OhioEPA

State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

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

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

10/10/03

CERTIFIED MAIL

RE: Preliminary Proposed Title V
Chapter 3745-77 permit

05-75-01-0161
Thermoseal Inc.
J. Robert Leighty
2350 Campbell Road
Sidney, OH 45365-9573

Dear J. Robert Leighty:

Enclosed is the Ohio EPA Preliminary Proposed Title V permit that was issued in draft form on 07/31/03. The comment period for the Draft permit has ended. We are now ready to submit this permit to USEPA for approval.

We are submitting this for your review and comment. If you do not agree with the Preliminary Proposed Title V permit as written, you now have the opportunity to raise your concerns. **In order to facilitate our review of all the comments or concerns you may have with the enclosed preliminary proposed permit, please provide a hand marked-up copy of the permit showing the changes you think are necessary, along with any additional summary comments, within fourteen (14) days from your receipt of this letter to:**

Ohio EPA, Division of Air Pollution Control
Jim Orlemann, Manager, Engineering Section
Preliminary Proposed Title V Permit Correspondence
122 South Front Street
Columbus, Ohio 43215

and

Southwest District Office
401 East Fifth Street
Dayton, OH 45402-2911
(513) 285-6357

Also, if you believe that it is necessary to have an informal conference with us, then, as part of your written comments, you should request a conference concerning the written comments.

If comments are not submitted within fourteen (14) days of your receipt of this letter, we will forward the proposed permit to USEPA for approval. All comments received will be carefully considered before proceeding to the proposed permit.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

cc: Southwest District Office
File, DAPC PMU

State of Ohio Environmental Protection Agency

PRELIMINARY PROPOSED TITLE V PERMIT

Issue Date: 10/10/03	Effective Date: To be entered upon final issuance	Expiration Date: To be entered upon final issuance

This document constitutes issuance of a Title V permit for Facility ID: 05-75-01-0161 to:

Thermoseal Inc.
2350 Campbell Road
Sidney, OH 45365-9573

Emissions Unit ID (Company ID)/Emissions Unit Activity Description

P001 (Mixer #1)
Mixer for production of mash

P002 (Calender #1)
Rubber bonded compressed gasket sheet manufacturing process

P003 (Calender #2)
Rubber bonded compressed gasket sheet manufacturing process

P004 (Calender #3)
Rubber bonded compressed gasket sheet manufacturing process

P005 (Calender #4)
Rubber bonded compressed gasket sheet manufacturing process

P008 (Mixer #3)
Mixer for production of mash

P009 (Mixer #4)
Mixer for production of mash

P011 (Mixer #2)
Mixer for production of mash

P013 (Ethanol Distillation)
Continuous distillation ethanol solvent recovery system. Thermoseal has requested OEPA to delete this equipment as an emission unit and amend PTI # 05-8246 accordingly in correspondence dated October 6, 1999 and July 7, 2000. This equipment will remain in STARShip program until OEPA formally amends the PTI.

P015 (Calender #5)
Rubber bonded compressed gasket sheet manufacturing process (Formerly Source P010)

P016 (Lurgi Toluene Decantering)
Lurgi Toluene Decanter System. Thermoseal has requested OEPA to delete this equipment as an emission unit and amend PTI # 05-8246 accordingly in correspondence dated October 6, 1999 and July 7, 2000. This equipment will remain in STARShip program until OEPA formally amends the PTI.

P017 (Croftshaw Toluene Decantering)
Croftshaw Toluene Decanter System. Thermoseal has requested OEPA to delete this equipment as an emission unit and amend PTI # 05-8246 accordingly in correspondence dated October 6, 1999 and July 7, 2000. This equipment will remain in STARShip program until OEPA formally amends the PTI.

P018 (Vulcan Toluene Decantering)
Vulcan Toluene Decanter System. Thermoseal has requested OEPA to delete this equipment as an emission unit and amend PTI # 05-8246 accordingly in correspondence dated October 6, 1999 and July 7, 2000. This equipment will remain in STARShip program until OEPA formally amends the PTI.

P019 (Sealex Manufacturing)
Sealex manufacturing consisting of solvent dispensers, mixing drums, tumbling machine, extruder, and solvent extraction oven.

You will be contacted approximately eighteen (18) months prior to the expiration date regarding the renewal of this permit. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency listed below. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-04(A) and in accordance with the terms of this permit beyond the expiration date, provided that a complete renewal application is submitted no earlier than eighteen (18) months and no later than one-hundred eighty (180) days prior to the expiration date.

Described below is the current Ohio EPA District Office or local air agency that is responsible for processing and administering your Title V permit:

Southwest District Office
401 East Fifth Street
Dayton, OH 45402-2911
(513) 285-6357

OHIO ENVIRONMENTAL PROTECTION AGENCY

Christopher Jones
Director

PART I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Section

1. Monitoring and Related Record Keeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, i.e., in Section A.III of Part III of this Title V permit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

i. The date, place (as defined in the permit), and time of sampling or measurements.
ii. The date(s) analyses were performed.
iii. The company or entity that performed the analyses.
iv. The analytical techniques or methods used.
v. The results of such analyses.
vi. The operating conditions existing at the time of sampling or measurement.
(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))

b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))

c. The permittee shall submit required reports in the following manner:

i. **All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:**

Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted by January 31, April 30, July 31, and October 31 of each year in accordance with General Term and Condition A.1.c.ii below; and each report shall cover the previous calendar quarter.

In accordance with OAC rule 3745-15-06, a malfunction constitutes a violation of an emission limitation (or control requirement) and, therefore, is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Nevertheless, all malfunctions, including those reported only

verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any scheduled maintenance, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.
(Authority for term: OAC rule 3745-77-07(A)(3)(c))

ii. **Except as may otherwise be provided in the terms and conditions for a specific emissions unit, i.e., in Section A.IV of Part III of this Title V permit or, in some cases, in Part II of this Title V permit, all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:**

Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. Except as provided below, the written reports shall be submitted by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written reports shall satisfy the requirements (in part) of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. OAC rule 3745-77-07(A)(3)(c) is not fully satisfied until the permittee addresses all other deviations of the federally enforceable requirements specified in the permit.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement overrides the reporting requirements specified in this General Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy the requirements (in part) of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this General Term and Condition.

See B.6 below if no deviations occurred during the quarter.
(Authority for term: OAC rule 3745-77-07(A)(3)(c))

iii. **All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with General Term and Condition A.1.c.ii above shall be submitted in the following manner:**

Written reports that identify all other deviations of the federally enforceable requirements contained in this permit, including the monitoring, record keeping, and reporting requirements, which are not reported in accordance with General Term and Condition A.1.c.ii above shall be submitted to the appropriate Ohio EPA District Office or local air agency by January 31 and July 31 of each year; and each report shall cover the previous six calendar months.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with General Term and Condition A.1.c.ii above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.
(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii))

iv. Each written report shall be signed by a responsible official certifying that, "based on information and belief formed after reasonable inquiry, the statements and information in the report (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete."
(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))

v. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
(Authority for term: OAC rule 3745-77-07(A)(3)(c))

2. Scheduled Maintenance

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in General Term and Condition A.1.c.i above.
(Authority for term: OAC rule 3745-77-07(A)(3)(c))

3. Risk Management Plans

If applicable, the permittee shall develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq. (“Act”); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

a. a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or

b. as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and

OAC Chapter 3745-104, including the registration and submission of the risk management plan.

(Authority for term: OAC rule 3745-77-07(A)(4))

4. Title IV Provisions

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

(Authority for term: OAC rule 3745-77-07(A)(5))

5. Severability Clause

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

(Authority for term: OAC rule 3745-77-07(A)(6))

6. General Requirements

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

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

c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with A.10 below. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

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

e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

(Authority for term: OAC rule 3745-77-07(A)(7))

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78.

(Authority for term: OAC rule 3745-77-07(A)(8))

8. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

(Authority for term: OAC rule 3745-77-07(A)(9))

9. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these general terms and conditions shall apply to all operating scenarios authorized in this permit.

(Authority for term: OAC rule 3745-77-07(A)(10))

10. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

a. Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

b. This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.

c. The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

d. The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

11. Federal and State Enforceability

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

(Authority for term: OAC rule 3745-77-07(B))

12. Compliance Requirements

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

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

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

ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.
iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

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

i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

d. Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:

i. Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.
ii. Compliance certifications shall include the following:
(a) An identification of each term or condition of this permit that is the basis of the certification.
(b) The permittee's current compliance status.
(c) Whether compliance was continuous or intermittent.
(d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.
(e) Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
iii. Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))

13. Permit Shield

a. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

b. This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

(Authority for term: OAC rule 3745-77-07(F))

14. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a

modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).
(Authority for term: OAC rules 3745-77-07(H)(1) and (2))

15. Emergencies

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.
(Authority for term: OAC rule 3745-77-07(G))

16. Off-Permit Changes

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

a. The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.

b. The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA. Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.

c. The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).

d. The permittee shall keep a record describing all 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.

e. The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit to install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.
(Authority for term: OAC rule 3745-77-07(I))

17. Compliance Method Requirements

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not

limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.
(This term is provided for informational purposes only.)

18. Insignificant Activities

Each insignificant activity that has one or more applicable requirements shall comply with those applicable requirements.
(Authority for term: OAC rule 3745-77-07(A)(1))

19. Permit to Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.
(Authority for term: OAC rule 3745-77-07(A)(1))

20. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.
(Authority for term: OAC rule 3745-77-07(A)(1))

21. Permanent Shutdown of an Emissions Unit

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification by the responsible official of the date on which the emissions unit was permanently shut down. Authorization to operate the affected part or activity of the stationary source shall cease upon the date certified by the responsible official that the emissions unit was permanently shut down.

If an emissions unit is permanently shut down (i.e., that has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01(O)), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any monitoring, record keeping, reporting, or testing requirements, applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

No emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit to install pursuant to OAC Chapter 3745-31.

B. *State Only Enforceable Section*

1. Reporting Requirements Related to Monitoring and Record Keeping Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

2. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

3. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

4. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

5. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

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

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

a. where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in General Term and Condition A.1.c.ii;

b. where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potentials to emit; and

c. where the company's responsible official has certified that an emissions unit has been permanently shut down.

Part II - Specific Facility Terms and Conditions

A. State and Federally Enforcable Section

None

B. State Only Enforceable Section

1. The following insignificant emissions units are located at this facility:

B001 Boiler #1
B002 Boiler #2
Z001 Miscellaneous Natural Gas Combustion Sources
Z002 Printer #1
Z003 KL-1 Distillate Fuel Oil Tank
Z004 Calender #7
Z005 KL-2 Toluene Tank
Z006 KL-3 Ethanol Tank
Z007 KL-4 Recovered Ethanol Tank
Z008 KL-5 Recovered Toluene Tank
Z009 Printer #2
Z010 Laboratory Hoods and Ovens

Each insignificant emissions unit at this facility must comply with all applicable State and Federal regulations, as well as any emission limitation and/or control requirements contained within a Permit to Install for the emissions unit.

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Mixer #1 (P001)

Activity Description: Mixer for production of mash

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
Littleford mixer #1, hammermill and associated dry raw material handling equipment w/ fabric filter and solvent capture and recovery system	OAC rule 3745-31-05(A)(3) PTI #05-8246	0.17 lb particulate emissions (PE)/hr 21.24 lbs organic compounds (OC)/day See A.I.2.a and b. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).
	OAC rule 3745-17-07(A)(1)	Visible PE from the stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-11(B)(1)	The emission limtation specified by this rule is less stringent than the emission limtation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.b The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

1. The OC content of the gasket mash produced by this emissions unit shall not exceed 45%, by weight, per batch.

2. The pressure drop across the baghouse shall be maintained within the range of 0.8 to 3.5 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain daily records that list the following information for this emissions unit:

a. The company identification of the materials being mixed in each batch.

b. The amount, in pounds, of the materials being mixed in each batch.

c. The OC content, in percent, by weight, of the materials being mixed.

2. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the April 3, 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated OC emissions, in tons.

b. The rolling, 365-day summation of the calculated OC emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the OC emissions.

3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

d. All exceedances of the OC content limitation of 45%, by weight.

2. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified in Section A.II.2. of these terms and conditions.

3. If no deviations (excursions) occurred during a reporting period, then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

4. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.a Emission Limitation:
0.17 lb PE/hr

Applicable Compliance Method:

To determine the actual worst case emissions rate for PE, the following equation may be used:

E = (MASPH) x (PE) x (CE)

where,

E = PE rate (lbs/hr)

MASPH = maximum amount of solids per batch per hour (1,778 lbs/hr)

PE= uncontrolled PE [assume 1% loss (0.01)]*

CE= control efficiency of the baghouse [assume 99% control efficiency (1-.99)]

If required, the permittee shall demonstrate compliance with the PE limitation above pursuant to Methods 1 through 5 of 40 CFR, Part 60, Appendix A.

