELS, CONTROLS, AND MONITORING DESCRIPTION				
11. Maximum rated heat input capacity (in million BTU/Hour) 48.5 MMBtu/hr		12. If wood is used as a fuel, specify the amount of wood used as a fraction of total heat input. NA		
13. Fuels:	Primary fuel	Backup fuel #1	Backup fuel #2	Backup fuel #3
Fuel name	Natural Gas			
Actual yearly consumption	4.17 x10 ⁸ SCF/yr			
14. If emissions from this fuel burning equipment are controlled for compliance, please specify the type of control: NA				
15. If emissions from this fuel burning equipment are monitored for compliance, please specify the type of monitoring: NA				
16. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, material handling operations, etc. (please attach a separate sheet if necessary). NA				
17. Page number: 16		Revision Number: Renewal		Date of Revision: 03/2020



**TITLE V PERMIT APPLICATION
 STACK IDENTIFICATION**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	
2. Emission source (identify): One (1) 48.5 MMBtu/hr Natural Gas-Fired Boiler	
STACK DESCRIPTION	
3. Stack ID (or flow diagram point identification): 82-0153-01	
4. Stack height above grade in feet: Unknown	
5. Velocity (data at exit conditions): _____ (Actual feet per second)	6. Inside dimensions at outlet in feet: Unknown
7. Exhaust flowrate at exit conditions (ACFM): Unknown	8. Flow rate at standard conditions (DSCFM):
9. Exhaust temperature: _____ Degrees Fahrenheit (°F)	10. Moisture content (data at exit conditions): UNK _____ Percent _____ Grains per dry standard cubic foot (gr./dscf.)
11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (<u>for stacks subject to diffusion equation only</u>): Unknown _____ (°F)	
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO _x , etc.)? N/A	
Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.	
BYPASS STACK DESCRIPTION	
13. Do you have a bypass stack? <div style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div> <p>If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.</p>	
14. Page number: 17	Revision Number: Renewal
Date of Revision: 03/2020	



**TITLE V PERMIT APPLICATION
 COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
 DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE**

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC
2. Process emission source, fuel burning installation, or incinerator (identify): One (1) 48.5 MMBtu/hr Natural Gas-Fired Boiler
3. Stack ID or flow diagram point identification(s): 82-0153-01

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)
 - Continuous Emission Monitoring (CEM) - APC 20
Pollutant(s): _____
 - Emission Monitoring Using Portable Monitors - APC 21
Pollutant(s): _____
 - Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
Pollutant(s): _____
 - Monitoring Maintenance Procedures - APC 23
Pollutant(s): _____
 - Stack Testing - APC 24
Pollutant(s): _____
 - Fuel Sampling & Analysis (FSA) - APC 25
Pollutant(s): _____
 - Recordkeeping - APC 26
Pollutant(s): PM, SO₂, CO, VOC, NO_x
 - Other (please describe) - APC 27
Pollutant(s): As prescribed in the Title V Operating permit

5. Compliance certification reports will be submitted to the Division according to the following schedule:
 Start date: As prescribed in the Title V Operating permit
 And every 180 days thereafter.

6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
 Start date: As prescribed in the Title V Operating permit
 And every 180 days thereafter.

7. Page number: 18 Revision number: Renewal Date of revision: 03/2020



**TITLE V PERMIT APPLICATION
 COMPLIANCE DEMONSTRATION BY RECORDKEEPING**

Recordkeeping shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value recorded and the applicable requirement is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0153-01
3. Emission source (identify): One (1) 48.5 MMBtu/hr Natural Gas-Fired Boiler	

MONITORING AND RECORDKEEPING DESCRIPTION

4. Pollutant(s) or parameter being monitored: PM, SO₂, CO, VOC, NO_x
5. Material or parameter being monitored and recorded: Fuel Usage
6. Method of monitoring and recording: Microporous, LLC will monitor emissions from the boiler based on fuel usage and application of AP-42 emission factors for natural gas combustion. A log of fuel usage and calculated emissions will be kept on-site for inspection for five (5) years.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated): Sem-annually
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8. Page number: 19	Revision number: Renewal	Date of revision: 03/2020
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**TITLE V PERMIT APPLICATION
 EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0153-01

3. Process emission source / Fuel burning installation / Incinerator (identify):
 One (1) 48.5 MMBtu/hr Natural Gas-Fired Boiler

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour - Item 8, APC 30)
Particulate Matter (TSP)	1.6		<1.6	
(Fugitive Emissions)	NA		NA	
Sulfur Dioxide	0.1		<0.1	
(Fugitive Emissions)	NA		NA	
Volatile Organic Compounds	1.2		<1.2	
(Fugitive Emissions)	NA		NA	
Carbon Monoxide	17.5		<17.5	
(Fugitive Emissions)	NA		NA	
Lead	NA		NA	
(Fugitive Emissions)	NA		NA	
Nitrogen Oxides	10.4		<10.4	
(Fugitive Emissions)	NA		NA	
Total Reduced Sulfur	NA		NA	
(Fugitive Emissions)	NA		NA	
Mercury	NA		NA	
(Fugitive Emissions)	NA		NA	

(Continued on next page)

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APC 30

**TITLE V PERMIT APPLICATION
 CURRENT EMISSIONS REQUIREMENTS AND STATUS**

GENERAL IDENTIFICATION AND DESCRIPTION					
1. Facility name: Microporous, LLC			2. Emission source number 82-0153-01		
3. Describe the process emission source / fuel burning installation / incinerator. One (1) 48.5 MMBtu/hr Natural Gas-Fired Boiler					
EMISSIONS AND REQUIREMENTS					
4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
	Opacity	Operating Permit 569100, Condition E3-2	20%	<20%	IN
	PM	Operating Permit 569100, Condition E4-2	0.36 lbs/hr	<0.36 lbs/hr	IN
	SO2	Operating Permit 569100, Condition E4-3	0.1 lbs/hr	<0.1 lbs/hr	IN
	CO	Operating Permit 569100, Condition E4-4	4.0 lbs/hr	<4.0 lbs/hr	IN
	VOC	Operating Permit 569100, Condition E4-5	0.26 lb/hr	<0.26 lb/hr	IN
	NOx	Operating Permit 569100, Condition E4-6	2.38 lb/hr	<2.38 lb/hr	IN
10. Other applicable requirements (new requirements that apply to this source during the term of this permit)					
	N/A	40 CFR 60, Subpart Dc	Fuel Usage Recordkeeping		IN
	N/A	40 CFR 63, Subpart DDDDD	Energy Assessment, Annual Tuneups		IN
11. Page number: 22		Revision number: Renewal		Date of revision: 03/2020	



**TITLE V PERMIT APPLICATION
 MISCELLANEOUS PROCESSES**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
 Microporous, LLC

2. Process emission source (identify):
 Rubber Sizing Operation

3. Stack ID or flow diagram point identification (s):
 82-0135-07

4. Year of construction or last modification:
 1973

If the emissions are controlled for compliance, attach an appropriate Air Pollution Control system form.

5. Normal operating schedule: 20 Hrs./Day 7 Days/Wk. 365 Days/Yr.

6. Location of this process emission source in UTM coordinates: UTM Vertical: 4,034,781 UTM Horizontal: 294,385

7. Describe this process (Please attach a flow diagram of this process) and check one of the following:
 Batch Continuous
 Rolls of finished Ace-Sil(R) and Flex-Sil (R) rubber mats are sent to finishing line #2 for cutting, sizing, and preparation for shipping. Dust collector controls dust from Finishing Line #2.

PROCESS MATERIAL INPUT AND OUTPUT

8. List the types and amounts of raw materials input to this process:

Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Rubber Mat Product	Cut and Finished for Shipping	300,000 ft/day	500,000 ft/day
Banburys	Mixing Raw Materials	40,000 lbs/day	60,000 lbs/day
Chipping	Chipping Waste Rubber Material	7,000 ft/hr	7,000 ft/hr
HI-Sil Pump Up	Conveying Raw Materials	2,000 lbs/hr	2,000 lbs/hr

9. List the types and amounts of primary products produced by this process:

Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Finished Rubber Mat	Finished mats for off-site shipment	96,000 ft/day	96,000 ft/day

10. Process fuel usage:

Type of fuel	Max heat input (10 ⁶ BTU/Hr.)	Average usage (units)	Maximum usage (units)
N/A			

11. List any solvents, cleaners, etc., associated with this process:
 N/A

If the emissions and/or operations of this process are monitored for compliance, please attach the appropriate Compliance Demonstration form

12. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, open air sand blasting, material handling operations, etc. (please attach a separate sheet if necessary).
 N/A

13. Page number: 23 Revision Number: Renewal Date of Revision: 03/2020

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APC 3

TITLE V PERMIT APPLICATION STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	
2. Emission source (identify): Rubber Sizing Operation	
STACK DESCRIPTION	
3. Stack ID (or flow diagram point identification): 82-0135-07	
4. Stack height above grade in feet: 10	
5. Velocity (data at exit conditions): 59 (Actual feet per second)	6. Inside dimensions at outlet in feet: 3.0
7. Exhaust flowrate at exit conditions (ACFM): 25,000	8. Flow rate at standard conditions (DSCFM): 25,000
9. Exhaust temperature: Ambient Degrees Fahrenheit (°F)	10. Moisture content (data at exit conditions): UNK Percent Grains per dry standard cubic foot (gr./dscf.)
11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (<u>for stacks subject to diffusion equation only</u>): NA (°F)	
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO _x , etc.)? N/A	
Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.	
BYPASS STACK DESCRIPTION	
13. Do you have a bypass stack? <div style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div> <p style="font-size: small;">If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.</p>	
14. Page number: 24	Revision Number: Renewal
Date of Revision: 03/2020	



**TITLE V PERMIT APPLICATION
 CONTROL EQUIPMENT - BAGHOUSES/FABRIC FILTERS**

GENERAL IDENTIFICATION AND DESCRIPTION		
1. Facility name: Microporous, LLC	2. Emission source (identify): Rubber Sizing Operation	
3. Stack ID or flow diagram point identification(s): 82-0135-07		
BAGHOUSE/FABRIC FILTER DESCRIPTION		
4. Describe the device in use. List the key operating parameters of this device and their normal operating range. The baghouse controlling Finishing Line #4 and banburys has 545 polyester bags. The baghouse catch is sent to a hopper for transport off-site.		
5. Manufacturer and model number (if available): Flex-Kleen	6. Year of installation: 1974	
7. List of pollutant(s) to be controlled and the expected control efficiency for each pollutant (see instructions).		
Pollutant	Efficiency (%)	Source of data
PM	0.02 gr / dscf	Engineering Judgement
8. Discuss how collected material is handled for reuse or disposal. Waste material is discharged to a hopper and collected for off-site shipment for a proper disposal. Dust that is collected in the dust collector is cleaned out to a hopper and sent off-site for disposal		
9. If the bags are coated, specify the material used for coating and frequency of coating NA		
10. Does the baghouse collect asbestos containing material? If "Yes", provide data as outlined in Item 10, Instructions for this form.		
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
11. If this control equipment is in series with some other control equipment, state and specify the overall efficiency. NA		
12. Page number: 25	Revision Number: Renewal	Date of Revision: 03/2020

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APC 19

**TITLE V PERMIT APPLICATION
 COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
 DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE**

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC
2. Process emission source, fuel burning installation, or incinerator (identify): Rubber Sizing Operation
3. Stack ID or flow diagram point identification(s): 82-0135-07

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)
- Continuous Emission Monitoring (CEM) - APC 20
 Pollutant(s): _____
- Emission Monitoring Using Portable Monitors - APC 21
 Pollutant(s): _____
- Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
 Pollutant(s): PM
- Monitoring Maintenance Procedures - APC 23
 Pollutant(s): _____
- Stack Testing - APC 24
 Pollutant(s): _____
- Fuel Sampling & Analysis (FSA) - APC 25
 Pollutant(s): _____
- Recordkeeping - APC 26
 Pollutant(s): _____
- Other (please describe) - APC 27
 Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:
- Start date: As prescribed in the Title V Operating permit
- And every 180 days thereafter.

6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
- Start date: As prescribed in the Title V Operating permit
- And every 180 days thereafter.

7. Page number: 26 Revision number: Renewal Date of revision: 03/2020

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APC 22

**TITLE V PERMIT APPLICATION - COMPLIANCE DEMONSTRATION BY
 MONITORING CONTROL SYSTEM PARAMETERS OR OPERATING PARAMETERS OF A PROCESS**

The monitoring of a control system parameter or a process parameter shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value and the emission rate of a particular pollutant is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s) 82-0135-07
3. Emission source: Rubber Sizing Operation	

MONITORING DESCRIPTION

4. Pollutant(s) being monitored: PM, Opacity
5. Description of the method of monitoring and establishment of correlation between the parameter value and the emission rate of a particular pollutant: Microporous will maintain a daily log of baghouse pressure drop in inches of water between the air flow inlet and air flow outlet on the affected baghouse.

6. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated): Semi-annually
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7. Page number: 27	Revision number: Renewal	Date of revision: 03/2020
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**TITLE V PERMIT APPLICATION
 EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0135-07

3. Process emission source / Fuel burning installation / Incinerator (identify):
 Rubber Sizing Operation

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour - Item 8, APC 30)
Particulate Matter (TSP)	4.3		<4.3	
(Fugitive Emissions)	NA		NA	
Sulfur Dioxide	NA		NA	
(Fugitive Emissions)	NA		NA	
Volatile Organic Compounds	NA		NA	
(Fugitive Emissions)	NA		NA	
Carbon Monoxide	NA		NA	
(Fugitive Emissions)	NA		NA	
Lead	NA		NA	
(Fugitive Emissions)	NA		NA	
Nitrogen Oxides	NA		NA	
(Fugitive Emissions)	NA		NA	
Total Reduced Sulfur	NA		NA	
(Fugitive Emissions)	NA		NA	
Mercury	NA		NA	
(Fugitive Emissions)	NA		NA	

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APC 30

**TITLE V PERMIT APPLICATION
 CURRENT EMISSIONS REQUIREMENTS AND STATUS**

GENERAL IDENTIFICATION AND DESCRIPTION					
1. Facility name: Microporous, LLC			2. Emission source number 82-0135-07		
3. Describe the process emission source / fuel burning installation / incinerator. Rubber Sizing Operation					
EMISSIONS AND REQUIREMENTS					
4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
82-0135-07	Opacity	Operating Permit 569100, Condition E3-2	20%	<20%	IN
82-0135-07	PM	Operating Permit 569100, Condition E7-1	0.25 gr/dscf	<0.25 gr/dscf	IN
10. Other applicable requirements (new requirements that apply to this source during the term of this permit)					
NA					
11. Page number: 30		Revision number: Renewal		Date of revision: 03/2020	



**TITLE V PERMIT APPLICATION
 MISCELLANEOUS PROCESSES**

GENERAL IDENTIFICATION AND DESCRIPTION			
1. Facility name: Microporous, LLC			
2. Process emission source (identify): Plastic Battery Mat Extrusion Line 1			
3. Stack ID or flow diagram point identification (s): 82-0135-12	4. Year of construction or last modification: 2000		
If the emissions are controlled for compliance, attach an appropriate Air Pollution Control system form.			
5. Normal operating schedule: 24 Hrs./Day 7 Days/Wk. 365 Days/Yr.			
6. Location of this process emission source in UTM coordinates: UTM Vertical: 4,034,781 UTM Horizontal: 294,385			
7. Describe this process (Please attach a flow diagram of this process) and check one of the following: <input type="checkbox"/> Batch <input checked="" type="checkbox"/> Continuous Raw materials are combined in a day bin to form the plastic battery mat base material. The base material is then extruded into a thin sheet and run through an extraction process using trichloroethylene (TCE) to remove excess oil. Mat is dried, wound, and cut for shipment. +			
PROCESS MATERIAL INPUT AND OUTPUT			
8. List the types and amounts of raw materials input to this process:			
Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Process oil	Stored in silos, combined to make raw mat	1,500,000 lbs/yr	1,500,000 lbs/yr
Trichloroethylene	Stored in tank, used in extraction op., recovered	160,000 lbs/12-mon avg	160,000 lbs/12-mon avg
Other Raw Materials		4,204,800 lbs/yr	4,204,800 lbs/yr
9. List the types and amounts of primary products produced by this process:			
Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Plastic Battery Mat	Finished mat is dried, wound onto bales, and prepared for shipping	610 lbs/hr	610 lbs/hr
10. Process fuel usage:			
Type of fuel	Max heat input (10 ⁶ BTU/Hr.)	Average usage (units)	Maximum usage (units)
N/A			
11. List any solvents, cleaners, etc., associated with this process: N/A			
If the emissions and/or operations of this process are monitored for compliance, please attach the appropriate Compliance Demonstration form.			
12. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, open air sand blasting, material handling operations, etc. (please attach a separate sheet if necessary). N/A			
13. Page number: 31	Revision Number: Renewal	Date of Revision: 03/2020	



**TITLE V PERMIT APPLICATION
 STACK IDENTIFICATION**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	
2. Emission source (identify): Plastic Battery Mat Extrusion Line 1	
STACK DESCRIPTION	
3. Stack ID (or flow diagram point identification): 82-0135-12	
4. Stack height above grade in feet: 35	
5. Velocity (data at exit conditions): 21.6 _____ (Actual feet per second)	6. Inside dimensions at outlet in feet: 1.7
7. Exhaust flow rate at exit conditions (ACFM): 2,943	8. Flow rate at standard conditions (DSCFM): 2,943
9. Exhaust temperature: Ambient _____ Degrees Fahrenheit (°F)	10. Moisture content (data at exit conditions): UNK _____ Percent _____ Grains per dry standard cubic foot (gr./dscf.)
11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (for stacks subject to diffusion equation only): N/A _____ (°F)	
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO _x , etc.)? N/A	
Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.	
BYPASS STACK DESCRIPTION	
13. Do you have a bypass stack? <div style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div> <p>If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.</p>	
14. Page number: 32	Revision Number: Renewal
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**TITLE V PERMIT APPLICATION
 CONTROL EQUIPMENT - ADSORBERS**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Emission source (identify): Plastic Battery Mat Extrusion Line 1
3. Stack ID or flow diagram point identification (s): 82-0135-12	

ADSORBER DESCRIPTION

4. Describe the device in use. List the key operating parameters of this device and their normal operating range.
 Five carbon beds will be utilized to control trichloroethylene (TCE) emissions from the drying process and fugitive emissions from the TCE bath area. Three carbon beds will be in operation at any one time. The fourth bed will undergo steam cleaning to release the TCE captured in the activated carbon for reuse in the system, and the fifth bed is for drying following steam cleaning. The carbon beds run on a constant cycle with a normal regeneration time of every 6 hours. One carbon bed is regenerated every 2 hours. An automated system controls which beds are in operation, and their cleaning cycles.

