

STATEMENT OF BASIS

For the issuance of Air Permit # 2455-A AFIN: 72-01616

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

MoistureShield, Inc.  
801 Jefferson Street  
Springdale, Arkansas 72764

3. PERMIT WRITER:

Sarah Neoh

4. NAICS DESCRIPTION AND CODE:

NAICS Description: All Other Plastics Product Manufacturing  
NAICS Code: 326199

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
11/9/2022	New	This is the first minor source permit for this facility. Permitted emissions are as follows: 31.3 tpy PM, 30.3 tpy PM <sub>10</sub> , 1.3 tpy SO <sub>2</sub> , 80.1 tpy VOC, 29.4 tpy CO, 26.7 tpy NO <sub>x</sub> , 0.1 tpy acetone, and 9.44 tpy total HAPs.

6. REVIEWER'S NOTES:

MoistureShield, Inc. (MoistureShield) manufactures plastic and wood composite building products, e.g., decking, at a facility located at 801 North Jefferson Street, Springdale, Washington County, Arkansas. MoistureShield (and predecessor companies) have conducted manufacturing operations at this site since 1997 and actual controlled emissions have remained

below the thresholds required for a permit [Arkansas Rule 18.301(A)/Rule 19.401], and below thresholds required for an air Registration [Rule 18.315(A)/Rule 19.417(A)]. However, MoistureShield has decided to obtain a Rule 19 minor source air permit to classify their air pollution control equipment as “federally enforceable”, thereby limiting the facility’s Potential to Emit (PTE) as defined by federal regulations. The minor source permit will also provide a straightforward mechanism for permitting of future facility expansions. The facility’s permitted emissions are as follows: 31.3 tpy PM, 30.3 tpy PM<sub>10</sub>, 1.3 tpy SO<sub>2</sub>, 80.1 tpy VOC, 29.4 tpy CO, 26.7 tpy NO<sub>x</sub>, 0.1 tpy acetone, and 9.44 tpy total HAPs.

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 current/pending enforcement actions for this facility.

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/A**

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)
None		

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. PERMIT SHIELD – TITLE V PERMITS ONLY: N/A

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

Based on Division of Environmental Quality procedures for review of non-criteria pollutants, emissions of non-criteria pollutants are below thresholds of concern. 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.

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 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<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?
Chlorine	0.29	0.031	0.0067	Y
Pentachlorophenol	0.5	0.055	0.00044	Y
POM	0.2	0.022	0.00084	Y
Antimony Compounds	0.5	0.055	6.7E-05	Y
Arsenic Compounds	0.01	0.0011	0.00019	Y
Beryllium Compounds	5E-05	5.5E-06	9.6E-06	N
Cadmium	0.002	0.00022	5.6E-05	Y

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Compounds				
Chromium Compounds	0.003	0.00033	0.00022	Y
Chromium VI Compounds	0.0001	1.1E-05	3.0E-05	N
Cobalt Compounds	0.02	0.0022	5.7E-05	Y
Manganese Compounds	0.02	0.0022	0.014	N
Mercury Compounds	0.01	0.0011	3.5E-05	Y
Nickel Compounds	0.1	0.011	0.00033	Y
Selenium Compounds	0.2	0.022	2.5E-05	Y

### 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 Division of Environmental Quality 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?
Beryllium Compounds	5.0E-04	5E-05	Y
Chromium VI Compounds	1.0E-03	1.8E-04	Y
Manganese Compounds	0.2	0.080	Y

### c) H<sub>2</sub>S 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<sub>2</sub>S Standards

Y

If exempt, explain: The facility does not emit H<sub>2</sub>S

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
S-01	Mass balance and 2014 Enviva Pellets application, with a 100% safety factor	Pollutant Loading (gr/ft <sup>3</sup> ) = 0.008	Baghouse	99%	600,000 cubic feet/hr of air flow
S-02					600,000 cubic feet/hr of air flow
S-03A					600,000 cubic feet/hr of air flow
S-05					300,000 cubic feet/hr of air flow
S-06					300,000 cubic feet/hr of air flow
S-07					300,000 cubic feet/hr of air flow
S-08					150,000 cubic feet/hr of air flow
S-09					150,000 cubic feet/hr of air flow
S-10					150,000 cubic feet/hr of air flow
S-11					150,000 cubic feet/hr of air flow
S-12					150,000 cubic feet/hr of air flow
S-13					150,000 cubic feet/hr of air flow
S-14					150,000 cubic feet/hr of air flow
S-15					150,000 cubic feet/hr of air flow
S-16					108,000 cubic feet/hr of air flow
S-17					108,000 cubic feet/hr of air flow
N-01					144,000 cubic feet/hr of air flow
N-02					72,000 cubic feet/hr of air flow
N-03					72,000 cubic feet/hr of air flow