*based upon engineering estimate

1.b Emission Limitation-
Visible PE shall not exceed 20% opacity, as a six minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE above in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

1.c Emission Limitation:
21.24 lbs OC/day

Applicable Compliance Method:

Compliance with the daily allowable OC emission limitation may be determined as follows:

Ed = Mp x Moc x 1% x (1 - Cf) x 24

where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum OC content, in percent by weight
Cf = the overall capture and control efficiency

V. Testing Requirements (continued)

1.d Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.e Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.f Emission Limitation-
OC content not to exceed 45%, by weight

Applicable Compliance Methods-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Calender #1 (P002)

Activity Description: Rubber bonded compressed gasket sheet manufacturing process

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
calender #1 Troester calender w/ solvent capture and recovery system	OAC rule 3745-31-05(A)(3) PTI #05-8246	722.7 lbs organic compounds (OC)/day See A.I.2.a and b.
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.b The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the April 3, 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated OC emissions, in tons.

b. The rolling, 365-day summation of the calculated OC emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the OC emissions.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

2. If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

3. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.c Emission Limitation:
722.7 lbs OC/day

Applicable Compliance Method:

Compliance with the daily allowable OC emission limitation may be determined as follows:

Ed = { [(Mp x Moc) - (Mp x Moc x 0.3%)] x (1- Cf) } x 24

Where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum organic compound content, in percent by weight
Cf = the overall capture and control efficiency

V. Testing Requirements (continued)

1.d Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.e Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.f Emission Limitation-
OC content not to exceed 45%, by weight

Applicable Compliance Methods-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Calender #2 (P003)

Activity Description: Rubber bonded compressed gasket sheet manufacturing process

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
calender #2 Troester calender w/ solvent capture and recovery system	OAC rule 3745-31-05(A)(3) PTI #05-8246	722.7 lbs organic compounds (OC)/day See A.I.2.a and b.
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.b The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the April 3, 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated OC emissions, in tons.

b. The rolling, 365-day summation of the calculated OC emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the OC emissions.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

2. If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

3. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.c Emission Limitation:
722.7 lbs OC/day

Applicable Compliance Method:

Compliance with the daily allowable OC emission limitation may be determined as follows:

Ed = { [(Mp x Moc) - (Mp x Moc x 0.3%)] x (1- Cf) } x 24

Where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum organic compound content, in percent by weight
Cf = the overall capture and control efficiency

V. Testing Requirements (continued)

1.d Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.e Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.f Emission Limitation-
OC content not to exceed 45%, by weight

Applicable Compliance Methods-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Calender #3 (P004)

Activity Description: Rubber bonded compressed gasket sheet manufacturing process

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
calender #3 Troester calender w/ solvent capture and recovery system	OAC rule 3745-31-05(A)(3) PTI #05-8246	722.7 lbs organic compounds (OC)/day See A.I.2.a and b.
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.b The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the April 3, 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated OC emissions, in tons.

b. The rolling, 365-day summation of the calculated OC emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the OC emissions.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

2. If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

3. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.c Emission Limitation:
722.7 lbs OC/day

Applicable Compliance Method:

Compliance with the daily allowable OC emission limitation may be determined as follows:

Ed = { [(Mp x Moc) - (Mp x Moc x 0.3%)] x (1- Cf) } x 24

Where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum organic compound content, in percent by weight
Cf = the overall capture and control efficiency

V. Testing Requirements (continued)

1.d Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.e Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.f Emission Limitation-
OC content not to exceed 45%, by weight

Applicable Compliance Methods-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Calender #4 (P005)

Activity Description: Rubber bonded compressed gasket sheet manufacturing process

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
calender #4 Troester calender w/ solvent capture and recovery system	OAC rule 3745-31-05(A)(3) PTI #05-8246	722.7 lbs organic compounds (OC)/day See A.I.2.a and b.
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.b The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the April 3, 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated OC emissions, in tons.

b. The rolling, 365-day summation of the calculated OC emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the OC emissions.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

2. If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

3. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.c Emission Limitation:
722.7 lbs OC/day

Applicable Compliance Method:

Compliance with the daily allowable OC emission limitation may be determined as follows:

Ed = { [(Mp x Moc) - (Mp x Moc x 0.3%)] x (1- Cf) } x 24

Where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum organic compound content, in percent by weight
Cf = the overall capture and control efficiency

V. Testing Requirements (continued)

1.d Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.e Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.f Emission Limitation-
OC content not to exceed 45%, by weight

Applicable Compliance Methods-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Mixer #3 (P008)

Activity Description: Mixer for production of mash

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
Littleford mixer #3, hammermill and associated dry raw material handling equipment w/ fabric filter and solvent capture and recovery system	OAC rule 3745-31-05(A)(3) PTI #05-8246	0.17 lb particulate emissions (PE)/hr 21.24 lbs organic compounds (OC)/day See A.I.2.a and b. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).
	OAC rule 3745-17-07(A)(1)	Visible PE from the stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-11(B)(1)	The emission limtation specified by this rule is less stringent than the emission limtation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.b The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

1. The OC content of the gasket mash produced by this emissions unit shall not exceed 45%, by weight, per batch.

2. The pressure drop across the baghouse shall be maintained within the range of 0.8 to 3.5 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain daily records that list the following information for this emissions unit:

a. The company identification of the materials being mixed in each batch.

b. The amount, in pounds, of the materials being mixed in each batch.

c. The OC content, in percent, by weight, of the materials being mixed.

2. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the April 3, 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated OC emissions, in tons.

b. The rolling, 365-day summation of the calculated OC emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the OC emissions.

3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

d. All exceedances of the OC content limitation of 45%, by weight.

2. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified in Section A.II.2. of these terms and conditions.

3. If no deviations (excursions) occurred during a reporting period, then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

4. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.a Emission Limitation:
0.17 lb PE/hr

Applicable Compliance Method:

To determine the actual worst case emissions rate for PE, the following equation may be used:

E = (MASPH) x (PE) x (CE)

where,

E = PE rate (lbs/hr)

MASPH = maximum amount of solids per batch per hour (1,778 lbs/hr)

PE= uncontrolled PE [assume 1% loss (0.01)]*

CE= control efficiency of the baghouse [assume 99% control efficiency (1-.99)]

If required, the permittee shall demonstrate compliance with the PE limitation above pursuant to Methods 1 through 5 of 40 CFR, Part 60, Appendix A.

*based upon engineering estimate

1.b Emission Limitation-
Visible PE shall not exceed 20% opacity, as a six minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE above in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

1.c Emission Limitation:
21.24 lbs OC/day

Applicable Compliance Method:

Compliance with the daily allowable OC emission limitation may be determined as follows:

Ed = Mp x Moc x 1% x (1 - Cf) x 24

where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum OC content, in percent by weight
Cf = the overall capture and control efficiency

V. Testing Requirements (continued)

1.d Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.e Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.f Emission Limitation-
OC content not to exceed 45%, by weight

Applicable Compliance Methods-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Mixer #4 (P009)

Activity Description: Mixer for production of mash

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
Littleford mixer #4, hammermill and associated dry raw material handling equipment w/ fabric filter and solvent capture and recovery system	OAC rule 3745-31-05(A)(3) PTI #05-8246	0.17 lb particulate emissions (PE)/hr 21.24 lbs organic compounds (OC)/day See A.I.2.a and b. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).
	OAC rule 3745-17-07(A)(1)	Visible PE from the stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-11(B)(1)	The emission limtation specified by this rule is less stringent than the emission limtation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.b The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

1. The OC content of the gasket mash produced by this emissions unit shall not exceed 45%, by weight, per batch.

2. The pressure drop across the baghouse shall be maintained within the range of 0.8 to 3.5 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain daily records that list the following information for this emissions unit:

a. The company identification of the materials being mixed in each batch.

b. The amount, in pounds, of the materials being mixed in each batch.

c. The OC content, in percent, by weight, of the materials being mixed.

2. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the April 3, 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated OC emissions, in tons.

b. The rolling, 365-day summation of the calculated OC emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the OC emissions.

3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

d. All exceedances of the OC content limitation of 45%, by weight.

2. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified in Section A.II.2. of these terms and conditions.

3. If no deviations (excursions) occurred during a reporting period, then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

4. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.a Emission Limitation:
0.17 lb PE/hr

Applicable Compliance Method:

To determine the actual worst case emissions rate for PE, the following equation may be used:

E = (MASPH) x (PE) x (CE)

where,

E = PE rate (lbs/hr)

MASPH = maximum amount of solids per batch per hour (1,778 lbs/hr)

PE= uncontrolled PE [assume 1% loss (0.01)]*

CE= control efficiency of the baghouse [assume 99% control efficiency (1-.99)]

If required, the permittee shall demonstrate compliance with the PE limitation above pursuant to Methods 1 through 5 of 40 CFR, Part 60, Appendix A.

*based upon engineering estimate

1.b Emission Limitation-
Visible PE shall not exceed 20% opacity, as a six minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE above in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

1.c Emission Limitation:
21.24 lbs OC/day

Applicable Compliance Method:

Compliance with the daily allowable OC emission limitation may be determined as follows:

Ed = Mp x Moc x 1% x (1 - Cf) x 24

where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum OC content, in percent by weight
Cf = the overall capture and control efficiency

V. Testing Requirements (continued)

1.d Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.e Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.f Emission Limitation-
OC content not to exceed 45%, by weight

Applicable Compliance Methods-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Mixer #2 (P011)

Activity Description: Mixer for production of mash

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
Littleford mixer #2, hammermill and associated dry raw material handling equipment w/ fabric filter and solvent capture and recovery system	OAC rule 3745-31-05(A)(3) PTI #05-8246	0.17 lb particulate emissions (PE)/hr 21.24 lbs organic compounds (OC)/day See A.I.2.a and b. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).
	OAC rule 3745-17-07(A)(1)	Visible PE from the stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-11(B)(1)	The emission limtation specified by this rule is less stringent than the emission limtation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.b The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

1. The OC content of the gasket mash produced by this emissions unit shall not exceed 45%, by weight, per batch.

2. The pressure drop across the baghouse shall be maintained within the range of 0.8 to 3.5 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain daily records that list the following information for this emissions unit:

a. The company identification of the materials being mixed in each batch.

b. The amount, in pounds, of the materials being mixed in each batch.

c. The OC content, in percent, by weight, of the materials being mixed.

2. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the April 3, 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated OC emissions, in tons.

b. The rolling, 365-day summation of the calculated OC emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the OC emissions.

3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

d. All exceedances of the OC content limitation of 45%, by weight.

2. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified in Section A.II.2. of these terms and conditions.

3. If no deviations (excursions) occurred during a reporting period, then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

4. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.a Emission Limitation:
0.17 lb PE/hr

Applicable Compliance Method:

To determine the actual worst case emissions rate for PE, the following equation may be used:

E = (MASPH) x (PE) x (CE)

where,

E = PE rate (lbs/hr)

MASPH = maximum amount of solids per batch per hour (1,778 lbs/hr)

PE= uncontrolled PE [assume 1% loss (0.01)]*

CE= control efficiency of the baghouse [assume 99% control efficiency (1-.99)]

If required, the permittee shall demonstrate compliance with the PE limitation above pursuant to Methods 1 through 5 of 40 CFR, Part 60, Appendix A.

*based upon engineering estimate

1.b Emission Limitation-
Visible PE shall not exceed 20% opacity, as a six minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE above in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

1.c Emission Limitation:
21.24 lbs OC/day

Applicable Compliance Method:

Compliance with the daily allowable OC emission limitation may be determined as follows:

Ed = Mp x Moc x 1% x (1 - Cf) x 24

where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum OC content, in percent by weight
Cf = the overall capture and control efficiency

V. Testing Requirements (continued)

1.d Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.e Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.f Emission Limitation-
OC content not to exceed 45%, by weight

Applicable Compliance Methods-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Ethanol Distillation (P013)

Activity Description: Continuous distillation ethanol solvent recovery system. Thermoseal has requested OEPA to delete this equipment as an emission unit and amend PTI # 05-8246 accordingly in correspondence dated October 6, 1999 and July 7, 2000. This equipment will remain in STARShip program until OEPA formally amends the PTI.

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
ethanol distillation w/bubble cap distillation tower, two condensers, and associated piping/equipment	OAC rule 3745-31-05(A)(3) PTI #05-8246	19.1 lbs organic compounds (OC)/day See A.I.2.b and c.
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a This emissions unit has a design production capacity of less than 1,100 tons of material per year.

2.b The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.c The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

1. The amount of liquid organic material processed in this emissions unit shall not exceed 1,000 tons per rolling, 365-day period.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain daily records that list the following information for this emissions unit:

a. The company identification of each liquid organic material processed.

b. The amount of each liquid organic material processed, in tons.

c. The amount of all the liquid organic materials processed (summation of b for all liquid organic materials), in tons.

d. The rolling, 365-day amount of liquid organic materials processed, in tons .

2. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated organic compound emissions, in tons.

b. The rolling, 365-day summation of the calculated organic compound emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the organic compound emissions.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

d. All exceedances of the rolling, 365-day amount of liquid organic compounds processed of 1,000 tons.

2. If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

3. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

4. The permittee shall submit annual reports that summarize the actual annual amount of liquid organic material processed in this emissions unit for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

V. Testing Requirements (continued)

1.a Emission Limitation:
19.1 lbs OC/day

Applicable Compliance Method:

Compliance with the daily allowable OC emission limitation may be determined as follows:

Ed = [(Mp/2000 x 3.3) + (Mp/2000 x 0.00024)] x 24

Where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum organic compound content, in percent by weight
Cf = the overall capture and control efficiency

1.b Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.c Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.d Operational Restriction-
1000 tons of liquid organic materials/rolling, 365-day period

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the operational restriction above in accordance with the record keeping requirements specified in Section A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Calender #5 (P015)

Activity Description: Rubber bonded compressed gasket sheet manufacturing process (Formerly Source P010)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
calender #5 Troester calender w/ solvent capture and recovery system	OAC rule 3745-31-05(A)(3) PTI #05-8246	722.7 lbs organic compounds (OC)/day See A.I.2.a and b.
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.b The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the April 3, 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated OC emissions, in tons.

b. The rolling, 365-day summation of the calculated OC emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the OC emissions.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

2. If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

3. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.c Emission Limitation:
722.7 lbs OC/day

Applicable Compliance Method:

Compliance with the daily allowable OC emission limitation may be determined as follows:

Ed = { [(Mp x Moc) - (Mp x Moc x 0.3%)] x (1- Cf) } x 24

Where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum organic compound content, in percent by weight
Cf = the overall capture and control efficiency

V. Testing Requirements (continued)

1.d Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.e Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 and 2 of this permit.

1.f Emission Limitation-
OC content not to exceed 45%, by weight

Applicable Compliance Methods-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Lurgi Toluene Decantering (P016)

Activity Description: Lurgi Toluene Decanter System. Thermoseal has requested OEPA to delete this equipment as an emission unit and amend PTI # 05-8246 accordingly in correspondence dated October 6, 1999 and July 7, 2000. This equipment will remain in STARShip program until OEPA formally amends the PTI.

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
Lurgi toluene decanting w/ two condensers, decanter tank and associated piping/equipment	OAC rule 3745-31-05(A)(3) PTI #05-8246	2.9 lbs of organic compound (OC) emissions/day See A.I.2.a and b. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(DD) and 40 CFR, part 60, Subpart VV.
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.b The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the April 3, 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated OC emissions, in tons.

b. The rolling, 365-day summation of the calculated OC emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the OC emissions.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

2. If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

3. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.a Emission Limitation:
2.9 lbs OC/day

Applicable Compliance Method:
Compliance with the daily allowable OC emission limitation may be determined as follows:

Ed = { [(Mp/2000 * 3.3) + (Mp/2000 * 0.00024)] * (1-Cf) } * 24

Where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum organic compound content, in percent by weight
Cf = the overall capture and control efficiency

1.b Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

V. Testing Requirements (continued)

1.c Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Croftshaw Toluene Decantering (P017)

Activity Description: Croftshaw Toluene Decanter System. Thermoseal has requested OEPA to delete this equipment as an emission unit and amend PTI # 05-8246 accordingly in correspondence dated October 6, 1999 and July 7, 2000. This equipment will remain in STARShip program until OEPA formally amends the PTI.

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
Croftshaw toluene decanting w/ two condensers, decanter tank and associated piping/equipment	OAC rule 3745-31-05(A)(3) PTI #05-8246	2.9 lbs of organic compound (OC) emissions/day See A.I.2.a and b.
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.b The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the April 3, 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated OC emissions, in tons.

b. The rolling, 365-day summation of the calculated OC emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the OC emissions.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

2. If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

3. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.a Emission Limitation:
2.9 lbs OC/day

Applicable Compliance Method:
Compliance with the daily allowable OC emission limitation may be determined as follows:

$$Ed = \{ [(Mp/2000 * 3.3) + (Mp/2000 * 0.00024)] * (1-Cf) \} * 24$$

Where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum organic compound content, in percent by weight
Cf = the overall capture and control efficiency

1.b Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

V. Testing Requirements (continued)

1.c Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Vulcan Toluene Decantering (P018)

Activity Description: Vulcan Toluene Decanter System. Thermoseal has requested OEPA to delete this equipment as an emission unit and amend PTI # 05-8246 accordingly in correspondence dated October 6, 1999 and July 7, 2000. This equipment will remain in STARShip program until OEPA formally amends the PTI.

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
Vulcan toluene decanting w/ two condensers, decanter tank and associated piping/equipment	OAC rule 3745-31-05(A)(3) PTI #05-8246	2.9 lbs of organic compound (OC) emissions/day See A.I.2.a and b.
	OAC rule 3745-21-07(G)(2)	The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The OC emissions (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) shall not exceed 58.3 tons per rolling, 30-day period and 180 tons per rolling, 365-day period.

2.b The emissions unit shall be equipped with a solvent capture and recovery system that is capable of reducing the overall OC emissions by at least 90.6%, by weight, based on a 30-day rolling period.

In order to assure compliance, the permittee shall maintain records and calculations that demonstrate ongoing compliance with the April 3, 1998 mass balance protocol agreement between the Ohio Environmental Protection Agency and the permittee, a copy of which is attached to this permit.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information each day (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined) in accordance with the established requirements of the April 3, 1998 mass balance protocol agreements between the Ohio EPA and the permittee:

a. The rolling, 30-day summation of the calculated OC emissions, in tons.

b. The rolling, 365-day summation of the calculated OC emissions, in tons.

c. The rolling, 30-day average of the calculated overall capture and control efficiency of the solvents recovery system for the OC emissions.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. All exceedances of the rolling, 365-day OC emission limitation of 180 tons.

b. All exceedances of the rolling, 30-day OC emission limitation of 58.3 tons.

c. All records showing that the restriction on the rolling, 30-day average overall capture and control efficiency of the solvent recovery system was below the required 90.6%, by weight, for OCs.

2. If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

3. The permittee shall submit annual reports that summarize the actual annual OC emissions for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined, for the previous calendar year. The reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.a Emission Limitation:
2.9 lbs OC/day

Applicable Compliance Method:
Compliance with the daily allowable OC emission limitation may be determined as follows:

Ed = { [(Mp/2000 * 3.3) + (Mp/2000 * 0.00024)] * (1-Cf) } * 24

Where:

Ed = daily OC emissions (lbs/day)
Mp = maximum hourly capacity, in pounds
Moc = maximum organic compound content, in percent by weight
Cf = the overall capture and control efficiency

1.b Emission Limitations:
58.3 tons OC/rolling, 30-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

180 tons OC/rolling, 365-day period (for emissions units P001, P002, P003, P004, P005, P008, P009, P011, P013, P015, P016, P017 and P018, combined)

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

V. Testing Requirements (continued)

1.c Emission Limitation-
minimum overall control efficiency of 90.6% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the record keeping requirements specified in Sections A.III.1 of this permit.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Sealex Manufacturing (P019)

Activity Description: Sealex manufacturing consisting of solvent dispensers, mixing drums, tumbling machine, extruder, and solvent extraction oven.

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
Sealex manufacturing consisting of solvent dispensers, mixing drums, tumbling machine, extruders, solvent extraction oven, stretching machine, sintering oven, spool packaging and winding equipment.	OAC rule 3745-31-05(A)(3) PTI #05-9646	5 lbs organic compounds (OC)/hour 7.3 tons OC/yr The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(G)(2) [the daily OC emission limitation of 40 pounds].
	OAC rule 3745-21-07(G)(2)	40 lbs OC/day The hourly OC emission limitation specified by this rule is less stringent then the hourly OC emission limitation established pursuant to OAC rule 3745-31-05(A).

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall calculate and record the following information for each day for this emissions unit:

a. The company identification for each material employed.

b. Documentation on whether or not each material employed is a photochemically reactive material, as defined in OAC rule 3745-21-05(C).

c. The number of gallons of each material employed.

d. The OC content of each material employed, in pounds per gallon.

e. The total OC emissions for all the materials employed (summation of (c x d) for all materials), in pounds;

f. For the days during which any photochemically reactive material is employed, the total OC emissions for all the materials employed, in pounds.

g. For the days during which any photochemically reactive material is employed, the total number of hours the emissions unit was in operation.

h. For the days during which any photochemically reactive material is employed, the average hourly OC emission rate for all the materials employed (f/g), in pounds (average).

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. An identification of each hour during which the avergae hourly organic compound emissions from this emissions unit exceeded 5 pounds per hour, and the actual organic compound emissions for each such hour.

b. An identification of each day during which the organic compound emissions from this emissions unit exceeded 40 pounds per day, and the actual organic compound emissions for each such day.

If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

2. The permittee shall submit annual reports that summarize the total actual organic compound emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1.a Emission Limitations:

8.0 lbs OC/hr and 40.0 lbs OC/day

Applicable Compliance Method:

Compliance with the hourly and daily allowable OC emission limitations shall be based upon the record keeping requirements specified in Section A.III.1of this permit.

If required, the permittee shall demonstrate compliance with the hourly allowable OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

V. Testing Requirements (continued)

1.b Emission Limitation:

7.3 tons OC/year

Applicable Compliance Method:

Compliance with the annual allowable OC emission limitation shall be based upon the record keeping requirements specified in Section A.III.1 of this permit and shall be the summation for the daily OC emission rates for the calendar year.

2. The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the materials.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
Sealex manufacturing consisting of solvent dispensers, mixing drums, tumbling machine, extruders, solvent extraction oven, stretching machine, sintering oven, spool packaging and winding equipment.	none	none

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Trimethylbenzene

TLV (ug/m3): 25

Maximum Hourly Emission Rate (lbs/hr): 8.0

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1360.0

MAGLC (ug/m3): 2920.3

III. Monitoring and/or Record Keeping Requirements (continued)

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

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

2. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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THIS IS THE LAST PAGE OF THE PERMIT

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Attachment

OPTIM ENVIRONMENTAL RESOURCES, INC.

May 15, 1996

Mr. Phil Hinrichs
State of Ohio Environmental Protection Agency
Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402 2911

Dear Mr. Hinrichs:

Enclosed is a Mass Balance Protocol Document for the Sidney, Ohio facility of Thermoseal Inc. The document includes the description of the mass balance approach and supporting appendices for gathering the required data. Please call Mr. Tom Raterman at (513) 498 2222 or me at (513) 32 OPTIM (326 7846) if you have any questions.

Very truly yours,
Optim Environmental Resources, Inc.

Christopher J. Meyer
Vice President

cc: Tom Raterman
Tim Hoffman

8 Triangle Park Drive, Suite 801, Cincinnati, Ohio 45246 3411
Tel: (513) 32 OPTIM (326 7846) • Fax: (513) 326 7847 • eMail: optim@one.net

Thermoseal Inc.