5. Manufacturer and model number (if available):
Jungfer

6. Year of installation:
2000

7. Are you recovering solvent? If the answer is "Yes", please describe.
Yes - TCE is used as a solvent and is captured by the carbon beds.

8. List of pollutant (s) to be controlled and the expected control efficiency for each pollutant:

Pollutant	Inlet Concentration		Outlet Concentration		Pollutant Capture Efficiency (%)	Adsorber Efficiency (%)
	Gr./ACF	PPMV	Gr./ACF	PPMV		
TCE		1832 ppm (est.)		9.16 ppm	99.5	99.5

9. If you were required to answer Item #8, please describe how the bed break through is monitored or controlled.
Electronic sensors will be located in the beds to monitor a release, and a holding area is located beneath the beds in the event of a rupture. A computer system monitors the closed system and the bottom holding area.

10. Discuss how collected material is handled for reuse or disposal. Indicate if the bed material is disposable. Discuss method of disposal or regeneration method.
TCE will be recovered from the carbon beds and returned to the extraction process. The TCE will be processed through a distillation recovery system and fed back into the system. The carbon beds will be replaced after their useful life has expired.

11. If this control equipment is in series with some other control equipment, state and specify the overall efficiency.
NA

12. Page number: 33	Revision Number: Renewal	Date of Revision: 03/2020
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APC 19

**TITLE V PERMIT APPLICATION
 COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
 DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE**

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement with in the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC
2. Process emission source, fuel burning installation, or incinerator (identify): Plastic Battery Mat Extrusion Line 1
3. Stack ID or flowdiagram point identification(s): 82-0135-12

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)

- Continuous Emission Monitoring (CEM) - APC 20
 Pollutant(s): _____
- Emission Monitoring Using Portable Monitors - APC 21
 Pollutant(s): _____
- Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
 Pollutant(s): _____
- Monitoring Maintenance Procedures - APC 23
 Pollutant(s): TCE, PM
- Stack Testing - APC 24
 Pollutant(s): _____
- Fuel Sampling & Analysis (FSA) - APC 25
 Pollutant(s): _____
- Recordkeeping - APC 26
 Pollutant(s): TCE
- Other (please describe) - APC 27
 Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:

Start date: As prescribed in the Title V Operating permit

And every 180 days thereafter.

6. Compliance monitoring reports will be submitted to the Division according to the following schedule:

Start date: As prescribed in the Title V Operating permit

And every 180 days thereafter.

7. Page number: 34 Revision number: Renewal Date of revision: 03/2020

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APC 23

**TITLE V PERMIT APPLICATION
 COMPLIANCE DEMONSTRATION BY MONITORING MAINTENANCE PROCEDURES**

The monitoring of a maintenance procedure shall be acceptable as a compliance demonstration method provided that a correlation between the procedure and the emission rate of a particular pollutant is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:

Microporous, LLC

2. Stack ID or flow diagram point identification(s):

82-0135-12

3. Emission source (identify):

Plastic Battery Mat Extrusion Line 1

MONITORING DESCRIPTION

4. Pollutant(s) being monitored:

TCE, PM

5. Procedure being monitored:

Maintenance procedures

6. Description of the method of monitoring and establishment of correlation between the procedure and the emission rate of a particular pollutant:

Microporous, LLC will perform routine maintenance on the activated carbon bed system to ensure proper and effective operation of the system at specified intervals. Carbon bed material will be changed in accordance with the maintenance/monitoring schedule. Maintenance logs will be kept onsite and available for inspection for at least five (5) years.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):

Semi-annually

8. Page number:

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Revision number:

Renewal

Date of revision:

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APC 26

**TITLE V PERMIT APPLICATION
 COMPLIANCE DEMONSTRATION BY RECORDKEEPING**

Recordkeeping shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value recorded and the applicable requirement is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0135-12
3. Emission source (identify): Plastic Battery Mat Extrusion Line 1	

MONITORING AND RECORDKEEPING DESCRIPTION

4. Pollutant(s) or parameter being monitored: TCE
5. Material or parameter being monitored and recorded: TCE usage rates, carbon filter maintenance
6. Method of monitoring and recording: <p>Microporous, LLC will maintain logs of TCE purchased, calculated monthly emissions, TCE recovery efficiency, and routine maintenance on the activated carbon bed system. Logs will be kept onsite and available for inspection for at least five (5) years.</p> <p>TCE recovery efficiency will be calculated per the following equation:</p> $\text{TCE Lost (\%)} = \left[\frac{\text{Purchased TCE (tons/mo. or tons/yr.)}}{\text{(Battery Mats Processed (tons/mo. or tons/yr.))}} \right] \times 100$ $\text{TCE Recovered (\%)} = 100\% - \text{TCE Lost (\%)}$ <p>"TCE Processed" will be defined as the monthly amount of TCE provided to the extractor. For the TCE processed value, Microporous will record the actual quantity of TCE processed into the extractor per month.</p>

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated): Semi-annually

8. Page number: 36	Revision number: Renewal	Date of revision: 03/2020
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TITLE V PERMIT APPLICATION
EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0135-12
3. Process emission source / Fuel burning installation / Incinerator (identify): Plastic Battery Mat Extrusion Line 1	

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	6.1		<6.1	
(Fugitive Emissions)	NA		NA	
Sulfur Dioxide	NA		NA	
(Fugitive Emissions)	NA		NA	
Volat ile Organic Compounds	80 (as TCE) ton/12-mon avg		<80 (as TCE) ton/12-mon avg	
(Fugitive Emissions)	NA		NA	
Carbon Monoxide	NA		NA	
(Fugitive Emissions)	NA		NA	
Lead	NA		NA	
(Fugitive Emissions)	NA		NA	
Nitrogen Oxides	NA		NA	
(Fugitive Emissions)	NA		NA	
Total Reduced Sulfur	NA		NA	
(Fugitive Emissions)	NA		NA	
Mercury	NA		NA	
(Fugitive Emissions)	NA		NA	

(Continued on next page)

State of Tennessee
 Department of Environment and Conservation
 Division of Air Pollution Control
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 Telephone: (615) 532-0554



APC 30

**TITLE V PERMIT APPLICATION
 CURRENT EMISSIONS REQUIREMENTS AND STATUS**

GENERAL IDENTIFICATION AND DESCRIPTION					
1. Facility name: Microporous, LLC			2. Emission source number 82-0135-12		
3. Describe the process emission source / fuel burning installation / incinerator. Plastic Battery Mat Extrusion Line 1					
EMISSIONS AND REQUIREMENTS					
4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
82-0135-12	Opacity	Operating Permit 569100, Condition E3-2	20%	<20%	IN
82-0135-12	TCE	Operating Permit 569100, Condition E8-1(MM3)	160,000 lbs/12-mon avg	<160,000 lbs/12-mon avg	IN
82-0135-12	PM	Operating Permit 569100, Condition E8-2	1.48 lb/hr	<1.48 lb/hr	IN
82-0135-12	TCE	Operating Permit 569100, Condition E8-3(MM1)	13,140 lbs/mo avg	<13,140 lbs/mo avg	IN
82-0135-12	TCE	Operating Permit 569100, Condition E8-3(MM1)	80.0 tons/12 mon avg	<80 tons/12 mon avg	IN
10. Other applicable requirements (new requirements that apply to this source during the term of this permit)					
11. Page number: 39		Revision number: Renewal		Date of revision: 03/2020	



**TITLE V PERMIT APPLICATION
 MISCELLANEOUS PROCESSES**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
Microporous, LLC

2. Process emission source (identify):
Transfer of Silica from Railcar to Storage Silo #1 with Baghouse Control

3. Stack ID or flow diagram point identification (s):
82-0135-13

4. Year of construction or last modification:
2000

If the emissions are controlled for compliance, attach an appropriate Air Pollution Control system form.

5. Normal operating schedule: 10 Hrs./Day 7 Days/Wk. 365 Days/Yr.

6. Location of this process emission source in UTM coordinates: UTM Vertical: 4,034,781 UTM Horizontal: 294,385

7. Describe this process (Please attach a flow diagram of this process) and check one of the following:
 Batch Continuous Raw silica is pneumatically transferred from railcars to one of two storage silos, and is controlled by a fabric filter unit.

PROCESS MATERIAL INPUT AND OUTPUT

8. List the types and amounts of raw materials input to this process:

Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Silica	Transferred from railcar to silo	10,000 lbs/hr, each silo	10,000 lbs/hr, each silo

9. List the types and amounts of primary products produced by this process:

Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
N/A			

10. Process fuel usage:

Type of fuel	Max heat input (10 ⁶ BTU/Hr.)	Average usage (units)	Maximum usage (units)
N/A			

11. List any solvents, cleaners, etc., associated with this process:
N/A

If the emissions and/or operations of this process are monitored for compliance, please attach the appropriate Compliance Demonstration form.

12. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, open air sand blasting, material handling operations, etc. (please attach a separate sheet if necessary).
N/A

13. Page number: 40 Revision Number: Renewal Date of Revision: 03/2020

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APC 3

TITLE V PERMIT APPLICATION STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	
2. Emission source (identify): Transfer of Silica from Railcar to Storage Silo #1 with Baghouse Control	
STACK DESCRIPTION	
3. Stack ID (or flow diagram point identification): 82-0135-13	
4. Stack height above grade in feet: 65	
5. Velocity (data at exit conditions): 4.25 _____ (Actual feet per second)	6. Inside dimensions at outlet in feet: 0.5
7. Exhaust flowrate at exit conditions (ACFM): 50	8. Flow rate at standard conditions (DSCFM): 50
9. Exhaust temperature: Ambient _____ Degrees Fahrenheit (°F)	10. Moisture content (data at exit conditions): UNK _____ Percent _____ Grains per dry standard cubic foot (gr./dscf.)
11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (<u>for stacks subject to diffusion equation only</u>): NA _____ (°F)	
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO _x , etc.)? NA	
Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.	
BYPASS STACK DESCRIPTION	
13. Do you have a bypass stack? <div style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div> <p>If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.</p>	
14. Page number: 41	Revision Number: Renewal
Date of Revision: 03/2020	

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APC 18

TITLE V PERMIT APPLICATION CONTROL EQUIPMENT - BAGHOUSES/FABRIC FILTERS

GENERAL IDENTIFICATION AND DESCRIPTION		
1. Facility name: Microporous, LLC	2. Emission source (identify): Transfer of Silica from Railcar to Storage Silo #1 with Baghouse Control	
3. Stack ID or flowdiagram point identification (s): 82-0135-13		
BAGHOUSE/FABRIC FILTER DESCRIPTION		
4. Describe the device in use. List the key operating parameters of this device and their normal operating range. The dust collection system consists of a paper filter cartridge unit on top of the silica silo. The filter operates during loading and unloading of silica and recirculates the air and dust material back into the silo. All waste is fed back into the silo.		
5. Manufacturer and model number (if available): Baghouse Accessories	6. Year of installation: 2000	
7. List of pollutant(s) to be controlled and the expected control efficiency for each pollutant (see instructions).		
Pollutant	Efficiency (%)	Source of data
PM	<0.25 gr / dscf	Engineering Judgement
8. Discuss how collected material is handled for reuse or disposal. Collected material is recirculated back into the system. Used cartridges are properly disposed.		
9. If the bags are coated, specify the material used for coating and frequency of coating NA		
10. Does the baghouse collect asbestos containing material? <div style="display: flex; justify-content: space-around; align-items: center;"> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> </div> If "Yes", provide data as outlined in Item 10, Instructions for this form.		
11. If this control equipment is in series with some other control equipment, state and specify the overall efficiency. NA		
12. Page number: 42	Revision Number: Renewal	Date of Revision: 03/2020



**TITLE V PERMIT APPLICATION
 COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
 DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE**

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC
2. Process emission source, fuel burning installation, or incinerator (identify): Transfer of Silica from Railcar to Storage Silo #1 with Baghouse Control
3. Stack ID or flow diagram point identification(s): 82-0135-13

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)

- Continuous Emission Monitoring (CEM) - APC 20
Pollutant(s): _____
- Emission Monitoring Using Portable Monitors - APC 21
Pollutant(s): _____
- Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
Pollutant(s): _____
- Monitoring Maintenance Procedures - APC 23
Pollutant(s): PM
- Stack Testing - APC 24
Pollutant(s): _____
- Fuel Sampling & Analysis (FSA) - APC 25
Pollutant(s): _____
- Recordkeeping - APC 26
Pollutant(s): _____
- Other (please describe) - APC 27
Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:
 Start date: As prescribed in the Title V Operating permit
 And every 180 days thereafter.

6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
 Start date: As prescribed in the Title V Operating permit
 And every 180 days thereafter.

7. Page number: 43 Revision number: Renewal Date of revision: 03/2020

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APC 23

**TITLE V PERMIT APPLICATION
 COMPLIANCE DEMONSTRATION BY MONITORING MAINTENANCE PROCEDURES**

The monitoring of a maintenance procedure shall be acceptable as a compliance demonstration method provided that a correlation between the procedure and the emission rate of a particular pollutant is established.

GENERAL IDENTIFICATION AND DESCRIPTION

- 1. Facility name:
Microporous, LLC
- 2. Stack ID or flow diagram point identification(s):
82-0135-13
- 3. Emission source (identify):
Transfer of Silica from Railcar to Storage Silo #1 with Baghouse Control

MONITORING DESCRIPTION

- 4. Pollutant(s) being monitored:
PM
- 5. Procedure being monitored:
Maintenance procedures
- 6. Description of the method of monitoring and establishment of correlation between the procedure and the emission rate of a particular pollutant:
The baghouse will be maintained and kept in good operating condition. The baghouse will be inspected and any necessary maintenance shall be performed. Records of baghouse inspections, maintenance, and repairs will be retained and kept onsite for inspection for up to five (5) years.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):
Semi-annually

8. Page number: 44	Revision number: Renewal	Date of revision: 03/2020
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**TITLE V PERMIT APPLICATION
 EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Stack ID or flowdiagram point identification(s): 82-0135-13
3. Process emission source / Fuel burning installation / Incinerator (identify): Transfer of Silica from Railcar to Storage Silo #1 with Baghouse Control	

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	0.48		<0.48	
(Fugitive Emissions)	NA		NA	
Sulfur Dioxide	NA		NA	
(Fugitive Emissions)	NA		NA	
Volatile Organic Compounds	NA		NA	
(Fugitive Emissions)	NA		NA	
Carbon Monoxide	NA		NA	
(Fugitive Emissions)	NA		NA	
Lead	NA		NA	
(Fugitive Emissions)	NA		NA	
Nitrogen Oxides	NA		NA	
(Fugitive Emissions)	NA		NA	
Total Reduced Sulfur	NA		NA	
(Fugitive Emissions)	NA		NA	
Mercury	NA		NA	
(Fugitive Emissions)	NA		NA	

(Continued on next page)



**TITLE V PERMIT APPLICATION
 CURRENT EMISSIONS REQUIREMENTS AND STATUS**

GENERAL IDENTIFICATION AND DESCRIPTION					
1. Facility name: Microporous, LLC			2. Emission source number 82-0135-13		
3. Describe the process emission source / fuel burning installation / incinerator. Transfer of Silica from Railcar to Storage Silo #1 with Baghouse Control					
EMISSIONS AND REQUIREMENTS					
4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
82-0135-13	Opacity	Operating Permit 569100, Condition E3-2	20%	<20%	IN
82-0135-13	PM	Operating Permit 569100, Condition E9-1(MM1)	0.25 gr/dscf	<0.25 gr/dscf	IN
10. Other applicable requirements (new requirements that apply to this source during the term of this permit)					
NA					
11. Page number: 47		Revision number: Renewal		Date of revision: 03/2020	



**TITLE V PERMIT APPLICATION
 MISCELLANEOUS PROCESSES**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
 Microporous, LLC

2. Process emission source (identify):
 Transfer of Polyethylene (PE) Powder from Railcar to Storage Silo #2 with Baghouse Control

3. Stack ID or flow diagram point identification(s):
 82-0135-14

4. Year of construction or last modification:
 2000

If the emissions are controlled for compliance, attach an appropriate Air Pollution Control system form.

