

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0544-AR-18 AFIN: 03-00002

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Baxter Healthcare Corporation  
 1900 Highway 201 North  
 Mountain Home, Arkansas 72653

3. PERMIT WRITER:

John Mazurkiewicz

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Unlaminated Plastics Film and Sheet (except Packaging)  
 Manufacturing  
 NAICS Code: 326113

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
8/4/2021	Modification	Replace SN-101 Scrubber & TO and SN-119 Dry Beds with LESNI; Add SN-124 Generator; Add HAP limits for SN-18 & SN-112; Revise VOC and HAP Emissions at SN-97 and Remove SN-09 and SN-109
3/17/2022	Modification	Add SN-17 Temp, SN-121, and SN-122; Include Plantwide Limits for CO and NO <sub>x</sub> (95 tpy); Include Alternative to SN-116 and SN-117 Requirement to Maintain an Ethylene Oxide DRE of 99.9% (0.25 ppm); Revise emission

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
		Limits for SN-116 and SN-117
10/7/2022	Administrative Amendment	Remove SN-119 and SN-123

6. REVIEWER’S NOTES:

In addition to changes listed in the permit, several sources have been removed from Specific Condition #1 and 2 because they are included in other emission sources. Specifically, the Sterilization Chamber Air Evacuation Exhaust (SN-11 through SN-15 and SN-57), the (4) 150 lb Sterilization Chamber Rear Exhaust (SN-78 through SN-81), the (2) 200 lb Sterilization Chamber Rear Exhaust (SN-82 and SN-83), the Ethylene Glycol Tanks (SN-88), and Aeration Room (SN-118) have been removed. The Babcock & Wilcox Boiler (SN-17) has also been removed as it is no longer in service.

Initial CO and formaldehyde test requirements (Specific Condition #33) have been added for the LESNI System (SN-101) and an initial formaldehyde test requirement (Specific Condition #57) has been added for the Aerations Rooms (SN-116 and SN-117).

The heat input rate for the Cleaver Brook Boiler (SN-18) has been corrected in the permit from 24 to 20.412 MMBtu/hr.

The Equipment List Appendix has been removed from the permit.

There have been various updates/corrections to dates and to regulatory citations throughout the permit and various formatting changes have been made.

7. COMPLIANCE STATUS:

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

The last inspection was conducted on February 24, 2020. There was a high priority violation noted. Ethylene oxide (lb/hr) limits were exceeded. CAO LIS No. 21-037 was signed May 5, 2021 for exceeding ethylene oxide limits. This permit revision addresses those issues.

In addition, on August 17, 2022, the Division of Environmental Quality informed the Site Director for the facility that the review of documents required to be submitted by CAO LIS No. 21-037 revealed violations, and that the Division would proceed through formal enforcement channels. Several of these violations are also addressed in this permit revision.

8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? No.  
If yes, were GHG emission increases significant? N/A.

b) Is the facility categorized as a major source for PSD? No.

- *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. N/A.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
101, 116, 117	Ethylene Oxide	40 CFR Part 63, Subpart A and Subpart O
17 Temp, 18, 125	N/A	40 CFR Part 60 Subpart Dc
112, 121, 122, 124	HAPs	40 CFR Part 63 Subpart ZZZZ
112, 124	HC, NO <sub>x</sub> , CO & PM	40 CFR Part 60 Subpart IIII
17 Temp*, 18*, 125*	PM, CO	40 CFR Part 63 Subpart JJJJJ

\* Sources will become subject upon burning fuel oil (see Specific Condition #17).