April 3, 1998

Quality Assurance Plan for Pulse Meter Calibration

Mass Balance Protocol

Submitted to

The Ohio Environmental Protection Agency

By

Thomas A. Raterman

2.5. After the 10.0 gallons has finished pumping and there is no virgin toluene flowing from the sample point, close valve T_1.
2.6. Measure the amount of gallons in the calibrated can and compare to the number of gallons recorded at the Quick Panel under Toluene at "Gallons Pumped" screen. Note: The actual number of gallons pumped that is displayed at the "Gallons Pumped" screen will be more that the number of gallons entered in step 2.4.4. This is due to a known overshoot by the system.
2.7. Compare the number of gallons in the calibrated can (gallons xx.x) to the number of "Gallons Pumped" shown on the Quick Panel display under toluene.
2.8. Calculate the accuracy between the number of gallons entered and the number of gallons measured using the following equation:

[1- (number of gallons measured / number of gallons entered)] x 100 = Accuracy percentage

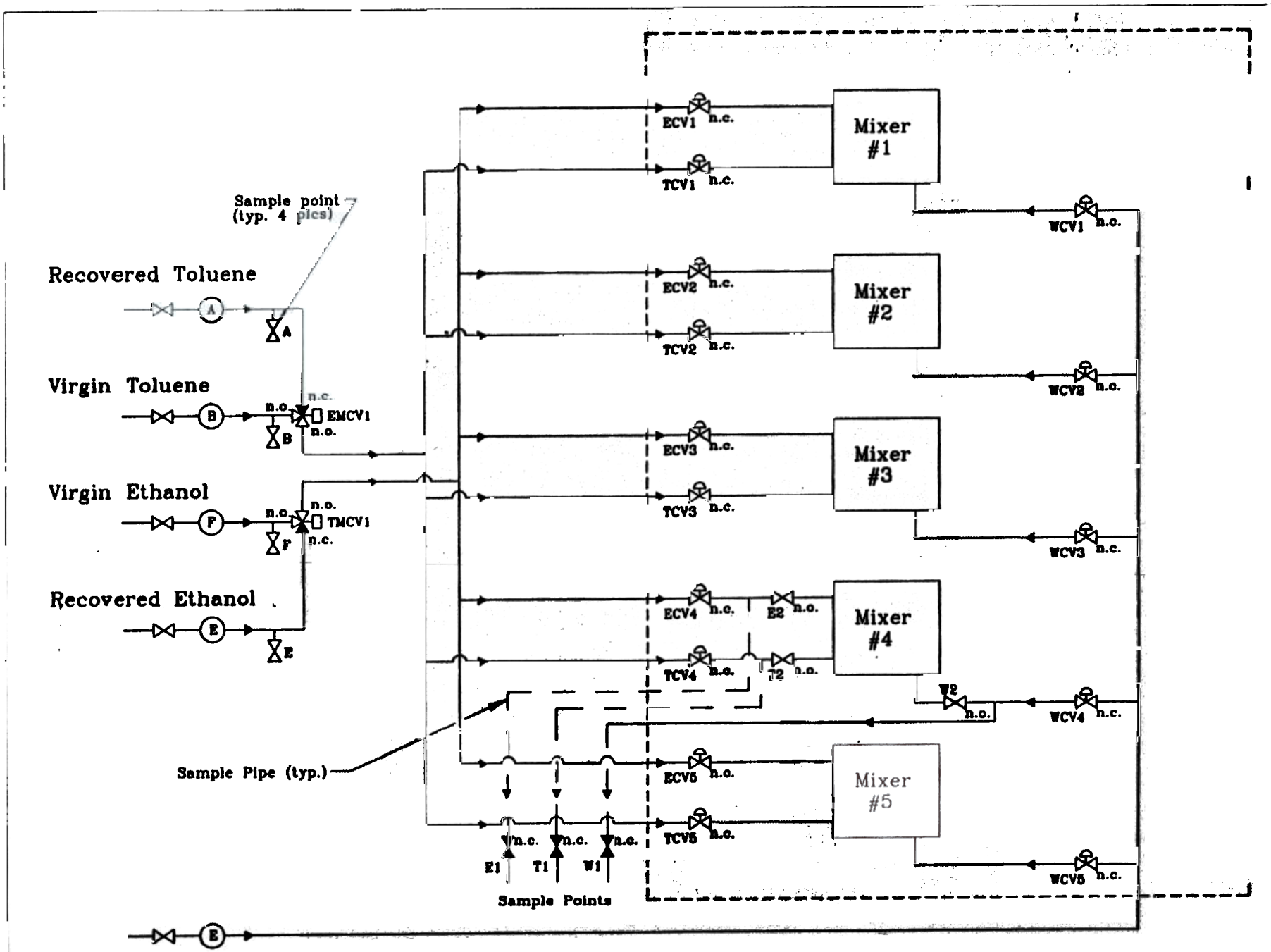
3 Virgin Ethanol (EPA meter F):

3.1. Place an empty bucket below valve E_1 to collect residual ethanol contained in the line.
3.2. Open valve E_1 to drain any ethanol in the line from the control valve ECV_4 through E_1.
3.3. Place the 10 gallon calibrated can below valve E_1.
3.4. At the Quick Panel:
3.4.1. Select "Ethanol" from the menu
3.4.2. Select "virgin ethanol"
3.4.3. Select "Gallons of Ethanol Required"
3.4.4. Enter "10.0" gallons
3.4.5. Select Mixer # "4"
3.4.6. Select "Enter Ethanol" to start pumping virgin ethanol to the sample point at mixer # 4. This will open the ethanol control valve ECV_4, start the virgin ethanol pump, and allow the virgin ethanol meter A to read the amount of virgin ethanol flow.
3.5. After the 10.0 gallons has finished pumping and there is no virgin ethanol flowing from the sample point, close valve E_1.
3.6. Measure the amount of gallons in the calibrated can and compare to the number of gallons recorded at the Quick Panel under Ethanol at "Gallons Pumped" screen. Note: The actual number of gallons pumped that is displayed at the "Gallons Pumped" screen will be more that the number of gallons entered in step 3.4.4. This is due to a known overshoot by the system.
3.7. Compare the number of gallons in the calibrated can (gallons xx.x) to the number of "Gallons Pumped" shown on the Quick Panel display under ethanol.
3.8. Calculate the accuracy between the number of gallons entered and the number of gallons measured using the following equation:

[1- (number of gallons measured / number of gallons entered)] x 100 = Accuracy percentage

4. Recovered Ethanol (EPA meter E):

4.1. Place an empty bucket below valve E_1 to collect residual ethanol contained in the line.
4.2. Open valve E_1 to drain any ethanol in the line from the control valve ECV_4 through E_1.
4.3. Place the 10 gallon calibrated can below valve E_1.
4.4. At the Quick Panel:
4.4.1. Select "Ethanol" from the menu
4.4.2. Select "Recovered Ethanol"
4.4.3. Select "Gallons of Ethanol Required"
4.4.4. Enter "10.0" gallons
4.4.5. Select Mixer # "4"
4.4.6. Select "Enter Ethanol" to start pumping recovered ethanol to the sample point at mixer # 4. This will open the ethanol control valve ECV_4, start the recovered ethanol pump, and allow the recovered ethanol meter A to read the amount of recovered ethanol flow.
4.5. After the 10.0 gallons has finished pumping and there is no recovered ethanol flowing from the sample point, close valve E_1.



Solvent Delivery System
Mixing Operation

Thermoseal, Inc. Sidney, Ohio
2350 Campbell Rd, Sidney, Ohio 45365

Thermoseal Mass Balance-Pulse Flow Meter Calibration

Table of Contents

PROPOSED MASS BALANCE PROTOCOL FOR DETERMINING OVERALL VOC CONTROL EFFICIENCY THERMOSEAL INC. SIDNEY, OHIO

Submitted to:
State of Ohio Environmental Protection Agency
Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402-2911

by:
Thermoseal Inc.
2350 Campbell Road
Sidney, Ohio 45365-9501

May 15, 1996

CONTENTS

APPENDICES

SECTION 1.0
INTRODUCTION

Over the past two years, Thermoseal Inc. (Thermoseal) has been working with Ohio EPA towards an acceptable means of measuring and reporting VOC emissions using mass balance procedures. This report contains the proposed mass balance protocol, as well as example spreadsheets for summarizing and calculating overall solvent recovery efficiencies. Section 2 provides a process description of the Thermoseal operations. The proposed mass balance procedures are detailed in Section 3. Section 4 presents the proposed record keeping approach for documenting the data required for the mass balance protocol.

This report includes several appendices that contain the supporting data. Appendix I contains an example spreadsheet for calculating the daily cumulative solvent recovery efficiencies and for summarizing daily and accumulative solvent usage quantities. Appendices II and III present examples of the raw solvent gas chromatograph (GC) readings and graphs, respectively. Appendix IV provides an example spreadsheet for tabulating the GC results indicating the percent by volume for water and solvents in the liquid process flow.

An example raw volumetric flow meter readings log sheet for calculating the amount of solvent recovered is shown in Appendix V. Appendix VI shows an example spreadsheet for tabulating the volumetric flow meter readings and calculating the volume and mass of solvents used and recovered. Appendix VII presents a Liquid Solvent Flow Diagram. Appendices VIII and IX contain copies of the GC operation and calibration procedure and the volumetric flow meter calibration procedure, respectively. Appendix X displays a draft mass balance protocol proposed by Ohio EPA.

The mass balance protocol issues raised by the Ohio EPA for developing the protocol in correspondence from Mr. Phil Hinrichs are outlined below along with Thermoseal's response for each issue. A copy of Mr. Hinrichs' correspondence is included in Appendix X.

1. The protocol must ensure that we are tracking only organic solvent and that water must be factored out of the measurement.

   Response:

   We are using a GC (GC) approach to determine the percent by volume of the organic solvents and water in all recovered solvent streams. Specifically, GC analysis will be conducted on liquid streams associated with Meters A, C, D, E, and G. As Meters B and F are associated with virgin toluene and ethanol, no GC analysis is necessary. Only the organic solvents are being used to determine the solvent recovery and overall control efficiency and, therefore, the organic compound emissions. Appendix VIII provides the procedure for sampling analysis with the GC.

2. The performance (capture and control) of the system must comply with the most stringent requirements specified in Thermoseal's permits.

   Response

   As the overall solvent recovery efficiency for the entire facility is determined by the liquid-liquid mass balance method, Thermoseal recognizes that the performance of the capture and control systems, as defined by the overall solvent recovery efficiency, must comply with the most stringent overall control efficiency value specified in its permits.

   Thermoseal is currently in the process of submitting applications to obtain operating permits for all sources that require Ohio EPA air permits. Within these applications, Thermoseal has demonstrated that the Best Available Technology (BAT) for the sources is carbon adsorption units (CAUs) with an overall control efficiency for organic compounds of no less that 90.6 percent.

3. Losses will not be determined individually, but in aggregate, e.g. losses from the tubs will not be determined individually, losses from the application of mash at the calenders will not be determined individually, nor will the losses at any point in the manufacturing

process be determined individually, but will be aggregated and determined by difference (i.e., consumption recovery = losses).

Response

Thermoseal will use the terminology "supply" and "return" in the documents which refer to "supply solvents into the manufacturing process" and "return solvents out of the manufacturing process." The difference between the solvent supply and return is the solvent losses. Thermoseal will measure the solvent losses in aggregate by calculating the losses on a 365-day rolling average using the equations and procedures in Section 3. In order to calculate a daily rolling average, the earliest reading will be subtracted from the daily meter reading throughout the year.

4. The performance of the control devices will not be specifically determined.

Response

As the liquid-liquid mass balance determines overall control efficiency for organic compounds, no measurement of capture or control efficiency for hoods or the CAUs is necessary.

5. Additions and losses to the system will be determined once a day.

Response

Thermoseal will record the supply and return meter readings, and will calculate daily solvent losses consistent with the approved protocol every day the plant is in operation (i.e. using organic solvents in the manufacturing of gaskets). Thermoseal will analyze the liquid recovered solvent stream samples for percent solvent consistent with the approved procedure on a weekly basis.

6. As you will note in the attached protocol and revised diagram, Thermoseal will be required to install additional flow meters/totalizers.

Response

Per discussions with Mr. Phil Hinrichs, only the solvents being supplied into the manufacturing process and solvents returning from the manufacturing process will be metered. All other liquid solvent transfers into the solvent tanks or from tank to tank will mot be metered nor will their quantities be used in any mass balance calculations. Appendix VII presents the Liquid Solvent

Flow Diagram that shows the "supply" and "return" streams, the recovery systems, the storage tanks, and the major manufacturing equipment.

7. Description of the procedure that will be used for determining the solvent content in the product.

Response

Pursuant to Ohio Administrative Code (OAC) 3745-21-07(G)(5), organic compound emissions from the air drying of products for the first 12 hours after their removal from a machine must be included in determining compliance with OAC 2745-21-07(G)(2). Therefore, Thermoseal will wait at least 12 hours after the removal of a gasket sheet from a calender prior to having tests performed to determine its organic solvent content. Thermoseal proposes to use the procedure outlined in "ASTM D 2369-81, Standard Test Method for Volatile Content of Coatings." This procedure determines the weight fraction of volatile matter in a material and is specified for use in Method 24 testing. This procedure is consistent with those specified in OAC 3745-21-10(B)(4).

8. Description of the procedure to determine the amount of water in the recovered toluene tank.

Response

Per discussions during the February 15, 1996 meeting with Ohio EPA, it was agreed that Thermoseal will use a GC to determine the solvent and water contents in the liquid stream supplied to the system during tank pump-out activities.

SECTION 2.0
PROCESS DESCRIPTION

Thermoseal produces sheet gasket materials at its Sidney, Ohio facility. Rubber, minerals, and solvents are mixed in five mixers (Sources P001 - Mixers 1, 2, and 5, P008 - Mixer 3, and P009 - Mixer 4) and then are transferred to the Calender Room via mash carts. The solvents used are primarily toluene and ethanol, with small quantities of isopropanol associated with the ethanol. The rubber undergoes a vulcanization process in the calenders; five calenders (Sources P002 - Calender 1, P003 - Calender 2, P004 - Calender 3, P005 - Calender 4, and P010 - Calender 5) are employed in this process. VOC-laden air is captured in part by fume hoods over the calenders and is vented to the Vulcan, Croftshaw, and/or Lurgi carbon adsorption units (CAUs). The CAUs recover toluene, whereas the alcohol (i.e., primarily ethanol with small quantities of isopropanol) is recovered later in the process through the use of an alcohol distillation column.