5. Normal operating schedule: 10 Hrs./Day 7 Days/Wk 365 Days/Yr.

6. Location of this process emission source in UTM coordinates: UTM Vertical: 4,034,781 UTM Horizontal: 294,385

7. Describe this process (Please attach a flow diagram of this process) and check one of the following:
 Batch Continuous
 Raw polyethylene (PE) powder is pneumatically transferred from railcars to one of two storage silos, and is controlled by a fabric filter unit. Silo PE-2 is not constructed but will remain on permit.

PROCESS MATERIAL INPUT AND OUTPUT

8. List the types and amounts of raw materials input to this process:

Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
PE Powder	Transferred from railcar to silo	20,000 lbs/hr	20,000 lbs/hr

9. List the types and amounts of primary products produced by this process:

Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
N/A			

10. Process fuel usage:

Type of fuel	Max heat input (10 ⁶ BTU/Hr.)	Average usage (units)	Maximum usage (units)
N/A			

11. List any solvents, cleaners, etc., associated with this process:
 N/A

If the emissions and/or operations of this process are monitored for compliance, please attach the appropriate Compliance Demonstration form.

12. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, open air sand blasting, material handling operations, etc. (please attach a separate sheet if necessary).
 N/A

13. Page number: 48 Revision Number: Renewal Date of Revision: 03/2020



**TITLE V PERMIT APPLICATION
 STACK IDENTIFICATION**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	
2. Emission source (identify): Transfer of Polyethylene (PE) Powder from Railcar to Storage Silo #2 with Baghouse Control	
STACK DESCRIPTION	
3. Stack ID (or flow diagram point identification): 82-0135-14	
4. Stack height above grade in feet: 65	
5. Velocity (data at exit conditions): 85 _____ (Actual feet per second)	6. Inside dimensions at outlet in feet: 0.5
7. Exhaust flowrate at exit conditions (ACFM): 1,000	8. Flow rate at standard conditions (DSCFM): 1,000
9. Exhaust temperature: Ambient _____ Degrees Fahrenheit (°F)	10. Moisture content (data at exit conditions): UNK _____ Percent _____ Grains per dry standard cubic foot (gr./dscf.)
11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (for stacks subject to diffusion equation only): NA _____ (°F)	
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO _x , etc.)? NA	
Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.	
BYPASS STACK DESCRIPTION	
13. Do you have a bypass stack? _____ Yes <input checked="" type="checkbox"/> No	
If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.	
14. Page number: 49	Revision Number: Renewal _____
Date of Revision: 03/2020	



TITLE V PERMIT APPLICATION CONTROL EQUIPMENT - BAGHOUSES/FABRIC FILTERS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Emission source (identify): Transfer of Polyethylene (PE) Powder from Railcar to Storage Silo #2 with Baghouse Control
3. Stack ID or flow diagram point identification (s): 82-0135-14	

BAGHOUSE/FABRIC FILTER DESCRIPTION

4. Describe the device in use. List the key operating parameters of this device and their normal operating range.
 The dust collection system consists of a paper filter cartridge unit on top of the polyethylene silo. The filter operates during loading and unloading of PE and recirculates the air and dust material back into the silo. All waste is fed back into the solo.

5. Manufacturer and model number (if available): Baghouse Accessories	6. Year of installation: 2000
--	--------------------------------------

7. List of pollutant(s) to be controlled and the expected control efficiency for each pollutant (see instructions).

Pollutant	Efficiency (%)	Source of data
PM	<0.25 gr / dscf	Engineering Judgement

8. Discuss how collected material is handled for reuse or disposal.
 Collected material is recirculated back into the system. Used cartridges are properly disposed.

9. If the bags are coated, specify the material used for coating and frequency of coating
 NA

10. Does the baghouse collect asbestos containing material?
 Yes No

If "Yes", provide data as outlined in Item 10, Instructions for this form.

11. If this control equipment is in series with some other control equipment, state and specify the overall efficiency.
 NA

12. Page number: 50	Revision Number: Renewal	Date of Revision: 03/2020
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**TITLE V PERMIT APPLICATION
 COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
 DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE**

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC
2. Process emission source, fuel burning installation, or incinerator (identify): Transfer of Polyethylene (PE) Powder from Railcar to Storage Silo #2 with Baghouse Control
3. Stack ID or flow diagram point identification(s): 82-0135-14

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)

- Continuous Emission Monitoring (CEM) - APC 20
 Pollutant(s): _____
- Emission Monitoring Using Portable Monitors - APC 21
 Pollutant(s): _____
- Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
 Pollutant(s): _____
- Monitoring Maintenance Procedures - APC 23
 Pollutant(s): PM
- Stack Testing - APC 24
 Pollutant(s): _____
- Fuel Sampling & Analysis (FSA) - APC 25
 Pollutant(s): _____
- Recordkeeping - APC 26
 Pollutant(s): _____
- Other (please describe) - APC 27
 Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:

Start date: As prescribed in the Title V Operating permit
 And every 180 days thereafter.

6. Compliance monitoring reports will be submitted to the Division according to the following schedule:

Start date: As prescribed in the Title V Operating permit
 And every 180 days thereafter.

7. Page number: 51 Revision number: Renewal Date of revision: 03/2020



**TITLE V PERMIT APPLICATION
 COMPLIANCE DEMONSTRATION BY MONITORING MAINTENANCE PROCEDURES**

The monitoring of a maintenance procedure shall be acceptable as a compliance demonstration method provided that a correlation between the procedure and the emission rate of a particular pollutant is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:

Microporous, LLC

2. Stack ID or flow diagram point identification(s):

82-0135-14

3. Emission source (identify):

Transfer of Polyethylene (PE) Powder from Railcar to Storage Silo #2 with Baghouse Control

MONITORING DESCRIPTION

4. Pollutant(s) being monitored:

PM

5. Procedure being monitored:

Maintenance procedures

6. Description of the method of monitoring and establishment of correlation between the procedure and the emission rate of a particular pollutant:

The baghouse will be maintained and kept in good operating condition. The baghouse will be inspected and any necessary maintenance shall be performed. Records of baghouse inspections, maintenance, and repairs will be retained and kept onsite for inspection for up to five (5) years.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):

Semi-annually

8. Page number:

52

Revision number:

Renewal

Date of revision:

03/2020

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 Department of Environment and Conservation
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TITLE V PERMIT APPLICATION
EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0135-14

3. Process emission source / Fuel burning installation / Incinerator (identify):
 Transfer of Polyethylene (PE) Powder from Railcar to Storage Silo #2 with Baghouse Control

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	9.4		<9.4	
(Fugitive Emissions)	NA		NA	
Sulfur Dioxide	NA		NA	
(Fugitive Emissions)	NA		NA	
Volatile Organic Compounds	NA		NA	
(Fugitive Emissions)	NA		NA	
Carbon Monoxide	NA		NA	
(Fugitive Emissions)	NA		NA	
Lead	NA		NA	
(Fugitive Emissions)	NA		NA	
Nitrogen Oxides	NA		NA	
(Fugitive Emissions)	NA		NA	
Total Reduced Sulfur	NA		NA	
(Fugitive Emissions)	NA		NA	
Mercury	NA		NA	
(Fugitive Emissions)	NA		NA	

(Continued on next page)

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AIR POLLUTANT	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Asbestos	NA		NA	
(Fugitive Emissions)	NA		NA	
Beryllium	NA		NA	
(Fugitive Emissions)	NA		NA	
Vinyl Chloride	NA		NA	
(Fugitive Emissions)	NA		NA	
Fluorides	NA		NA	
(Fugitive Emissions)	NA		NA	
Gaseous Fluorides	NA		NA	
(Fugitive Emissions)	NA		NA	
Greenhouse Gases in CO ₂ Equivalents	NA		NA	

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
NA	NA		NA	

6. Page number:
54

Revision number:
Renewal

Date of revision
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APC 30

**TITLE V PERMIT APPLICATION
 CURRENT EMISSIONS REQUIREMENTS AND STATUS**

GENERAL IDENTIFICATION AND DESCRIPTION					
1. Facility name: Microporous, LLC			2. Emission source number 82-0135-14		
3. Describe the process emission source / fuel burning installation / incinerator. Transfer of Polyethylene (PE) Powder from Railcar to Storage Silo #2 with Baghouse Control					
EMISSIONS AND REQUIREMENTS					
4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
82-0135-14	Opacity	Operating Permit 569100, Condition E3-2	20%	<20%	IN
82-0135-14	PM	Operating Permit 569100, Condition E10-1	0.25 gr/dscf	<0.25 gr/dscf	IN
10. Other applicable requirements (new requirements that apply to this source during the term of this permit)					
NA					
11. Page number: 55		Revision number: Renewal		Date of revision: 03/2020	



**TITLE V PERMIT APPLICATION
 MISCELLANEOUS PROCESSES**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
 Microporous, LLC

2. Process emission source (identify):
 Transfer of Rubber Dust to Day Bin with Filter Control

3. Stack ID or flow diagram point identification (s):
 82-0135-15

4. Year of construction or last modification:
 2000

If the emissions are controlled for compliance, attach an appropriate Air Pollution Control system form.

5. Normal operating schedule: 10 Hrs./Day 7 Days/Wk. 365 Days/Yr.

6. Location of this process emission source in UTM coordinates: UTM Vertical: 4,034,781 UTM Horizontal: 294,385

7. Describe this process (Please attach a flow diagram of this process) and check one of the following:
 Batch Continuous
 Ground rubber is pneumatically transferred from railcars to a day bin, and is controlled by a baghouse unit.

PROCESS MATERIAL INPUT AND OUTPUT

8. List the types and amounts of raw materials input to this process:

Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Rubber Dust	Transfer inside facility to storage silo	300 lbs/hr	300 lbs/hr

9. List the types and amounts of primary products produced by this process:

Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
N/A			

10. Process fuel usage:

Type of fuel	Max heat input (10 ⁶ BTU/Hr.)	Average usage (units)	Maximum usage (units)
N/A			

11. List any solvents, cleaners, etc., associated with this process:
 N/A

If the emissions and/or operations of this process are monitored for compliance, please attach the appropriate Compliance Demonstration form.

12. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, open air sand blasting, material handling operations, etc. (please attach a separate sheet if necessary).
 N/A

13. Page number: 56 Revision Number: Renewal Date of Revision: 03/2020



**TITLE V PERMIT APPLICATION
 STACK IDENTIFICATION**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	
2. Emission source (identify): Transfer of Rubber Dust to Day Bin with Filter Control	
STACK DESCRIPTION	
3. Stack ID (or flow diagram point identification): 82-0135-15	
4. Stack height above grade in feet: 25	
5. Velocity (data at exit conditions): 85 _____ (Actual feet per second)	6. Inside dimensions at outlet in feet: 0.5
7. Exhaust flowrate at exit conditions (ACFM): 1,000	8. Flow rate at standard conditions (DSCFM): 1,000
9. Exhaust temperature: Ambient _____ Degrees Fahrenheit (°F)	10. Moisture content (data at exit conditions): UNK _____ Percent _____ Grains per dry standard cubic foot (gr./dscf.)
11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (for stacks subject to diffusion equation only): NA _____ (°F)	
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO _x , etc.)? NA	
Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.	
BYPASS STACK DESCRIPTION	
13. Do you have a bypass stack? <div style="text-align: center; margin-top: 10px;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div> <p style="margin-top: 20px;">If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.</p>	
14. Page number: 57	Revision Number: Renewal
Date of Revision: 03/2020	



**TITLE V PERMIT APPLICATION
 CONTROL EQUIPMENT - BAGHOUSES/FABRIC FILTERS**

GENERAL IDENTIFICATION AND DESCRIPTION		
1. Facility name: Microporous, LLC	2. Emission source (identify): Transfer of Rubber Dust to Day Bin with Filter Control	
3. Stack ID or flowdiagram point identification (s): 82-0135-15		
BAGHOUSE/FABRIC FILTER DESCRIPTION		
4. Describe the device in use. List the key operating parameters of this device and their normal operating range. The rubber dust silo is controlled by a baghouse with 50 polyester bags. The baghouse catch is sent to a hopper for transport off-site.		
5. Manufacturer and model number (if available): Valley Equipment	6. Year of installation: 2000	
7. List of pollutant(s) to be controlled and the expected control efficiency for each pollutant (see instructions).		
Pollutant	Efficiency (%)	Source of data
PM	<0.25 gr / dscf	Engineering Judgement
8. Discuss how collected material is handled for reuse or disposal. Waste material is collected in a 55-gallon drum and disposed of in a landfill.		
9. If the bags are coated, specify the material used for coating and frequency of coating NA		
10. Does the baghouse collect asbestos containing material? <div style="display: flex; justify-content: space-around;"> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> </div> If "Yes", provide data as outlined in Item 10, Instructions for this form.		
11. If this control equipment is in series with some other control equipment, state and specify the overall efficiency. NA		
12. Page number: 58	Revision Number: Renewal	Date of Revision: 03/2020



**TITLE V PERMIT APPLICATION
 COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
 DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE**

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC
2. Process emission source, fuel burning installation, or incinerator (identify): Transfer of Rubber Dust to Day Bin with Filter Control
3. Stack ID or flowdiagram point identification(s): 82-0135-15

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)
- Continuous Emission Monitoring (CEM) - APC 20
 Pollutant(s): _____
- Emission Monitoring Using Portable Monitors - APC 21
 Pollutant(s): _____
- Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
 Pollutant(s): _____
- Monitoring Maintenance Procedures - APC 23
 Pollutant(s): PM
- Stack Testing - APC 24
 Pollutant(s): _____
- Fuel Sampling & Analysis (FSA) - APC 25
 Pollutant(s): _____
- Recordkeeping - APC 26
 Pollutant(s): _____
- Other (please describe) - APC 27
 Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:
- Start date: As prescribed in the Title V Operating permit
- And every 180 days thereafter.

6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
- Start date: As prescribed in the Title V Operating permit
- And every 180 days thereafter.

7. Page number: 59 Revision number: Renewal Date of revision: 03/2020



**TITLE V PERMIT APPLICATION
 COMPLIANCE DEMONSTRATION BY MONITORING MAINTENANCE PROCEDURES**

The monitoring of a maintenance procedure shall be acceptable as a compliance demonstration method provided that a correlation between the procedure and the emission rate of a particular pollutant is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:

Microporous, LLC

2. Stack ID or flow diagram point identification(s):

82-0135-15

3. Emission source (identify):

Transfer of Rubber Dust to Day Bin with Filter Control

MONITORING DESCRIPTION

4. Pollutant(s) being monitored:

PM

5. Procedure being monitored:

Maintenance procedures

6. Description of the method of monitoring and establishment of correlation between the procedure and the emission rate of a particular pollutant:

The baghouse will be maintained and kept in good operating condition. The baghouse will be inspected and any necessary maintenance shall be performed. Records of baghouse inspections, maintenance, and repairs will be retained and kept onsite for inspection for up to five (5) years.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):

Semi-annually

8. Page number:

60

Revision number:

Renewal

Date of revision:

03//2020

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 Department of Environment and Conservation
 Division of Air Pollution Control
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**TITLE V PERMIT APPLICATION
 EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0135-15

3. Process emission source / Fuel burning installation / Incinerator (identify):
 Transfer of Rubber Dust to Day Bin with Filter Control

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	9.4		<9.4	
(Fugitive Emissions)	NA		NA	
Sulfur Dioxide	NA		NA	
(Fugitive Emissions)	NA		NA	
Volatile Organic Compounds	NA		NA	
(Fugitive Emissions)	NA		NA	
Carbon Monoxide	NA		NA	
(Fugitive Emissions)	NA		NA	
Lead	NA		NA	
(Fugitive Emissions)	NA		NA	
Nitrogen Oxides	NA		NA	
(Fugitive Emissions)	NA		NA	
Total Reduced Sulfur	NA		NA	
(Fugitive Emissions)	NA		NA	
Mercury	NA		NA	
(Fugitive Emissions)	NA		NA	

(Continued on next page)

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AIR POLLUTANT	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Asbestos	NA		NA	
(Fugitive Emissions)	NA		NA	
Beryllium	NA		NA	
(Fugitive Emissions)	NA		NA	
Vinyl Chloride	NA		NA	
(Fugitive Emissions)	NA		NA	
Fluorides	NA		NA	
(Fugitive Emissions)	NA		NA	
Gaseous Fluorides	NA		NA	
(Fugitive Emissions)	NA		NA	
Greenhouse Gases in CO ₂ Equivalent	NA		NA	

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutant(s) that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
NA	NA		NA	

6. Page number:
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Revision number:
Renewal

Date of revision
03/2020

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**TITLE V PERMIT APPLICATION
 CURRENT EMISSIONS REQUIREMENTS AND STATUS**

