D&B Environmental Consulting, LLC.

401 Lincolnway West
Osceola, Indiana 46561
(574) 674-0161

July 2, 20234

Received by
State of Indiana
IDEM - OAQ
Via Email 7/3/2024 KB-1

Indiana Department of Environmental Management
Office of Air Quality, Permits Branch
% Mail Code 61-53, IGCN 1003
100 N. Senate Ave.
Indianapolis, IN 46204-2251

RE: Application for Part 70 Permit Notice Only Change
Composite Technology Assembly, LLC
Permit No. 099-44197-00023

Air Permits Branch:
Composite Technology Assembly, LLC (CTA) is submitting the enclosed amendment application for the purpose of adding a monorail system to the Plant 1 lamination area listed in Section A.3 Plant 1(a) of its Part 70 (Title V) Operating Permit 099-46205-00023. CTA also requests corrections to the mix tanks and bulk tank listings contained in Section A.3 Plant 1(i) & (j), and Plant 2 (f).

The Plant 1 operations contain one (1), 800-gallon capacity mix tank (MT1), one (1) 800-gallon capacity day tank (DT1), and three (3) 2000-gallon bulk resin tanks (RT1-RT3). The Plant 2 operations contain one (1) 800-gallon capacity mix tank (MT2), one (1) 800-gallon day tank (DT2), and four (4) 2000-gallon bulk resin tanks (RT4-RT7). Revised descriptive language is provided with this application. This amendment application is provided in accordance with the requirements of 326 IAC 2-7, and Condition B.17 of this permit.

The existing capacities for the Plant 1 lamination area, identified as CA, will remain unchanged. No increase in potential emissions are requested in association with this amendment. Source-wide potential emissions calculations are included with this application for review.

Please review and process this amendment application. Should you have any further questions, please feel free to contact me at 574-674-0161.

Thank you for your consideration in this matter.
Sincerely,

Douglas A. Elliott
Project Manager

Enclosure: Air Permit Amendment Application

AIR PERMIT APPLICATION COVER SHEET

State Form 50639 (R3 / 11-07)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM - Office of Air Quality - Permits Branch
100 N. Senate Avenue, MC 61-53, Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.in.gov/idem/permits/air/index.html

NOTES:

- The purpose of this cover sheet is to obtain the core information needed to process the air permit application. This cover sheet is required for all air permit applications submitted to IDEM, OAQ. Place this cover sheet on top of all subsequent forms and attachments that encompass your air permit application packet.
- Submit the completed air permit application packet, including all forms and attachments, to **IDEM Air Permits Administration** using the address in the upper right hand corner of this page. Also send a copy to the local agency (if applicable).
- IDEM will send a bill to collect the filing fee and any other applicable fees.
- Detailed **instructions** for this form are available online at www.in.gov/idem/permits/air/apps/instructions/coverinstructions.html.

FOR OFFICE USE ONLY

PERMIT NUMBER: 099-48043-00023 AI# 11640

DATE APPLICATION WAS RECEIVED:

Received by
State of Indiana
IDEM - OAQ
Via Email 7/3/2024 KB-1

1. Tax ID Number: [redacted]

PART A: Purpose of Application

Part A identifies the purpose of this air permit application. For the purposes of this form, the term "source" refers to the plant site as a whole and NOT to individual emissions units.

2. Source / Company Name: Composite Technology Assembly, LLC **3. Plant ID:** 099 – 0023

4. Billing Address: 904 Markley Drive, 1400 Pidco Drive, & 2900 Gary Drive

City: Plymouth **State:** IN **ZIP Code:** 46563 –

5. Permit Level: ☐ Exemption ☐ Registration ☐ SSOA ☐ MSOP ☐ FESOP ☒ TVOP ☐ PBR

6. Application Summary: *Check all that apply. Multiple permit numbers may be assigned as needed based on the choices selected below.*

☐ Initial Permit ☐ Renewal of Operating Permit ☐ Asphalt General Permit
☐ Review Request ☐ Revocation of Operating Permit ☐ Alternate Emission Factor Request
☐ Interim Approval ☐ Relocation of Portable Source ☐ Acid Deposition (Phase II)
☐ Site Closure ☐ Emission Reduction Credit Registry

☐ Transition (between permit levels) *From:* *To:*

☒ Administrative Amendment: ☐ *Company Name Change* ☐ *Change of Responsible Official*
☐ *Correction to Non-Technical Information* ☒ *Notice Only Change*
☐ *Other (specify):*

☐ Modification: ☐ *New Emission Unit or Control Device* ☐ *Modified Emission Unit or Control Device*
☐ *New Applicable Permit Requirement* ☐ *Change to Applicability of a Permit Requirement*
☐ *Prevention of Significant Deterioration* ☐ *Emission Offset* ☐ *MACT Preconstruction Review*
☐ *Minor Source Modification* ☐ *Significant Source Modification*
☐ *Minor Permit Modification* ☐ *Significant Permit Modification*
☐ *Other (specify):*

7. Is this an application for an initial construction and/or operating permit for a **"Greenfield" Source**? ☐ Yes ☒ No

8. Is this an application for construction of a new emissions unit at an **Existing Source**? ☐ Yes ☒ No

Continued on Next Page

PART B: Pre-Application Meeting

Part B specifies whether a meeting was held or is being requested to discuss the permit application.

9. Was a meeting held between the company and IDEM prior to submitting this application to discuss the details of the project?

☒ No ☐ Yes: *Date:*

10. Would you like to schedule a meeting with IDEM management and your permit writer to discuss the details of this project?

☒ No ☐ Yes: *Proposed Date for Meeting:*

PART C: Confidential Business Information

Part C identifies permit applications that require special care to ensure that confidential business information is kept separate from the public file.

Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in the Indiana Administrative Code (IAC). To ensure that your information remains confidential, refer to the IDEM, OAQ information regarding submittal of confidential business information. For more information on confidentiality for certain types of business information, please review IDEM's Nonrule Policy Document Air-031-NPD regarding Emission Data.

11. Is any of the information contained within this application being claimed as **Confidential Business Information**?

☐ Yes ☒ No

PART D: Certification Of Truth, Accuracy, and Completeness

Part D is the official certification that the information contained within the air permit application packet is truthful, accurate, and complete. Any air permit application packet that we receive without a signed certification will be deemed incomplete and may result in denial of the permit.

For a Part 70 Operating Permit (TVOP) or a Source Specific Operating Agreement (SSOA), a "responsible official" as defined in 326 IAC 2-7-1(34) must certify the air permit application. For all other applicants, this person is an "authorized Individual" as defined in 326 IAC 2-1.1-1(1).

☒ *I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate, and complete.*

Mark Naylor
Name *(typed)*

President
Title

Signature

7/2/2024
Date *(month, day, year)*

099-48043-00023 AI# 11640

OAQ GENERAL SOURCE DATA APPLICATION
GSD-01: Basic Source Level Information

State Form 50640 (R4 / 9-06)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Received by
State of Indiana
IDEM - OAQ
Via Email 7/3/2024 KB-1

IDEM - Office of Air Quality - Permits Branch
100 N. Senate Avenue, Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.in.gov/idem/permits/air/index.html

NOTES:

- The purpose of GSD-01 is to provide essential information about the entire source of air pollutant emissions. GSD-01 is a required form.
- Detailed **instructions** for this form are available online at www.in.gov/idem/permits/air/apps/instructions/gsd01instructions.html.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

PART A: Source / Company Location Information

1. **Source / Company Name**: Composite Technology Assemblies, LLC
2. **Plant ID**: 099 – 00023
3. **Location Address**: 904 Markley Drive, 1400 Pidco Drive, & 2900 Gary Drive
   City: Plymouth | **State**: IN | **ZIP Code**: 46563 –
4. **County Name**: Marshall
5. **Township Name**: Center
6. **Geographic Coordinates**:
   Latitude: 41 21' 00" | **Longitude**: -086 19' 00"
7. **Universal Transferal Mercadum Coordinates** *(if known)*:
   Zone: 18 | **Horizontal**: | **Vertical**:
8. **Adjacent States**: Is the source located within 50 miles of an adjacent state?
   ☐ No ☒ Yes – *Indicate Adjacent State(s):* ☐ Illinois (IL) ☒ Michigan (MI) ☐ Ohio (OH) ☐ Kentucky (KY)
9. **Attainment Area Designation**: Is the source located within a non-attainment area for any of the criteria air pollutants?
   ☒ No ☐ Yes – *Indicate Nonattainment Pollutant(s):* ☐ CO ☐ Pb ☐ NO_x ☐ O_3 ☐ PM ☐ PM_{10} ☐ $PM_{2.5}$ ☐ SO_2
10. **Portable / Stationary**: Is this a portable or stationary source? ☐ Portable ☒ Stationary

PART B: Source Summary

11. **Company Internet Address** *(optional)*:
12. **Company Name History**: Has this source operated under any other name(s)?
    ☐ No ☒ Yes – *Provide information regarding past company names in Part I, Company Name History.*
13. **Portable Source Location History**: Will the location of the portable source be changing in the near future?
    ☒ Not Applicable ☐ No ☐ Yes – *Complete Part J, Portable Source Location History, and Part K, Request to Change Location of Portable Source.*
14. **Existing Approvals**: Have any exemptions, registrations, or permits been issued to this source?
    ☐ No ☒ Yes – *List these permits and their corresponding emissions units in Part M, Existing Approvals.*
15. **Unpermitted Emissions Units**: Does this source have any unpermitted emissions units?
    ☒ No ☐ Yes – *List all unpermitted emissions units in Part N, Unpermitted Emissions Units.*
16. **New Source Review**: Is this source proposing to construct or modify any emissions units?
    ☒ No ☐ Yes – *List all proposed new construction in Part O, New or Modified Emissions Units.*
17. **Risk Management Plan**: Has this source submitted a Risk Management Plan?
    ☒ Not Required ☐ No ☐ Yes → Date submitted: EPA Facility Identifier: – –

Continued on Next Page

PART C: Source Contact Information

IDEM will send the original, signed permit decision to the person identified in this section. This person MUST be an employee of the permitted source.

18. Name of Source Contact Person: Andrew Aker

19. Title *(optional)*: Vice President

20. Mailing Address: P.O. Box 82

City: Plymouth	**State**: IN	**ZIP Code**: 46563 – 0082

21. Electronic Mail Address *(optional)*:

22. Telephone Number: (574) 936 – 3196	**23. Facsimile Number** *(optional)*: ( ) –

PART D: Authorized Individual/Responsible Official Information

IDEM will send a copy of the permit decision to the person indicated in this section, if the Authorized Individual or Responsible Official is different from the Source Contact specified in Part C.