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:

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 ( $\text{mg}/\text{m}^3$ ), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV ( $\text{mg}/\text{m}^3$ )	PAER (lb/hr) = $0.11 \times \text{TLV}$	Proposed lb/hr	Pass?
Acrolein	0.2293	0.025223	1.52E-04	Yes
Arsenic	0.01	1.10E-03	2.67E-04	Yes
Beryllium	0.00005	5.50E-06	1.88E-04	No
Cadmium	0.002	2.20E-04	2.90E-04	No
Chromium	0.003	3.30E-04	3.15E-04	Yes
Cobalt	0.02	2.20E-03	1.05E-05	Yes
Formaldehyde	1.5	0.165	0.073543	Yes
Lead	0.05	5.50E-03	4.93E-04	Yes
Manganese	0.02	2.20E-03	3.83E-04	Yes
Mercury	0.01	1.10E-03	2.02E-04	Yes
Nickel	0.1	0.011	4.67E-04	Yes
POM	0.2	0.022	7.47E-03	Yes
Selenium	0.2	0.022	8.25E-04	Yes

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 ( $\mu\text{g}/\text{m}^3$ ) = 1/100 of Threshold Limit Value	Modeled Concentration ( $\mu\text{g}/\text{m}^3$ )	Pass?
Beryllium	0.0005	0.0003	Pass
Cadmium	0.02	0.0003	Pass

c) H<sub>2</sub>S Modeling: N/A.

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
17T	Natural Gas AP-42 Table 1.4-1,2,3,4  Fuel Oil AP-42 Table 1.3-1,2,3,8,9,10	<u>lb/MMscf</u> PM = 1.9 PM <sub>10</sub> = 7.6 NO <sub>x</sub> = 100 CO = 84 VOC = 5.5 SO <sub>2</sub> = 0.6  <u>lb/Mgal</u> PM = 2 PM <sub>10</sub> = 1.3 NO <sub>x</sub> = 20 CO = 5 VOC = 0.252 SO <sub>2</sub> = 71	N/A	N/A	13.4 MMBtu/hr Annual fuel oil limit 82,610 gal
18	Natural Gas AP-42 Table 1.4-1,2,3,4  Fuel Oil	<u>lb/MMscf</u> PM = 1.9 PM <sub>10</sub> = 7.6 NO <sub>x</sub> = 100 CO = 84 VOC = 5.5 SO <sub>2</sub> = 0.6	N/A	N/A	20.412 MMBtu/hr Annual fuel oil limit 127,721 gal

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	AP-42 Table 1.3-1,2,3,8,9,10	lb/Mgal PM = 2 PM <sub>10</sub> = 1.3 NO <sub>x</sub> = 20 CO = 5 VOC = 0.252 SO <sub>2</sub> = 71			
97	Mass Balance	Max Usage: VOC 6.9 lb/hr 30.0 tpy	N/A	N/A	
101	Testing Subpart O, Vendor Data, & AP-42 Table 1.4-1,2,3,4	LESNI Cat Ox NO <sub>x</sub> – 3.0 ppmv CO – 84 lb/MMscf VOC – 5.5 lb/MMscf PM/PM <sub>10</sub> – 7.6 lb/MMscf SO <sub>2</sub> – 0.6 lb/MMscf	LESNI – (3) Catalytic Oxidizers	99.9% hourly 99.9% annual	Worst case sent to control device = 1,402 lb/hr EtO Max EtO 600,000 lb/yr  LESNI 0.0063 MMscf/hr 33,369 dscfm

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
112	Kohler Power Systems Emission Data Sheet & AP 42	0.08 g/kWh PM/PM <sub>10</sub> 0.29 lb/MMBtu SO <sub>2</sub> 0.06 g/kWh VOC 5.08 g/kWh NO <sub>x</sub> 0.54 g/kWh CO	N/A	N/A	237 HP 177 kW
116 117	Vendor data  AP-42 Table 1.4-1,2,3,4	<u>SN-116</u> NO <sub>x</sub> – 0.163 lbs/MMBtu CO – 0.2 lbs/MMBtu  <u>SN-117</u> NO <sub>x</sub> – 0.265 lbs/MMBtu CO – 0.2 lbs/MMBtu  VOC – 5.5 lb/MMscf PM/PM <sub>10</sub> – 7.6 lb/MMscf SO <sub>2</sub> – 0.6 lb/MMscf	Catalytic Oxidizer  and  Thermal Oxidizer	99.9% destruction efficiency  or  0.25 ppm outlet concentration	3 MMBtu/hr each  43.47 MMBtu/hr each  8,760 hr/yr
121 122	AP-42 Tables 3.3-1 and 3.3-2	<u>lb/hp-hr</u> PM/PM <sub>10</sub> –2.2E-03 NOX–3.1E-02 CO–6.68E-03 VOC–2.47E-03 SO <sub>2</sub> –2.05E-03	None	N/A	218 HP (1.6 MMBtu/hr) 500 hr/yr
124	Mfg Specs  AP-42 Table 3.4-1	<u>g/kW-hr</u> PM/PM <sub>10</sub> = 0.03 NO <sub>x</sub> = 12.0 CO = 0.6 VOC = 0.03	N/A	N/A	2,218 HP 500 hr/yr