GENERAL IDENTIFICATION AND DESCRIPTION					
1. Facility name: Microporous, LLC			2. Emission source number 82-0135-15		
3. Describe the process emission source / fuel burning installation / incinerator: Transfer of Rubber Dust to Day Bin with Filter Control					
EMISSIONS AND REQUIREMENTS					
4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
82-0135-15	Opacity	Operating Permit 569100, Condition E3-2	20%	<20%	IN
82-0135-15	PM	Operating Permit 569100, Condition E11-1	0.25 gr/dscf	<0.25 gr/dscf	IN
10. Other applicable requirements (new requirements that apply to this source during the term of this permit)					
NA					
11. Page number: 63		Revision number: Renewal		Date of revision: 03/2020	

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APC 4

TITLE V PERMIT APPLICATION FUEL BURNING NON-PROCESS EQUIPMENT

GENERAL IDENTIFICATION AND DESCRIPTION				
1. Facility name: Microporous, LLC				
2. Stack ID or flow diagram point identification (s): 82-0153-18				
FUEL BURNING EQUIPMENT DESCRIPTION				
3. List all fuel burning equipment that is at this fuel burning installation (please complete an APC 4 form for each piece of fuel burning equipment). One (1) 10.5 MMBtu/hr Natural Gas-Fired Boiler				
4. Fuel burning equipment identification number: 82-0153-18				
5. Fuel burning equipment description: Natural gas-fired boiler				
6. Year of installation or last modification of fuel burning equipment. 2001				
7. Furnace type: Natural gas-fired furnace			8. Manufacturer model number (if available):	
9. Location of this fuel burning installation in UTM coordinates: UTM Vertical: <u>16.3</u> UTM Horizontal: <u>400</u>				
10. Normal operating schedule: <u>24</u> Hrs./Day <u>7</u> Days/Wk <u>365</u> Days/Yr.				
FUELS, CONTROLS, AND MONITORING DESCRIPTION				
11. Maximum rated heat input capacity (in million BTU/Hour) 10.5 MMBtu/hr			12. If wood is used as a fuel, specify the amount of wood used as a fraction of total heat input. NA	
13. Fuels:	Primary fuel	Backup fuel #1	Backup fuel #2	Backup fuel #3
Fuel name	Natural Gas			
Actual yearly consumption	9.0 x10 ⁷ SCF/yr			
14. If emissions from this fuel burning equipment are controlled for compliance, please specify the type of control: NA				
15. If emissions from this fuel burning equipment are monitored for compliance, please specify the type of monitoring: NA				
16. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, material handling operations, etc. (please attach a separate sheet if necessary). NA				
17. Page number: 64		Revision Number: Renewal		Date of Revision: 03/2020



**TITLE V PERMIT APPLICATION
 STACK IDENTIFICATION**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	
2. Emission source (identify): One (1) 10.5 MMBtu/hr Natural Gas-Fired Boiler	
STACK DESCRIPTION	
3. Stack ID (or flow diagram point identification): 82-0153-18	
4. Stack height above grade in feet: 38	
5. Velocity (data at exit conditions): 16.3 (Actual feet per second)	6. Inside dimensions at outlet in feet: 1.67
7. Exhaust flowrate at exit conditions (ACFM): 2,138	8. Flow rate at standard conditions (DSCFM): 2,138
9. Exhaust temperature: 400 Degrees Fahrenheit (°F)	10. Moisture content (data at exit conditions): UNK Percent Grains per dry standard cubic foot (gr./dscf.)
11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (for stacks subject to diffusion equation only): Unknown (°F)	
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO _x , etc.)? N/A	
Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.	
BYPASS STACK DESCRIPTION	
13. Do you have a bypass stack? <div style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div> <p>If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.</p>	
14. Page number: 65	Revision Number: Renewal
Date of Revision: 03/2020	



**TITLE V PERMIT APPLICATION
 COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
 DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE**

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC
2. Process emission source, fuel burning installation, or incinerator (identify): One (1) 10.5 MMBtu/hr Natural Gas-Fired Boiler
3. Stack ID or flow diagram point identification(s): 82-0153-18

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)
- Continuous Emission Monitoring (CEM) - APC 20
 Pollutant(s): _____
- Emission Monitoring Using Portable Monitors - APC 21
 Pollutant(s): _____
- Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
 Pollutant(s): _____
- Monitoring Maintenance Procedures - APC 23
 Pollutant(s): _____
- Stack Testing - APC 24
 Pollutant(s): _____
- Fuel Sampling & Analysis (FSA) - APC 25
 Pollutant(s): _____
- Recordkeeping - APC 26
 Pollutant(s): PM, SO₂, CO, VOC, NO_x
- Other (please describe) - APC 27
 Pollutant(s): As prescribed in the Title V Operating permit

5. Compliance certification reports will be submitted to the Division according to the following schedule:
- Start date: As prescribed in the Title V Operating permit
- And every 180 days thereafter.

6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
- Start date: As prescribed in the Title V Operating permit
- And every 180 days thereafter.

7. Page number: 66 Revision number: Renewal Date of revision: 03/2020

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APC 26

**TITLE V PERMIT APPLICATION
 COMPLIANCE DEMONSTRATION BY RECORDKEEPING**

Recordkeeping shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value recorded and the applicable requirement is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0153-18
3. Emission source (identify): One (1) 10.5 MMBtu/hr Natural Gas-Fired Boiler	

MONITORING AND RECORDKEEPING DESCRIPTION

4. Pollutant(s) or parameter being monitored: PM, SO₂, CO, VOC, NO_x
5. Material or parameter being monitored and recorded: Fuel Usage
6. Method of monitoring and recording: Microporous, LLC will monitor emissions from the boiler based on fuel usage and application of AP-42 emission factors for natural gas and propane combustion. A log of fuel usage and calculated emissions will be kept on-site for inspection for five (5) years.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated): Semi-annually

8. Page number: 67	Revision number: Renewal	Date of revision: 03/2020
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APC 28

**TITLE V PERMIT APPLICATION
 EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0153-18

3. Process emission source / Fuel burning installation / Incinerator (identify):
 One (1) 10.5 MMBtu/hr Natural Gas-Fired Boiler

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour - Item 8, APC 30)
Particulate Matter (TSP)	0.34		<0.34	
(Fugitive Emissions)	NA		NA	
Sulfur Dioxide	0.1		<0.1	
(Fugitive Emissions)	NA		NA	
Volatile Organic Compounds	0.3		<0.3	
(Fugitive Emissions)	NA		NA	
Carbon Monoxide	3.8		<3.8	
(Fugitive Emissions)	NA		NA	
Lead	NA		NA	
(Fugitive Emissions)	NA		NA	
Nitrogen Oxides	4.5		<4.5	
(Fugitive Emissions)	NA		NA	
Total Reduced Sulfur	NA		NA	
(Fugitive Emissions)	NA		NA	
Mercury	NA		NA	
(Fugitive Emissions)	NA		NA	

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AIR POLLUTANT	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Asbestos	NA		NA	
(Fugitive Emissions)	NA		NA	
Beryllium	NA		NA	
(Fugitive Emissions)	NA		NA	
Vinyl Chloride	NA		NA	
(Fugitive Emissions)	NA		NA	
Fluorides	NA		NA	
(Fugitive Emissions)	NA		NA	
Gaseous Fluorides	NA		NA	
(Fugitive Emissions)	NA		NA	
Greenhouse Gases in CO ₂ Equivalents	4,915 metric tons		<4,915 metric tons	

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
NA	NA		NA	

6. Page number:
69

Revision number:
Renewal

Date of revision
03/2020

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APC 30

**TITLE V PERMIT APPLICATION
 CURRENT EMISSIONS REQUIREMENTS AND STATUS**

GENERAL IDENTIFICATION AND DESCRIPTION					
1. Facility name: Microporous, LLC			2. Emission source number 82-0153-18		
3. Describe the process emission source / fuel burning installation / incinerator. One (1) 10.5 MMBtu/hr Natural Gas-Fired Boiler					
EMISSIONS AND REQUIREMENTS					
4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
82-0153-18	Opacity	Operating Permit 569100, Condition E3-2	20%	<20%	IN
82-0153-18	PM	Operating Permit 569100, Condition E12-2(MM1)	0.1 lbs/hr	<0.1 lbs/hr	IN
82-0153-18	SO ₂	Operating Permit 569100, Condition E12-3(MM1)	0.1 lbs/hr	<0.1 lbs/hr	IN
82-0153-18	CO	Operating Permit 569100, Condition E12-4(MM1)	0.9 lbs/hr	<0.9 lbs/hr	IN
82-0153-18	VOC	Operating Permit 569100, Condition E12-5(MM1)	0.1 lb/hr	<0.1 lb/hr	IN
82-0153-18	NO _x	Operating Permit 569100, Condition E12-6(MM1)	1.0 lb/hr	<1.0 lb/hr	IN
10. Other applicable requirements (new requirements that apply to this source during the term of this permit)					
82-0153-18	N/A	40 CFR 63, Subpart DDDDD	Energy Assessment, Annual Tuneups		IN
					IN
11. Page number: 70		Revision number: Renewal		Date of revision: 03/2020	



**TITLE V PERMIT APPLICATION
 MISCELLANEOUS PROCESSES**

GENERAL IDENTIFICATION AND DESCRIPTION			
1. Facility name: Microporous, LLC			
2. Process emission source (identify): Transfer of silica to Silica Storage Silo #2 with fabric filter control			
3. Stack ID or flow diagram point identification (s): 82-0153-23	4. Year of construction or last modification: 2019/2020		
If the emissions are controlled for compliance, attach an appropriate Air Pollution Control system form.			
5. Normal operating schedule: <u>TBD</u> Hrs./Day <u>Ambient</u> Days/Wk. <u>N/A</u> Days/Yr.			
6. Location of this process emission source in UTM coordinates: UTM Vertical: <u>TBD</u> UTM Horizontal: <u>TBD</u>			
7. Describe this process (Please attach a flow diagram of this process) and check one of the following: <input type="checkbox"/> Batch <input checked="" type="checkbox"/> Continuous			
PROCESS MATERIAL INPUT AND OUTPUT			
8. List the types and amounts of raw materials input to this process:			
Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Silica	Unloaded into silos, transferred to day tank		5,300,000 lb/yr
9. List the types and amounts of primary products produced by this process:			
Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
N/A			
10. Process fuel usage:			
Type of fuel	Max heat input (10 ⁶ BTU/Hr.)	Average usage (units)	Maximum usage (units)
N/A			
11. List any solvents, cleaners, etc., associated with this process: N/A			
If the emissions and/or operations of this process are monitored for compliance, please attach the appropriate Compliance Demonstration form.			
12. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, open air sand blasting, material handling operations, etc. (please attach a separate sheet if necessary). N/A			
13. Page number: 71	Revision Number: Renewal	Date of Revision: 03/2020	

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APC 3

**TITLE V PERMIT APPLICATION
 STACK IDENTIFICATION**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	
2. Emission source (identify): Transfer of silica to Silica Storage Silo #2 with fabric filter control	
STACK DESCRIPTION	
3. Stack ID (or flow diagram point identification): 82-0153-23	
4. Stack height above grade in feet: Approx. 56	
5. Velocity (data at exit conditions): TBD (Actual feet per second)	6. Inside dimensions at outlet in feet: TBD
7. Exhaust flowrate at exit conditions (ACFM): Approx. 540	8. Flow rate at standard conditions (DSCFM): Approx. 540
9. Exhaust temperature: Ambient Degrees Fahrenheit (°F)	10. Moisture content (data at exit conditions): Unk Percent Unk Grains per dry standard cubic foot (gr./dscf.)
11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (for stacks subject to diffusion equation only): N/A (°F)	
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO _x , etc.)? N/A	
Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.	
BYPASS STACK DESCRIPTION	
13. Do you have a bypass stack? <p style="text-align: center;">_____ Yes <input checked="" type="checkbox"/> No</p> <p>If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.</p>	
14. Page number: 72	Revision Number: Renewal
Date of Revision: 03/2020	



**TITLE V PERMIT APPLICATION
 CONTROL EQUIPMENT - BAGHOUSES/FABRIC FILTERS**

GENERAL IDENTIFICATION AND DESCRIPTION		
1. Facility name: Microporous, LLC	2. Emission source (identify): Transfer of silica to Silica Storage Silo #2 with fabric filter control	
3. Stack ID or flow diagram point identification (s): 82-0153-23		
BAGHOUSE/FABRIC FILTER DESCRIPTION		
4. Describe the device in use. List the key operating parameters of this device and their normal operating range. Bin vent filter on top of the silo, which operates during loading and unloading of silica and recirculates the captured dust back into the silo.		
5. Manufacturer and model number (if available): TBD	6. Year of installation: TBD	
7. List of pollutant(s) to be controlled and the expected control efficiency for each pollutant (see instructions).		
Pollutant	Efficiency (%)	Source of data
PM	<0.02 gr/dscf	Engineering judgement
8. Discuss how collected material is handled for reuse or disposal. Captured dust is recirculated back into the silo. Used filters are properly disposed.		
9. If the bags are coated, specify the material used for coating and frequency of coating N/A		
10. Does the baghouse collect asbestos containing material? If "Yes", provide data as outlined in Item 10, Instructions for this form.		
Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>
11. If this control equipment is in series with some other control equipment, state and specify the overall efficiency. N/A		
12. Page number: 73	Revision Number: Renewal	Date of Revision: 03/2020



**TITLE V PERMIT APPLICATION
 COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
 DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE**

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC
2. Process emission source, fuel burning installation, or incinerator (identify): Transfer of silica to Silica Storage Silo #2 with fabric filter control
3. Stack ID or flow diagram point identification(s): 82-0153-23

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)
- Continuous Emission Monitoring (CEM) - APC 20
 Pollutant(s): _____
- Emission Monitoring Using Portable Monitors - APC 21
 Pollutant(s): _____
- Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
 Pollutant(s): _____
- Monitoring Maintenance Procedures - APC 23
 Pollutant(s): PM
- Stack Testing - APC 24
 Pollutant(s): _____
- Fuel Sampling & Analysis (FSA) - APC 25
 Pollutant(s): _____
- Recordkeeping - APC 26
 Pollutant(s): _____
- Other (please describe) - APC 27
 Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:
- Start date: As prescribed in Title V Operating Permit
- And every 180 days thereafter.

6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
- Start date: As prescribed in Title V Operating Permit
- And every 180 days thereafter.

7. Page number: 74 Revision number: Renewal Date of revision: 03/2020

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
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APC 23

TITLE V PERMIT APPLICATION
COMPLIANCE DEMONSTRATION BY MONITORING MAINTENANCE PROCEDURES

The monitoring of a maintenance procedure shall be acceptable as a compliance demonstration method provided that a correlation between the procedure and the emission rate of a particular pollutant is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:

Microporous, LLC

2. Stack ID or flow diagram point identification(s):

82-0153-23

3. Emission source (identify):

Transfer of silica to Silica Storage Silo #2 with fabric filter control

MONITORING DESCRIPTION

4. Pollutant(s) being monitored:

PM

5. Procedure being monitored:

Maintenance procedures

6. Description of the method of monitoring and establishment of correlation between the procedure and the emission rate of a particular pollutant:

Microporous, LLC will perform routine maintenance on the silo bin vent filter. Maintenance logs will be kept onsite and available for inspection for at least five (5) years.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):

Semi-annually

8. Page number:

75

Revision number:

Renewal

Date of revision:

03/2020

State of Tennessee
 Department of Environment and Conservation
 Division of Air Pollution Control
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**TITLE V PERMIT APPLICATION
 EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Stack ID or flowdiagram point identification(s): 82-0153-23
3. Process emission source / Fuel burning installation / Incinerator (identify): Transfer of silica to Silica Storage Silo #2 with fabric filter control	

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	0.41		<0.41	
(Fugitive Emissions)	N/A		N/A	
Sulfur Dioxide	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Volatile Organic Compounds	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Carbon Monoxide	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Lead	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Nitrogen Oxides	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Total Reduced Sulfur	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Mercury	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	

(Continued on next page)

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AIR POLLUTANT	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Asbestos	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Beryllium	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Vinyl Chloride	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Fluorides	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Gaseous Fluorides	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Greenhouse Gases in CO ₂ Equivalents	N/A		N/A	

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
N/A				

6. Page number:

77

Revision number:

Renewal

Date of revision

03/2020

State of Tennessee
 Department of Environment and Conservation
 Division of Air Pollution Control
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**TITLE V PERMIT APPLICATION
 CURRENT EMISSIONS REQUIREMENTS AND STATUS**

GENERAL IDENTIFICATION AND DESCRIPTION					
1. Facility name: Microporous, LLC			2. Emission source number 82-0153-23		
3. Describe the process emission source / fuel burning installation / incinerator. Transfer of silica to Silica Storage Silo #2 with fabric filter control					
EMISSIONS AND REQUIREMENTS					
4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
	Opacity	Construction Permit Condition G3.A	20%	<20%	In Construction
	PM	Construction Permit Condition E1-2	0.02 gr/dscf	<0.02 gr/dscf	In Construction
10. Other applicable requirements (new requirements that apply to this source during the term of this permit)					
N/A					
11. Page number: 78 Revision number: Renewal Date of revision: 03/2020					



