STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2482-A AFIN: 10-00531

1. PERMITTING AUTHORITY:

Division of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

Siplast. Inc. - Gum Springs Facility
151 McClellan Blvd.
Arkadelphia, Arkansas 71923

3. PERMIT WRITER:

Elliott Marshall

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Custom Compounding of Purchased Resins
NAICS Code: 325991

5. ALL SUBMITTALS:

The following is a list of ALL permit applications included in this permit revision.

| Date of Application | Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment) | Short Description of Any Changes That Would Be Considered New or Modified Emissions |
|---|---|---|
| 10/18/2023 | New | This is an initial permit; all emissions are new |

6. REVIEWER'S NOTES:

The facility submitted an application for an initial minor source permit; the facility plans to expand its product line which will necessitate the use of new raw materials, increase the use of some existing raw materials, and require the installation on new process equipment. The Siplast - Gum Springs facility did not have an air permit or registration prior to this permitting action. The facility is permitted at 0.2 tpy $PM/PM_{10}$, 0.1 tpy $SO_2$, 56.4 tpy VOC, 1.7 tpy CO, 1.1 tpy $NO_x$, 5.02E-05 tpy Lead, 5.02E-06 tpy Cadmium, 0.08 tpy Acetone, 0.02 tpy Ammonia and 7.88 tpy Total HAPs; all sources are considered new.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

There are no active or pending enforcement actions.

8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N
If yes, were GHG emission increases significant? N

b) Is the facility categorized as a major source for PSD? N
- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

If yes for 8(b), explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

| Source | Pollutant | Regulation (NSPS, NESHAP or PSD) |
|---|---|---|
| 05 | NOx, CO, VOC | NSPS JJJJ |
| | HAPs | NESHAP ZZZZ |

10. UNCONSTRUCTED SOURCES:

| Unconstructed Source | Permit Approval Date | Extension Requested Date | Extension Approval Date | If Greater than 18 Months without Approval, List Reason for Continued Inclusion in Permit |
|---|---|---|---|---|
| N/A | | | | |

11. PERMIT SHIELD – TITLE V PERMITS ONLY:

Did the facility request a permit shield in this application? N
(Note - permit shields are not allowed to be added, but existing ones can remain, for minor modification applications or any Rule 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? N
If not, explain why.

For any requested inapplicable regulation in the permit shield, explain the reason why it is not applicable in the table below.

| Source | Inapplicable Regulation | Reason |
|---|---|---|
| N/A | | |

12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

List sources potentially subject to CAM because they use a control device to achieve compliance and have pre-control emissions of at least 100 percent of the major source level. List the pollutant of concern and a brief summary of the CAM plan (temperature monitoring, CEMs, opacity monitoring, etc.) and frequency requirements of § 64.

| Source | Pollutant Controlled | Cite Exemption or CAM Plan Monitoring and Frequency |
|---|---|---|
| N/A | | |

13. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

14. AMBIENT AIR EVALUATIONS:

The following are results for ambient air evaluations or modeling.

a) NAAQS

A NAAQS evaluation is not required under the Arkansas State Implementation Plan, National Ambient Air Quality Standards, Infrastructure SIPs and NAAQS SIP per Ark. Code Ann. § 8-4-318, dated March 2017 and the DEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated. Based on Division of Environmental Quality procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Division of Environmental Quality has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value ($mg/m^3$), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

| Pollutant | TLV ($mg/m^3$) | PAER (lb/hr) = 0.11 × TLV | Proposed lb/hr | Pass? |
|---|---|---|---|---|
| Maleic Anhydride | 0.01 | 0.0011 | 5.93E-04 | Yes |

| Pollutant | TLV ($mg/m^3$) | PAER (lb/hr) = 0.11 × TLV | Proposed lb/hr | Pass? |
|---|---|---|---|---|
| Lead | 0.05 | 0.055 | 4.09E-05 | Yes |
| Cadmium | 0.01 | 0.0011 | 4.09E-06 | Yes |

c) $H_2S$ Modeling:

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the $H_2S$ Standards Y
If exempt, explain: No $H_2S$ Emissions

15. CALCULATIONS:

| SN | Emission Factor Source (AP-42, testing, etc.) | Emission Factor (lb/ton, lb/hr, etc.) | Control Equipment | Control Equipment Efficiency | Comments |
|---|---|---|---|---|---|
| 01 | AP-42, Chapter 5.2 & Mass Balance | **Liquid Mixing**[1]<br>Splash Loading Equation from AP-42 5.2-4 Equation (1) was used to determine loading losses<br><br>S = Saturation Factor: 1.75<br>P = true vapor pressure (varies)<br>M = Molecular weight of vapors (varies)<br>T = Temp.: 25 C (298.15 K)<br><br>Total lb VOC/yr= 111,669.34<br><br>**Solids Mixing**<br>Capture Efficiency: 79.8%<br><br>Maximum Hourly solids addition = 10,000 lb/hr<br><br>Maximum annual solids usage rate = 24,596,451.85 lb/yr | Baghouse/ Building (only controls solids portion of mixing operation) | 99.0%/ 50% | **Liquid Mixing**<br>Max number of tank transfer operations: 4<br><br>**Solid Mixing**<br>Max number of drop points: 2 |
| 05 | AP-42, Chapter 3.2 & NSPS JJJJ | **lb/MMBtu**<br><br>AP-42<br>PM: 1.94E-02<br>$PM_{10}$: 9.5E-03<br>$SO_2$: 5.88E-04<br><br>NSPS JJJJ<br>VOC: 8.81E-01<br>CO: 3.72<br>$NO_x$: 2.21 | - | - | 1.82 MMBtu/hr, 500 hr/yr |

[1]Inputs into the splash loading equation were based on chemical/physical properties of the pure component. The use of these properties results in a more conservative emissions estimate as the vapor pressure of the pure component will be higher than the vapor pressure of the same component within a mixture. The resulting emission rate was multiplied by the maximum number of transfer operations that a product may undergo to estimate the final emission rates for each regulated pollutant.

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

| SN | Pollutants | Test Method | Test Interval | Justification |
|---|---|---|---|---|
| N/A | | | | |

17. MONITORING OR CEMS:

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

| SN | Parameter or Pollutant to be Monitored | Method (CEM, Pressure Gauge, etc.) | Frequency | Report (Y/N) |
|---|---|---|---|---|
| N/A | | | | |

18. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

| SN | Recorded Item | Permit Limit | Frequency | Report (Y/N) |
|---|---|---|---|---|
| SN-01 | Name and Type of Each VOC-containing material used | N/A | Monthly | N |
| | Amount (pounds) of each VOC-containing material used during each month | N/A | Monthly | N |
| | VOC content (% weight) of each VOC-containing material used, as documented by SDS or equivalent | SDS documents must be retained for a minimum of 24 months beyond the date of the materials' last use | Monthly | N |
| | Twelve month rolling total of the VOC emissions | 55.9 tons per rolling 12 month period | Monthly | N |

| SN | Recorded Item | Permit Limit | Frequency | Report (Y/N) |
|---|---|---|---|---|
| | emitted from the facility | | | |
| | Emission factors used in calculations | N/A | Monthly | N |
| SN-01 | Name and Type of Each HAP-containing material used | N/A | Monthly | N |
| | Threshold Limit Value (TLV) of each HAP-containing material used | >1.0 $mg/m^3$ | Monthly | N |
| | Indicate if the HAP-containing material used is a HAP listed on Table 1 of 40 C.F.R. Part 63, Subpart VVVVVV | N/A | Monthly | N |
| | Indicate if the HAP-containing material used is a "material(s) containing HAP" as defined by 40 C.F.R. Part 63, Subpart CCCCCCC, § 63.11607 | N/A | Monthly | N |
| | Amount (pounds) of each HAP-containing material used during each month | N/A | Monthly | N |
| | HAP content (% weight) of each HAP-containing material used, as documented by | SDS documents must be retained for a minimum of 24 months beyond the date | Monthly | N |

