

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2248-AR-5 AFIN: 02-00317

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Alvar Resins Inc.  
141 Mac McGoogan Drive  
Crossett, Arkansas 71635

3. PERMIT WRITER:

Andrea Sandage

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Cyclic Crude, Intermediate, and Gum and Wood Chemical  
Manufacturing  
NAICS Code: 325194

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
8/25/2020	Deminimis	Added 3 tanks to SN-01 – No change to total allowable emissions due to rounding

6. REVIEWER'S NOTES:

ALREZ Inc. operates a gum and wood chemical manufacturing facility located at 141 Mac McGoogan Drive, Crossett. This DeMinimis permit modification is being issued to add T108 Glycerin Storage Tank, T109 Linseed Oil Storage Tank and T110 Soybean Oil (flush) Storage Tank to SN-01 Storage Tanks and update the process description.

Total permitted emissions did not change with this activity.

The three tanks did increase the SN-01 VOC emissions. SN-01 total emissions are 0.032 tpy VOC rounded up to 0.1 tpy.

Permanent Notes:

40 CFR 60 Subpart Kb does not apply to the tanks due to low vapor pressure of the liquids. 40 CFR 63 Subpart VVVVVV does not apply because the HAP used is not on the list of applicable HAPs in the subpart.

The tank farm has ten storage tanks

- IA (A-13) - T101, T102 (Rosin)
- SN-06 - T103, T104 (oil)
- SN-01 - T105 (nonylphenol), T106 (storage), T107 (storage), T108 (glycerin), T109 (linseed oil), and T110 (soya flush)

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues. The facility was inspected on March 1 and 5, 2019 with no violations found. There are no active or pending enforcement actions at this time.

8. PSD/GHG APPLICABILITY:

- a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? 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*

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
N/A		

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
none				

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.

1<sup>st</sup> Tier Screening (PAER)

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/m<sup>3</sup>), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Maleic Anhydride	0.401	0.044	0.17	N

2<sup>nd</sup> 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 (µg/m <sup>3</sup> ) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m <sup>3</sup> )	Pass?
Maleic Anhydride	4.01	1.355	Y

## 13. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01	Tanks 4.0.9d	N/A	vent outside	N/A	T105 – 5 turnovers; 20,980 gal T106, T107 – 150 turnovers; 20,990 gal each T108 – 4 turnovers; 8,812 gal T109 – 4 turnovers; 5,948 gal T110 – 8 turnovers; 5,948 gal
02	Permittee supplied data	0.149 lb/ ft <sup>3</sup> vapor ρ	Triple liquid seal	90%	Emissions when reactor fills, discharges, and during heating & reaction time. 301M ft <sup>3</sup> /yr fill volume 353 ft <sup>3</sup> /yr reactor discharge volume 50 mm Hg vapor pressure 0.149 lb/ ft <sup>3</sup> vapor ρ Heating/Reaction time— 43MM ft <sup>3</sup> /yr water generated; 90% efficiency @30 mm Hg VOC load.
03	AP-42 Chapter 11.19.2	PM <sub>10</sub> =0.0024 lb/ton PM=0.0054 lb/ton	Takes place inside building	80%	25MM lbs/yr Scraping takes place inside building
04	ADEQ accepted factor	0.01 grains/DSCF	Dust Collector	Not Provided	10M SCFM blower 8760 hrs/yr.
05	ADEQ accepted factor	0.01 grains/DSCF	Dust Collector	Not Provided	25M SCFM blower 8760 hrs/yr
06	Tanks 4.0	Working loss=3.27 lb VOC/yr Breathing loss=8.36 lb/yr	None	N/A	Ink Oil Tanks T103 and T104

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
07	AP-42 Tables 1.4-1 and 1.4-2	lb/MMscf PM/PM <sub>10</sub> =7.6 SO <sub>x</sub> =0.6 VOC=5.5 CO=84 NO <sub>x</sub> =100  lb/MM Btu PM/PM <sub>10</sub> =0.008 SO <sub>x</sub> =0.001 VOC=0.006 CO=0.084 NO <sub>x</sub> =0.100	None	N/A	12.5MM Btu/hr natural gas fired Hot/Cold Oil Heater
08	AP-42 Table 13.4-1	PM/PM <sub>10</sub> =0.019 lb/Mgal	None	N/A	Water flow = 1000gpm

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
08	PM/PM <sub>10</sub>	Conductivity	Weekly when SN-08 is operating	[Regulation No. 19 §19.705, §19.703, Regulation No. 18 §18.1004 §18.1003, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
08	PM/PM <sub>10</sub>	Total Dissolved Solids on Cooling Tower Water	Every Six Months when SN-08 is operating	[Regulation No. 19 §19.705, §19.703, Regulation No. 18 §18.1004 §18.1003, and A.C.A. §8-4-203 as referenced by

SN	Pollutants	Test Method	Test Interval	Justification
				§8-4-304 and §8-4-311]

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)
none				

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)
01-05	Product produced	25,000,000 pounds per rolling 12-month period.	Monthly	N
01-05	Maleic Anhydride Processed	600,000 kg per rolling 12-month period.	Monthly	N
06	Ink Oil processed	1,500,000 kg Ink Oil per rolling 12-month period	Monthly	N
08	Total Dissolved Solids (TDS)	12,000 parts/million (ppm)	Once every six months	N
08	Conductivity of cooling water	Value which correlates with 12,000 ppm TDS	Weekly	N

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 02, 03, 04, 05, 06, 07	5%	[Regulation No. 18 §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]	Inspector Observation
08	20%	[Regulation No. 19 §19.503 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]	Inspector Observation

18. DELETED CONDITIONS:

Former SC	Justification for removal
	none

19. 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 <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
Boiler 4.3 MMbtu/hr	A-1	0.142	0.012	0.102	2.77	3.37	0.036	0.036
550 Gallon Diesel Storage Tank & Dispenser	A-3	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Rosin Tank #1 T101	A-13	0.00	0.00	0.24	0.00	0.00	0.00	0.00
Rosin Tank #2 T102	A-13	0.00	0.00	0.24	0.00	0.00	0.00	0.00

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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 #
2248-AR-4



## APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Facility Name: Alvar Resins Inc

Permit Number: 2248-AR-5

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\$/ton factor	23.93	Permit Predominant Air Contaminant	<u>Old Permit</u>	<u>New Permit</u>
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	26.1	26.1
Minimum Initial Fee \$	500	Permit Fee \$	0	
Check if Administrative Amendment	<input type="checkbox"/>	Annual Chargeable Emissions (tpy)	<u>400</u>	<u>26.1</u>

Pollutant (tpy)	Old Permit	New Permit	Change
PM	18.9	18.9	0
PM <sub>10</sub>	0	0	0
PM <sub>2.5</sub>	18.9	18.9	0
SO <sub>2</sub>	0.1	0.1	0
VOC	26.1	26.1	0
CO	4.6	4.6	0
NO <sub>x</sub>	5.5	5.5	0
Maleic Anhydride	0.75	0.75	0