SECTION 3.0
MASS BALANCE PROCEDURE

This section outlines the mass balance method by which Thermoseal proposes to demonstrate compliance with the overall control requirements for volatile organic compounds (VOC) contained in its permits. Specifically, Thermoseal proposes the use of a liquid-liquid mass balance method for solvent recovery systems (i.e., carbon adsorption units) similar to that outlined in the New Source Performance Standards (NSPS), Subpart QQ - Standards of Performance for the Graphic Arts Industry : Publication Rotogravure Printing (40 CFR 60.433). This method is the most representative of the operations at Thermoseal which include calendering and mixing operations controlled by common carbon adsorption units. The indicated method was also selected as the approved compliance test method in the proposed maximum achievable control technology (MACT) standard for the printing and publishing industry issued by USEPA on March 15, 1995 (60 FR 13664-13683).

The use of solvent mass balance calculations for compliance demonstration purposes is consistent with Ohio Administrative Code (OAC) 3745-21-10(C)(3)(c), which states that the capture efficiency of any vapor collection system shall be calculated or measured in a manner based upon accepted engineering practice. This is also consistent with OAC 3745-21-10 (C)(3)(d), which states that for a vapor control system that recovers VOC (i.e., a carbon adsorption system), the amounts of VOC employed and recovered may be measured and used to determine VOC control efficiency.

3.1 Liquid-Liquid Mass Balance

The liquid-liquid mass balance method defines compliance by the measurement of the amount of liquid (solvent) entering a process or processes, as is the case at Thermoseal, and the

amount of liquid (solvent) recovered by the solvent recovery system. Total solvent emissions are assumed to be the difference between the amount of solvent entering the process and the amount recovered. Solvent recovery efficiency, which equals overall VOC control efficiency, is calculated by dividing the amount of solvent recovered by the amount entering the process. This procedure determines the overall control efficiency based on the amount of solvent used, not on the amount entering the carbon adsorption systems, and fugitive emissions are allowed as long as the overall control efficiency meets established requirements.

Pursuant to 40 CFR 60.433(g), if all emission sources are located within the same plant boundary and use solvent recovery systems, then the company may choose to show compliance on a plantwide basis. As the calendering and mixing operations are controlled by common solvent recovery systems, Thermoseal proposes to demonstrate compliance on a plantwide basis. Thus, the plantwide solvent recovery efficiency is assumed to be equal for each of the calenders and mixers.

Thermoseal proposes the use of a 365-day rolling averaging period for the demonstration of compliance with overall VOC control efficiency requirements. A shorter averaging period will not adequately account for variability in recovered solvent due to deviations in the production and the adsorption cycle of the carbon adsorption systems. Thus, a shorter averaging period increases the impact of process variations on measured average solvent recovery efficiency, thereby providing an efficiency value not representative of typical operations.

Liquid Flow Measurement

Thermoseal proposes the use of volumetric flow meters for the measurement of liquid solvent entering the production processes and the amount recovered. Specifically, the flow meters are placed at points within the process in order to

measure the amount of solvent pumped from the solvent storage tanks into the process (Meters A, B, C, E, and F on the Liquid Solvent Flow Diagram) and the amounts recovered from the carbon adsorption systems (Meter D on the Liquid Solvent Flow Diagram) and the alcohol distillation column (Meter G on the Liquid Solvent Flow Diagram). Thermoseal will use the terminology "supply" and "return" in the documents which refer to the "supply solvents into the manufacturing process" and "return solvents out of the manufacturing process." Please refer to the diagram in Appendix VII, "Thermoseal Solvent Material Balance," for details on the location of the volumetric flow meters within the process cycle.

Volumetric Flow Meter Calibration

In order to maintain the accuracy of the flow measurements, Thermoseal has adopted ISO 9002 procedures that require the documentation of calibration records, test results, and schedules. Specifically, the ISO procedure requires a semi-annual calibration test of the flow meters, recording of the calibration test results, and filing of a calibration report. The flow meters are calibrated to an accuracy of plus/minus 1 percent. This is within the plus/minus 2 percent standard established by USEPA in the proposed MACT standard for the printing/publishing industry. A copy of the volumetric flow meter calibration procedure is provided in Appendix

3.4 Flow Measurement Recording Procedures

Thermoseal has established procedures for the recording of flow measurement device data. The volumetric flow meters are read every day of plant operation by maintenance personnel and recorded on a data sheet entitled, "Solvent Recovery Meter Readings & Utility Readings." A copy of this record sheet is included in Appendix V. The sheets require the name of the person taking the readings, time and date that the data were recorded, and the meter reading in gallons of liq-

uid flow. The meter readings are taken at the same location as the GC samples. Readings for Friday operations are taken on Sunday night prior to plant startup on Monday morning. The data sheets are filed in the maintenance office for future reference. Copies of the sheet are distributed to the Technical Manager, who tabulates and calculates the solvent usage and recovery values.

Sampling and Testing

Solvent samples are taken weekly at Meters A, C, D, E, and G and tested with a GC. As Meters B and F are associated with virgin solvent, no GC analysis is necessary at these meters. The tests are conducted in order to determine the content of each individual solvent, including water, in the sample. The results are recorded on the sheet entitled, "Solvent GC Sample Results", which is presented in Appendix II. These sheets show the GC analytical reading in percent by volume of water, toluene, ethanol, and isopropanol in the sample. The results are then entered into a data base in which the individual solvent volume percentages are maintained and used for determination of the solvent recovery efficiency for the entire plant. In this manner, a more accurate accounting of the individual solvent quantities at various locations in the process is accomplished.

Solvent Usage/Recovery Calculation Procedures

Daily solvent readings are entered by the Technical Manager into a computerized data base for recording the daily amount of solvent used and recovered. An example of the spreadsheet used for this calculation is shown in Appendix VI. The readings are converted from gallons to pounds of solvent using the density of the solvent in pounds per gallon and its relative composition of the flow as determined by the weekly GC recordings at the flow meters. Solvent recovery efficiencies are calculated for each individual solvent (i.e., toluene and ethanol), as well as for total solvent us-

age. For the purposes of calculating total alcohol recovery quantities, the percent by volume of ethanol and isopropanol obtained from the GC results are summed in the spreadsheet and included under the heading for ethanol.

Volumetric flow readings from the Solvent Recovery Meter Readings log sheet (Appendix V) are entered into this spreadsheet and the difference between the previous day and actual day of operation is calculated for each location. This value is the amount of daily liquid flow in gallons either entering the plant or leaving the plant as recovered solvent, depending upon the location of the meter. The daily liquid flow value is then apportioned into the gallons of toluene and ethanol by multiplying it by the percent by volume obtained from the GC analysis results (Appendix IV). The gallons of toluene and ethanol are then converted to pounds mass by multiplying by their respective densities (7.20 and 6.55 pounds per gallon, respectively). Total pounds of solvent are then calculated by summing the pounds of toluene and ethanol. Any water contained in the liquid flow has been eliminated from consideration at this point in the procedure. The plantwide solvent recovery efficiency is determined by dividing the amount of solvent recovered, on a cumulative 365-day rolling average basis, by the amount used, on a cumulative 365-day rolling average basis.

The meters to be used in the mass balance protocol, as well as the specific equations for determining the amount of solvent used and recovered and the corresponding solvent recovery efficiency are discussed below.

TOLUENE METERS

A Recovered Toluene Supply Meter

Measures the liquid from the recovered toluene tank to the manufacturing process.

B Virgin Toluene Supply Meter

Measures the liquid form the virgin toluene tank to the manufacturing process.

C Toluene (Recovered) Tank Pump-out Supply Meter

Measures the liquid aqueous solution from the "Recovered Toluene Tank", that is referred to as the Toluene Tank Pump-out, back to the Solvent Recovery System.

D Toluene Return Meter

Measures the liquid from the Solvent Recovery System back to the "Recovered Toluene Tank."

ETHANOL METERS

E Recovered Ethanol Supply Meter

Measures the liquid from the recovered ethanol tank to the manufacturing process.

F Virgin Ethanol Supply Meter

Measures the liquid from the virgin ethanol tank to the manufacturing process.

G Ethanol Return Meter

Measures the liquid from the Ethanol Distillation System back to the "Recovered Ethanol Tank."

3.7 Mass Balance Protocol Equations

Recovered Toluene Supply from Meter "A"

(1a) Ending meter (A) reading = _____ gallons

(2a) Beginning meter (A) reading = _____ gallons

(3a) Total supply [end(A) - beg.(A)]= _____ gallons

Break down of solvents & water based on percent by volume (G.C.'s).

% water

% toluene

% ethanol

Conversion from gallons to lbs of solvents

Amount of toluene (lbs) = Total supply (gals) (3a) x % toluene (%) (5a) x 7.2 lbs/gal

Amount of ethanol (lbs) = Total supply (gals) (3a) x % ethanol (%) (6a) x 6.55 lbs/gal

Recovered Solvent Supplied from Meter "A"

Solvent Supplied from Meter A (lbs) = Amount of toluene (lbs) (7a) + Amount of ethanol (lbs) (8a)

Virgin Toluene Supply from Meter "B"

(1b) Ending meter (B) reading _____ gallons

(2b) Beginning meter (B) reading = _____ gallons

(3b) Total supply [end(B) - beg.(B)]= _____ gallons

Percent of the Virgin Toluene is 100%

(4b) % Virgin Toluene = 100%

Conversion from gallons to lbs of solvents

(5b) Amount of toluene (lbs) = Total supply (gals) (3b) x % toluene (%) (4b) x 7.2 lbs/gal

Toluene Supplied from Meter "B"

(6b) Toluene Supplied (lbs) = Amount of toluene (lbs) (5b)

Tank Pump-out Solvents Supply from Meter "C"

(1c) Ending meter (C) reading = _____ gallons

Beginning meter (C) reading = _____ gallons

Total supply [end(C) - beg.(C)] = _____ gallons

Break down of solvents & water based on percent by volume (G.C.'s).

(4c) % water

(5c) % toluene

(6c) % ethanol

Conversion from gallons to lbs of solvents

(7c) Amount of toluene (lbs) = Total supply (gals) (3c) x % toluene (%) (5c) x 7.2 lbs/gal

(8c) Amount of ethanol (lbs) = Total supply (gals) (3c) x % ethanol (%) (6c) x 6.55 lbs/gal

Tank Pump-out Solvents Supplied from Meter "C"

(9c) Solvent Supply from Meter C (lbs) = Amount of toluene (lbs) (7c) + Amount of ethanol (lbs) (8c)

Toluene Return from Meter "D"

(1d) Ending meter (D) reading = _____ gallons

(2d) Beginning meter (D) reading = _____ gallons

(3d) Total return [end(D) - beg.(D)] = _____ gallons

Break down of solvents & water based on percent by volume (G.C.'s).

(4d) % water

% toluene

% ethanol

Conversion from gallons to lbs of solvents

Amount of toluene (lbs) = Total return (gals) (3d) x % toluene (%) (5d) x 7.2 lbs/gal

Amount of ethanol (lbs) = Total return (gals) (3d) x % ethanol (%) (6d) x 6.55 lbs/gal

Solvent Return from Meter "D"

(9d) Solvent Return from Meter D (lbs) = Amount of toluene (lbs) (7d) + Amount of ethanol (lbs) (8d)

Recovered Ethanol Supply from Meter "E"

(1e) Ending meter (E) reading = _____ gallons

(2e) Beginning meter (E) reading = _____ gallons

(3e) Total supply [end(E) - beg.(E)] = _____ gallons

Break down of solvents & water based on percent by volume (G.C.'s).

(4e) % water

(5e) % toluene

(6e) % ethanol

(7e) % isopropanol

Conversion from gallons to lbs of solvents

(8e) Amount of toluene (lbs) = Total supply (gals) (3e) x % toluene (%) (5e) x 7.2 lbs/gal

(9e) Amount of ethanol (lbs) = Total supply (gals) (3e) x % ethanol (%) (6e) x 6.55 lbs/gal

(10e) Amount of isopropanol (lbs) = Total supply (gals) (3e) x % isopropanol (%) (7e) x 6.55 lbs/gal

Recovered Solvent Supplied from Meter "E"

(11e) Solvent Supplied from Meter E (lbs) = Amount of toluene (lbs) (8e) + Amount of ethanol (lbs) (9e) + Amount of isopropanol (lbs) (10e)

Virgin Ethanol Supply from Meter "F"

(1f) Ending meter (F) reading = _____ gallons

(2f) Beginning meter (F) reading = _____ gallons

(3f) Total supply [end(F) - beg.(F)] = _____ gallons

Percent of the Virgin Ethanol is 100%

(4f) % Virgin Ethanol = 100%

Conversion from gallons to lbs of solvents

(5f) Amount of ethanol (lbs) = Total supply (gals) (3f) x % ethanol (%) (4f) x 6.55 lbs/gal

Ethanol Supplied from Meter "F"

(6f) Ethanol Supplied (lbs) = Amount of ethanol (lbs) (5f)

Ethanol Return from Meter "G"

(1g) Ending meter (G) reading = _____ gallons

Beginning meter (G) reading = _____ gallons

Total return [end(G) - beg.(G)] = _____ gallons

Break down of solvents & water based on percent by volume (G.C.'s).