**TITLE V PERMIT APPLICATION
 MISCELLANEOUS PROCESSES**

GENERAL IDENTIFICATION AND DESCRIPTION			
1. Facility name: Microporous, LLC			
2. Process emission source (identify): Transfer of silica to Silica Storage Silo #3 with fabric filter control			
3. Stack ID or flow diagram point identification(s): 82-0153-24	4. Year of construction or last modification: 2019/2020		
If the emissions are controlled for compliance, attach an appropriate Air Pollution Control system form.			
5. Normal operating schedule: <u>TBD</u> Hrs./Day <u>Ambient</u> Days/Wk. <u>N/A</u> Days/Yr.			
6. Location of this process emission source in UTM coordinates: UTM Vertical: <u>TBD</u> UTM Horizontal: <u>TBD</u>			
7. Describe this process (Please attach a flow diagram of this process) and check one of the following: <input type="checkbox"/> Batch <input checked="" type="checkbox"/> Continuous			
PROCESS MATERIAL INPUT AND OUTPUT			
8. List the types and amounts of raw materials input to this process:			
Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Silica	Unloaded into silos, transferred to day tank		5,300,000 lb/yr
9. List the types and amounts of primary products produced by this process:			
Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
N/A			
10. Process fuel usage:			
Type of fuel	Max heat input (10 ⁶ BTU/Hr.)	Average usage (units)	Maximum usage (units)
N/A			
11. List any solvents, cleaners, etc., associated with this process: N/A			
If the emissions and/or operations of this process are monitored for compliance, please attach the appropriate Compliance Demonstration form.			
12. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, open air sand blasting, material handling operations, etc. (please attach a separate sheet if necessary). N/A			
13. Page number: 79	Revision Number: Renewal	Date of Revision: 03/2020	

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 Department of Environment and Conservation
 Division of Air Pollution Control
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APC 3

**TITLE V PERMIT APPLICATION
 STACK IDENTIFICATION**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	
2. Emission source (identify): Transfer of silica to Silica Storage Silo #3 with fabric filter control	
STACK DESCRIPTION	
3. Stack ID (or flow diagram point identification): 82-0153-24	
4. Stack height above grade in feet: Approx. 56	
5. Velocity (data at exit conditions): TBD (Actual feet per second)	6. Inside dimensions at outlet in feet: TBD
7. Exhaust flowrate at exit conditions (ACFM): Approx. 540	8. Flow rate at standard conditions (DSCFM): Approx. 540
9. Exhaust temperature: Ambient Degrees Fahrenheit (°F)	10. Moisture content (data at exit conditions): Unk Percent Unk Grains per dry standard cubic foot (gr./dscf.)
11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (for stacks subject to diffusion equation only): N/A (°F)	
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO _x , etc.)? N/A	
Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.	
BYPASS STACK DESCRIPTION	
13. Do you have a bypass stack? <div style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div> <p>If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.</p>	
14. Page number: 80	Revision Number: Renewal
Date of Revision: 03/2020	



**TITLE V PERMIT APPLICATION
 CONTROL EQUIPMENT - BAGHOUSES/FABRIC FILTERS**

GENERAL IDENTIFICATION AND DESCRIPTION		
1. Facility name: Microporous, LLC	2. Emission source (identify): Transfer of silica to Silica Storage Silo #3 with fabric filter control	
3. Stack ID or flow diagram point identification (s): 82-0153-24		
BAGHOUSE/FABRIC FILTER DESCRIPTION		
4. Describe the device in use. List the key operating parameters of this device and their normal operating range. Bin vent filter on top of the silo, which operates during loading and unloading of silica and recirculates the captured dust back into the silo.		
5. Manufacturer and model number (if available): TBD	6. Year of installation: TBD	
7. List of pollutant(s) to be controlled and the expected control efficiency for each pollutant (see instructions).		
Pollutant	Efficiency (%)	Source of data
PM	<0.02 gr/dscf	Engineering judgement
8. Discuss how collected material is handled for reuse or disposal. Captured dust is recirculated back into the silo. Used filters are properly disposed.		
9. If the bags are coated, specify the material used for coating and frequency of coating N/A		
10. Does the baghouse collect asbestos containing material? <div style="display: flex; justify-content: space-around;"> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> </div> If "Yes", provide data as outlined in Item 10, Instructions for this form.		
11. If this control equipment is in series with some other control equipment, state and specify the overall efficiency. N/A		
12. Page number: 81	Revision Number: Renewal	Date of Revision: 03/2020



**TITLE V PERMIT APPLICATION
 COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
 DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE**

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC
2. Process emission source, fuel burning installation, or incinerator (identify): Transfer of silica to Silica Storage Silo #3 with fabric filter control
3. Stack ID or flowdiagram point identification(s): 82-0153-24

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)

- Continuous Emission Monitoring (CEM) - APC 20
Pollutant(s): _____
- Emission Monitoring Using Portable Monitors - APC 21
Pollutant(s): _____
- Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
Pollutant(s): _____
- Monitoring Maintenance Procedures - APC 23
Pollutant(s): PM
- Stack Testing - APC 24
Pollutant(s): _____
- Fuel Sampling & Analysis (FSA) - APC 25
Pollutant(s): _____
- Recordkeeping - APC 26
Pollutant(s): _____
- Other (please describe) - APC 27
Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:

Start date: As prescribed in Title V Operating Permit
 And every 180 days thereafter.

6. Compliance monitoring reports will be submitted to the Division according to the following schedule:

Start date: As prescribed in Title V Operating Permit
 And every 180 days thereafter.

7. Page number: 82 Revision number: Renewal Date of revision: 03/2020

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
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Nashville, TN 37243
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APC 23

TITLE V PERMIT APPLICATION
COMPLIANCE DEMONSTRATION BY MONITORING MAINTENANCE PROCEDURES

The monitoring of a maintenance procedure shall be acceptable as a compliance demonstration method provided that a correlation between the procedure and the emission rate of a particular pollutant is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:

Microporous, LLC

2. Stack ID or flow diagram point identification(s):

82-0153-24

3. Emission source (identify):

Transfer of silica to Silica Storage Silo #3 with fabric filter control

MONITORING DESCRIPTION

4. Pollutant(s) being monitored:

PM

5. Procedure being monitored:

Maintenance procedures

6. Description of the method of monitoring and establishment of correlation between the procedure and the emission rate of a particular pollutant:

Microporous, LLC will perform routine maintenance on the silo bin vent filter. Maintenance logs will be kept onsite and available for inspection for at least five (5) years.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):

Semi-annually

8. Page number:

83

Revision number:

Renewal

Date of revision:

03/2020



**TITLE V PERMIT APPLICATION
 EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Stack ID or flowdiagram point identification(s): 82-0153-24
3. Process emission source / Fuel burning installation / Incinerator (identify): Transfer of silica to Silica Storage Silo #3 with fabric filter control	

EMISSIONS SUMMARY TABLE - CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	0.41		<0.41	
(Fugitive Emissions)	N/A		N/A	
Sulfur Dioxide	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Volatile Organic Compounds	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Carbon Monoxide	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Lead	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Nitrogen Oxides	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Total Reduced Sulfur	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Mercury	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	

(Continued on next page)

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 Department of Environment and Conservation
 Division of Air Pollution Control
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 Telephone: (615) 532-0554



**TITLE V PERMIT APPLICATION
 CURRENT EMISSIONS REQUIREMENTS AND STATUS**

GENERAL IDENTIFICATION AND DESCRIPTION					
1. Facility name: Microporous, LLC			2. Emission source number 82-0153-24		
3. Describe the process emission source / fuel burning installation / incinerator. Transfer of silica to Silica Storage Silo #3 with fabric filter control					
EMISSIONS AND REQUIREMENTS					
4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
82-0153-24	Opacity	Construction Permit Condition G3.A	20%	<20%	In Construction
82-0153-24	PM	Construction Permit Condition E1-2	0.02 gr/dscf	<0.02 gr/dscf	In Construction
10. Other applicable requirements (new requirements that apply to this source during the term of this permit)					
N/A					
11. Page number: 86 Revision number: Renewal Date of revision: 03/2020					



**TITLE V PERMIT APPLICATION
 MISCELLANEOUS PROCESSES**

GENERAL IDENTIFICATION AND DESCRIPTION			
1. Facility name: Microporous, LLC			
2. Process emission source (identify): Plastic Battery Mat Extrusion Line 2			
3. Stack ID or flow diagram point identification (s): 82-0153-28		4. Year of construction or last modification: 2019/2020	
If the emissions are controlled for compliance, attach an appropriate Air Pollution Control system form.			
5. Normal operating schedule: TBD Hrs./Day TBD Days/Wk. TBD Days/Yr.			
6. Location of this process emission source in UTM coordinates: UTM Vertical: TBD UTM Horizontal: TBD			
7. Describe this process (Please attach a flow diagram of this process) and check one of the following: <input type="checkbox"/> Batch <input checked="" type="checkbox"/> Continuous			
PROCESS MATERIAL INPUT AND OUTPUT			
8. List the types and amounts of raw materials input to this process:			
Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Silica	Unloaded into silos, transferred to day tank		5,300,000 lb/yr
Polyethylene	Unloaded into silo, transferred to day tank		2,000,000 lb/yr
Process oil	Oil added in extrusion op., removed using solvent		1,600,000 lb/yr
Trichloroethylene	Stored in tank, used in extraction op., recovered		160,000 lb/12-mon avg
9. List the types and amounts of primary products produced by this process:			
Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Plastic battery mat	Dried, wound onto bales, prepared for shipping		10,500,000 lb/yr
10. Process fuel usage:			
Type of fuel	Max heat input (10 ⁶ BTU/Hr.)	Average usage (units)	Maximum usage (units)
N/A			
11. List any solvents, cleaners, etc., associated with this process: TCE (see usage rate above) is used in the process to extract excess oil from the battery mat			
If the emissions and/or operations of this process are monitored for compliance, please attach the appropriate Compliance Demonstration form.			
12. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, open air sand blasting, material handling operations, etc. (please attach a separate sheet if necessary). N/A			
13. Page number: 87		Revision Number: Renewal	Date of Revision: 03/2020



**TITLE V PERMIT APPLICATION
 STACK IDENTIFICATION**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	
2. Emission source (identify): Plastic Battery Mat Extrusion Line 2	
STACK DESCRIPTION	
3. Stack ID (or flow diagram point identification): 82-0153-28	
4. Stack height above grade in feet: TBD	
5. Velocity (data at exit conditions): TBD _____ (Actual feet per second)	6. Inside dimensions at outlet in feet: TBD
7. Exhaust flowrate at exit conditions (ACFM): TBD	8. Flow rate at standard conditions (DSCFM): TBD
9. Exhaust temperature: TBD _____ Degrees Fahrenheit (°F)	10. Moisture content (data at exit conditions): TBD _____ Percent TBD _____ Grains per dry standard cubic foot (gr./dscf.)
11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (for stacks subject to diffusion equation only): TBD _____ (°F)	
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO _x , etc.)? N/A	
Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.	
BYPASS STACK DESCRIPTION	
13. Do you have a bypass stack? <div style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div> <p>If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.</p>	
14. Page number: 88	Revision Number: Renewal
Date of Revision: 03/2020	



**TITLE V PERMIT APPLICATION
 CONTROL EQUIPMENT - ADSORBERS**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Emission source (identify): Plastic Battery Mat Extrusion Line 2
3. Stack ID or flow diagram point identification (s): 82-0153-28	

ADSORBER DESCRIPTION

4. Describe the device in use. List the key operating parameters of this device and their normal operating range.
 Three carbon beds will be utilized to control trichloroethylene (TCE) emissions from the drying process and fugitive emissions from the TCE bath area. Two carbon beds will be in operation at any one time. The third bed will undergo steam cleaning to release the TCE captured in the activated carbon for reuse in the system.

5. Manufacturer and model number (if available):
Brinox, N/A (custom built)

6. Year of installation:
2019/2020

7. Are you recovering solvent? If the answer is "Yes", please describe.
Yes - TCE is used as a solvent and is captured by the carbon beds

8. List of pollutant (s) to be controlled and the expected control efficiency for each pollutant:

Pollutant	Inlet Concentration		Outlet Concentration		Pollutant Capture Efficiency (%)	Adsorber Efficiency (%)
	Gr./ACF	PPMV	Gr./ACF	PPMV		
TCE					Est. 97-98% overall eff.	Est. 97-98% overall eff.

9. If you were required to answer Item #8, please describe how the bed break through is monitored or controlled.
 Electronic sensors will be located in the carbon beds to monitor a release, and a holding area is located beneath the beds to contain TCE in the event of a rupture. A computer system will monitor the closed system and the bottom holding area.

10. Discuss how collected material is handled for reuse or disposal. Indicate if the bed material is disposable. Discuss method of disposal or regeneration method.
 TCE will be recovered from the carbon beds and returned to the extraction process. The TCE will be processed through a distillation recovery system and fed back into the system. The carbon beds will be replaced after their useful life has expired.

11. If this control equipment is in series with some other control equipment, state and specify the overall efficiency.
N/A

12. Page number: 89	Revision Number: Renewal	Date of Revision: 03/2020
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APC 19

**TITLE V PERMIT APPLICATION
 COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
 DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE**

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC
2. Process emission source, fuel burning installation, or incinerator (identify): Plastic Battery Mat Extrusion Line 2
3. Stack ID or flow diagram point identification(s): 82-0153-28

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)

- Continuous Emission Monitoring (CEM) - APC 20
 Pollutant(s): _____
- Emission Monitoring Using Portable Monitors - APC 21
 Pollutant(s): _____
- Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
 Pollutant(s): _____
- Monitoring Maintenance Procedures - APC 23
 Pollutant(s): TCE
- Stack Testing - APC 24
 Pollutant(s): _____
- Fuel Sampling & Analysis (FSA) - APC 25
 Pollutant(s): _____
- Recordkeeping - APC 26
 Pollutant(s): TCE
- Other (please describe) - APC 27
 Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:

Start date: As prescribed in Title V Operating Permit

And every 180 days thereafter.

6. Compliance monitoring reports will be submitted to the Division according to the following schedule:

Start date: As prescribed in Title V Operating Permit

And every 180 days thereafter.

7. Page number: 90 Revision number: Renewal Date of revision: 03/2020

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554



APC 23

TITLE V PERMIT APPLICATION
COMPLIANCE DEMONSTRATION BY MONITORING MAINTENANCE PROCEDURES

The monitoring of a maintenance procedure shall be acceptable as a compliance demonstration method provided that a correlation between the procedure and the emission rate of a particular pollutant is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:

Microporous, LLC

2. Stack ID or flow diagram point identification(s):

82-0153-28

3. Emission source (identify):

Plastic Battery Mat Extrusion Line 2

MONITORING DESCRIPTION

4. Pollutant(s) being monitored:

TCE

5. Procedure being monitored:

Maintenance procedures

6. Description of the method of monitoring and establishment of correlation between the procedure and the emission rate of a particular pollutant:

Microporous, LLC will perform routine maintenance on the activated carbon bed system to ensure proper and effective operation of the system at specified intervals. Carbon bed material will be changed in accordance with the maintenance/monitoring schedule. Maintenance logs will be kept onsite and available for inspection for at least five (5) years.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):

Semi-annually

8. Page number:

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Revision number:

Renewal

Date of revision:

03/2020



**TITLE V PERMIT APPLICATION
 COMPLIANCE DEMONSTRATION BY RECORDKEEPING**

Recordkeeping shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value recorded and the applicable requirement is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0153-28
3. Emission source (identify): Plastic Battery Mat Extrusion Line 2	

MONITORING AND RECORDKEEPING DESCRIPTION

4. Pollutant(s) or parameter being monitored: TCE
5. Material or parameter being monitored and recorded: TCE usage, carbon bed maintenance
6. Method of monitoring and recording: Microporous, LLC will maintain logs of TCE purchased, calculated monthly emissions, TCE recovery efficiency, and routine maintenance on the activated carbon bed system. Logs will be kept onsite and available for inspection for at least five (5) years. TCE recovery efficiency will be calculated per the following equation: $\text{TCE Lost (\%)} = [(\text{Purchased TCE (tons/mo. or tons/yr.)}) / (\text{Battery Mats Processed (tons/mo. or tons/yr.)})] \times 100$ $\text{TCE Recovered (\%)} = 100\% - \text{TCE Lost (\%)}$ "TCE Processed" will be defined as the monthly amount of TCE provided to the extractor. For the TCE processed value, Microporous will record the actual quantity of TCE processed into the extractor per month.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated): Semi-annually
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8. Page number: 92	Revision number: Renewal	Date of revision: 03/2020
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**TITLE V PERMIT APPLICATION
 EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0153-28
3. Process emission source / Fuel burning installation / Incinerator (identify): Plastic Battery Mat Extrusion Line 2	

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour - Item 8, APC 30)
Particulate Matter (TSP)	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Sulfur Dioxide	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Volatile Organic Compounds	80 (as TCE) ton/12-mon avg		<80 (as TCE) ton/12-mon avg	
(Fugitive Emissions)	NA		N/A	
Carbon Monoxide	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Lead	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Nitrogen Oxides	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Total Reduced Sulfur	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Mercury	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	

