STATEMENT OF BASIS

For the issuance of Air Permit # 0821-AR-16 AFIN: 60-00416

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Ashland LLC 1901 North Redmond Road Jacksonville, Arkansas 72076

3. PERMIT WRITER:

Alexander Sudibjo

4. NAICS DESCRIPTION AND CODE:

NAICS Description:Plastics Material and Resin ManufacturingNAICS Code:325211

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
	11/12/2018	Deminimis	N/A

6. **REVIEWER'S NOTES**:

With this deminimis modification, the facility is changing the contents of ST-7 (SN-31) to polyester resin and ST-13 (insignificant activity) to MP Diol. There are no changes to the facility's permitted annual emissions.

7. COMPLIANCE STATUS:

The facility was last inspected on December 5, 2016. There were no compliance issues at the time of the inspection.

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?

- 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)
33, 34	HAPs	NESHAP 40 CFR Part 63 Subpart ZZZZ
34	Criteria Pollutants	NSPS 40 CFR Part 60 Subpart IIII

10. PERMIT SHIELD – TITLE V PERMITS ONLY:

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

If yes, are applicable requirements included and specifically identified in the permit? 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		

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. 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 ADEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

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

1st Tier Screening (PAER)

No new modeling was done for this permit modification. Modeling results were taken from permit #0821-AR-09.

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m ³)	$PAER (lb/hr) = 0.11 \times TLV$	Proposed lb/hr	Pass?
Acetone	1187	130	3.53	Yes
Styrene	85.2	9.37	7.5	Yes
Phthalic Anhydride	6.06	0.666	0.3	Yes
Maleic Anhydride	0.401	0.044	1.8	No
Glycols	100	11.0	6.0	Yes
Methanol	262	28.8	0.1	Yes

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL $(\mu g/m^3) = 1/100$ of Threshold Limit Value	Modeled Concentration $(\mu g/m^3)$	Pass?
Maleic Anhydride	4.01	3.93376	Y

c) H₂S Modeling:

The facility does not have any H_2S emissions.

13. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01/02	AP-42 5.2 & Tanks		T.O.	98%	Solvent Based Laminating Adhesive
22	Mass Balance		Carbon Bed	95%	
29	Industry Standard	0.01 gr/dscf	Baghouse	99.9%	
32		0.03 grain/ft ³ 1055 ft ³ /min 1 lb/ 7000 grains	Dust Collector	99.9%	
04, 05, 06, 07, 08	AP-42 1.3 or 1.4 Use Worst Case	-	None		
12		<u>SBLA</u> L=12.46 SPM/T			Drumming
27		<u>Lb/hr</u> = (0.015 grains PM/dscf)*(2,100 cfm) *(60min/hr)*(1 lb/1000 grain) <u>Tpy</u> =lb/hr*(8760/2000)	None		
16-20, 23-26, 28, 31, 35-40	Tanks Program	-	None		

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SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
33	AP-42 3.3	$\frac{\text{Lb/hp-hr}}{\text{PM/PM}_{10}=2.20 \text{ E-3}}$ $SO_2=2.05 \text{ E-3}$ $VOC=2.47 \text{ E-3}$ $CO=6.68 \text{ E-3}$ $NO_X=0.031$	None		
34	AP-42 3.3	$\frac{\text{Lb/hp-hr}}{\text{PM/PM}_{10}=2.20 \text{ E-3}}$ $SO_2=2.05 \text{ E-3}$ $VOC=2.47 \text{ E-3}$ $CO=6.68 \text{ E-3}$ $NO_X=0.031$	None		

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
N/A				

15. 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)
01 & 02	Minimum T.O. temperature	CEM	Continuously	No

16. 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)
Facility	Finished Resin	140,000,000 lbs.	Monthly	Ν