% water

% toluene

% ethanol

(7g) % isopropanol

Conversion from gallons to lbs of solvents

(8g) Amount of toluene (lbs) = Total return (gals) (3g) x % toluene (%) (5g) x 7.2 lbs/gal

(9g) Amount of ethanol (lbs) = Total return (gals) (3g) x % ethanol (%) (6g) x 6.55 lbs/gal

(10g) Amount of isopropanol (lbs) = Total supply (gals) (3g) x % isopropanol (%) (7g) x 6.55 lbs/gal

Solvent Returned from Meter "G"

(11g) Solvent Returned (lbs) = Amount of toluene (lbs) (8g) + Amount of ethanol (lbs) (9g) + Amount of isopropanol (lbs) (10g)

Total Solvent Supply and Return (lbs)

From meter readings at Meters A, B, C, D, E, F, & G

(1h) *Total Supply Solvents (lbs)* (Ethanol, Toluene, Isopropanol) = A + B + C + E + F or

[(9a) + (6b) + (9c) + (11e) + (6f)]

(2h) *Total Return Solvents(lbs)* (Ethanol, Toluene, Isopropanol) = D + G or [(9d) + (11g)]

Credit for Retained Losses in the Product

(1i) Credit = Total Products (lbs) x Solvent retained in product (%)

Total Solvent Emissions

Total Solvent Emissions (lbs) = Solvent Supplied (lbs) (1h) - Solvent Returned (lbs) (2h) - Credit (lbs) (1i)

Overall Solvent Recovery Efficiency

Overall solvent recovery efficiency, % = [Total Solvent Returned (lbs) (2h) / (Total Solvent Supplied (lbs) (1h) - Credit (lbs)(1i))] x 100

SECTION 4.0
PROPOSED RECORD KEEPING APPROACH

Thermoseal proposes to record the following information to demonstrate compliance:

- Daily meter readings for meters A, B, C, D, E, F, and G
- Weekly GC raw data that shows the breakdown of solvent content and water for each meter, except virgin material meters, in use.
- Weekly GC tabulated/compiled breakdown of solvent content associated with the liquid stream for each meter.
- Weekly tabulated meter readings using the GC solvent content and the density conversion from gallons to pounds for determining the daily organic compound weight in the supply and return streams.
- Organic compound emissions database that shows daily overall control efficiencies on a 365-day rolling average basis.
- Meter and GC calibration records.

Appendix I
Example Daily Accumulative Solvent Mass and Recovery Efficiencies Sheet

Thermoseal Inc.

Accumulative Efficiencies Based on Accumulative Mass (lbs)

Day samples are taken	Date samples are taken	Solvent Supplied from Meter "A" (lbs)	Toluene Supplied from Meter "B" (lbs)	Solvent Supplied from Meter "C" (lbs)	Solvent Returned from Meter "D" (lbs)	Solvent Supplied from Meter "E" (lbs)	Ethanol Supplied from Meter "F" (lbs)	Solvent Returned from Meter "G" (lbs)	Total Supply Solvents (lbs)	Total Returned Solvents (lbs)	Credit for Retained Losses in the product (lbs)	Total Solvent Emissions (lbs)	Overall Solvent Recovery Efficiency (%)
Monday													
Tuesday													
Wednesday													
Thursday													
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Friday													

Appendix II

Example Solvent GC Log Sheet

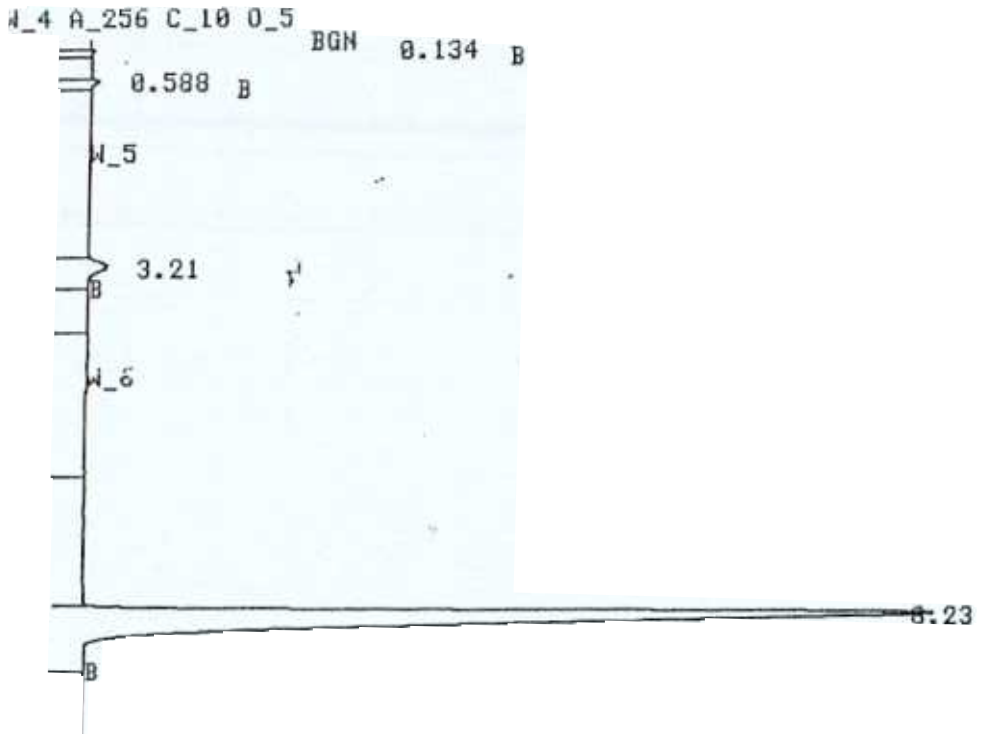
Thermoseal Inc.

Solvent Recovery, G.C. Readings

Day	Date	% solution	Recoverd Toluene Supply	Virgin Toluene Supply	Recovered Ethanol Supply	Virgin Ethanol Supply	Tank Pump-out Supply	Toluene Return	Ethanol Return
Monday	1/2/95	% water	A	B	E	F	C	D	G
		% toluene							
		% ethanol							
		% isoprop.							
Tuesday	1/3/95	% water							
		% toluene							
		% ethanol							
		% isoprop.							
Wednesday	1/4/95	% water							
		% toluene							
		% ethanol							
		% isoprop.							
Thursday	1/5/95	% water							
		% toluene							
		% ethanol							
		% isoprop.							
Friday	1/6/95	% water							
		% toluene							
		% ethanol							
		% isoprop.							
Averages for the week:		% water	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
			0.0000	0.0000	0.0000	0.0000	0.0000		
		% isoprop.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
% Total Solvent for week ending		1/6/95	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Appendix III
Example Solvent GC Graph

FILE 1 RUN 1 STARTED 08:19.4 95/02/06 TC (
% METHOD 3 SOLVENTS LAST EDITED 09:25.0 95/01/~~18~~



FILE 60 RUN 1 STARTED 08:19.4 95/02/06 TOLUENE
% METHOD 3 SOLVENTS LAST EDITED 09:25.0 95/01/18

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
0.134	13690	7.5688		0.0671 — [illegible]	0.4625
0.588	65174	17.1065		0.3193 — [illegible]	1.0452
3.21	335551	35.0655		1.6439 — [illegible]	2.1425
8.23	19997576	1576.8876		97.9697 — [illegible]	96.3498

4 PEAKS > AREA REJECT 20411991 TOTAL AREA
4 PEAKS > HEIGHT REJECT 1636.6284 TOTAL HEIGHT

Appendix IV

Example Solvent GC Sample Results Sheet

Sidney, Ohio

Thermoseal Inc.

Weekly Gas Chromatograph Data

Internal Data Only
EPA Mass Balance

Month of ______________

Day	Date	% solution by volume	Recovered Toluene Supply A	Virgin Toluene Supply B	Recovered Ethanol Supply E	Virgin Ethanol Supply F	Tank Pump-out Supply C	D	Ethanol Return G
Monday		% water							
		% toluene							
		% ethanol							
		% isoprop.							
		% Total Solvent	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Monday		% water							
		% toluene							
		% ethanol							
		% isoprop.							
		% Total Solvent	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Monday		% water							
		% toluene							
		% ethanol							
		% isoprop.							
		% Total Solvent	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Monday		% water							
		% toluene							
		% ethanol							
		% isoprop.							
		% Total Solvent	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Monday		% water							
		% toluene							
		% ethanol							
		% isoprop.							
		% Total Solvent	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Appendix V

Example Solvent Recovery Meter Readings Log Sheet

Solvent Recovery Meter Readings & Utility Readings

Name: _____ Date: _____

Time: _____

Meter ID	Meter Name	In Gallons:	Notes:
A	Recovered Toluene Supply (gal.)		
B	Virgin Toluene Supply (gal.)		
C	Tank Pump-out Supply (gal.)		
D	Toluene Return (gal.)		
E	Recovered Ethanol Return (gal.)		
F	Virgin Ethanol Return (gal.)		
G	Ethanol Return (gal.)		
	Low Flow Meter (gal.)		
	Electric (kwh)		
	Gas (cu. ft.)		

Thermoseal Inc.

Accumulative Solvent Meter Readings

Day	Date samples are taken	**Toluene Recovered** *Supply (gals)* A	Accum. Delta (gals)	**Toluene Virgin** *Supply (gals)* B	Accum. Delta (gals)	**Ethanol Recovered** *Supply (gals)* E	Accum. Delta (gals)	**Ethanol Virgin** *Supply (gals)* F	Accum. Delta (gals)	**Tank Pump-out** *Supply (gals)* C	Accum. Delta (gals)	**Toluene** *Return (gals)* D	Accum. Delta (gals)	**Ethanol** *Return (gals)* G	Accum. Delta (gals)
Beginning Balance															
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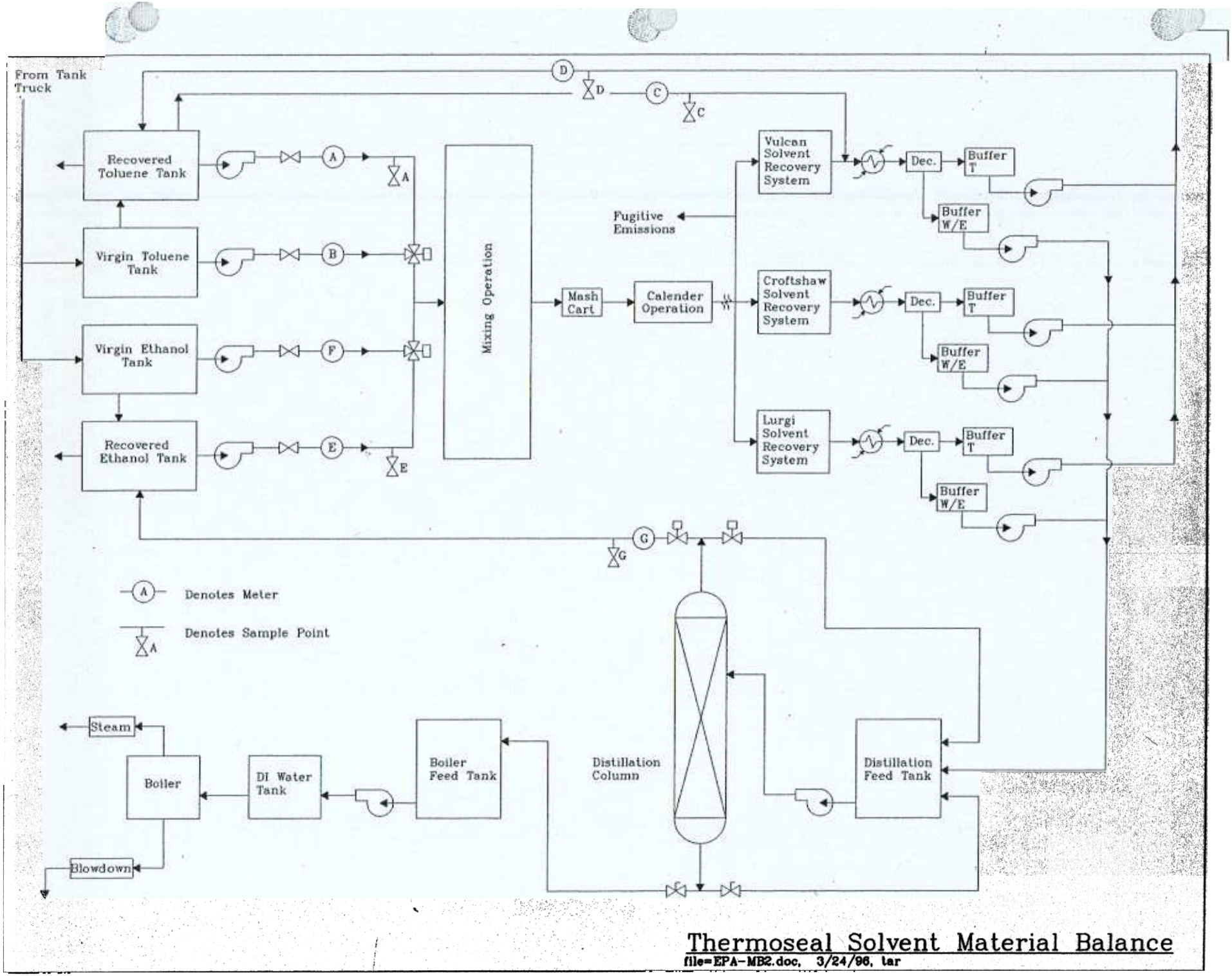