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AIR POLLUTANT	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour - Item 8, APC 30)
Asbestos	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Beryllium	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Vinyl Chloride	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Fluorides	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Gaseous Fluorides	N/A		N/A	
(Fugitive Emissions)	N/A		N/A	
Greenhouse Gases in CO ₂ Equivalents	N/A		N/A	

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour - Item 8, APC 30)
Trichloroethylene (79-01-6)	Included with VOCs		Included with VOCs	

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Revision number:

Renewal

Date of revision

03/2020

State of Tennessee
 Department of Environment and Conservation
 Division of Air Pollution Control
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 312 Rosa L. Parks Avenue, 15th Floor
 Nashville, TN 37243
 Telephone: (615) 532-0554



APC 30

**TITLE V PERMIT APPLICATION
 CURRENT EMISSIONS REQUIREMENTS AND STATUS**

GENERAL IDENTIFICATION AND DESCRIPTION					
1. Facility name: Microporous, LLC			2. Emission source number 82-0153-28		
3. Describe the process emission source / fuel burning installation / incinerator. Plastic Battery Mat Extrusion Line 2					
EMISSIONS AND REQUIREMENTS					
4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
	TCE	Construction Permit Condition E2-1	160,000 lbs/12-mon	<160,000 lbs/12-mon	In Construction
	TCE	Construction Permit Condition E2-3	80 ton/yr	<80 ton/yr	In Construction
	TCE	Construction Permit Condition G3.A	20%	<20%	In Construction
10. Other applicable requirements (new requirements that apply to this source during the term of this permit)					
11. Page number: 95		Revision number: Renewal		Date of revision: 03/2020	



**TITLE V PERMIT APPLICATION
 FUEL BURNING NON-PROCESS EQUIPMENT**

GENERAL IDENTIFICATION AND DESCRIPTION				
1. Facility name: Microporous, LLC				
2. Stack ID or flow diagram point identification (s): 82-0153-29				
FUEL BURNING EQUIPMENT DESCRIPTION				
3. List all fuel burning equipment that is at this fuel burning installation (please complete an APC 4 form for each piece of fuel burning equipment). One (1) 16.666 MMBtu/hr Natural Gas-Fired Boiler				
4. Fuel burning equipment identification number: 82-0153-29				
5. Fuel burning equipment description: Natural gas-fired boiler				
6. Year of installation or last modification of fuel burning equipment: 2019/2020				
7. Furnace type: Natural gas-fired boiler			8. Manufacturer model number (if available): Clever-Brooks, CBEX Premium	
9. Location of this fuel burning installation in UTM coordinates: UTM Vertical: <u>32.5</u> UTM Horizontal: <u>496</u>				
10. Normal operating schedule: <u>24</u> Hrs./Day <u>7</u> Days/Wk. <u>365</u> Days/Yr.				
FUELS, CONTROLS, AND MONITORING DESCRIPTION				
11. Maximum rated heat input capacity (in million BTU/Hour) 16.666 MMBtu/hr			12. If wood is used as a fuel, specify the amount of wood used as a fraction of total heat input. NA	
13. Fuels:	Primary fuel	Backup fuel #1	Backup fuel #2	Backup fuel #3
Fuel name	Natural Gas			
Actual yearly consumption	1.43 x10 ⁸ SCF/yr			
14. If emissions from this fuel burning equipment are controlled for compliance, please specify the type of control: NA				
15. If emissions from this fuel burning equipment are monitored for compliance, please specify the type of monitoring: NA				
16. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, material handling operations, etc. (please attach a separate sheet if necessary). NA				
17. Page number: 96		Revision Number: Renewal		Date of Revision: 03/2020



**TITLE V PERMIT APPLICATION
 STACK IDENTIFICATION**

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Microporous, LLC	
2. Emission source (identify): One (1) 16.666 MMBtu/hr Natural Gas-Fired Boiler	
STACK DESCRIPTION	
3. Stack ID (or flow diagram point identification): 82-0153-29	
4. Stack height above grade in feet: 53	
5. Velocity (data at exit conditions): 32.5 _____ (Actual feet per second)	6. Inside dimensions at outlet in feet: 2
7. Exhaust flow rate at exit conditions (ACFM): 6,100	8. Flow rate at standard conditions (DSCFM): 2,900
9. Exhaust temperature: 496 _____ Degrees Fahrenheit (°F)	10. Moisture content (data at exit conditions): UNK _____ Percent _____ Grains per dry standard cubic foot (gr./dscf.)
11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (for stacks subject to diffusion equation only): Unknown _____ (°F)	
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO _x , etc.)? N/A	
Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.	
BYPASS STACK DESCRIPTION	
13. Do you have a bypass stack? <div style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div> <p>If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.</p>	
14. Page number: 97	Revision Number: Renewal
Date of Revision: 03/2020	



**TITLE V PERMIT APPLICATION
 COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
 DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE**

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement with in the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC
2. Process emission source, fuel burning installation, or incinerator (identify): One (1) 16.666 MMBtu/hr Natural Gas-Fired Boiler
3. Stack ID or flow diagram point identification(s): 82-0153-29

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)
- Continuous Emission Monitoring (CEM) - APC 20
 Pollutant(s): _____
- Emission Monitoring Using Portable Monitors - APC 21
 Pollutant(s): _____
- Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
 Pollutant(s): _____
- Monitoring Maintenance Procedures - APC 23
 Pollutant(s): _____
- Stack Testing - APC 24
 Pollutant(s): _____
- Fuel Sampling & Analysis (FSA) - APC 25
 Pollutant(s): _____
- Recordkeeping - APC 26
 Pollutant(s): PM, SO₂, CO, VOC, NO_x
- Other (please describe) - APC 27
 Pollutant(s): As prescribed in the Title V Operating permit

5. Compliance certification reports will be submitted to the Division according to the following schedule:
- Start date: As prescribed in the Title V Operating permit
- And every 180 days thereafter.

6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
- Start date: As prescribed in the Title V Operating permit
- And every 180 days thereafter.

7. Page number: 98 Revision number: Renewal Date of revision: 03/2020

State of Tennessee
 Department of Environment and Conservation
 Division of Air Pollution Control
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APC 26

**TITLE V PERMIT APPLICATION
 COMPLIANCE DEMONSTRATION BY RECORDKEEPING**

Recordkeeping shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value recorded and the applicable requirement is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0153-29
3. Emission source (identify): One (1) 16.666 MMBtu/hr Natural Gas-Fired Boiler	

MONITORING AND RECORDKEEPING DESCRIPTION

4. Pollutant(s) or parameter being monitored: PM, SO ₂ , CO, VOC, NO _x
5. Material or parameter being monitored and recorded: Fuel Usage
6. Method of monitoring and recording: Microporous, LLC will monitor emissions from the boiler based on fuel usage and application of AP-42 emission factors for natural gas combustion. A log of fuel usage and calculated emissions will be kept on-site for inspection for five (5) years.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated): Semi-annually
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8. Page number: 99	Revision number: Renewal	Date of revision: 03/2020
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TITLE V PERMIT APPLICATION
EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Microporous, LLC	2. Stack ID or flow diagram point identification(s): 82-0153-29
3. Process emission source / Fuel burning installation / Incinerator (identify): One (1) 16.666 MMBtu/hr Natural Gas-Fired Boiler	

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	0.54		<0.54	
(Fugitive Emissions)	NA		NA	
Sulfur Dioxide	0.04		<0.04	
(Fugitive Emissions)	NA		NA	
Volatile Organic Compounds	0.39		<0.39	
(Fugitive Emissions)	NA		NA	
Carbon Monoxide	6.01		<6.01	
(Fugitive Emissions)	NA		NA	
Lead	NA		NA	
(Fugitive Emissions)	NA		NA	
Nitrogen Oxides	3.58		<3.58	
(Fugitive Emissions)	NA		NA	
Total Reduced Sulfur	NA		NA	
(Fugitive Emissions)	NA		NA	
Mercury	NA		NA	
(Fugitive Emissions)	NA		NA	

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AIR POLLUTANT	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Asbestos	NA		NA	
(Fugitive Emissions)	NA		NA	
Beryllium	NA		NA	
(Fugitive Emissions)	NA		NA	
Vinyl Chloride	NA		NA	
(Fugitive Emissions)	NA		NA	
Fluorides	NA		NA	
(Fugitive Emissions)	NA		NA	
Gaseous Fluorides	NA		NA	
(Fugitive Emissions)	NA		NA	
Greenhouse Gases in CO ₂ Equivalents	7,800 metric tons		<7,000 metric tons	

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
NA	NA		NA	

6. Page number: 101 Revision number: Renewal Date of revision: 03/2020



**TITLE V PERMIT APPLICATION
 CURRENT EMISSIONS REQUIREMENTS AND STATUS**

GENERAL IDENTIFICATION AND DESCRIPTION					
1. Facility name: Microporous, LLC			2. Emission source number 82-0153-29		
3. Describe the process emission source / fuel burning installation / incinerator. One (1) 16.666 MMBtu/hr Natural Gas-Fired Boiler					
EMISSIONS AND REQUIREMENTS					
4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
82-0153-29	Opacity	Construction Permit, Condition G3.A	20%	<20%	In Construction
82-0153-29	PM	Construction Permit 976950, Condition E3-4	0.12 lbs/hr	<0.12 lbs/hr	In Construction
82-0153-29	SO ₂	Construction Permit 976950, Condition E3-5	0.01 lbs/hr	<0.01 lbs/hr	In Construction
82-0153-29	CO	Construction Permit 976950, Condition E3-6	6.01 ton/yr	<6.01 ton/yr	In Construction
82-0153-29	NO _x	Construction Permit 976950, Condition E3-7	3.58 ton/yr	<3.58 ton/yr	In Construction
82-0153-29	VOC	Construction Permit 976950, Condition E3-8	0.39 ton/yr	<0.39 ton/yr	In Construction
10. Other applicable requirements (new requirements that apply to this source during the term of this permit)					
82-0153-18	N/A	40 CFR 60, Subpart Dc	Fuel Usage Logs		In Construction
82-0153-18	N/A	40 CFR 63, Subpart DDDDD	Energy Assessment, Annual Tuneups		In Construction
11. Page number: 102		Revision number: Renewal		Date of revision: 03/2020	



Appendix C
Emission Calculations

Microporous, LLC
Facility-Wide Allowable Emissions (Tons/Year)

Source Number	Emission Source Description	Particulate Matter	Sulfur Dioxide	Volatile Organic Compounds	Carbon Monoxide	Nitrogen Oxides	Trichloroethylene	Greenhouse Gases (MT CO ₂ e)
82-0153-01	Natural Gas Fired Boiler (Boiler #1)	1.58	0.12	1.15	17.49	10.41		22,697.90
82-0153-07	Rubber Sizing Operation	18.77						
82-0153-12	Plastic Battery Mat Extrusion Line (PL-1)	6.48		80.00			80.00	
82-0153-13	Transfer of Silica to Storage Silo #1	0.47						
82-0153-14	Transfer of Polyethylene to Storage Silo #2	9.39						
82-0153-15	Transfer of Rubber Dust to Day Tank	9.39						
82-0153-18	Natural Gas Fired Boiler (Boiler #2)	0.34	0.03	0.25	3.79	4.51		4,913.98
82-0153-23	Silica Powder Truck Receiving Storage Silo #2	0.41						
82-0153-24	Silica Powder Rail Receiving Storage Silo #3	0.41						
82-0153-28	Plastic Battery Mat Extrusion Line (PL-2)			80.00			80.00	
82-0153-25	Natural Gas Fired Boiler (Boiler #3)	0.54	0.04	0.39	6.01	3.58		8,547.73
	Total	47.78	0.19	161.79	27.29	18.50	160.00	36,159.61

**Microporous, LLC
Material Handling Sources
Allowable Emissions**

	Rubber Sizing Operation to DC#4 (Source 82-0135-07)	PE Line #1 Silica Silo (Source 82-0135-13)	PE Line #1 PE Powder Silo (Source 82-0135-14)	PE Line #1 Rubber Dust Transfer (Source 82-0135-15)	PE Line #2 Truck to Silica Silo #2 (Source 82-0135-23)	PE Line #2 Rail to Silica Silo #3 (Source 82-0135-24)	Total
Maximum air flow rate (ft ³ /hr):	1,500,000	3,000	60,000	60,000	32,490	32,490	-
Grain Loading (gr/dscf)	0.02	0.25	0.25	0.25	0.02	0.02	-
Particulate Matter Emissions (lb/hr) ¹ :	4.29	0.11	2.14	2.14	0.09	0.09	-
Particulate Matter Emissions (tpy) ² :	18.77	0.47	9.39	9.39	0.41	0.41	38.83

Notes:

¹Particulate Matter Emissions (lb/hr) = Maximum air flow rate (ft³/hr) x gr/dscf x lb/7,000 gr

²Assumed 8,760 hours per year of operation

**Microporous, LLC
Natural Gas-Fired Boilers
Allowable Emissions**

Boiler #1, 82-0153-01

48,500,000 BTU/hr Boiler

Natural Gas Emissions

Pollutant	AP-42 Emission Factor (lb/10 ⁶ ft ³)	Boiler Natural Gas Usage (ft ³ /hr)	Boiler Emissions	
			(lb/hr)	(ton/yr)
TSP (total)	7.6	47,549	0.36	1.58
SO ₂	0.6	47,549	0.029	0.12
CO	84	47,549	3.99	17.49
VOC	5.5	47,549	0.26	1.15
NO _x (controlled, low NO _x burner)	50	47,549	2.38	10.41

*Emissions based on AP-42 section 1.4 - Natural Gas Combustion for a Boiler <100 Million BTU/Hr

Greenhouse Gas Emissions

Design Heat Input Capacity (MMBtu/hr)	Maximum annual operating hours	Default high heat value (HHV)	CO ₂ emission factor (kg CO ₂ /MMBtu)	N ₂ O emission factor (kg N ₂ O/MMBtu)	CH ₄ emission factor (kg CH ₄ /MMBtu)	Potential CO ₂ e emissions (tons/year)	Potential CO ₂ e emissions (Mtons/year)
48.5	8760	0.001026	53.06	0.0001	0.001	24,874.89	22,697.90

Boiler #2, 82-0153-18

10,500,000 BTU/hr Boiler

Natural Gas Emissions

Pollutant	AP-42 Emission Factor (lb/10 ⁶ ft ³)	Boiler Natural Gas Usage (ft ³ /hr)	Boiler Emissions	
			(lb/hr)	(ton/yr)
TSP (total)	7.6	10,294	0.08	0.34
SO ₂	0.6	10,294	0.006	0.03
CO	84	10,294	0.86	3.79
VOC	5.5	10,294	0.06	0.25
NO _x (uncontrolled)	100	10,294	1.03	4.51

*Emissions based on AP-42 section 1.4 - Natural Gas Combustion for a Boiler <100 Million BTU/Hr

Greenhouse Gas Emissions

Design Heat Input Capacity (MMBtu/hr)	Maximum annual operating hours	Default high heat value (HHV)	CO ₂ emission factor (kg CO ₂ /MMBtu)	N ₂ O emission factor (kg N ₂ O/MMBtu)	CH ₄ emission factor (kg CH ₄ /MMBtu)	Potential CO ₂ e emissions (tons/year)	Potential CO ₂ e emissions (Mtons/year)
10.5	8760	0.001026	53.06	0.0001	0.001	5,385.29	4,913.98

Boiler #3, 82-0153-25

16,666,000 BTU/hr Boiler

Natural Gas Emissions

Pollutant	AP-42 Emission Factor (lb/10 ⁶ ft ³)	Boiler Natural Gas Usage (ft ³ /hr)	Boiler Emissions	
			(lb/hr)	(ton/yr)
TSP (total)	7.6	16,339	0.12	0.54
SO ₂	0.6	16,339	0.010	0.04
CO	84	16,339	1.37	6.01
VOC	5.5	16,339	0.09	0.39
NO _x (controlled, low NO _x burner)	50	16,339	0.82	3.58

*Emissions based on AP-42 section 1.4 - Natural Gas Combustion for a Boiler <100 Million BTU/Hr

Greenhouse Gas Emissions

Design Heat Input Capacity (MMBtu/hr)	Maximum annual operating hours	Default high heat value (HHV)	CO ₂ emission factor (kg CO ₂ /MMBtu)	N ₂ O emission factor (kg N ₂ O/MMBtu)	CH ₄ emission factor (kg CH ₄ /MMBtu)	Potential CO ₂ e emissions (tons/year)	Potential CO ₂ e emissions (Mtons/year)
16.666	8760	0.001026	53.06	0.0001	0.001	8,547.73	7,799.65

**NOTICE OF MACT APPROVAL
MICROPOROUS, LLC
PINEY FLATS, TENNESSEE**

**This review was performed by the Tennessee
Air Pollution Control Division in accordance
with the Rules for Control Technology
Determinations for Major Sources in
Accordance with Clean Air Act Section
112(g)**

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I. Rule Background

On March 16, 1994, the United States Environmental Protection Agency promulgated rules that specify the requirements for Control Technology Determinations for Major Sources in accordance with Clean Air Act Section 112(g) and 112(j). The provisions for Section 112(g) are contained in 40 CFR 63, Subpart B, sections 63.40 through 63.44. These provisions were last updated on June 30, 1999. Sections 63.40 through 63.44 are incorporated by reference in the State of Tennessee adopted Tennessee Air Pollution Control Regulations (TAPCR) at part 0400-30-38-.01(1)(b)2. Under these regulations, a new or reconstructed major source of hazardous air pollutants (HAP) that is not regulated or exempt from regulation under a standard issued pursuant to section 112(d), 112(h), or 112(j) must utilize Maximum available control technology (MACT) that is determined on a case-by-case basis.