24. Name of Authorized Individual or Responsible Official: Mark Naylor

25. Title: President

26. Mailing Address: P.O. Box 82

City: Plymouth	**State**: IN	**ZIP Code**: 46563 – 0082

27. Telephone Number: (574) 936 – 3196	**28. Facsimile Number** *(optional)*: ( ) –

29. Request to Change the Authorized Individual or Responsible Official: Is the source officially requesting to change the person designated as the Authorized Individual or Responsible Official in the official documents issued by IDEM, OAQ? *The permit may list the title of the Authorized Individual or Responsible Official in lieu of a specific name.*

☒ No ☐ Yes – ***Change Responsible Official to***:

PART E: Owner Information

30. Company Name of Owner: Composite Technology Assemblies, LLC

31. Name of Owner Contact Person: Andrew Aker, Vice President

32. Mailing Address: P.O. Box 82

City: Plymouth	**State**: IN	**ZIP Code**: 46563 – 0082

33. Telephone Number: (574) 936 – 3196	**34. Facsimile Number** *(optional)*: ( ) –

35. Operator: Does the "Owner" company also operate the source to which this application applies?

☐ No – *Proceed to Part F below.*	☒ Yes – *Enter "SAME AS OWNER" on line 35 and proceed to Part G below.*

PART F: Operator Information

36. Company Name of Operator: Same as Owner

37. Name of Operator Contact Person:

38. Mailing Address:

City:	**State**:	**ZIP Code**: –

39. Telephone Number: ( ) –	**40. Facsimile Number** *(optional)*: ( ) –

Continued on Next Page

PART G: Agent Information

41. Company Name of Agent: D&B Environmental Consulting, LLC

42. Type of Agent: ☒ Environmental Consultant ☐ Attorney ☐ Other (specify):

43. Name of Agent Contact Person: Doug Elliott

44. Mailing Address: 401 Lincoln Way West

City: Osceola	**State**: IN	**ZIP Code**: 46561 –

45. Electronic Mail Address *(optional)*: dougelliott@dbesi.com

46. Telephone Number: (574) 674 – 0161	**47. Facsimile Number** *(optional)*: (574) 674 – 2778

48. Request for Follow-up: Does the "Agent" wish to receive a copy of the preliminary findings during the public notice period (if applicable) and a copy of the final determination? ☐ No ☒ Yes

PART H: Local Library Information

49. Date application packet was filed with the local library:

50. Name of Library: Plymouth Public Library

51. Name of Librarian *(optional)*: Reference Desk

52. Mailing Address: 201 N Center St.

City: Plymouth	**State**: IN	**ZIP Code**: 46563 –

53. Internet Address *(optional)*:

54. Electronic Mail Address *(optional)*:

55. Telephone Number: (574) 936 – 2324	**56. Facsimile Number** *(optional)*: ( ) –

PART I: Company Name History *(if applicable)*

Complete this section only if the source has previously operated under a legal name that is different from the name listed above in Section A.

57. Legal Name of Company	**58. Dates of Use**
Eagle Craft, Inc.	02/03/1999 to 2/28/2013
Aker Composite Solutions, Inc.	02/28/2013 to 3/7/2017
	to
	to
	to
	to
	to
	to
	to
	to

59. Company Name Change Request: Is the source officially requesting to change the legal name that will be printed on all official documents issued by IDEM, OAQ?

☒ No ☐ Yes – ***Change Company Name to***:

Continued on Next Page

PART J: Portable Source Location History *(if applicable)*

Complete this section only if the source is portable and the location has changed since the previous permit was issued. The current location of the source should be listed in Section A.

60. Plant ID	61. Location of the Portable Source	62. Dates at this Location
–	Not Applicable	to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to

PART K: Request to Change Location of Portable Source *(if applicable)*

Complete this section to request a change of location for a portable source.

63. Current Location:

Address: Not Applicable

City: | **State**: | **ZIP Code**: –

County Name:

64. New Location:

Address:

City: | **State**: | **ZIP Code**: –

County Name:

Continued on Next Page

PART L: Source Process Description

Complete this section to summarize the main processes at the source.

65. Process Description	66. Products	67. SIC Code	68. NAICS Code
RPC Open Molded and RTM Parts	RPC Parts	3792	326199

PART M: Existing Approvals *(if applicable)*

Complete this section to summarize the approvals issued to the source since issuance of the main operating permit.

69. Permit ID	70. Emissions Unit IDs	71. Expiration Date
42116	RPC and Surface Coating Operations	10/13/2025
44197		10/13/2025
44321		10/13/2025
46205		10/13/2025
46242		10/13/2025

PART N: Unpermitted Emissions Units *(if applicable)*

Complete this section only if the source has emission units that are not listed in any permit issued by IDEM, OAQ.

72. Emissions Unit ID	73. Type of Emissions Unit	74. Actual Dates		
		Began Construction	Completed Construction	Began Operation

PART O: New or Modified Emissions Units *(if applicable)*

Complete this section only if the source is proposing to add new emission units or modify existing emission units.

75. Emissions Unit ID	76. NEW	77. MOD	78. Type of Emissions Unit	79. Estimated Dates		
				Begin Construction	Complete Construction	Begin Operation

DRAFT

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary fiberglass products manufacturing and painting company.

Source Address:	904 Markley Drive, 1400 Pidco Drive, and 2900 Gary Drive, Plymouth, Indiana 46563
General Source Phone Number:	(574) 948-0004
SIC Code:	3089 (Plastics Products, not elsewhere classified)
County Location:	Marshall
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, under PSD Rules Major Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Source Definition

This operation of a stationary fiberglass products manufacturing and painting company consists of three (3) plants:

(a) Plant 1 is located at 904 Markley Drive Plymouth, Indiana 46563,

(b) Plant 2 is located at 1400 Pidco Drive, Plymouth, Indiana 46563, and

(c) Plant 3 is located at 2900 Gary Drive, Plymouth, Indiana 46563.

These three plants are located on adjacent properties, have the same SIC codes and are under common control, therefore they are considered one (1) source, as defined by 326 IAC 2-7-1(22).

Plant 1 and Plant 2 were determined to be one source under Part 70 Operating Permit Renewal No. T099-29072-00023, issued on January 14, 2011.

Plant 3 was determined to be one source with Plant 1 and Plant 2 under Significant Source Modification No. 099-44197-00023 and Significant Permit Modification No. 099-44321-00023.

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(14)]

This stationary source consists of the following emission units and pollution control devices:

Plant 1

(a) One (1) chopper area, identified as CA, equipped with the following, each FIT applicator has a maximum capacity of 588 pounds of resin per hour, no control and exhausting to stacks #1 and #2:

(1) One (1) FIT applicator for filled and neat resin, installed in 1976, and modified in 2014, which is used to manufacture filled and neat resin parts.

(2) One (1) FIT applicator for filled and neat resin, identified as CANRA1, constructed in 2013, which is used to manufacture filled and neat resin parts.

(3) One (1) FIT applicator for filled and neat resin, identified as CANRA2, constructed in 2015, which is used to manufacture filled and neat resin parts.

CA is approved in 2018 to apply both filled and neat resin.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the chopper area, identified as CA, is considered an existing affected source.

(b) One (1) gel area, identified as GA, with a maximum capacity of twenty-five (25) fiberglass parts per hour, equipped with airless spray guns, using dry filters for particulate control, installed in 1976 and modified in 2014, and exhausting to stacks #3 and #4.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the gel area, identified as GA, is considered an existing affected source.

(c) One (1) high volume, low pressure (HVLP) tooling gel coat applicator booth, identified as MSG, for mold shop activities, with a maximum capacity of 0.01 fiberglass molds per hour, constructed in 2013, using dry filters for particulate control and exhausting to stack MSGS.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, subpart WWWW), the tooling gel coat applicator, identified as MSG, is considered an existing affected source.

(d) One (1) FIT non-atomizing tooling resin applicator, identified as MSR, for mold shop activities, with a maximum capacity of 0.01 fiberglass molds per hour, constructed in 2013, no control, and exhausting to stack MSRS.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, subpart WWWW), the tooling resin applicator, identified as MSR, is considered an existing affected source.

(e) One (1) resin transfer molding applicator, identified as RTM1, constructed in 2014, with a maximum capacity of 8 fiberglass parts per hour, utilizing no control, and exhausting indoors.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the resin transfer molding applicator, identified as RTM1, is considered an existing affected source.

(f) One (1) HVLP portable gel coat applicator, identified as RTMG1, constructed in 2014, with a maximum capacity of 8 fiberglass parts per hour, utilizing dry filters for particulate control, and exhausting to stack SVRTMG1.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the HVLP gel coat applicator, identified as RTMG1, is considered an existing affected source.

(g) One (1) grinding area, identified as GR, with a maximum capacity of twenty five (25) fiberglass parts per hour, using an internal return-air recirculating dust collection system for particulate control, installed in 1976, and modified in 2014 and 2020 to increase maximum capacity.

(h) One (1) cut out area, identified as CO, with a maximum capacity of four (4) fiberglass parts per hour, using an internal dust collection system for particulate control, installed in 1976, and modified in 2014 exhausting to stack SVCO1.

~~Four (4) bulk resin tanks, identified as RT1, RT2, RT3, and RT4 constructed in 2014, each with a maximum capacity of 2,200 gallons, exhausting inside the building.~~

(i) Three (3) bulk resin tanks, identified as RT1, RT2, and RT3, constructed in 2014, each with a maximum capacity of 2,000 gallons, exhausting inside the building.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the bulk resin tanks, identified as RT1, RT2, RT3 and RT4, are considered existing affected source.

~~The four (4) bulk resin tanks (RT1, RT2, RT3, and RT4) were moved from Plant 2 to Plant 1 in 2020.~~

~~Three (3) mix tanks, identified as MT1 MT2, and MT3 constructed in 2014, each with a maximum capacity of 800 gallons and each with a maximum throughput of 5,314 tons of filler and powder per year, utilizing no control, and exhausting inside the building.~~

(j) One (1) mix tank, identified as MT1, and one (1) day tank, identified as DT1, constructed in 2014, each with a maximum capacity of 800 gallons and each with a maximum throughput of 5,314 tons of filler and powder per year, utilizing no control, and exhausting inside the building.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the mix tanks, identified as MT1 MT2, and MT3, are considered existing affected source.

~~The three (3) mix tanks (MT1, MT2, and MT3) were moved from Plant 2 to Plant 1 in 2020.~~

(k) One (1) assembly adhesive application operation, identified as AO-A, approved in 2021 for construction, with a maximum adhesive usage of 45 gallons/day, applied by hand, using acetone for clean-up, uncontrolled, and exhausting indoors.

(l) Two (2) resin transfer molding applicators, identified as RTM2 and RTM3, constructed in 2014, each with a maximum capacity of 8 fiberglass parts per hour, utilizing no control, and exhausting indoors.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the resin transfer molding applicators, identified as RTM2 and RTM3, are considered an existing affected source.