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		SO <sub>2</sub> = 1.21E-5 lb/hp-hr			
125	AP-42 Table 1.4-1,2,3,4  Mfg Specs  AP-42 Tables 1.3-1, -2, -3, -8, -9, -10	lb/MMscf PM = 1.9 PM <sub>10</sub> = 7.6 VOC = 5.5 SO <sub>2</sub> = 0.6  NO <sub>x</sub> = 70 CO = 18.7  lb/Mgal (Fuel Oil) PM = 2 PM <sub>10</sub> = 1.3 NO <sub>x</sub> = 20 CO = 5 VOC = 0.252 SO <sub>2</sub> = 71 Formaldehyde = 6.10E-02	N/A	N/A	29 MMBtu/hr Nat Gas and Fuel oil  SO <sub>2</sub> factor = 142s s=0.5% sulfur

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
101	CO	EPA Reference Method 10	Initial	Verify Limits
101, 116, 117	Ethylene Oxide	320	Initial/Annual	Rule 18.1002 Rule 19.702 and Subpart O
101, 116, 117	Formaldehyde	EPA Reference Method 320 and 323	Initial	Verify Limits



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)
101	LESNI Minimum Catalyst Bed Inlet Temperature – 302 °F	Device to continuously measure and record temperature	Continuously while operating Accuracy verified twice per calendar year	N
	EtO	CEMS with StarBoost™ FTIR (Fourier Transformed Infrared) monitoring system	Continuous	N
	Pressure Differential Across Enclosure	Pressure Gauge	Daily	N
116, 117	Catalyst Bed Outlet SN-116 – 360 °F SN-117 – 350 °F	Temperature monitor	Continuously Accuracy verified twice per calendar year	N
	TO Minimum Combustion Zone Outlet Temperature – SN-116 – 1,250 °F SN-117 – 1,300 °F	Device to continuously measure and record temperature	Continuously while operating Accuracy verified twice per calendar year	N
	EtO	CEMS with StarBoost™ FTIR (Fourier Transformed Infrared) monitoring system	Continuous	N
	Pressure Differential Across Enclosure	Pressure Gauge	Daily	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)
Facility	Ethylene Oxide usage	600,000 lb/yr	monthly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	Annual NO <sub>x</sub> and CO emissions	97 tpy (each)	monthly	N
17 Temp	Fuel Oil (No.2 & ULSD combined) usage	82,610 gal/rolling twelve-month period	monthly	N
18	Fuel Oil (No.2 & ULSD combined) usage	127,700 gal/rolling twelve-month period	monthly	N
97	VOC & HAP usage  Updated SDSs	VOC 6.85 lb/hr, 30 tpy  HAP Individual – 9.50 tpy Total – 22.00 tpy	Monthly	N
101	Temperature of LESNI Catalyst Bed Inlet Temperature	≥ 302°F	Continuously while operating	N
	Enclosure Pressure Differential	-0.007 in H <sub>2</sub> O	Once each day	N
112	Hours & Reason for Operation	Total: 500 hr/yr  Maintenance Checks and testing: 100 hr/yr  Non-emergency situations: 50 hr/yr (included in 100 hr/yr limit)  Peak shaving/income generation not allowed	As operated	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	Purchased fuel specifications	requirements of 40 CFR 80.510 for nonroad diesel fuel	As Purchased	N
	Manufacturer's emission-related specifications and engine certification	N/A	N/A	N
	Maintenance and Repair	As per manufacturer instructions	N/A	N
	Maintenance Plan & Testing Results	N/A	N/A	Y
116, 117	Bed outlet temperature  TO outlet temperature	SN-116 Cat Ox 360°F SN-117 Cat Ox 350°F SN-116 TO 1,250°F SN-116 TO 1,300°F	Continuously while operating	N
	Maintenance and Repair	As per manufacturer instructions	N/A	N
	Enclosure Pressure Differential	-0.007 in H <sub>2</sub> O	Once each day	N
121 and 122	Hours of operation	Total: 500 hr/yr	As Necessary	N
	ZZZZ Records	Various	As Necessary	N
124	Hours & Reason for Operation	Total: 500 hr/yr  Maintenance Checks and testing: 100 hr/yr  Non-emergency situations: 50 hr/yr (included in 100 hr/yr limit)  Peak shaving/income generation not	As operated	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
		allowed		
	Purchased fuel specifications	requirements of 40 CFR 80.510 for nonroad diesel fuel	As Purchased	N
	Manufacturer's emission-related specifications and engine certification	N/A	N/A	N
	Maintenance and Repair	As per manufacturer instructions	N/A	N
	Maintenance Plan & Testing Results	N/A	N/A	Y
125	Fuel Oil (No.2 & ULSD combined) usage	178,800 gal/rolling twelve-month period	monthly	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
17 Temp, 18, 101, 116, 117, 125	5% (Natural Gas)	§18.501	Opacity Reading
17 Temp, 18, 112, 121, 122, 124, 125	20% (Fuel Oil)	§19.503	Opacity Reading