II. Project Background and Description

On March 2, 2000, Microporous Products, L.P., submitted an application for the construction of a plastic battery mat production process with carbon filter control. On May 16, 2000, the Division of Air Pollution Control issued air quality construction permit 952786P for source 12, Plastic Battery Mat Line #1¹. Condition 5 of that permit contains an emission limit of 20.15 tons of trichlorethylene (TCE) per 12-month rolling total. Since TCE is a HAP, this constituted construction of a new major source of HAPs. Construction of plastic battery mat line #1 commenced in May, 2000, and was completed in January, 2001. Permit 952786P did not address the requirements of 112(g) of the Act as required by 40 CFR 63.40 through 63.44. This oversight was realized during the review of Title V permit renewal application 578138. As a result, the Division sent a letter dated March 3, 2025, for a retroactive case-by-case MACT determination for plastic batter mat line #1. Microporous submitted an application for MACT determination on April 28, 2025. An additional request letter was sent by the Division to Microporous on May 9, 2025. Microporous responded to this additional information request on June 13, 2025, and the Division sent a complete letter to Microporous on November 5, 2025, stating that the application was complete on June 13, 2025.

Plastic Battery Mat Line #1 produces plastic battery separators. In this process, polyethylene is mixed with silica and oil to form a material base which is then extruded into a thin sheet. This thin sheet is sent through a totally enclosed extraction operation, which is a solvent bath containing TCE, to drive off the excess oil in the battery mat. The plastic mat is then dried, wound, cut and stored for shipment to the customer. The exhaust stream from the extraction process is directed through distillation and condensation units to separate TCE from the oil residue drawn off the battery mat. The recovered TCE goes to a storage tank for reuse in the extraction process. Residual oil is reused in the raw material mixing operation. Volatile emissions are controlled by a five-bed carbon adsorption system, three of which are in operation at any one time while the remaining beds operate in a cleaning cycle. During the cleaning cycle, the activated carbon beds are steam cleaned to release the captured TCE which is returned to the system for reuse. The distillation, condensation, and carbon absorption system allow for the recovery and reuse of over 99% of the TCE used in the process. When Plastic Battery Mat Line #1 was permitted in 2000, the maximum TCE input rate was limited to 73,146 pounds per year.

On October 15, 2001, Microporous submitted an application to increase the maximum TCE input rate to 160,000 pounds per year. A revised construction permit 954966P was issued October 1, 2003, with that higher TCE usage limitation as well as an increased TCE emission limit of 80.0 tons per 12 consecutive months. As part of this permitting process, Microporous submitted a letter dated July 15, 2003, in which the company determined that the increase in emissions associated with this change was not subject to case-by-case MACT because the change did not meet the definition of “construct a major source”, as defined in 40 CFR 63.41, because of the provision of paragraph (2)(i) of that definition:

All HAP emitted by the process or production unit that would otherwise be controlled under the requirements of this subpart will be controlled by emission control equipment which was previously installed at the same site as the process or production unit;

¹ Construction permit 952790P was also issue in 2001 for source 16, Plastic Battery Mat Line #2. Source 16 was never constructed and should not be confused with source 28, which was also named Plastic Battery Mat Line #2.

However, the July 15, 2003, did not address case-by-case MACT applicability of the original construction of Plastic Battery Mat Line #1. Therefore, this Notice of MACT Approval is issued to address the initial construction of Plastic Battery Mat Line #1 which commenced in May, 2000.

It is important to note that Plastic Battery Mat Line #1 is similar to source 28, Plastic Battery Mat Line #2, which was permitted in 2019, except that Plastic Battery Mat Line #2 is equipped with a three-bed carbon adsorption system. Condition E2-4 of construction permit 976950 requires a minimum 95 percent TCE removal efficiency during all 12-month periods. This limit was established as a case-by-case MACT limit.

III. Case-by-Case MACT Applicability

In accordance with 40 CFR 63.40(b), the case-by-case MACT requirements of 40 CFR 63.40 through 63.44 apply to any owner or operator who constructs or reconstructs a major source of HAPs after the effective date of section 112(g)(2)(B) and the effective date of a title V permit program in the state in which the major source is to be located unless the major source in question has been specifically regulated under a standard issued pursuant to 112(d), 112(h), or 112(j) and incorporate into another part of Part 63.

The effective date of section 112(g)(2)(B) is defined in 40 CFR 63.41 as the earlier of the date in which a permitting authority adopts a program to implement section 112(g) or June 29, 1998, whichever is earlier. The Tennessee Air Pollution Control Board adopted chapter 1200-03-31, Case-by-Case Determinations of Hazardous Air Pollution Control Requirements effective September 18, 1994². Therefore, the date of section 112(g)(2)(B) for the Division of Air Pollution Control is September 18, 1994.

The Tennessee Department of Environment and Conservation received final interim approval of its Title V Operating Permits Program effective August 28, 1996 [61 FR 39335].

Construction of Plastic Battery Mat Line commenced construction in May, 2000, which is after the effective date of both section 112(g)(2)(B) and Tennessee's Title V program.

There are currently no section 112(d) (emission standards for major and area sources of HAPs for listed source categories), 112(h) (work practice standards when emission standards for HAPs are not feasible), or 112(j) (equivalent emission limitations by permit when EPA fails to promulgate a standard for a listed source category) standards that apply to the manufacture of plastic battery mats as described in Microporous' applications and this Notice of MACT Approval. Microporous' letter of July 15, 2003, addresses the potential applicability of 40 CFR Subpart T, National Emission Standards for Halogenated Solvent Cleaning and concludes that Plastic Battery Mat Line #1 is not subject to that standard.

Major source is defined in 40 CFR 63.2 as:

any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

TCE is listed as a HAP in section 112(b) of the Clean Air Act as well as Tennessee Air Pollution Control Rule 1200-03-02-.01(1)(mmmm). When initially permitted, Plastic Battery Mat Line #1 was subject to an enforceable emission limit

² The Tennessee Air Pollution Control Board later adopted the federal 112(g) requirements, 40 CFR 63 Subpart B, "Requirements for Control Technology Determinations for Major Sources in Accordance With Clean Air Act Sections, Sections 112(g) and 112(j)" by reference in TAPCR 0400-30-38-.01(1)(b)2 on June 8, 2022, effective December 28, 2022.

of 20.15 tons per year of TCE. When plastic battery mat line #1 was constructed in 2000, it had the potential to emit more than 10 tons per year of a HAP.

Microporous, L.P, constructed a major source of HAP after the effective date of section 112(g)(2)(B), after the effective date of Tennessee's Title V program, and was not subject to a standard under section 112(d), 112(h), or 112(j). Plastic Battery Mat Line #1 was therefore subject to the case-by-case MACT requirements of 40 CFR 63.40 through 63.44.

IV. 112(g) Case-by-Case MACT Requirements

Application Requirements

40 CFR 63.43(e) requires an applicant for a MACT determination to submit an application for a MACT determination that includes the following:

- (i) The name and address (physical location) of the major source to be constructed or reconstructed;
- (ii) A brief description of the major source to be constructed or reconstructed and identification of any listed source category or categories in which it is included;
- (iii) The expected commencement date for the construction or reconstruction of the major source;
- (iv) The expected completion date for construction or reconstruction of the major source;
- (v) The anticipated date of start-up for the constructed or reconstructed major source;
- (vi) The HAP emitted by the constructed or reconstructed major source, and the estimated emission rate for each such HAP, to the extent this information is needed by the permitting authority to determine MACT;
- (vii) Any federally enforceable emission limitations applicable to the constructed or reconstructed major source;
- (viii) The maximum and expected utilization of capacity of the constructed or reconstructed major source, and the associated uncontrolled emission rates for that source, to the extent this information is needed by the permitting authority to determine MACT;
- (ix) The controlled emissions for the constructed or reconstructed major source in tons/yr at expected and maximum utilization of capacity, to the extent this information is needed by the permitting authority to determine MACT;
- (x) A recommended emission limitation for the constructed or reconstructed major source consistent with the principles set forth in paragraph (d) of this section (40 CFR 63.43);
- (xi) The selected control technology to meet the recommended MACT emission limitation, including technical information on the design, operation, size, estimated control efficiency of the control technology (and the manufacturer's name, address, telephone number, and relevant specifications and drawings, if requested by the permitting authority);
- (xii) Supporting documentation including identification of alternative control technologies considered by the applicant to meet the emission limitation, and analysis of cost and non-air quality health environmental impacts or energy requirements for the selected control technology; and
- (xiii) Any other relevant information required pursuant to subpart A.

In instances where the source will be in compliance, upon startup, with case-by-case MACT without a change in control technology, only the information described in paragraphs (e)(2)(i) through (x) are required along with documentation that the control technology is in place.

Microporous submitted an application for a MACT determination on April 28, 2025. In response to an additional information request issued by the Division on May 19, 2025 (see Administrative Procedures section below), Microporous submitted a revision to the application on June 13, 2025. An analysis of the application is as follows:

- The application is for Plastic Battery Mat Line #1 that was constructed between May, 2000, and January, 2001, in Piney Flats, Tennessee. The line started up on January 26, 2001.
- The process used for plastic battery mat production is not in a listed source category.
- The potential uncontrolled HAP emissions are 39,287 tons per year.
- The line is currently subject to emission limits of 13,140 pounds per month or 80 ton/yr limit of TCE³. These limits were established to meet the requirements of TAPCR 1200-03-07-.07(2), which requires any air contaminant source constructed after April 3, 1972, and emitting gaseous air contaminants to utilize equipment and technology which is deemed reasonable and proper. It is not subject to any other federally enforceable emission limitation other than the requirements of 112(g).
- Microporous selected a control technology consisting of a distillation and condensation process followed by carbon adsorption for recovery and reuse of the TCE. This control system has been in use since the line started up in 2001.
- Microporous considered several other control technologies and analyses of cost, non-air quality health environmental impacts, and energy impacts. Those are discussed further in the MACT Determination section, below.
- Microporous recommended an emission limitation of 95% control efficiency⁴.
- Plastic Battery Mat Line #1 is already in operation and is currently meeting the proposed emission limit.

The initial construction permit contained a TCE limit of 20.15 tons/year of TCE, which is a HAP. The source was therefore a major source of HAP with individual HAP emissions greater than 10 tons/year. The line was not and is still not subject to a section 112(d), (h), or (j) standard. Therefore, it was subject to the requirements for case-by-case MACT. However, the Division did not include any MACT requirements in the permit. Therefore, this is a retroactive MACT determination.

MACT Determination

The principals for MACT determination are contained in 40 CFR 63.43(d). It includes the following general principles:

- (1) The MACT emission limitation or MACT requirements recommended by the applicant and approved by the permitting authority shall not be less stringent than the emission control which is achieved in practice by the best controlled similar source, as determined by the permitting authority.
- (2) Based upon available information, as defined in this subpart, the MACT emission limitation and control technology (including any requirements under paragraph (d)(3) of this section) recommended by the applicant and approved by the permitting authority shall achieve the maximum degree of reduction in emissions of HAP which can be achieved by utilizing those control technologies that can be identified from the available information, taking into consideration the costs of achieving such emission reduction

³ The original TCE limit in the construction permit issued May 16, 2000, for line #1 was 20.15 tons/year. The limit was increased to 13,133 pounds per month or 80.0 tons/year on October 1, 2003. The pound per month limit was increased to 13,140 pounds/month in the Title V permit issued February 1, 2010.

⁴ Microporous' initial application included a proposed limit of 80 tons/yr of TCE. In response to the Division's letter of May 19, 2025, the company submitted a revised proposed limit.

and any non-air quality health and environmental impacts and energy requirements associated with the emission reduction.

- (3) The applicant may recommend a specific design, equipment, work practice, or operational standard, or a combination thereof, and the permitting authority may approve such a standard if the permitting authority specifically determines that it is not feasible to prescribe or enforce an emission limitation under the criteria set forth in section 112(h)(2) of the Act.
- (4) If the Administrator has either proposed a relevant emission standard pursuant to section 112(d) or section 112(h) of the Act or adopted a presumptive MACT determination for the source category which includes the constructed or reconstructed major source, then the MACT requirements applied to the constructed or reconstructed major source shall have considered those MACT emission limitations and requirements of the proposed standard or presumptive MACT determination.

The following addresses these basic principles:

- The best controlled similar source which the Division is aware of is Microporous' Plastic Battery Line #2 located at the same facility. This line is similar to Line #1 except the carbon adsorber is equipped with three beds instead of five. Line #2 is subject to a 95 percent TCE recovery efficiency.
- In addition to the distillation/condensation process and carbon adsorption system currently in place, Microporous considered the following additional control technologies:
 - Condensation
 - Absorption (scrubber)
 - Thermal Oxidation
 - Biofiltration
 - Catalytic Oxidation
 - Membrane Technology
 - Destruction or Degradation Techniques, such as advanced oxidation processes and ultraviolet photolysis.
- Basic principle (3) does not apply because an emission limit is feasible.
- Basic principle (4) does not apply because EPA has not proposed a 112(d) or (h) standard that would be applicable to the rubber battery mat process.
- Therefore, based on available information, Microporous has proposed that the MACT emissions limitation for Plastic Battery Mat Line #1 is 95 percent TCE recovery efficiency during all 12-consecutive months. This is the same emission limitation as Plastic Battery Mat Line #2.

Administrative Procedures

The administrative procedures for review of the Notice of MACT Approval are found in 40 CFR 63.43(f):

- (1) The permitting authority will notify the owner or operator in writing, within 45 days from the date the application is first received, as to whether the application for a MACT determination is complete or whether additional information is required.
- (2) The permitting authority will initially approve the recommended MACT emission limitation and other terms set forth in the application, or the permitting authority will notify the owner or operator in writing of its intent to disapprove the application, within 30 calendar days after the owner or operator is notified in writing that the application is complete.
- (3) The owner or operator may present, in writing, within 60 calendar days after receipt of notice of the permitting authority's intent to disapprove the application, additional information or arguments pertaining to, or amendments to, the application for consideration by the permitting authority before it

decides whether to finally disapprove the application.

- (4) The permitting authority will either initially approve or issue a final disapproval of the application within 90 days after it notifies the owner or operator of an intent to disapprove or within 30 days after the date additional information is received from the owner or operator; whichever is earlier.
- (5) A final determination by the permitting authority to disapprove any application will be in writing and will specify the grounds on which the disapproval is based. If any application is finally disapproved, the owner or operator may submit a subsequent application concerning construction or reconstruction of the same major source, provided that the subsequent application has been amended in response to the stated grounds for the prior disapproval.
- (6) An initial decision to approve an application for a MACT determination will be set forth in the Notice of MACT Approval as described in paragraph (g) of this section.

The administrative process for this MACT determination included the following:

- The Division requested additional information on May 19, 2025.
- Additional information was received from Microporous on June 13, 2025.
- The Division notified Microporous on November 5, 2025, that the application for a MACT determination was complete.
- The Division notified Microporous of initial approval of the MACT emission limitation February 2, 2026.
- This document constitutes the Notice of MACT Approval.

V. Notice of MACT Approval

The requirements for a Notice of MACT Approval are found in 40 CFR 63.43(g).

- (1) The Notice of MACT Approval will contain a MACT emission limitation (or a MACT work practice standard if the permitting authority determines it is not feasible to prescribe or enforce an emission standard) to control the emissions of HAP. The MACT emission limitation or standard will be determined by the permitting authority and will conform to the principles set forth in paragraph (d) of this section.
- (2) The Notice of MACT Approval will specify any notification, operation and maintenance, performance testing, monitoring, reporting and record keeping requirements. The Notice of MACT Approval shall include:
 - (i) In addition to the MACT emission limitation or MACT work practice standard established under this subpart, additional emission limits, production limits, operational limits or other terms and conditions necessary to ensure Federal enforceability of the MACT emission limitation;
 - (ii) Compliance certifications, testing, monitoring, reporting and record keeping requirements that are consistent with the requirements of § 70.6(c) of this chapter (Chapter 1, Subchapter C);
 - (iii) In accordance with section 114(a)(3) of the Act, monitoring shall be capable of demonstrating continuous compliance during the applicable reporting period. Such monitoring data shall be of sufficient quality to be used as a basis for enforcing all applicable requirements established under this subpart, including emission limitations;
 - (iv) A statement requiring the owner or operator to comply with all applicable requirements

contained in subpart A of this part (Part 63);

The following are the provisions for Plastic Battery Mat Line #1 as required to meet the requirements of §63.43(g):

- **MACT emission limitation (§63.43(g)(1))**

The minimum recovery efficiency of TCE from the carbon adsorption system shall be 95% during all intervals of 12-consecutive months. This limit is contained in condition E6-4 of Title V permit 578138.