| SN | Recorded Item | Permit Limit | Frequency | Report (Y/N) |
|---|---|---|---|---|
| | SDS or equivalent | of the materials' last use | | |
| | Twelve month rolling total of the HAP emissions emitted from the facility | 7.86 tons Single HAP/Total HAPs per rolling 12 month period | Monthly | N |
| | Emission factors used in calculations | N/A | Monthly | N |
| SN-01 | Acetone and Ammonia usage | 0.08 tons per rolling 12-months of Acetone<br><br>0.02 tons per rolling 12-months of Ammonia | Monthly | N |
| SN-05 | Hours of operation | 500 hr/yr | Monthly | N |
| SN-05 | Records required by NSPS JJJJ | 40 C.F.R. § 60.4245(a)(1-4) | N/A | N |

19. OPACITY:

| SN | Opacity | Justification for limit | Compliance Mechanism |
|---|---|---|---|
| 01 | 5% | Rule 18.501 | Inspector Observation |
| 05 | 5% | Rule 18.501 | natural gas as sole fuel |

20. DELETED CONDITIONS:

| Former SC | Justification for removal |
|---|---|
| None | |

21. GROUP A INSIGNIFICANT ACTIVITIES:

The following is a list of Insignificant Activities including revisions by this permit.

| Source Name | Group A Category | Emissions (tpy) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | $PM/PM_{10}$ | $SO_2$ | VOC | CO | $NO_x$ | HAPs | |
| | | | | | | | Single | Total |
| Natural Gas-fired Boiler 1 (0.017 MMBtu/hr) | A-1 | 5.5E-04 | 4.38E-05 | 4.02E-04 | 6.13E-03 | 7.03E-03 | 1.31E-04 | 1.38E-04 |
| Natural Gas-fired Boiler 2 (0.017 MMBtu/hr) | A-1 | 5.5E-04 | 4.38E-05 | 4.02E-04 | 6.13E-03 | 7.03E-03 | 1.31E-04 | 1.38E-04 |
| Natural Gas-fired Boiler 3 (0.017 MMBtu/hr) | A-1 | 5.5E-04 | 4.38E-05 | 4.02E-04 | 6.13E-03 | 7.03E-03 | 1.31E-04 | 1.38E-04 |
| Methyl Methacrylate Storage Tank 1 (10,000 gal.) | A-3 | | | 0.33 | | | | 0.33 |
| 2-Ethylhexyl Acrylate Storage Tank 2 (10,000 gal.) | A-3 | | | 0.01 | | | | |

22. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

| Permit # |
|---|
| N/A |

# APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

# Fee Calculation for Minor Source

Revised 03-11-16

Facility Name: Siplast. Inc. - Gum Springs

Permit Number: 2482-A

AFIN: 10-00531

| | | | Old Permit | New Permit |
|---|---|---|---|---|
| $/ton factor | 28.14 | Permit Predominant Air Contaminant | 0 | 56.4 |
| Minimum Fee $ | 400 | Net Predominant Air Contaminant Increase | 0 | |
| Minimum Initial Fee $ | 500 | | | |
| | | Permit Fee $ | 1587.096 | |
| Check if Administrative Amendment | ☐ | Annual Chargeable Emissions (tpy) | 56.4 | |

| Pollutant (tpy) | Old Permit | New Permit | Change |
|---|---|---|---|
| PM | 0 | 0.2 | 0.2 |
| $PM_{10}$ | 0 | 0.2 | 0.2 |
| $PM_{2.5}$ | 0 | 0 | 0 |
| $SO_2$ | 0 | 0.1 | 0.1 |
| VOC | 0 | 56.4 | 56.4 |
| CO | 0 | 1.7 | 1.7 |
| $NO_X$ | 0 | 1.1 | 1.1 |
| Total HAP | 0 | 7.88 | 7.88 |
| Acetone | 0 | 0.08 | 0.08 |
| Ammonia | 0 | 0.02 | 0.02 |