Thermoseal Solvent Material Balance

file=EPA-MB2.doc, 3/24/96, tar

Appendix VIII

Gas Chromatograph Operation and Calibration Procedures

Operational Procedure for the SIGMA 300 for the Hot Wire Detector

Initial steps:

1. Turn on Helium Gas to 60 psig.
2. Turn on Compressed air to 50 psig.
3. Turn on Power Switch on the SIGMA 300.
4. Turn on Power Switch on the Hot Wire Detector Amplifier.
5. Adjust Carrier flow A & B to be a least 10 during warm-up.
6. Set Detector temperature to 240°C.
7. Set Injector temperature to 240°C.
8. Set oven (1) to 100°C, Oven (2) to 150°C, & Oven (3) to 220°C.
9. Set time (1) to 2 min., time (2) to 2 min., & time (3) to 3 min.
10. Set rate (1) to 32°C/min. & rate (2) to 32°C/min.

After warm-up (approximately 50 min.)

11. Adjust Carrier flow A & B to 30.
12. On Hot Wire Detector Amplifier set balance to 5.
13. On Hot Wire Detector Amplifier set filament to low setting.
14. On Hot Wire Detector Amplifier push reset button once.

LCI-100 Operation

15. Turn power on LCI-100 (LCI-100 runs a self test for a couple of minutes when first turned on.)
16. The screen on the right asks if GC or LC operation, you want GC operation, so push to enter.
17. to set time push F8 (System), then F2 (Setclock), then enter data asked on screen. Once entered, to exit, push F1 (Exit).
18. To enter the method to run the sample on the LCI-100, push F4 (Method), then push F8 (Edit). Screen asks for Edit Method #?, enter # 3. Method name ?, enter Solvents, next push enter for the next 4 entries, then it asks for the End Time?, enter 10, next push enter once. Then is asks for A Sens?, enter 200. Next asks for B Sens?, enter 200. Then enter for the next 8 entries. Then it asks for Attenuation?, enter 256, next push, next push enter for the next 2 entries, then it asks if you want Tick marks?, enter 1 for yes, next push enter 2 more times.
19. Now push F2 (Set-up), the screen on the right asks for Method #?, enter # 3, then it asks for the Run name?, enter name of sample you will be running. Then push F1 (Exit).

To Adjust Baseline on LCI-100

20. Push F2 (Plotter) three times. The screen on the right asks for Stop Plot?, push enter for yes.
21. The screen on the right now shows the mV output from the Hot Wire Detector. using the Zeroing Dials adjust the mV output to between 0 and 1. When this is done push F2 (Plotter). Then push F1 (Stop Data) and enter in time to stop data (time shown on screen).

Injection of the Sample

Now that the SIGMA 300, Hot Wire Detector Amplifier & the LCI-100 are all set-up and ready to go, you can start your analysis work.

22. Using the µL size syringes, draw-in slugs of the sample to be analyzed and flush then out into a paper towel. Repeat this four to six times.
    Note: When the White button on the SIGMA 300 is lit-up, it is ready to be injected
23. Using a µL syringe, draw-in approximately 1 µL of the sample and inject it into the Top injector port on the SIGMA 300. As soon as you have injected the sample, push the White button (this starts the recording of the data).
    Note: The GC will automatically run through its program and reset itself.

Cool Down Procedure

24. Set Oven (1), (2), & (3) to 25° C.
25. Set Detector to 25° C.
    Note: To help cool down the Detector quicker, you can use a fan to blow cool air on it.
26. Set Injector to 25°C
27. On the Hot Wire Detector Amplifier turn the Balance Dial to OFF and turn the Filament setting to OFF.
28. Adjust Carrier A & B flow to 10.
29. Turn off Compressed Air and lift lid on Oven to cool down.
    Note: When the Oven temperature is below 30°C, you can turn off the Fan to the Oven with switch on the back of the SIGMA 300.
30. When the Detector has cooled down below 45°C, you can turn off the Helium gas (this usually takes 1.5 to 2 hours to cool down)
31. Turn off the power to the Hot Wire Detector Amplifier and the LCI-100.
32. Turn off power to the SIGMA 300.

OPERATIONAL PROCEDURE FOR THE GAS CHROMATOGRAPH

INITIAL STEPS

ON SIGMA 300:

1. TURN CARRIER FLOW METERS "A" & "B" TO "30"

ON HOT WIRE DETECTOR AMPLIFIER:

2. SET BALANCE TO 5
3. SET FILAMENT TO "LOW" SETTING
4. PUSH RESET BUTTON ONCE

REFERENCE ONLY

ON LCI-100:

5. PUSH "F2" THREE TIMES 4×5
6. PUSH "ENTER" ONCE

LET G.C. SET IDLE FOR AT LEAST TEN (10) MINUTES.

AFTER WARM-UP

ON LCI-100 AND HOT WIRE DETECTOR AMPLIFIER TO ADJUST BASELINE:

7. THE SCREEN ON THE RIGHT SHOWS THE mV OUTPUT FROM THE HOT WIRE DETECTOR. USING THE ZEROING DIALS ON THE HOT WIRE DETECTOR AMPLIFIER ADJUST THEmV OUTPUT TO BETWEEN 0 AND 2.0. WHEN THIS IS DONE PUSH "F2". THEN PUSH "F1" AND ENTER TIME TO STOP DATA (TIME SHOWN ON SCREEN), THEN PUSH ENTER.

INJECTION OF THE SAMPLE

NOW THAT THE SIGMA 300, HOT WIRE DETECTOR AMPLIFIER, & LCI-100 ARE ALL SET-UP AND READY, YOU CAN START YOUR ANALYSIS WORK.

8. USING THE uL SIZE SYRINGES, DRAW-IN SLUGS OF THE SAMPLE TO BE ANALYZED AND FLUSH IT OUT ONTO A PAPER TOWEL. REPEAT THIS FOUR TO SIX TIMES.
9. USING A uL SYRINGE, DRAW-IN APPROXIMATELY 1 uL OF THE SAMPLE AND INJECT IT INTO THE TOP INJECTOR PORT ON THE SIGMA 300, AND AS SOON AS YOU HAVE INJECTED THE SAMPLE, PUSH THE WHITE START BUTTON.

NOTE: THE G.C. WILL AUTOMATICALLY CYCLE THROUGH PROGRAM AND RESET ITSELF.

AFTER SAMPLES ARE RUN -*- TURN OFF PROCEDURE

ON HOT WIRE DETECTOR AMPLIFIER:

1. SET BALANCE TO 0
2. SET FILAMENT TO "OFF" SETTING

ON SIGMA 300:

3. TURN CARRIER FLOW METERS "A" & "B" BACK TO "10"

7 CALIBRATION

7A. GENERAL

Calibration of the Sigma 300 gas chromatograph is mainly confined to optimizing the response from the detector and then obtaining a plot of detector response versus sample concentration, using accurately prepared standards. The concentration of the compounds in any other sample may then be estimated according to the responses obtained.

Pressure regulators and gauges are pre-calibrated and tested, and will not normally require adjustment. Flow controlling devices may occasionally require some form of calibration, as described below.

7B. FLOW CONTROLLERS

The accuracy of the readout and flow of a numerical-readout flow controller is dependent on the inlet pressure and carrier gas type. These factors are summarized in the table below.

TABLE 7-1. FLOW CONTROLLERS

Carrier Gas	Flow Controller Readout Correct with Inlet Pressure of:
N_2	476 kPa (69 psig)
He	517 kPa (75 psig)
Ar/CH_4	627 kPa (91 psig)

For an exact readout, set the inlet pressure to the flow controller to the value specified in Table 7-1 and set the flow controller to give an indicated flow of 50 cm^3/min. Measure the flow with a soap-bubble flow meter. The flow controllers are accurate to within ±3 cm^3/min., repeatable to within ±1 cm^3/min. over the indicated range of 5 to 100 cm^3/min. If the measured flow is significantly outside these limits, place the tip of an eraser on the most significant digit of the readout (as shown in Figure 7-1) to prevent adjustment of the readout, and adjust the knob until the measured flow coincides with the readout, within the specified limits. A quarter turn of the knob will alter the calibration by approximately 1 cm^3/min.

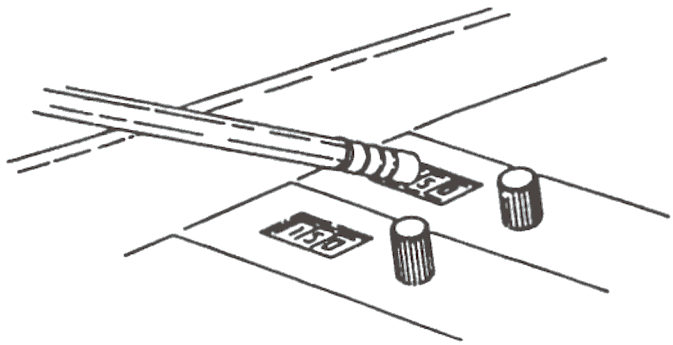


Figure 7-1. Adjustment of Flow Controller Readout

7C. SNUBBERS

Combustion gas flows produced by the various types of snubbers will vary with inlet pressure. The flows recommended for each kind of detector are given in the detector operation instructions, but are summarized below. Detectors are most sensitive to the hydrogen flow; if it is too low, ignition may be uncertain, while at high flows, sensitivity will be reduced and flame noise may become excessive. The figures given below are normal values for average sensitivity.

TABLE 7-2. SNUBBER FLOWS

Detector	Snubber Inlet Pressure Required for Optimum Combustion
FID	(Air) 207 kPa (30 psig) (H_2) 138 kPa (20 psig)
NPD-NP	(Air) 179 kPa (26 psig) (H_2) 69 kPa (10 psig)
FPD	(Air) 179 kPa (26 psig) (H_2) 179 kPa (26 psig)

Appendix IX
Volumetric Flow Meter Calibration Procedure

Neptune Equipment

520 WEST SHARON ROAD, CINCINNATI, OHIO 45240-3898 Phone 513/851-8008

Thermoseal Corporation
Mr. Jere Krause
2350 Campbell Road
Sidney, Ohio
45365

Dear Mr. Krause:

As you requested, I am happy to describe our testing procedures.

Flowmeters are tested and calibrated using a 100 gallon prover. This prover has a resolution of 0.5%. Flow tests are conducted at the stated minimum and maximum rates for each individual meter unless otherwise specified or if the maximum exceeds the capacity of our test bench (Recent changes have resulted in a maximum flow of approximately 80 gallons per minute through a 2" flowmeter).

Our prover is periodically inspected and calibrated by the Kentucky Public Services Commission. It is also traceable to NIST through our Seraphin ten gallon test measure which is used as a cross reference to the Kentucky PSC calibration. I have included a copy of our NIST certification for your files and I can include it with test results if specified.

As we discussed, each test result will include the manufacturer and equipment type, model and serial numbers, calibration results and tolerances, calibration date, next calibration date, and the name of the calibrator.

The following test flow rate and tolerance information pertains to the flowmeters currently in service. All are manufactured by Schlumberger.

FLOWMETER	MINIMUM FLOW GPM	MAXIMUM FLOW GPM	TOLERANCE +/-
3/4" TYPE S	3	30	1.0%
1" TYPE S	5	50	1.0%
2" Type S	15	FULL*	1.0%
1" TYPE MP	7	70*	0.5%
1" TRIDENT S	5	50	1.5%
1 1/2" TRISEAL	10	FULL*	1.5%

* Please specify the flow rate at which the meter is being used. Otherwise we will test it at full test bench capacity

Please call if I can be of assistance.

Respectfully yours,

NEPTUNE EQUIPMENT COMPANY

Robert W. Becker

RWB/s.
enc.