(m) Four (4) HVLP gel coat applicators, exhausting to stacks SVP2-05 and SVP2-06, consisting with the following:

(1) Two (2) HVLP gel coat applicators, identified as RTMG2 through RTMG3, constructed in 2014, with a maximum combined capacity of 8 fiberglass parts per hour, utilizing dry filters for particulate control.

(2) Two (2) HVLP gel coat applicators, identified as RTMG4 through RTMG5, constructed in 2014, with a maximum combined capacity of 8 fiberglass parts per hour, utilizing dry filters for particulate control.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the HVLP gel coat applicators, identified as RTMG2 through RTMG5, are considered existing affected source.

Plant 2

(a) Seven (7) FIT gel coat applicators, identified as P2-01 through P2-07, constructed in 2014, with a combined maximum capacity of 30 fiberglass parts per hour, utilizing dry filters for particulate control, and exhausting to stack SVP2-01.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the gel coat applicators, identified as P2-01 through P2-07, are considered existing affected source.

(b) Four (4) non-atomizing resin applicators, identified as P2-08 through P2-11, constructed in 2014, with a combined maximum capacity of 30 fiberglass parts per hour, utilizing dry filters for particulate control, and exhausting to stacks SVP2-02 through SVP2-04.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the non-atomizing resin applicators, identified as P2-08 through P2-11, are considered existing affected source.

(c) One (1) flow-coat applicator for filled and neat resin, identified as AL2, constructed in 2017, with a maximum capacity of 400 pounds of resin per hour, utilizing no control, and exhausting to stack ALSV2.

AL2 is approved in 2018 to relocate from Plant 1 to Plant 2 and to apply both filled and neat resin.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the above unit is considered an existing affected source.

(d) One (1) HVLP barrier coat resin applicator, identified as P2-12, constructed in 2014, with a maximum capacity of 10 fiberglass parts per hour, utilizing dry filters for particulate control, and exhausting to stack SVP2-01.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the HVLP barrier coat resin applicator, identified as P2-12, is considered an existing affected source.

(e) Specialty bath manufacturing area:

(1) One (1) flow-coat applicator for filled and neat resin, identified as AL1, constructed in 2017, with a maximum capacity of 400 pounds of resin per hour, utilizing no control, and exhausting to stack ALSV1.

AL1 is approved in 2018 to apply both filled and neat resin.

(2) One (1) FIT applicator for gelcoat, identified as AG1, constructed in 2017, with a maximum capacity of 100 pounds of gel coat per hour, utilizing dry filters for particulate control, and exhausting to stack AGSV1.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the above units are considered an existing affected source.

The specialty bath manufacturing area was moved from Plant 1 to Plant 2 in 2020.

(f) ~~Two (2) day tanks, identified as DT1 and DT2, constructed in 2014, each with a maximum capacity of 500 gallons, exhausting inside the building.~~

One (1) 800 gallon capacity mix tank, identified as MT2, one (1) 800 gallon capacity Day tank, identified as DT2, and four (4) 2000 gallon capacity resin tanks, identified as RT4-RT7, constructed in 2014, exhausting inside the building.

Under the NESHAP for Reinforced Plastic Composites Production (40 CFR 63, Subpart WWWW), the day tanks, identified as DT1 and DT2, are considered existing affected source.

(g) Two (2) FRP parts trimming booths, identified as TB1 and TB2, constructed in 2014, with a combined maximum capacity of 30 fiberglass parts per hour, utilizing internal return-air recirculating dust collection system for particulate control.

The trimming booths are equipped with eight (8) hand grinders, six (6) hand saws, and three (3) stationary saws.

(h) Twenty-six (26) Natural gas combustion units, including the following:

(1) One (1) air make-up unit, identified as AM1, with a maximum heat input capacity of 5.04 MMBtu/hr, utilizing no control, and exhausting indoors;

(2) One (1) air make-up unit, identified as AM2, with a maximum heat input capacity of 2.31 MMBtu/hr, utilizing no control, and exhausting indoors;

(3) One (1) radiant heater, identified as H1, with a maximum heat input capacity of 0.24 MMBtu/hr, utilizing no control, and exhausting indoors;

(4) One (1) radiant heater, identified as H2, with a maximum heat input capacity of 0.125 MMBtu/hr, utilizing no control, and exhausting indoors;

(5) Seventeen (17) radiant heaters, identified as H3 through H19, each with a maximum heat input capacity of 0.01 MMBtu/hr, utilizing no control, and exhausting indoors;

(6) Five (5) forced-air heaters, identified as H20 through H25, each with a maximum heat input capacity of 0.06 MMBtu/hr, utilizing no control, and exhausting indoors.

Plant 3

(a) One (1) robotic gelcoat application station, identified as P3-GB1, constructed in 2021, consisting of two (2) robotic applicators, with a maximum bottleneck throughput of 30 units/hr, using dry filters, identified as P3-GB1DF, as particulate control, and exhausting through Stack SVP3-GB1.

This station is approved in 2023 for modification to add a second robotic applicator.

Appendix A: Emissions Calculations
PTE Summary

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Unlimited Potential to Emit (tons/yr)										
Emission Unit(s)	**PM**	**PM10**	**PM2.5**	**SO_2**	**NOx**	**VOC**	**CO**	**Total HAPs**	**Worst Case Single HAP**	
Plant 1										
Chopper area (CA)	0.00	0.00	0.00	0.00	0.00	99.32	0.00	45.68	45.68	Styrene
Gel area (GA)	5.84	5.84	5.84	0.00	0.00	13.05	0.00	13.11	13.05	Styrene
Mold Shop: HVLP tooling gel coat applicator booth (MSG)	2.71	2.71	2.71	0.00	0.00	2.32	0.00	2.32	2.10	Styrene
Mold Shop: FIT non-atomizing tooling resin applicator (MSR)	0.00	0.00	0.00	0.00	0.00	5.55	0.00	5.54	5.54	Styrene
Tanks (RT1 through RT3, MT1 & DT1)	4.04	4.04	4.04	0.00	0.00	8.73	0.00	8.73	8.73	Styrene
Resin Transfer Molding (RTM1)	0.00	0.00	0.00	0.00	0.00	15.45	0.00	15.45	15.45	Styrene
RTM1 HVLP Gelcoat applicator (RTMG1)	6.35	6.35	6.35	0.00	0.00	33.66	0.00	33.66	33.66	Styrene
Flow-coat applicators (AL1-AL2)	0.00	0.00	0.00	0.00	0.00	62.19	0.00	62.19	62.19	Styrene
FIT application (AG1)	15.58	15.58	15.58	0.00	0.00	34.80	0.00	34.80	34.80	Styrene
Grinding area (GR), and cut out area (CO)	164.25	164.25	164.25	0.00	0.00	0.00	0.00	0.00	0.00	-
Assembly Adhesive Application Operation (AO-A)	-	-	-	-	-	3.43	-	3.43	3.43	MMA
Resin Transfer Molding (RTM2)	0.00	0.00	0.00	0.00	0.00	15.45	0.00	15.45	15.45	Styrene
Resin Transfer Molding (RTM3)	0.00	0.00	0.00	0.00	0.00	15.45	0.00	15.45	15.45	Styrene
RTM2 HVLP Gelcoat applicators (RTMG2, RTMG3)	6.35	6.35	6.35	0.00	0.00	33.66	0.00	33.66	33.66	Styrene
RTM3 HVLP Gelcoat applicators (RTMG4, RTMG5)	6.35	6.35	6.35	0.00	0.00	33.66	0.00	33.66	33.66	Styrene
Plant 2										
FIT Gelcoat area (P2-01 through P2-07)	51.43	51.43	51.43	0.00	0.00	114.84	0.00	115.36	114.84	Styrene
Lamination area, non-atomizing resin applicators (P2-08 through P2-11)	0.00	0.00	0.00	0.00	0.00	267.40	0.00	267.40	267.40	Styrene
HVLP barrier coat resin applicator (P2-12)	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.09	0.09	Styrene
Tanks (RT4 through RT7, MT2 & DT2)	4.04	4.04	4.04	0.00	0.00	8.80	0.00	8.80	8.80	Styrene
Trimming Booth 1 (TB1)	2.36	2.36	2.36	0.00	0.00	0.00	0.00	0.00	0.00	-
Trimming Booth 2 (TB2)	2.36	2.36	2.36	0.00	0.00	0.00	0.00	0.00	0.00	-
Natural Gas Combustion	0.07	0.27	0.27	0.02	3.51	0.19	2.95	0.07	0.06	Hexane
Plant 3										
Robotic Gelcoat Application Station (P3-GB1)	55.19	55.19	55.19	-	-	133.52	-	134.08	133.52	Styrene
Non-Atomized Resin Application/Open Molding Lamination Stations (P3-L1 through P3-L4)	-	-	-	-	-	247.45	-	247.45	247.45	Styrene
Barrier Coat Area (P3-BC)	-	-	-	-	-	0.07	-	0.07	0.07	Styrene
Polyester Resin Storage Tanks (P3-RT1 through P3-RT3) and Day Resin Storage Tank (P3-DT1)	-	-	-	-	-	0.22	-	0.22	0.22	Styrene
Mixing Tanks (P3-MT1 and P3-MT2)	5.49	5.49	5.49	-	-	11.56	-	11.56	11.56	Styrene
Grinding Station (P3-GR1)	2.36	2.36	2.36	-	-	-	-	-	-	-
Natural Gas Combustion (P3-AM, P3-RH1 through P3-RH7, P3-TC1, and P3-OH1)	0.03	0.13	0.13	0.01	1.68	0.09	1.41	0.03	0.03	Hexane
Total Excluding Fugitives	334.81	335.11	335.11	0.03	5.19	1160.99	4.36	1108.27	1103.39	Styrene
Plant 1 & Plant 2 Fugitives: Paved roads	negl.	negl.	negl.	0.00	0.00	0.00	0.00	0.00	0.00	-
P3 Paved Roads	0.15	0.03	0.01	-	-	-	-	-	-	-
Source-wide Total	334.97	335.14	335.12	0.03	5.19	1,160.99	4.36	1,108.27	1,103.39	Styrene