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SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
Facility	Maleic Anhydride	26,940,000 lbs.	Monthly	N
Facility	Phthalic Anhydride	22,400,000 lbs.	Monthly	Ν
Facility	Styrene	54,000,000 lbs.	Monthly	N
Facility	Ethylene Glycol	4,300,000 lbs.	Monthly	Ν
Facility	Methanol	2,000,000 lbs.	Monthly	Ν
Facility	Dicyclopentadiene	17,580,000 lbs.	Monthly	Ν
Facility	Neopentyl Glycol	8,760,000 lbs.	Monthly	Ν
Facility	Dipropylene Glycol	8,510,000 lbs.	Monthly	Ν
Facility	Ethanol	3,280,000 lbs.	Monthly	Ν
Facility	Ethyl Acetate	3,004,000 lbs.	Monthly	Ν
33, 34	Hours of Operation Maintenance	100 each per year	Monthly	Ν
Facility	Blending of product during scheduled annual maintenance of T.O.	2,000,000 lbs. of product while venting to the atmosphere	During annual scheduled	N
Facility	Process Temperature during blending or thinning of any "in-process" resin	120° F	shutdown of T.O.	Ν
	Process time of each batch during blending and thinning	14 days venting to the atmosphere		

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01 - 08	5%	§18.501	Natural gas usage only.
09 - 26, 28, 31, 35	0%	§18.501	VOC emissions only.
27, 29, & 32	5%	§18.501	PM emissions only.
33 & 34	5%	§18.501	Inspector Observation

18. DELETED CONDITIONS:

Former SC	Justification for removal		
N/A			

19. GROUP A INSIGNIFICANT ACTIVITIES:

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

	Group A	Emissions (tpy)						
Source Name	Category	PM/PM ₁₀	SO ₂	VOC	СО	NO _X	HAI Single	Ps Total
4.3 MMBtu/hr Hot Oil Boiler	A-1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	Siligie	Total

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	Group A	Emissions (tpy)							
Source Name	Category	PM/PM ₁₀	SO_2	VOC	СО	NO _X	HAPs		
		$\mathbf{P}\mathbf{N}\mathbf{I}/\mathbf{P}\mathbf{N}\mathbf{I}_{10}$	\mathbf{SO}_2	VUC	CO	NOX	Single	Total	
Storage Tanks < 250 Gallons	A-2			< 0.1					
Tank Transfers	A-3		Incorporated in tank emissions						
900 Gal TDI Storage Tank	A-3			5.0E-6			0.000005		
Double Walled Diesel Tank, 350 Gallons	A-3			4.0E-5					
Diethylene Glycol/ Piperazine Heated Tank, 350 Gallons	A-3			3.5E-5					
Laboratory equipment used exclusively for routine chemical and physical analysis	A-5	Acetone = 420 lbs/yr = 0.21 tpy							
Welding equipment	A-7	0.0017						0.00014	
Containers less than 5 gallons which do not emit any detectable VOC or HAP when closed	A-8								
Component Fugitive Emissions	A-13			0.077			Styrene = 0.049, Maleic Anhydride = 0.001, Phthalic Anhydride = 0.002, Ethylene Glycol = 0.024, & Methanol = 0.0001	0.076	
Application Laboratory Fugitives	A-13								
Tank Cleanings	A-13			2.8E-4			0.00028		
Propylene Glycol Tank (ST-10)	A-13								
15,000 gal MP Diol Tank (ST-13)	A-13			0.0005					

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #	
0821-AR-15	

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Facility Name: Ashland LLC Permit Number: 0821-AR-16 AFIN: 60-00416

\$/ton factor	23.93
Minimum Fee \$	400
Minimum Initial Fee \$	500

	Old Permit	New Permit
Permit Predominant Air Contaminant	79.7	79.7
Net Predominant Air Contaminant Increase	0	
Permit Fee \$	400	
Annual Chargeable Emissions (tpy)	79.7	

Check if Administrative Amendment

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$\begin{array}{c cccccc} {\rm CO} & & 61.5 & 61.5 & 0 \\ {\rm NO}_{\rm X} & & 31.9 & 31.9 & 0 \\ {\rm Styrene} & & 8.2 & 8.2 & 0 \\ {\rm PA, MA, GC, and Methanol} & & 5.9 & 5.9 & 0 \\ {\rm Acetone} & & 0.16 & 0.16 & 0 \\ & & 0 & 0 & 0 \\ & & 0 & 0 & 0 \\ & & 0 & 0$				
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Revised 03-11-16