- **Additional emission limits, production limits, operational limits or other terms and conditions necessary to ensure Federal enforceability of the MACT emission limitation (§63.43(g)(2)(i))**

None

- **Compliance certifications, testing, monitoring, reporting and record keeping requirements that are consistent with the requirements of § 70.6(c) ((§63.43(g)(2)(ii))**

Microporous will maintain monthly records of TCE⁵ received at the facility for use on Plastic Battery Mat Line #1. This is fresh TCE to be used in the process. Microporous will also maintain monthly records of the amount TCE processed into the extractor of Line #1 each month. The ratio of the amount of fresh TCE received to the amount of TCE process is the percent of TCE lost by the system. This is subtracted from 100% to get the TCE recovery efficiency.

- **Monitoring shall be capable of demonstrating continuous compliance during the applicable reporting period. ((§63.43(g)(2)(iii))**

The recordkeeping specified applies at all times. Thus, continuous compliance will be demonstrated during all reporting periods. Since the facility uses records of actual TCE usage, this method of recordkeeping is sufficient to be used as a basis for enforcing the emission limitation.

- **A statement requiring the owner or operator to comply with all applicable requirements contained in subpart A of this part ((§63.43(g)(2)(iii))**

Condition E3-26 of Title V permit 576138 requires the facility to comply with Subpart A of Part 63.

VI. Opportunity for Public Comment and Effective Date of Notice of MACT Approval

40 CFR 63.43(h)(1) requires that the permitting authority provide an opportunity for public comment on the Notice of MACT Approval. This includes:

- (i) Availability for public inspection in at least one location in the area affected of the information submitted by the owner or operator and of the permitting authority's initial decision to approve the application;
- (ii) A 30-day period for submittal of public comment; and

⁵ A small amount of stabilizer, known as Maxistab, is added to the TCE prior to delivery to the Microporous facility. Maxistab contains some HAP. Thus, the monthly records of TCE received will include HAP from the stabilizer.

- (iii) A notice by prominent advertisement in the area affected of the location of the source information and initial decision specified in paragraph (h)(1)(i) of this section.

40 CFR 63.43(h)(2) allows, at the discretion of the permitting authority, for the Notice of MACT Approval to automatically become final at the end of the comment period if no adverse comments are received. There are also provisions in §63.43(h)(2) on the requirements of the permitting authority if adverse comments are received.

40 CFR 63.43(j) specifies when a Notice of MACT approval becomes final. One of the options in this paragraph includes the date of issuance of a Title V permit incorporating a MACT determination.

Since this Notice of MACT Approval is being processed and public noticed simultaneously with Title V permit 578138 and will be incorporated into this permit, the Notice of MACT approval will be effective upon issuance of the Title V permit. If any adverse comments on the Notice of MACT approval are received, they will be addressed prior to issuance of the Title V permit.



STATEMENT OF BASIS
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TDEC Division of Air Pollution Control

Facility Name: Microporous, LLC
Permit Number: 578138
Permit Writer: James Johnston

Facility ID Number: 82-0153
Date Application Received: March 18, 2020
Date Application Completed: March 18, 2020

FACILITY CATEGORY

This facility is a major source of emissions. The facility-wide PTE of one or more regulated air pollutants (Volatile Organic Compounds (VOC), and a single Hazardous Air Pollutant (HAP)) is at or above Title V major source thresholds. Rubber and plastic products manufacturing are not in one of the 28 listed source categories in the PSD regulations. Thus, the PSD applicability threshold for this facility is 250 tons per year. The facility has accepted federally enforceable limitations/restrictions for Volatile Organic Compounds (VOCs). However, the controls are inherent (used to recover TCE, which is used in the process). Thus potential emissions of VOC are below the PSD applicability threshold.

FACILITY DESCRIPTION

This facility manufactures rubber and plastic battery mats used in lead acid batteries.

In the rubber battery mat process, raw rubber is combined with various materials in the Banbury process. There are two lines. The Banbury process heats up the mixture and extrudes a thick rubber sheet which is then cut into pieces and sent through a curing process to crosslink the rubber sheet. One uses vulcanization to cure the rubber. The other uses a dynamitron accelerator. The rubber sheet is then sent through a drying process and onto finishing lines where the mat is cut, sized, and fiberglass backings applied for specific product needs.

The facility includes two plastic battery mat lines. In this process, polyethylene is mixed with silica and oil to form a material base which is then extruded into a thin sheet. The thin sheet is then sent through an extraction operation, in which a solvent bath containing trichloroethylene (TCE) is used to extract excess oil from the battery mat. The polyethylene mat is then dried, wound, cut, and stored for shipment.

VOC and HAP, primarily in the form of TCE, is emitted from the plastic battery mat lines and controlled by distillation and condensation followed by activated carbon beds which capture and recycle the TCE back into the process. Particulate matter is emitted by the rubber battery mat line which is controlled by a baghouse. Material handling of silica, polyethylene, and rubber dust are controlled by cartridge-type bin vent filters. All of the material handling processes are insignificant emission units. Products of combustion are emitted from three natural gas-fired boilers.

PROJECT DESCRIPTION

Microporous, LLC, is requesting a Title V Operating Permit Renewal. The renewal permit will incorporate construction permit 976950 issued December 20, 2019, as amended August 31, 2023, for the second plastic battery mat line.

COMPLIANCE STATUS

This facility is located in an attainment area for all criteria pollutants according to the NAAQS.

The date of the last inspection occurred on March 7-8, 2024. The facility is in compliance with the applicable requirements of the permit. No violation of permit conditions observed.

COLLOCATION DETERMINATION

Collocation is not applicable to this facility



STATEMENT OF BASIS
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TDEC Division of Air Pollution Control

Facility Name: Microporous, LLC
Permit Number: 578138
Permit Writer: James Johnston

Facility ID Number: 82-0153
Date Application Received: March 18, 2020
Date Application Completed: March 18, 2020

PUBLIC NOTICE

This Title V Permit Renewal will undergo a 30-day public notice period and a 45-day EPA comment period in accordance with TAPCR 1200-03-09-.02(11). The notice was published on the TDEC website on February 2, 2026.

ADDITIONAL PUBLIC PARTICIPATION

TBD

Table 1A: FACILITY EMISSION SOURCES

<i>Source Number</i>	<i>Source Description</i>	<i>Permitted</i>	<i>Previous Permit No.</i>	<i>Exempt/ Insignificant</i>	<i>PBR</i>
01	48.5 MMBtu/hr Natural Gas-Fired Boiler	X	569100		
07	Rubber Battery Mat Lines #1 and #2	X	569100		
12	Plastic Battery Mat Line #1	X	569100		
13	Silica Storage Silo for Plastic Battery Mat Line #1 with Bin Vent Filter		569100	X	
14	Polyethylene Pellet Storage Silo for Plastic Battery Mat Line #1 with Bin Vent Filter		569100	X	
15	Rubber Dust Day Tank Receiving for Plastic Battery Mat Line #1 with Bin Vent Filter		569100	X	
18	10.5 MM Btu/hr Natural Gas-Fired Boiler	X	569100		
23	Truck Transfer to Silica Storage Silo #2 for Plastic Battery Mat Line #2 with Bin Vent Control		976950	X	
24	Rail Transfer to Silica Storage Silo #3 for Plastic Battery Mat Line #2 with Bin Vent Control		976950	X	
25	Silica Day Tank for Plastic Battery Mat Line #2 with Bin Vent Control			X	
26	Polyethylene Receiving Storage Silo for Plastic Battery Mat Line #2 with Bin Vent Control			X	
27	Rubber Dust Day Tank Receiving for Plastic Battery Mat Line #2 with Bin Vent Control			X	
28	Plastic Battery Mat Line #2	X	976950		
29	16.7 MMBtu/hr Natural Gas Fired Boiler	X	976950		
30	Vacuum Cleaning System			X	
	Extrusion Process			X	
	Natural gas-fired drying ovens			X	

Note that the Dynamitron Accelerator was previously listed as an insignificant activity. Microporous submitted a letter dated April 28, stating that this source does not emit any air contaminants.



STATEMENT OF BASIS
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TDEC Division of Air Pollution Control

Facility Name: Microporous, LLC
Permit Number: 578138
Permit Writer: James Johnston

Facility ID Number: 82-0153
Date Application Received: March 18, 2020
Date Application Completed: March 18, 2020

Table 1B: CHANGES SINCE LAST PERMIT ISSUANCE

<i>Description</i>	<i>Date</i>
Company requested that sources 13, 14, 15, 23, and 24 be insignificant emissions units.	3/12/2025
Facility has replaced some of the bags in bahouse #4 with cartridge filters. 3/2025 revision to Title V renewal application indicates that current 4" pressure drop is sufficient for the cartridge filters	2025
Insignificant activities natural gas-fired drying ovens and ammonia hood have been removed from the facility.	3/12/2025

REGULATORY APPLICABILITY REVIEW

Regulations	Comments/ Requirements (Monitoring/Recordkeeping/Reporting/Testing)
Chapter 6 <i>TAPCR 1200-03-06-.01(7)</i> <i>TAPCR 1200-03-06-.03(2)</i>	Applicable: This facility has fuel burning sources. Compliance is assured by the following: design heat input rate, use of natural gas only, and AP-42 emission factors. Permit limits were established with agreement letters dated November 24, 2019 and March 10, 2025. All PM limits are below the chapter limits calculated in accordance with TAPCR 1200-03-06-.02(2)(a) and are and equal to above AP-42 emissions calculations.
Chapter 7 <i>TAPCR 1200-03-07-.03(1)</i> <i>TAPCR 1200-03-07-.04(1)</i>	Applicable: This facility has process emission sources. Compliance is assured by the following: Source 07 – Rubber Battery Mat Lines, subject to 1200-03-07-.04(1) (0.02 gr/dscf), daily pressure drop monitoring. Source 12 and 28 – subject to 1200-03-07-.03 (E=3.59P ^{0.62}), proper operation and maintenance of carbon filters, sem-annual inspection of demisters, and routine maintenance
Chapter 10 <i>TAPCR 1200-03-10-.01</i>	Not Applicable: This facility is not subject to any source testing requirements outlined in this chapter.
Chapter 14 <i>TAPCR 1200-03-14-.01(3)</i>	Applicable: This facility has sources that emit SO ₂ . Compliance is assured by the following: design heat input rate, use of natural gas only, and AP-42 emission factors. The Non-Process SO ₂ limit specified in TAPCR 1200-03-14-.01(3)(a) for a Class III County (Sullivan) is 2.4 lb/MMBtu. Permit limits were established with agreement letters dated November 24, 2019 and March 10, 2025. All SO ₂ limits are below the chapter 14 allowable and equal to above AP-42 emissions calculations.
Other state regulations: Chapter(s) 16, 18, 22, 25, 27, etc.	Not Applicable: This facility does not contain sources subject to these chapters.



STATEMENT OF BASIS
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TDEC Division of Air Pollution Control

Facility Name: Microporous, LLC
Permit Number: 578138
Permit Writer: James Johnston

Facility ID Number: 82-0153
Date Application Received: March 18, 2020
Date Application Completed: March 18, 2020

REGULATORY APPLICABILITY REVIEW

Regulations	Comments/ Requirements (Monitoring/Recordkeeping/Reporting/Testing)
40 CFR 60 <i>NSPS</i>	Applicable: Sources 01 and 29 are subject to 40 CFR 60 Subpart Dc: Standards Of Performance For Small Industrial-Commercial-Institutional Steam Generating Units. Construction of both boilers commenced after June 9, 1989, and each boiler’s heat input capacity is greater than 10 MMBtu/hr. (Source 01 – built in 2001, 48.5 MMBtu/hr, Source 29 – built in 2019, 16.7 MMBtu/hr). Source 18 (10.5 MMBtu/hr) was constructed in 1978 (see 11/19/2009 letter from Daramick LLC) and is thus not subject to Subpart Dc. All three burn natural gas only.
40 CFR 61 <i>NESHAP</i>	Not Applicable: This facility does not emit the pollutants (benzene, beryllium, arsenic, vinyl chloride or radon)subject to this regulation.
40 CFR 62 <i>Federal Plans</i>	Not Applicable: This facility is not subject to any Federal Plans specified in 40 CFR 62.13
40 CFR 63 <i>NESHAP</i>	Applicable: The facility is a major source of HAP emissions. HAP emissions are equal to and/or exceed the major threshold of 10 TPY for a single HAP and 25 TPY for total HAPs. All three boilers are subject to Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters – This standard applies to boilers located at major sources of HAP. Microporous is a major source of HAP. All three boilers burn natural gas only, which is a “gas 1 fuel”. Thus the boilers are only subject to requirements for gas 1 fuel. Plastic Battery Mat Lines #1 and #2 are subject to case-by-case MACT as required by 40 CFR §§63.40 through 63.44. Plastic Battery Mat Line #2 is subject to 112(g) ¹ as reflected in condition E2-4 of construction permit 976950 and E8-4 of this Title V renewal. Plastic Battery Mat Line #1 did not undergo case-by-case MACT when it was originally permitted on May 16, 2000. It is going through retroactive case-by-case MACT review simultaneously with this Title V permit renewal as reflected in condition E6-4 of this Title V renewal.
40 CFR 68 <i>112(r)</i>	Not Applicable: The facility is not subject to the Risk Management Plan provisions of section 112(r)
40 CFR 64 <i>CAM</i>	Not Applicable: This is a Title V facility, but the Pollutant Specific Emissions Unit - PSEU(s) does not meet the applicability criteria outlined in 40 CFR 64. The carbon beds associated with the plastic battery mat lines were determined to be inherent process equipment and not subject to the CAM regulations.

¹ See August 13, 2019, letter from Antonia Abriaola, Director, Global Engineering, Microporous, to James P. Johnston, Deputy Director, Tennessee Division of Air Pollution Control.



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<u>Special Conditions, Monitoring, Limits</u>	Not Applicable: This facility does not have any special conditions, monitoring, or testing requirements.
Modeling Review	Not Applicable: This facility does not emit Pb, HCl or HF.
PREVIOUS Permit Number	569100 (Minor Mod #3), 976950 (Amendment #2)

EMISSION SUMMARY

Table 2: SOURCE SPECIFIC EMISSIONS

PERMIT EMISSIONS						
SOURCE 01						
Pollutant	Actual /Controlled Emissions	Regulatory Allowable Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable	
	lb/hr	lb/MMBTU	lb/hr	lb/hr	lb/hr	tons/12 mo
PM/PM ₁₀ /PM _{2.5}	0.36	0.25 (12.08 lb/hr)	0.36	0.36	0.36	
SO ₂	0.029	2.4 (116.4 lb/hr)	0.029	0.029	0.029	
CO	3.99	-	3.99	3.99		17.49
VOC	0.26	-	0.26	0.26		1.15
NO _x	2.38	-	2.38	2.38		10.41

PERMIT EMISSIONS					
SOURCE 07					
Pollutant	Actual /Controlled Emissions	Regulatory Allowable Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable
	lb/hr	grains/dscf	lb/hr	lb/hr	lb/hr
PM/PM ₁₀ /PM _{2.5}	not available	0.02 (4.3 lb/hr)	not available	4.3	4.3



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PERMIT EMISSIONS

SOURCE 12

Pollutant	Actual /Controlled Emissions	Regulatory Allowable Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
PM/PM ₁₀ /PM _{2.5}	not available	1.93	not available	1.93	1.93
VOC		-			80.0 tons/12 months
HAPs					80.0 tons/12 months

PERMIT EMISSIONS

SOURCE 18

Pollutant	Actual /Controlled Emissions	Regulatory Allowable Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable	
	lb/hr	lb/MMBTU	lb/hr	lb/hr	lb/hr	tons/12 mo
PM/PM ₁₀ /PM _{2.5}	0.08	0.58 (6.13 lb/hr)	0.08	0.08	0.08	
SO ₂	0.006	2.4 (25.2 lb/hr)	0.006	0.006	0.006	
CO	0.86	-	0.86	0.86		3.79
VOC	0.06	-	0.06	0.06		0.25
NO _x	0.51	-	0.51	0.51		2.25

PERMIT EMISSIONS

SOURCE 28

Pollutant	Actual /Controlled Emissions	Regulatory Allowable Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
PM/PM ₁₀ /PM _{2.5}	not available	2.36	not available	1.36	2.36
VOC		-			80.0 tons/12 months
HAPs					80.0 tons/12 months

PERMIT EMISSIONS

SOURCE 29

Pollutant	Actual /Controlled Emissions	Regulatory Allowable Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable	
	lb/hr	lb/MMBTU	lb/hr	lb/hr	lb/hr	tons/12 mo
PM/PM ₁₀ /PM _{2.5}	0.12	0.45 (7.53 lb/hr)	0.12	0.12	0.12	
SO ₂	0.010	2.4 (40.08 lb/hr)	0.010	0.010	0.01	
CO	1.38	-	1.38	1.38		6.01
VOC	0.09	-	0.09	0.09		0.39
NO _x	0.82	-	0.82	0.082		3.58



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Table 3: FACILITY WIDE EMISSIONS

FACILITY WIDE EMISSIONS			
Pollutant	Actual/Controlled Emissions	Uncontrolled Emissions	Potential to Emit (PTE)
	TPY	TPY	TPY
PM/PM ₁₀ /PM _{2.5}			40.08
SO ₂			0.20
NO _x			16.24
CO			27.29
VOC			161.79
Single HAP			160.0
Total HAPs			160.0

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.