Ohio Department of Agriculture

Reynoldsburg Laboratory Divisions
8995 E. Main Street
Reynoldsburg, Ohio 43068-3399
Phone 614-866-6361
Fax 614-759-1467

Governor George V. Voinovich

March 03, 95

Director Fred L. Dailey

DIVISION OF WEIGHTS & MEASURES

METROLOGY LABORATORY

Report of Test

for

(1) 10 GALLON TEST MEASURE, SERAPHIN, S/N 3-5561-0;

Ohio Test No. 095-068
Traceable to NIST NO. 4012

Submitted by:
NEPTUNE EQUIPMENT
520 WEST SHARON ROAD
CINCINNATI, OH 45240

The volumetric measure described above has been compared with standards of the State of Ohio and found to be appropriate for the intended use and certified according to the specifications set forth by the National Institute of Standards and Technology Handbook 105-3.

OHIO DEPARTMENT OF AGRICULTURE

Ken Johnson

Ken Johnson, Metrologist
Division of Weights & Measures

* On August 23,1988, the National Bureau of Standards (NBS) officially became the National Institute of Standards and Technology (NIST). The new institute retains all of the traditional functions and services of NBS.

Enclosure

Q/A JLK

Rec'd 9-25-95

Dear Mr. Leighty,

After our visit to your facility on 1/23/96, Craig Smedley and I discussed the suitability of using the "approved" methods to demonstrate compliance at your facility. While Mr. Smedley believes that the methods that have been used in the past could be adapted at your facility, we have decided to allow Thermoseal to proceed with using a mass balance method to demonstrate compliance. The data that Thermoseal has already submitted was obviously collected using a protocol of Thermoseal's own. Craig has reviewed the submitted protocol and determined that it needs to be revised in several ways. We have revised your protocol and we believe, based upon our analysis of your flow chart and our visit, that these revisions move us towards a more accurate protocol. In particular, the revised protocol corrects for the presence of water in the recovered solvents.

We would be glad to review this proposal further and we reserve the right to make corrections, if necessary, before a final protocol is agreed upon. We have based the protocol on the flow chart supplied with recent correspondence.

There are a number of factors to consider when developing the protocol. They include, at a minimum, the following:

1. The protocol must ensure that we are tracking only organic solvent and that water must be factored out of the measurement.

2. The performance (capture and control) of the system must comply with the most stringent requirements specified in Thermoseal's permits.

3. Losses will not be determined individually, but in aggregate. e.g. Losses from the tubs will not be determined individually, losses from the application of mash at the calenders will not be determined individually, nor will the losses at any other point be determined individually, but will be aggregated and determined by difference. [i.e. consumption - recovery = losses]

4. The performance of the control devices will not be specifically determined.

5. Additions and losses to the system will be determined once a day.

6. As you will note in the attached protocol and revised diagram, Thermoseal will be required to install additional flowmeters/totallizers.

The following is the calculation and measurement protocol to be followed to determine overall solvent recovery and, when combined with solvent used, will yield

an overall capture and control figure.

METERS:

A => Toluene into process
A1=> Virgin toluene out of tank
A2=> Toluene delivered to virgin toluene tank
B => Ethanol into process
B1=> Virgin ethanol out of tank
B2=> Ethanol delivered to virgin ethanol tank
C => Recovered toluene from the Vulcan recovery system
E => Recovered toluene from the Croftshaw recovery system
F => Recovered toluene from the Lurgi recovery system
G=> Water removal from recovered toluene
H=> Outlet from distillation column
I => Feedback from distillation column to distillation feed tank
J => Outlet from distillation column to recovered ethanol tank

SOLVENT RECOVERED

A: TOLUENE:

Ending Meter C Reading(1)		
Beginning Meter C Reading	=	_____
Recovery	=	_____ wet gallons
X Density (lbs/gal) (2)	=	_____ wet lbs
X Weight % Solvent (2)	=	_____ dry lbs

Meter C is the meter that measures liquid out of the Vulcan recovery system buffer.

This step needs to be repeated for meters E and F which measure liquid output from the Croftshaw and Lurgi solvent recovery systems, respectively.

Whenever Thermoseal determines that water needs to be pumped out of the Recovered Toluene Tank, they must first measure and estimate the amount of water in the tank in gallons. Only this number of gallons would then be pumped through meter G. An initial and final reading must be taken at Point G. The fluid pumped must be done so as to minimize the amount of solvent that is pumped

through Point G.

B. ALCOHOL

Ending Meter J Reading (1)	=	
Beginning Meter J Reading	=	
Recovery	=	_____
X Density (lbs/gal) (2)	=	_____wet gallons
X Weight % solvent (2)	=	_____wet lbs
		_____dry lbs

Meter J is the meter that measures liquid out of the distillation column.

Total Alcohol Recovered = [dry pounds alcohol at point J]
+ [contents of distillation feed tank] X [density] X [weight % solvent]

(1) List daily readings and record on monthly report forms.
(2) Determine weekly and record on monthly report forms.

C. TOTAL RECOVERY

TR = [LBS DRY TOLUENE] + [LBS DRY ALCOHOL]

SOLVENT CONSUMPTION

A. TOLUENE

Virgin and Recovered Solvent:

Meter A Ending Reading (1)	=
Meter A Beginning Reading	=
Ending - Beginning	=___A___gallons

Virgin Solvent:

Meter A1 Ending Reading (1) = _____
Meter A1 Beginning Reading = _____
Ending - Beginning = ___A1___gallons

Recovered Solvent:

Recovered Toluene Usage (RTU) (A - A1) = _____gallons
Density of recovered toluene (2) (Density) = _____lbs/gal
RTU x Density = _____lbs wet solvent
Solvent content [3](%) = _____%
[lbs wet solvent] x [weight %] = _____lbs dry solvent

Total Toluene Consumed = A1 + [dry toluene recovered]

B. ALCOHOL

Virgin and Recovered Solvent:

Meter B Ending Reading (1) = _____
Meter B Beginning Reading = _____
Ending - Beginning = ___B___gallons

Virgin Solvent:

Meter B1 Ending Reading (1) = _____
Meter B1 Beginning Reading = _____
Ending - Beginning = ___B1___gallons

Recovered Solvent:

Recovered Ethanol Usage (REU) (B - B1) = _____gallons
Density of recovered Ethanol (2) (Density) = _____lbs/gal
REU x Density = _____lbs wet solvent
Solvent content [3](%) = _____%
[lbs wet solvent] x [weight %] = _____lbs dry solvent

Total Ethanol Consumed = B1 + [dry ethanol recovered]

C. CREDIT FOR RETAINED LOSSES IN THE PRODUCT

Pounds of product produced	= ___e___ lbs
Solvent content of product	= ___f___ %
Solvent in product	= [e x f] / 100 lbs

D. TOTAL SOLVENT CONSUMPTION

[toluene consumed] + [alcohol consumed] - [credit] = solvent consumed

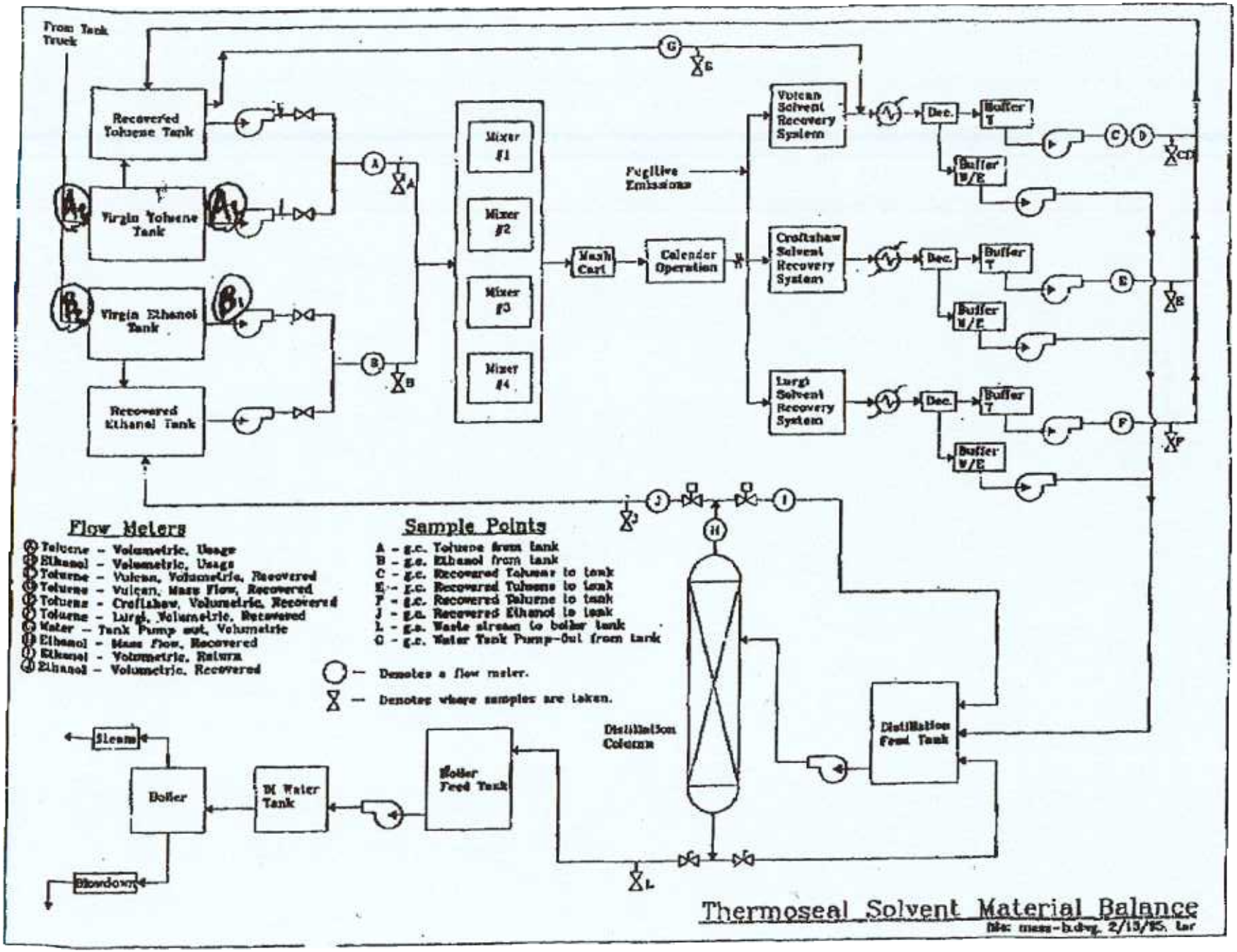
[1] List daily meter readings on monthly report form.
[2] Determine weekly-shouldn't vary significantly
[3] Determine weekly.

MONTHLY EFFICIENCY

Monthly efficiency = [Total recovered] / [Total consumption]

WE NEED THE FOLLOWING:

1. Description of the procedures that will be used for determining the solvent content in the recovered solvent.
2. Description of the procedure that will be used for determining the solvent content in the product. [Note: the solvent content of the product must be determmined no less than 12 hours after removal from the calender in accordance with OAC Rule 21-07 (G)(5).]
3. Description of the procedure to determine the amount of water in the recovered toluene tank. [e.g. A dip stick with Water Finder Paste to determine the water level and subsequently calculate the number of gallons of water to be pumped.]
4. Description of the manufacturer's recommended calibration procedures for the meters.


From Tank Truck
Recovered Toluene Tank
Virgin Toluene Tank
Virgin Ethanol Tank
Recovered Ethanol Tank
Mixer #1
Mixer #2
Mixer #3
Mixer #4
Mash Cart
Calender Operation
Fugitive Emissions
Vulcan Solvent Recovery System
Crofts haw Solvent Recovery System
Largi Solvent Recovery System
Dec.
Buffer T
Buffer W/E
Distillation Column
Distillation Feed Tank
Steam
Boiler
DI Water Tank
Boiler Feed Tank
Blowdown
Flow Meters
Toluene - Volumetric, Usage
Ethanol - Volumetric, Usage
Toluene - Vulcan, Volumetric, Recovered
Toluene - Vulcan, Mass Flow, Recovered
Toluene - Crofts haw, Volumetric, Recovered
Toluene - Largi, Volumetric, Recovered
Water - Tank Pump out, Volumetric
Ethanol - Mass Flow, Recovered
Ethanol - Volumetric, Return
Ethanol - Volumetric, Recovered
Sample Points
A - g.c. Toluene from tank
B - g.c. Ethanol from tank
C - g.c. Recovered Toluene to tank
E - g.c. Recovered Toluene to tank
F - g.c. Recovered Toluene to tank
J - g.c. Recovered Ethanol to tank
L - g.c. Waste stream to boiler tank
O - g.c. Water Tank Pump-Out from tank
— Denotes a flow meter.
— Denotes where samples are taken.
Thermoseal Solvent Material Balance
file: mass-b.dwg, 2/13/95, lar