Appendix A: Emissions Calculations
PTE Summary

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

	Limited Potential to Emit (tons/yr)									
Emission Unit(s)	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	Total HAPs	Worst Case Single HAP	
Plant 1										
Grinding area (GR), and cut out area (CO)	122.64	122.64	122.64	0.00	0.00	0.00	0.00	0.00	0.00	-
Chopper area (CA)	0.00	0.00	0.00	0.00	0.00		0.00	45.68	45.68	Styrene
Gel area (GA)	5.84	5.84	5.84	0.00	0.00		0.00	13.11	13.05	Styrene
Mold Shop: HVLP tooling gel coat applicator booth (MSG)	2.71	2.71	2.71	0.00	0.00		0.00	2.32	2.10	Styrene
Mold Shop: FIT non-atomizing tooling resin applicator (MSR)	0.00	0.00	0.00	0.00	0.00		0.00	5.54	5.54	Styrene
Tanks (RT1 through RT3, MT1 & DT1)	4.04	4.04	4.04	0.00	0.00		0.00	8.73	8.73	Styrene
Resin Transfer Molding (RTM1)	0.00	0.00	0.00	0.00	0.00		0.00	15.45	15.45	Styrene
HVLP Gelcoat applicator (RTMG1)	6.35	6.35	6.35	0.00	0.00		0.00	33.66	33.66	Styrene
Flow-coat applicators (AL1-AL2)	0.00	0.00	0.00	0.00	0.00		0.00	62.19	62.19	Styrene
FIT application (AG1)	15.58	15.58	15.58	0.00	0.00		0.00	34.80	34.80	Styrene
Assembly Adhesive Application Operation (AO-A)	-	-	-	-	-	249.09	-	3.43	3.43	MMA
Resin Transfer Molding (RTM2)	0.00	0.00	0.00	0.00	0.00		0.00	15.45	15.45	Styrene
Resin Transfer Molding (RTM3)	0.00	0.00	0.00	0.00	0.00		0.00	15.45	15.45	Styrene
HVLP Gelcoat applicators (RTMG2, RTMG3)	6.35	6.35	6.35	0.00	0.00		0.00	33.66	33.66	Styrene
HVLP Gelcoat applicators (RTMG4, RTMG5)	6.35	6.35	6.35	0.00	0.00		0.00	33.66	33.66	Styrene
Plant 2										
FIT Gelcoat area (P2-01 through P2-07)	51.43	51.43	51.43	0.00	0.00		0.00	115.36	114.84	Styrene
Lamination area, non-atomizing resin applicators (P2-08 through P2-11)	0.00	0.00	0.00	0.00	0.00		0.00	267.40	267.40	Styrene
HVLP barrier coat resin applicator (P2-12)	0.00	0.00	0.00	0.00	0.00		0.00	0.09	0.09	Styrene
Tanks (RT4 through RT7, MT2 & DT2)	4.04	4.04	4.04	0.00	0.00		0.00	8.80	8.80	Styrene
Trimming Booth 1 (TB1)	2.36	2.36	2.36	0.00	0.00	0.00	0.00	0.00	0.00	-
Trimming Booth 2 (TB2)	2.36	2.36	2.36	0.00	0.00	0.00	0.00	0.00	0.00	-
Natural Gas Combustion	0.07	0.27	0.27	0.02	3.51	0.19	2.95	0.07	0.06	Hexane
Plant 3										
Robotic Gelcoat Application Station (P3-GB1)	55.19	55.19	55.19	-	-		-	134.08	133.52	Styrene
Non-Atomized Resin Application/Open Molding Lamination Stations (P3-L1 through P3-L4)	-	-	-	-	-		-	247.45	247.45	Styrene
Barrier Coat Area (P3-BC)	-	-	-	-	-	74.09	-	0.07	0.07	Styrene
Polyester Resin Storage Tanks (P3-RT1 through P3-RT3) and Day Resin Storage Tank (P3-DT1)	-	-	-	-	-		-	0.22	0.22	Styrene
Mixing Tanks (P3-MT1 and P3-MT2)	5.49	5.49	5.49	-	-		-	11.56	11.56	Styrene
Grinding Station (P3-GR1)	2.36	2.36	2.36	-	-	-	-	-	-	-
Natural Gas Combustion (P3-AM, P3-RH1 through P3-RH7, P3-TC1, P3-OH1)	0.03	0.13	0.13	0.01	1.66	0.09	1.41	0.03	0.03	Hexane
Total Excluding Fugitives	293.20	293.50	293.50	0.03	5.19	498.29	4.36	1108.27	1103.39	Styrene
Plant 1 and Plant 2 Fugitives; Paved roads	negl.	negl.	negl.	0.00	0.00	0.00	0.00	0.00	0.00	-
P3 Paved Roads	0.16	0.03	0.01	-	-	-	-	-	-	-
Source-wide Total	293.36	293.53	293.51	0.03	5.19	498.29	4.36	>25	>10	Styrene

Appendix A: Emissions Calculations
Robotic Gelcoat Applicator (P3-GB1) with Two Applicators

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Process	Emission Unit ID	Material (gel name)	Weight % Styrene	Maximum usage (lb/unit)	Maximum throughput (units/hr)	Maximum throughput (lb/yr)	UEF (lbs styrene/ton gel)	PTE of styrene (tons/yr)	PTE of VOC (tons/yr)	Transfer efficiency	Uncontrolled PTE of PM (tons/yr)	PM control efficiency	Controlled PTE of PM (tons/yr)	Weight % Cobalt compounds	PTE of Cobalt compounds (tons/yr)
P3 Robotic Gelcoat Area	P3-GB1	White gelcoat*	30.0%	12.0	30.0	3,153,600	169.36	133.52	**133.52**	95%	**55.19**	90%	5.52	1%	0.55

Notes:
*Maximum monimer content for this material
Calculations for the gelcoat area is based on maximum gelcoat usage, maximum unit throughput, and worst-case gelcoat for this process.
Unified emission factors (UEF) are from "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association (October 13, 2009).
Available at: http://www.in.gov/idem/ctap/files/plastics_unified_emission_factors.pdf
Assume PM = PM_{10} = $PM_{2.5}$.
Application method for gelcoat is fluid impingement technology (FIT) (mechanical, non-atomized).

Methodology
Maximum throughput (lb/yr) = Maximum usage (lb/unit) * Maximum throughput (units/hr) * 8760 hrs/yr
PTE of styrene (tons/yr) = Maximum throughput (lb/yr) * 1 ton gel /2000 lbs gel * UEF (lbs styrene/ton gel) * 1 ton styrene/2000 lbs styrene
PTE of VOC (tons/yr) = PTE of styrene (tons/yr)
Uncontrolled PTE of PM (tons/yr) = Maximum throughput (lb/yr) * (1- (Weight % Styrene)) * (1 - Transfer efficiency) * 1 ton/2000 lbs
Controlled PTE of PM (tons/yr) = Uncontrolled PTE of PM (tons/yr) * (1 - Control efficiency)
PTE of Cobalt compounds = Weight % Cobalt Compounds * Uncontrolled PTE of PM (tons/yr)

Appendix A: Emissions Calculations
Reinforced Plastics and Composites
Open Molding Operations
Chopper Area

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Emission Unit ID Chopper Area	Material (Resin or Gel Name)	Density (Lb/Gal)	Weight % Monomer	Gal of Mat. (gal/unit)	Maximum usage (unit/hour)	UEF (lbs monomer/ton resin or gel)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Potential HAP as Styrene (tons per year)	Application Method	Transfer Efficiency	Potential PM (tons/ year)
(Filled Resin)	Resin (COR54-AA-115) - Styrene (HAP)	9.18	33.0%	8.00	4.00	71.00	250.28	45.68	45.68	Flow Coater	100%	0.00
Neat Resin Applicator (CANRA1)	COR61-AA-267S - Styrene (HAP)	9.18	33.00%	8.00	4.00	71.00	250.28	45.68	45.68	FIT Mechanical Non-Atomized	100%	0.00
	COR61-AA-267S - Alpha Methyl Styrene (Non-HAP)	9.18	2.20%	8.00	4.00	5.00	17.63	3.22	0.00		100%	0.00
						Total PTE VOC/HAP and PM from Neat Resin Use		**48.89**	**45.68**			**0.00**
						****Worst Case Potential to Emit**		**48.89**	**45.68**			**0.00**

New applicator CANRA2

Emission Unit ID Chopper Area	Material (Resin or Gel Name)	Density (Lb/Gal)	Weight % Monomer	Gal of Mat. (gal/unit)	Maximum usage (unit/hour)	UEF (lbs monomer/ton resin or gel)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Potential HAP as Styrene (tons per year)	Application Method	Transfer Efficiency	Potential PM (tons/ year)
Neat Resin Applicator (CANRA2)	COR61-AA-267S - Styrene (HAP)	9.18	33.00%	8.00	4.00	71.00	250.28	45.68	45.68	FIT Mechanical Non-Atomized	100%	0.00
	COR61-AA-267S - Alpha Methyl Styrene (Non-HAP)	9.18	2.20%	8.00	4.00	5.00	17.63	3.22	0.00		100%	0.00
						Total PTE VOC/HAP and PM from Neat Resin Use		**48.89**	**45.68**			**0.00**
						Control Efficiency*		**0.00%**	**0.00%**			**0.00**
						*****Worst Case Potential to Emit Before Control after Modification of CA area:**		**97.79**				**0.00**

METHODOLOGY
*Existing Permitted Source Controls and Rated Efficiency
Acetone as cleanup solvent
Emission factors based on the type of application from "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association (October 2009) to calculate resin emissions.
Potential VOC (lb/day) for resin = Density (lb material /gal material) * Gal. of material (gal material/unit) * Maximum usage (unit/hr) * UEF (lb styrene/ton material) * 24 hrs/day * 1 ton material/2000 lbs material
Potential VOC (ton/year) = Potential VOC (lb/day) * 365 days/year * (1 ton/2000 lb)
Potential PM (ton/year) = Density * (1 - Weight % monomer or VOC) * Gal. of Material * Maximum Usage * (1 - transfer efficiency) * 24 hrs/day * 365 days/year * (1 ton/2000 lb)
Potential HAP (ton/year) = Potential VOC (ton/year) as Styrene Only
**Worst Case Potential to Emit Before Controlfor Chopper Area before Modification.
***Worst Case Potential to Emit Before Controlfor Chopper Area after Modification.