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
N-10					150,000 cubic feet/hr of air flow
S-03B	AP-42 Tables 1.4-3 and 1.4-4 (July 1998)	Varies	None	N/A	8.588MM scf/yr (or 980 scf/hr) of natural gas
S-04	AP-42, Tables 1.6-3 and 1.6-4 (March 2022).	Varies	None	N/A	10,853,640 lbs/yr (or 1,239 lbs/hr) of wood combusted
S-18	AP-42 Tables 1.4-3 and 1.4-4 (July 1998).	Varies	Capture Efficiency  RTO Destruction Efficiency	90%  98%	8.70 MMBtu/hr  74.7MM scf/yr (or 8,525 scf/hr) of natural gas
S-18A	Mass balance and AP-42 Tables 1.4-1, 1.4-2, 1.4-3, 1.4-4	Max VOC/HAP content of coatings (lb/gal) = 8.0	Capture Efficiency  RTO Destruction Efficiency	90%  98%	166,966 gal/yr (19.06 gal/hr) of coatings
N-04	AP-42 Tables 1.4-3 and 1.4-4 (July 1998)	Varies	Baghouse	99%	2.5 MMBtu/hr 21.47MM scf/yr (or 2,451 scf/hr) of natural gas
N-05	AP-42 Tables 1.4-3 and 1.4-4 (July 1998)	Varies	None	N/A	2.5 MMBtu/hr 21.47MM scf/yr (or 2,451 scf/hr) of natural gas
N-06					2.5 MMBtu/hr 21.47MM scf/yr (or 2,451 scf/hr) of natural gas

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
N-07					2.5 MMBtu/hr  21.47MM scf/yr (or 2,451 scf/hr) of natural gas
N-08	Mass balance and 2014 Enviva Pellets application, with a 100% safety factor	Pollutant Loading (gr/ft <sup>3</sup> ) = 0.03	Cyclone	95%	360,000 cubic feet/hr of air flow
N-09					360,000 cubic feet/hr of air flow

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
None				

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)
S-18A	Minimum Combustion Zone Temperature	Temperature monitoring system	Continuous	N

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)
S-18A	Coatings	166,966 gal per rolling 12 month	Monthly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	Max VOC content	period		
	Max HAP content	8.00 lb VOC/gal 0.80 HAP/gal		

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
S-01 to S-17 N-01 to N-04 N-09 to N-11	5%	§18.501 and Ark. Code. Ann.	Observation

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 <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
0.8 MMBtu/hr Natural Gas-Fired ACE Oven	A-1	0.03	2.06E-03	0.02	0.29	0.34	--	6.49E-03
300-Gal Diesel Storage Tank	A-3	--	--	3.70E-04	--	--	--	3.7E-04
North Cooling Tower	A-13	0.25	--	--	--	--	--	--



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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 Registration or General Permit Changing to Minor Source

Revised 03-11-16

MoistureShield, Inc.  
 Permit Number: 2455-A  
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\$/ton factor	27.27	Permit Predominant Air Contaminant	80.1
Minimum Initial Fee \$	500	Permit Fee \$	<u>2184.327</u>
		Annual Chargeable Emissions (tpy)	<u>80.1</u>

Pollutant (tpy)	Registration or General Permit	New Permit	Change
PM	31.3	31.3	0
PM <sub>10</sub>	30.3	30.3	0
PM <sub>2.5</sub>	0	0	0
SO <sub>2</sub>	1.3	1.3	0
VOC	80.1	80.1	0
CO	26.8	26.8	0
NO <sub>x</sub>	23.6	23.6	0