Appendix A: Emissions Calculations
VOC Emissions
From Miscellaneous Solvent Use - Chopper Area

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Process	Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water & Exempt	Weight % Organics	Volume % Water & Exempt	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of solvent less water	Pounds VOC per gallon of solvent	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year
Chopper Area	Cadox D-30 MEKP - Catalyst [1][2][3]	8.34	98.00%	92.0%	1.0%	0.0%	0.5%	0.015	2.00	8.34	0.08	0.35	8.41	1.53
Solvent Cleanup	Acetone	6.61	100.00%	100.0%	0.0%	0.0%	0.0%	0.000	2.00	0.00	0.00	0.00	0.00	0.00

Total PTE VOC/HAP & PM from Chopper Area Miscellaneous Use	**0.35**	**8.41**	**1.53**
Control Efficiency*	**0.00**	**0.00**	**0.00**
Total PTE VOC/HAP and PM from Chopper Area Miscellaneous Use	**0.35**	**8.41**	**1.53**

METHODOLOGY
Above information provided by source during this modification and renewal process.
[1] MEKP catalyst solution Cadox D-30: 2,2,4-Trimethyl-1,3-pentanediol diisobutanoate, 78% max, MEK, 2% max, water, 2% max
[2]MEKP Catalyst used in both Filled and Neat resin processes.
[3]MEKP Catalyst does not contain solids. Cleaning solvent hand applied.
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Materials do not contain Hazardous Air Pollutants

Appendix A: Emissions Calculations
Open Molding Gelcoat (GA)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Process	Emission Unit ID	Material (resin or gel name)	Weight % Styrene	Weight % MMA	Maximum usage (lb/unit)	Maximum throughput (units/hr)	Maximum throughput (lb/yr)	UEF (lbs styrene/ton resin or gel)	UEF (lbs MMA/ton resin or gel)	PTE of styrene (tons/yr)	PTE of MMA (tons/yr)	PTE of VOC (tons/yr)	Transfer efficiency	Uncontrolled PTE of PM (tons/yr)	PM control efficiency	Controlled PTE of PM (tons/yr)	Weight % Cobalt compounds	PTE of Cobalt compounds (tons/yr)
GA Gelcoat area	GA	White gelcoat*	28.8%	-	1.5	25.0	328,500	158.91	-	13.05	-	**13.05**	95%	**5.84**	90%	0.58	1%	0.06

Notes:
*Source provided MSDS sheet for this material
Calculations for the gelcoat and lamination areas are based on maximum gelcoat and resin usages, maximum unit throughput, and worst-case gelcoat and resin for this process.
These maximum usages and throughputs represent the throughputs when the gelcoat and resin processes are operating at maximum line speeds and do not represent actual rates.
Unified emission factors (UEF) are from "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association (October 13, 2009).
Available at: http://www.in.gov/idem/ctap/files/plastics_unified_emission_factors.pdf
MMA is methyl methacrylate
Assume all non-MMA VOC is styrene and PM = PM_{10} = $PM_{2.5}$.
Application method for all resins and gelcoats is fluid impingement technology (FIT) (mechanical, non-atomized).
[1] UEFs are not provided for MMA in resins. Therefore, MMA UEF for gelcoats is assumed to be zero
Although the resin areas (lamination, barrier coat, and tooling booth) are equipped with dry filters, the transfer efficiency is 100% so there are no particulate emissions to control from these processes

Methodology
Maximum throughput (lb/yr) = Maximum usage (lb/unit) * Maximum throughput (units/hr) * 8760 hrs/yr
PTE of styrene or MMA (tons/yr) = Maximum throughput (lb/yr) * 1 ton resin or gel /2000 lbs resin or gel * UEF (lbs styrene or MMA/ton resin or gel) * 1 ton styrene or MMA/2000 lbs styrene or MMA
PTE of VOC (tons/yr) = PTE of styrene (tons/yr) + PTE of MMA (tons/yr)
Uncontrolled PTE of PM (tons/yr) = Maximum throughput (lb/yr) * (1- (Weight % Styrene +Weight % MMA)) * (1 - Transfer efficiency) * 1 ton/2000 lbs
Controlled PTE of PM (tons/yr) = Uncontrolled PTE of PM (tons/yr) * (1 - Control efficiency)
PTE of Cobalt compounds = Weight % Cobalt Compounds * Uncontrolled PTE of PM (tons/yr)

Appendix A: Emissions Calculations
Reinforced Plastics and Composites
Open Molding Operations
Mold Shop

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Emission Unit ID	Material (Resin or Gel Name)	Density (Lb/Gal)	Weight % Monomer	Gal of Mat. (gal/unit)	Maximum usage (unit/hour)	UEF (lbs monomer/ton resin or gel)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Potential HAP as Styrene (tons per year)	Potential HAP as MMA (tons per year)	Potential Total HAP (tons per year)	Application Method	Transfer Efficiency	Potential PM (tons/ year)
Mold Shop Gel Coat Applicator (MSG)	Tooling Gel Coat - Styrene (HAP)	9.54	38.97%	24.00	0.01	418.00	11.48	2.10	2.10	0.00	2.10	HVLP Atomized Applicator	75%	1.45
Mold Shop Gel Coat Applicator (MSG)	Tooling Gel Coat - MMA (HAP)	9.54	3.00%	24.00	0.01	45.00	1.24	0.23	0.00	0.23	0.23	HVLP Atomized Applicator	75%	1.26
Mold Shop Resin Applicator (MSR)	Aropol 7241T-15 - Styrene (HAP)	9.17	46.87%	240.00	0.01	115.00	30.37	5.54	5.54	0.00	5.54	FIT Mechanical Non-Atomized	100%	0.00
						Total PTE VOC/HAP and PM from Tooling Gel Coat and Resin Use Before Control		7.87	7.64	0.23	7.87			2.71
							Control Efficiency*	0.00%	0.00%	0.00%	0.00%			95.00%
						Total PTE VOC/HAP and PM from Tooling Gel Coat and Resin Use After Control		7.87	7.64	0.23	7.87			0.14

METHODOLOGY
*Existing Permitted Source Controls and Rated Efficiency
Acetone as cleanup solvent
Emission factors based on the type of application from "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association (October 2009) to calculate gel coat and resin emissions.
Potential VOC (lb/day) for gel coat and resin = Density (lb material /gal material) * Gal. of material (gal material/unit) * Maximum usage (unit/hr) * UEF (lb HAP emitted/ton material) * 24 hrs/day * 1 ton material/2000 lbs material
Potential VOC (ton/year) = Potential VOC (lb/day) * 365 days/year * (1 ton/2000 lb)
Potential PM (ton/year) = Density * (1 - Weight % monomer or VOC) * Gal. of Material * Maximum Usage * (1 - transfer efficiency) * 24 hrs/day * 365 days/year * (1 ton/2000 lb)
Potential HAP (ton/year) = Potential VOC (ton/year) as Styrene and MMA

Appendix A: Emissions Calculations
VOC Emissions
From Miscellaneous Solvent Use - Mold Shop

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Process	Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of solvent less water	Pounds VOC per gallon of solvent	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year
Mold Shop Gel Coat Applicator (MSG)	Cadox D-30 MEKP - Catalyst[1][2]	8.34	81.00%	2.00%	81.0%	2.00%	1.00%	0.001	0.01	6.89	6.76	0.00027	0.0065	0.00118
Mold Shop Resin Applicator (MSR)	Cadox D-30 MEKP - Catalyst[1][2]	8.34	81.00%	2.00%	81.0%	2.00%	1.00%	0.001	0.01	6.89	6.76	0.0027	0.065	0.0118
Solvent Cleanup	Acetone	6.60	100.00%	0.00%	0.0%	0.00%	0.00%	0.050	0.01	#DIV/0!	0.00	0.00	0.00	0.00

Total PTE VOC/HAP and PM from Mold Shop Miscellaneous Use Before Control	**0.0030**	**0.071**	**0.0130**
Control Efficiency*	**0.00**	**0.00**	**0.00**
Total PTE VOC/HAP and PM from Mold Shop Miscellaneous Use After Control	**0.0030**	**0.071**	**0.0130**

METHODOLOGY

[1] MEKP catalyst solution Cadox D-30: 2,2,4-Trimethyl-1,3-pentanediol diisobutanoate, 79% max, MEK, 2% max, water, 2% max
[2]MEKP Catalyst does not contain solids. Cleaning solvent hand applied.
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Materials do not contain Hazardous Air Pollutants

Appendix A: Emissions Calculations
Resin Transfer Molding (Closed Molding) (RTM1)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Emission Unit ID	Material	Weight % styrene	Max coating usage (lb/unit)	Max production rate (unit/hr)	Max usage (lb/hr)	Styrene emission factor (% emitted)[1]	PTE of styrene (lb/hr)	PTE of styrene (lb/day)	PTE of styrene (ton/yr)
RTM 1	Altek RTM Polyester Resin	42.00%	35.0	8.00	280	3%	3.53	84.67	15.45

Notes:
These calculations are derived from the Title V Source Modification application received by IDEM on July 1 , 2013
[1] Styrene emission factor (% emitted) is the % of styrene (by weight) emitted from closed molding, from AP-42 Section 4.4, Table 4.4-2
Styrene is the only VOC/HAP in the resin. Therefore, PTE of styrene = PTE of total HAPs = PTE of VOC
Particulate emissions are only emitted from spray-type operations. Therefore transfer efficiency and PTE of PM are not applicable for closed resin molding.

Methodology:
Max usage (lb/hr) = Max coating usage (lb/unit) * Max production rate (unit/hr)
PTE of styrene (lb/hr) = Weight % styrene * Max usage (lb/hr) * Styrene emission factor (% emitted)
PTE of styrene (lb/day) = PTE of styrene (lb/hr) * 24 hrs/day
PTE of styrene (ton/yr) = PTE of styrene (lb/hr) * 8700 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Resin transfer molding - Gelcoat applicators (RTMG 1)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Process	Emission Unit ID	Material	Density (lb/gal)	Weight % Styrene	Max coating usage (gal/unit)	Max production rate (unit/hr)	Max usage (ton/hr)	NESHAP emission limit (lb/ton)[1]	PTE of styrene (lb/hr)	PTE of styrene (lb/day)	PTE of styrene (ton/yr)	Transfer efficiency	Uncontrolled PTE of PM (tons/yr)	PM control efficiency	Controlled PTE of PM (tons/yr)
Plant 1															
RTM 1 - Gel Coat applicators	RTMG 1	Gelcoat	7.84	28.84%	0.65	8	0.020	377	7.68	184.43	33.66	95%	6.35	95%	0.318

Notes:
These calculations are derived from the Title V Source Modification application received by IDEM on July 1 , 2013
[1] Rather than use the Unified Emission Factors (UEF) for these units, the source has selected to use the NESHAP emission limit as the styrene emission factor, as worst-case emissions.
NESHAP emission limit is from 40 CFR 63, Subpart WWWW Table 3, for open molding - other pigmented gelcoat.
Styrene is the only VOC/HAP in the gelcoat. Therefore, PTE of styrene = PTE of total HAPs = PTE of VOC
Application method for gelcoats is fluid impingement technology (FIT) (mechanical, non-atomized).
Assume $PM=PM_{10}=PM_{2.5}$

Methodology:
Max usage (ton/hr) = Density (lb/gal) * Max coating usage (lb/unit) * Max production rate (unit/hr) * 1 ton/2000 lbs
PTE of styrene (lb/hr) = Max usage (ton/hr) * NESHAP emission limit (lb/ton)
PTE of styrene (lb/day) = PTE of styrene (lb/hr) * 24 hrs/day
PTE of styrene (ton/yr) = PTE of styrene (lb/hr) * 8700 hrs/yr * 1 ton/2000 lbs
Uncontrolled PTE of PM (tons/yr) = Maximum throughput (lb/hr) * (1- Weight % Styrene) * (1 - Transfer efficiency) * 8760 hr/yr * 1 ton/2000 lbs
Controlled PTE of PM (tons/yr) = Uncontrolled PTE of PM (tons/yr) * (1 - Control efficiency)

Appendix A: Emissions Calculations
Reinforced Plastics and Composites
Open Molding Operations
Acrylic Chopper Area

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Emission Unit ID Chopper Area	Material (Resin or Gel Name)	Density (Lb/Gal)	Weight % Monomer	Gal of Mat. (gal/unit)	Maximum usage (unit/hour)	UEF (lbs monomer/ton resin or gel)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Potential HAP as Styrene (tons per year)	Application Method	Transfer Efficiency	Potential PM (tons/ year)
AL1 (Filled Resin)	Resin XV-3347) - Styrene (HAP)	9.18	33.0%	8.71	10.00	71.00	340.78	62.19	62.19	Flow Coater	100%	0.00
						Total PTE VOC/HAP and PM from Resin Use		**62.19**	**62.19**			**0.00**
						****Worst Case Potential to Emit**		**62.19**	**62.19**			**0.00**

Above information provided by source.

METHODOLOGY

Emission factors based on the type of application from "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association (October 2009) to calculate resin emissions.
Potential VOC (lb/day) for resin = Density (lb material /gal material) * Gal. of material (gal material/unit) * Maximum usage (unit/hr) * UEF (lb styrene/ton material) * 24 hrs/day * 1 ton material/2000 lbs material
Potential VOC (ton/year) = Potential VOC (lb/day) * 365 days/year * (1 ton/2000 lb)
Potential PM (ton/year) = Density * (1 - Weight % monomer or VOC) * Gal. of Material * Maximum Usage * (1 - transfer efficiency) * 24 hrs/day * 365 days/year * (1 ton/2000 lb)
Potential HAP (ton/year) = Potential VOC (ton/year) as Styrene Only

Appendix A: Emissions Calculations
Reinforced Plastics and Composites
Open Molding Operations
Acrylic Chopper Area

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Emission Unit ID Chopper Area	Material (Resin or Gel Name)	Density (Lb/Gal)	Weight % Monomer	Gal of Mat. (gal/unit)	Maximum usage (unit/hour)	UEF (lbs monomer/ton resin or gel)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Potential HAP as Styrene (tons per year)	Application Method	Transfer Efficiency	Potential PM (tons/ year)
AL2 (Filled Resin)	Resin XV-3347) - Styrene (HAP)	9.18	33.0%	8.71	10.00	71.00	340.78	62.19	62.19	Flow Coater	100%	0.00
						Total PTE VOC/HAP and PM from Resin Use		**62.19**	**62.19**			**0.00**
						****Worst Case Potential to Emit**		**62.19**	**62.19**			**0.00**

Above information provided by source.

METHODOLOGY

Emission factors based on the type of application from "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association (October 2009) to calculate resin emissions.
Potential VOC (lb/day) for resin = Density (lb material /gal material) * Gal. of material (gal material/unit) * Maximum usage (unit/hr) * UEF (lb styrene/ton material) * 24 hrs/day * 1 ton material/2000 lbs material
Potential VOC (ton/year) = Potential VOC (lb/day) * 365 days/year * (1 ton/2000 lb)
Potential PM (ton/year) = Density * (1 - Weight % monomer or VOC) * Gal. of Material * Maximum Usage * (1 - transfer efficiency) * 24 hrs/day * 365 days/year * (1 ton/2000 lb)
Potential HAP (ton/year) = Potential VOC (ton/year) as Styrene Only

Appendix A: Emissions Calculations
Acrylic Gelcoat Area (AG1)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Process	Emission Unit ID	Material (resin or gel name)	Weight % Styrene	Weight % MMA	Maximum usage (lb/unit)	Maximum throughput (units/hr)	Maximum throughput (lb/yr)	UEF (lbs styrene/ton resin or gel)	UEF (lbs MMA/ton resin or gel)	PTE of styrene (tons/yr)	PTE of MMA (tons/yr)	PTE of VOC (tons/yr)	Transfer efficiency	Uncontrolled PTE of PM (tons/yr)	PM control efficiency	Controlled PTE of PM (tons/yr)	Weight % Cobalt compounds	PTE of Cobalt compounds (tons/yr)
Acrylic Gelcoat	AG1	White gelcoat*	28.8%	-	10.0	10.0	876,000	158.91	-	34.80	-	34.80	95%	15.58	90%	1.56	1%	0.16

Notes:
Above information provided by source.
These maximum usages and throughputs represent the throughputs when the gelcoat and resin processes are operating at maximum line speeds and do not represent actual rates.
Unified emission factors (UEF) are from "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association (October 13, 2009).
Available at: http://www.in.gov/idem/ctap/files/plastics_unified_emission_factors.pdf
MMA is methyl methacrylate
Assume all non-MMA VOC is styrene and PM = PM_{10} = $PM_{2.5}$.
Application method for all resins and gelcoats is fluid impingement technology (FIT) (mechanical, non-atomized).
[1] UEFs are not provided for MMA in resins. Therefore, MMA UEF for gelcoats is assumed to be zero

Methodology
Maximum throughput (lb/yr) = Maximum usage (lb/unit) * Maximum throughput (units/hr) * 8760 hrs/yr
PTE of styrene or MMA (tons/yr) = Maximum throughput (lb/yr) * 1 ton resin or gel /2000 lbs resin or gel * UEF (lbs styrene or MMA/ton resin or gel) * 1 ton styrene or MMA/2000 lbs styrene or MMA
PTE of VOC (tons/yr) = PTE of styrene (tons/yr) + PTE of MMA (tons/yr)
Uncontrolled PTE of PM (tons/yr) = Maximum throughput (lb/yr) * (1- (Weight % Styrene +Weight % MMA)) * (1 - Transfer efficiency) * 1 ton/2000 lbs
Controlled PTE of PM (tons/yr) = Uncontrolled PTE of PM (tons/yr) * (1 - Control efficiency)
PTE of Cobalt compounds = Weight % Cobalt Compounds * Uncontrolled PTE of PM (tons/yr)

Appendix A: Emissions Calculations
Particulate Emissions

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Unit Number	Equipment Description	Control Equipment	[1]Efficiency of Control Equipment	[2]PM Controlled (tons/yr)	PM Controlled (lb/hr)	PM Uncontrolled PTE (tons/year)	PM PSD Minor Limit (lb/hr)	PM PSD Minor Limit (ton/yr)
GR	One (1) grinding area	Fabric Filter	99.0%	0.82	0.19	82.12	14.00	61.32
CO	One (1) cut out area	Fabric Filter	99.0%	0.82	0.19	82.12	14.00	61.32
Assume that PM = PM10 = PM2.5			Total	**1.64**		**164.25**		**122.64**

Methodology:

Note 1: Source provided the control efficiency of the fabric filters.

Note 2: Source collected 1.5 lbs of particulate in 1 day and estimated that the most they would ever collect would be 4.5lbs of particulate from each operation the GR and CO.

Therefore the controlled emisisons from each in tons/year = 4.5 lbs/day x 365 day/yr x 1 ton/2,000 lbs

Emission Rate in tons/yr (before control) = Emission Rate (after control (tons/yr)) / (1-control efficiency)

Control Efficiency needed to comply with PSD Minor limit	25%

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Material	Density (lbs/gal)	Weight % Volatile (water, VOC, and exempt compounds*)	Weight % water and exempt compounds*	Weight % VOC	Volume % water and exempt compounds*	Volume % Solids	Maximum Material Usage (gal/unit)	Maximum Capacity (units/hour)	Maximum Material Usage (gal/day)	Pounds VOC per gallon of coating less water and exempt compounds	Pounds VOC per gallon of coating	PTE of VOC (lbs/hour)	PTE of VOC (lbs/day)	PTE of VOC (tons/year)	Uncontrolled PTE of PM/PM10/PM2.5 (tons/year)	Pounds VOC per gallon of coating solids	Transfer Efficiency
SCIGrip SG300-05	8.92	4.68%	0.00%	4.68%	0.00%	94.47%	0.063	30.000	45.000	0.42	0.42	0.78	18.79	3.43	0.00	0.44	100%
Acetone	6.61	100.00%	100.00%	0.00%	100.00%	0.00%	0.025	30.000	18.000	#DIV/0!	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0%
								Totals	63.00			0.78	18.79	3.43	0.00		

Control Efficiency =	0.0%
Total Controlled Potential to Emit (PTE) (tons/year) =	0.00

Material	Density (lbs/gal)	Maximum Material Usage (gal/unit)	Maximum Capacity (units/hour)	Weight % MMA	PTE of MMA (tons/year)	PTE of Total HAPs (tons/year)
SCIGrip SG300-05	8.92	0.063	30.000	4.68%	3.43	3.43
Acetone	6.61	0.025	30.000	0.00%	0.00	0.00
				Totals	3.43	3.43

Methodology

*Exempt compounds include all compounds specifically exempted from the definition of volatile organic compounds (VOC) under 40 CFR 51.100(s).
Weight % VOC = [Weight % Volatile (water, VOC, and exempt Compounds*)] - [Weight % water and exempt Compounds]
Maximum Material Usage (gal/day) = [Maximum Material Usage (gal/unit)] * [Maximum Capacity (units/hour)] * [24 hours/day]
Pounds of VOC per gallon coating less water and exempt Compounds = [Density (lbs/gal)] * [Weight % VOC] / [1 - (Volume % water and exempt Compounds)]
Pounds of VOC per gallon coating = [Density (lbs/gal)] * [Weight % VOC]
PTE of VOC (lbs/hour) = [Maximum Material Usage (gal/unit)] * [Maximum Capacity (units/hour)] * [Pounds of VOC per gallon coating]
PTE of VOC (lbs/day) = [PTE of VOC (lbs/hour)] * [24 hours/day]
PTE of VOC (tons/year) = [PTE of VOC (lbs/hour)] * [8760 hours/year]* [1 ton/2000 lbs]
Uncontrolled PTE of PM/PM10/PM2.5 (tons/year) = [Density (lbs/gal)] * [Maximum Material Usage (gal/unit)] * [Maximum Capacity (units/hour)] * [1 - Weight % Volatile)] * [1 - Transfer Efficiency)] * [8760 hour/year] * [1 ton/2000 lbs]
Pounds VOC per gallon of coating solids = [Density (lbs/gal)] * [Weight % VOCs] / [Volume % Solids]
Controlled PTE of PM/PM10/PM2.5 (tons/year) = [Uncontrolled PTE of PM/PM10/PM2.5 (tons/year)] * [1 - Control Efficiency]
PTE of HAP (tons/year) = [Density (lbs/gal)] * [Maximum Material Usage (gal/unit)] * [Maximum Capacity (units/hour)] * [Weight % HAP] * [8760 hours/year]* [1 ton/2000 lbs]
PTE of Total HAPs (tons/year) = SUM (PTE of Each Single HAP (tons/year))
Hazardous air pollutant (HAP) is defined by Section 112(b) of the Clean Air Act.
Transfer Efficiency = 100%, Hand Applied
MMA = Methyl Methacrylate
Weight % Volatile (water, VOC, and exempt compounds) = 50 g/L (from SDS) / Density * 100

Appendix A: Emissions Calculations
Resin Transfer Molding (Closed Molding) (RTM2, RTM3)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Emission Unit ID	Material	Weight % styrene	Max coating usage (lb/unit)	Max production rate (unit/hr)	Max usage (lb/hr)	Styrene emission factor (% emitted)[1]	PTE of styrene (lb/hr)	PTE of styrene (lb/day)	PTE of styrene (ton/yr)
RTM 2	Altek RTM Polyester Resin	42.00%	35.0	8.00	280	3%	3.53	84.67	15.45
RTM 3	Altek RTM Polyester Resin	42.00%	35.0	8.00	280	3%	3.53	84.67	15.45

Notes:
These calculations are derived from the Title V Source Modification application received by IDEM on July 1 , 2013
[1] Styrene emission factor (% emitted) is the % of styrene (by weight) emitted from closed molding, from AP-42 Section 4.4, Table 4.4-2
Styrene is the only VOC/HAP in the resin. Therefore, PTE of styrene = PTE of total HAPs = PTE of VOC
Particulate emissions are only emitted from spray-type operations. Therefore transfer efficiency and PTE of PM are not applicable for closed resin molding.

Methodology:
Max usage (lb/hr) = Max coating usage (lb/unit) * Max production rate (unit/hr)
PTE of styrene (lb/hr) = Weight % styrene * Max usage (lb/hr) * Styrene emission factor (% emitted)
PTE of styrene (lb/day) = PTE of styrene (lb/hr) * 24 hrs/day
PTE of styrene (ton/yr) = PTE of styrene (lb/hr) * 8700 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Resin transfer molding - Gelcoat applicators (RTMG 2 through RTMG 5)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Process	Emission Unit ID	Material	Density (lb/gal)	Weight % Styrene	Max coating usage (gal/unit)	Max production rate (unit/hr)	Max usage (ton/hr)	NESHAP emission limit (lb/ton)[1]	PTE of styrene (lb/hr)	PTE of styrene (lb/day)	PTE of styrene (ton/yr)	Transfer efficiency	Uncontrolled PTE of PM (tons/yr)	PM control efficiency	Controlled PTE of PM (tons/yr)
Plant 1															
RTM 2 - Gel Coat applicators	RTMG 2, RTMG 3	Gelcoat	7.84	28.84%	0.65	8	0.020	377	7.68	184.43	33.66	95%	6.35	95%	0.318
RTM 3 - Gel Coat applicators	RTMG 4, RTMG 5	Gelcoat	7.84	28.84%	0.65	8	0.020	377	7.68	184.43	33.66	95%	6.35	95%	0.318

Notes:
These calculations are derived from the Title V Source Modification application received by IDEM on July 1 , 2013
[1] Rather than use the Unified Emission Factors (UEF) for these units, the source has selected to use the NESHAP emission limit as the styrene emission factor, as worst-case emissions.
NESHAP emission limit is from 40 CFR 63, Subpart WWWW Table 3, for open molding - other pigmented gelcoat.
Styrene is the only VOC/HAP in the gelcoat. Therefore, PTE of styrene = PTE of total HAPs = PTE of VOC
Application method for gelcoats is fluid impingement technology (FIT) (mechanical, non-atomized).
Assume $PM=PM_{10}=PM_{2.5}$

Methodology:
Max usage (ton/hr) = Density (lb/gal) * Max coating usage (lb/unit) * Max production rate (unit/hr) * 1 ton/2000 lbs
PTE of styrene (lb/hr) = Max usage (ton/hr) * NESHAP emission limit (lb/ton)
PTE of styrene (lb/day) = PTE of styrene (lb/hr) * 24 hrs/day
PTE of styrene (ton/yr) = PTE of styrene (lb/hr) * 8700 hrs/yr * 1 ton/2000 lbs
Uncontrolled PTE of PM (tons/yr) = Maximum throughput (lb/hr) * (1- Weight % Styrene) * (1 - Transfer efficiency) * 8760 hr/yr * 1 ton/2000 lbs
Controlled PTE of PM (tons/yr) = Uncontrolled PTE of PM (tons/yr) * (1 - Control efficiency)

Appendix A: Emissions Calculations
Open Molding Lamination and Gelcoat (P2-01 to P2-12)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Process	Emission Unit ID	Material (resin or gel name)	Weight % Styrene	Weight % MMA	Maximum usage (lb/unit)	Maximum throughput (units/hr)	Maximum throughput (lb/yr)	UEF (lbs styrene/ton resin or gel)	UEF (lbs MMA/ton resin or gel)	PTE of styrene (tons/yr)	PTE of MMA (tons/yr)	PTE of VOC (tons/yr)	Transfer efficiency	Uncontrolled PTE of PM (tons/yr)	PM control efficiency	Controlled PTE of PM (tons/yr)	Weight % Cobalt compounds	PTE of Cobalt compounds (tons/yr)
Gelcoat area	P2-01 through P2-07	White gelcoat	28.8%	-	11.0	30.0	2,890,800	158.91	-	114.84	-	114.84	95%	51.43	90%	5.14	1%	0.51
Lamination area	P2-08 through P2-11	Production resin	34.0%	-	55.0	30.0	14,454,000	74.00	-	267.40	-	267.40	100%	0.00	N/A	N/A	-	-
Barrier coat area	P2-12	Barrier coat resin	37.0%	-	-	-	4,380	83.00		0.09	-	0.09	100%	0.00	N/A	N/A	-	-

Notes:
Calculations for the gelcoat and lamination areas are based on maximum gelcoat and resin usages, maximum unit throughput, and worst-case gelcoat and resin for this process.
These maximum usages and throughputs represent the throughputs when the gelcoat and resin processes are operating at maximum line speeds and do not represent actual rates.
Unified emission factors (UEF) are from "Unified Emission Factors for Open Molding of Composites." Composites Fabricators Association (October 13, 2009).
Available at: http://www.in.gov/idem/ctap/files/plastics_unified_emission_factors.pdf
MMA is methyl methacrylate
Assume all non-MMA VOC is styrene and PM = PM_{10} = $PM_{2.5}$.
Application method for all resins and gelcoats is fluid impingement technology (FIT) (mechanical, non-atomized).
[1] UEFs are not provided for MMA in resins. Therefore, MMA UEF for gelcoats is assumed
Although the resin areas (lamination, barrier coat, and tooling booth) are equipped with dry filters, the transfer efficiency is 100% so there are no particulate emissions to control from these processes

Methodology
Maximum throughput (lb/yr) = Maximum usage (lb/unit) * Maximum throughput (units/hr) * 8760 hrs/yr
PTE of styrene or MMA (tons/yr) = Maximum throughput (lb/yr) * 1 ton resin or gel /2000 lbs resin or gel * UEF (lbs styrene or MMA/ton resin or gel) * 1 ton styrene or MMA/2000 lbs styrene or MMA
PTE of VOC (tons/yr) = PTE of styrene (tons/yr) + PTE of MMA (tons/yr)
Uncontrolled PTE of PM (tons/yr) = Maximum throughput (lb/yr) * (1- (Weight % Styrene +Weight % MMA)) * (1 - Transfer efficiency) * 1 ton/2000 lbs
Controlled PTE of PM (tons/yr) = Uncontrolled PTE of PM (tons/yr) * (1 - Control efficiency)
PTE of Cobalt compounds = Weight % Cobalt Compounds * Uncontrolled PTE of PM (tons/yr)

Appendix A: Emissions Calculations
VOC/HAPs
Seven (7) Polyester Resin Storage Tanks (RT1 through RT7)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

TANKS Summary	PTE (tons/yr)
Styrene - RT1	0.075
Styrene - RT2	0.075
Styrene - RT3	0.075
Styrene - RT4	0.075
Styrene - RT5	0.075
Styrene - RT6	0.075
Styrene - RT7	0.075
Total for All Tanks	**0.52**

Results from Tanks 4.0.9d

Notes:
Emissions from the Day Tanks (DT1 & DT2) are assumed to be negligable.
RT4 was added in permit no. 099-42116-00023.

Appendix A: Emissions Calculations
VOC and Particulate
Mix & Day Tanks (MT1, DT1, MT2, DT2)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Process	Emission Unit ID	Weight % VOC/HAP	Filler/powder loading	Maximum throughput (tons/yr)	VOC/HAP emission factor	PTE of VOC/HAP (ton/yr)	PM emission facor	Uncontrolled PTE of PM (tons/yr)	PM control efficiency	Controlled PTE of PM (tons/yr)
Mix Tank 1	MT1	32.00%	38.0%	5314	0.25%	4.25	0.10%	2.02	99.9%	0.002
Day Tank 1	DT1	32.00%	38.0%	5314	0.25%	1/4/1900	0.10%	2.02	99.9%	0.002
Mix Tank 2	MT2	32.00%	38.0%	5314	0.25%	4.25	0.10%	2.02	99.9%	0.002
Day Tank 2	DT2	32.00%	38.0%	5314	0.25%	4.25	0.10%	2.02	99.9%	0.002
							Total	8.08		0.01

Notes:
Assume all VOC/HAP is styrene and PM=PM_{10}=$PM_{2.5}$
VOC/HAP emission factor is from NESHAP Subpart WWWW
PM emission factor is based on assumption of 0.10% of material added to the mixer is lost

Methodology:
PTE of VOC (ton/yr) = Weight % VOC/HAP * Maximum throughput (tons/yr) * VOC/HAP emission factor
Uncontrolled PTE of PM (ton/yr) = Filler powder loading * Maximum throughput (tons/yr) * PM emission factor
Controlled PTE of PM (tons/yr) = Uncontrolled PTE of PM (tons/yr) * (1 - Control efficiency)

Appendix A: Emissions Calculations
Trimming Booths (TB1 & TB2)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Outlet grain loading (grains/acf)	Air flow rate (acf/m)	Control efficiency	Uncontrolled PTE of PM (lb/hr)	Uncontrolled PTE of PM (lb/day)	Uncontrolled PTE of PM (ton/yr)	Controlled PTE of PM (lb/hr)	Controlled PTE of PM (lb/day)	Controlled PTE of PM (ton/yr)
0.0029	325	99%	0.54	12.93	2.36	0.008	0.194	0.035
0.0029	325	99%	0.54	12.93	2.36	0.008	0.194	0.035

Note:
Assume $PM=PM_{10}=PM_{2.5}$

Methodology:
Uncontrolled PTE of PM (lb/hr) = Outlet grain loading (grains/acf) * Air flow rate (acf/min) / (1-Control efficiency) * 60 min/hr * 1 lb/7000 grains
Controlled PTE of PM (lb/hr) = Outlet grain loading (grains/acf) * Air flow rate (acf/min) * 60 min/hr * 1 lb/7000 grains
PTE of PM (lb/day) = PTE of PM (lb/hr) * 24 hrs/day
PTE of PM (ton/yr) = PTE of PM (lb/hr) * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Emission unit	Emission Unit ID	Number	Heat Input	Total Heat input
Air make-up unit	AM1	1	5.04	5.04
Air make-up unit	AM2	1	2.31	2.31
Radiant heater	H1	1	0.24	0.24
Radiant heater	H2	1	0.125	0.125
Radiant heaters	H3 - H19	17	0.01	0.17
Forced-air	H20 - H25	5	0.06	0.30
		Totals:	**8.185**	**8.2**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
[redacted]	[redacted]	70.3

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	[redacted] **see below	5.5	84
Potential Emission in tons/yr	0.07	0.27	0.27	0.02	3.51	0.19	2.95

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	7.381E-05	4.218E-05	2.636E-03	6.327E-02	1.195E-04	**6.614E-02**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	1.757E-05	3.866E-05	4.921E-05	1.336E-05	7.381E-05	**1.926E-04**

Total HAPs	**6.633E-02**
Worst HAP	**6.327E-02**

Methodology is the same as above.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Open Molding Lamination (P3-L1 to P3-L4) and Barrier Coat Area (P3-BC)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Process	Emission Unit ID	Material (resin or gel name)	Weight % Styrene	Maximum usage (lb/unit)	Maximum throughput (units/hr)	Maximum throughput (lb/yr)	UEF (lbs styrene/ton resin or gel)	PTE of styrene (tons/yr)	PTE of VOC/Total HAP (tons/yr)	Transfer efficiency	Uncontrolled PTE of PM (tons/yr)	PM control efficiency	Controlled PTE of PM (tons/yr)
Lamination area	P3-L1 through P3-L4	Production resin	32.0%	55.0	30.0	14,454,000	68.48	247.45	247.45	100%	0.00	N/A	N/A
Barrier Coat area	P3-BC	Barrier coat resin	32.0%	0.02	30.0	4,380	68.48	0.07	0.07	100%	0.00	N/A	N/A
							Totals:	**247.53**	**247.53**				

Notes:
Calculations for the lamination areas are based on maximum resin usages, maximum unit throughput, and worst-case resin for this process.
Unified emission factors (UEF) are from "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association (October 13, 2009).
Available at: http://www.in.gov/idem/ctap/files/plastics_unified_emission_factors.pdf
Assume PM = PM_{10} = $PM_{2.5}$.
Application method for all resins is fluid impingement technology (FIT) (mechanical, non-atomized).
Although the resin areas (lamination, barrier coat, and tooling booth) are equipped with dry filters, the transfer efficiency is 100% so there are no particulate emissions to control from these processes

Methodology
Maximum throughput (lb/yr) = Maximum usage (lb/unit) * Maximum throughput (units/hr) * 8760 hrs/yr
PTE of styrene (tons/yr) = Maximum throughput (lb/yr) * 1 ton resin/2000 lbs resin * UEF (lbs styrene/ton resin) * 1 ton styrene/2000 lbs styrene
PTE of VOC (tons/yr) = PTE of styrene (tons/yr)
Uncontrolled PTE of PM (tons/yr) = Maximum throughput (lb/yr) * (1- (Weight % Styrene)) * (1 - Transfer efficiency) * 1 ton/2000 lbs
Controlled PTE of PM (tons/yr) = Uncontrolled PTE of PM (tons/yr) * (1 - Control efficiency)

Appendix A: Emissions Calculations
VOC/HAPs
Three (3) Polyester Resin Storage Tanks (P3-RT1 through P3-RT3), and One (1) Day Tank (P3-DT1)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Plant 3 TANKS Summary	PTE (tons/yr)
Styrene - P3-RT1	0.075
Styrene - P3-RT2	0.075
Styrene - P3-RT3	0.075
Total for All Tanks	**0.22**

Results from Tanks 4.0.9d

Notes:
Emissions from the Day Tank (P3-DT1) are assumed to be negligable.

Appendix A: Emissions Calculations
VOC and Particulate
Plant 3 Mix Tanks (P3-MT1 & P3-MT2)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Process	Emission Unit ID	Weight % VOC/HAP	Filler/powder loading	Maximum throughput (tons/yr)	VOC/HAP emission factor	PTE of VOC/HAP (ton/yr)	PM emission facor	Uncontrolled PTE of PM (tons/yr)	PM control efficiency	Controlled PTE of PM (tons/yr)
Mix Tank 1	P3-MT1	32.00%	38.0%	7227	0.25%	5.78	0.10%	2.75	99.9%	0.003
Mix Tank 2	P3-MT2	32.00%	38.0%	7227	0.25%	5.78	0.10%	2.75	99.9%	0.003
					Total	11.56		5.49		0.01

Notes:
Assume all VOC/HAP is styrene and PM=PM_{10}=$PM_{2.5}$
VOC/HAP emission factor is from Chapter 5 of the Background Information Document for NESHAP Subpart WWWW
PM emission factor is based on assumption of 0.10% of material added to the mixer is lost, and all tanks are covered.
Methodology used was taken from Title V Renewal No. T039-33297-00556 for Crane Composites, Inc.

Methodology:
PTE of VOC (ton/yr) = Weight % VOC/HAP * Maximum throughput (tons/yr) * VOC/HAP emission factor
Uncontrolled PTE of PM (ton/yr) = Filler powder loading * Maximum throughput (tons/yr) * PM emission factor
Controlled PTE of PM (tons/yr) = Uncontrolled PTE of PM (tons/yr) * (1 - Control efficiency)

Appendix A: Emissions Calculations
Grinding Booth (P3-GR1)

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Unit Number	Outlet grain loading (grains/acf)	Air flow rate (acf/m)	Control efficiency	Uncontrolled PTE of PM (lb/hr)	Uncontrolled PTE of PM (lb/day)	Uncontrolled PTE of PM (ton/yr)	Controlled PTE of PM (lb/hr)	Controlled PTE of PM (lb/day)	Controlled PTE of PM (ton/yr)
P3-GR1	0.0029	325	99%	0.54	12.93	2.36	0.008	0.194	0.035

Note:
Assume $PM=PM_{10}=PM_{2.5}$

Methodology:
Uncontrolled PTE of PM (lb/hr) = Outlet grain loading (grains/acf) * Air flow rate (acf/min) / (1-Control efficiency) * 60 min/hr * 1 lb/7000 grains
Controlled PTE of PM (lb/hr) = Outlet grain loading (grains/acf) * Air flow rate (acf/min) * 60 min/hr * 1 lb/7000 grains
PTE of PM (lb/day) = PTE of PM (lb/hr) * 24 hrs/day
PTE of PM (ton/yr) = PTE of PM (lb/hr) * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Natural Gas Combustion Only

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Emission unit	Number of Units	Heat Input Capacity Each (MMBtu/hr/unit)	Total Potential Throughput (MMCF/yr)
Air makeup (P3-AM)	1	3.00	25.8
Radiant heater (P3-RH1-P3-RH7)	7	0.090	5.4
Forced air furnaces (P3-TC1)	1	0.175	1.5
Forced air furnaces (P3-OH1)	1	0.100	0.9
	Totals:	**3.905**	**33.5**

	Pollutant						
	PM*	PM_{10}*	Direct $PM_{2.5}$*	SO_2	NO_x	VOC	CO
Emission Factor (lb/MMCF)	1.9	7.6	7.6	0.6	100.0	5.5	84.0
Potential Emission (tons/yr)	0.032	0.13	0.13	0.010	1.68	0.09	1.41

*PM emission factor is filterable PM only. PM_{10} emission factor is filterable and condensable PM_{10} combined. $PM_{2.5}$ emission factor is filterable and condensable $PM_{2.5}$ combined.

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMCF)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission (tons/yr)	3.521E-05	2.012E-05	1.258E-03	3.018E-02	5.701E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMCF)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission (tons/yr)	8.384E-06	1.845E-05	2.348E-05	6.372E-06	3.521E-05
				Total HAPs:	**0.03**

Notes:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.
Total Heat Input Capacity (MMBtu/hr) = $\sum$ (Heat Input Capacity Each (MMBtu/hr/unit) * Number of Units)
Potential Throughput (MMCF/yr) = Heat Input Capacity Each (MMBtu/hr) * Number of Units * 8,760 hrs/yr * High Heat Value (1 MMCF/1,020 MMBtu)
Potential Emission (tons/yr) = Total Max Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: Composite Technology Assembly, LLC
Source Address: 904 Markley Drive, 1400 Pidco Drive, 2900 Gary Drive Plymouth, Indiana 46563
Part 70 Permit Number: T099-42116-00023
Prepared By: D&B Environmental Consulting, LLC
Date: 7/1/2024

Paved Roads at Industrial Site
The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Informtation (provided by source)

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Freight Truck (5 axles) - Entry	2.0	1.0	2.0	40.0	80.0	261	0.049	0.1	36.1
Freight Truck (5 axles) - Departure	2.0	1.0	2.0	40.0	80.0	261	0.049	0.1	36.1
Moving Truck (2-axle) (26' Straight Truck) - Entry	2.0	1.0	2.0	10.0	20.0	261	0.049	0.1	36.1
Moving Truck (2-axle) (26' Straight Truck) - Departure	2.0	1.0	2.0	10.0	20.0	261	0.049	0.1	36.1
		Totals	**8.0**		**200.0**			**0.4**	**144.3**

Average Vehicle Weight Per Trip = 25.0 tons/trip
Average Miles Per Trip = 0.05 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	25.0	25.0	25.0	tons = average vehicle weight (provided by source)
sL =	9.7	9.7	9.7	g/m^2 = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)] (Equation 2 from AP-42 13.2.1)
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	2.319	0.464	0.1138	lb/mile
Mitigated Emission Factor, Eext =	2.120	0.424	0.1041	lb/mile

Process	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Freight Truck (5 axles) - Entry	0.04	0.01	0.00
Freight Truck (5 axles) - Departure	0.04	0.01	0.00
Moving Truck (2-axle) (26' Straight Truck) - Entry	0.04	0.01	0.00
Moving Truck (2-axle) (26' Straight Truck) - Departure	0.04	0.01	0.00
Totals	**0.15**	**0.03**	**0.01**

Methodology
Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particle Matter (<2.5 um)
PTE = Potential to Emit