20. DELETED CONDITIONS:

Former SC	Justification for removal
26, 27	The Plastic Grinding Process (previously SN-41) was moved to the list of Insignificant Activities
31, 32	These conditions are unnecessary and the Equipment List Appendix has been removed from the permit
40, 41	These conditions specified the maximum liquor tank level and included recordkeeping requirements for the SN-101 wet scrubber which is no longer in operation
44, 45	HAP limits for Plastics Manufacturing (previously SN-109) have been included in SN-97

Former SC	Justification for removal
61, 62	These conditions are no longer necessary due to plantwide NO <sub>x</sub> and CO limitations
78, 79	These conditions pertain to the SN-119 resin dry beds and are no longer necessary due to installation of the LESNI system. SN-119 has been removed from the permit.
80, 81	The conditions include testing, monitoring, and recordkeeping requirements to demonstrate compliance with emission limits for ethylene oxide at SN-119; however, the source is controlled by the LESNI system and the requirements are no longer necessary. SN-119 has been removed from the permit.
82-90	These conditions were related to the RTO (SN-123), which has been removed, and are no longer necessary

## 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
NG Hot Water Heater (2) (0.2 BTU/hr each)	A-1	0.01	0.01	0.01	0.14	0.17		3.23E-03
500 gal Diesel Fuel tank for Emergency Engine	A-3			0.01				
570 gal Diesel Fuel tank (Mfg. After July 1, 2008) (New Area Source MACT does not apply)	A-3			0.01				
300 gal Diesel Fuel tank (Mfg. After July 1, 2008) (New Area Source MACT does not apply)	A-3			0.01				
DEHP Tanks (5)–2000 gal each	A-3			0.05				
Epoxidized Oil	A-3			0.06				

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
Tanks (6) – 6000 gal each								
Epoxidized Oil Tanks (6) – 2000 gal each	A-3			0.06				
Epoxidized Oil Tank – 1500 gal	A-3			0.01				
Epoxidized Oil Tanks – 2750 gal	A-3			0.01				
Lab Vent Hoods (9)	A-5			0.01				0.01
DEHP Tanks (3)– 20,000 gal each	A-13			0.02			0.02	0.02
Fuel Oil Tanks (3) – 15,000 gal each	A-13			0.03				
Cooling Towers (7)	A-13	1.49						
Jet Cleaners (3)	A-13			0.01			0.01	0.01
Plastics Operations	A-13	1.28		0.71				
Storage Silos (29)	A-13	0.02						
Regrind Operations	A-13	0.01						
Sum for A-13	A-13	2.80		0.77			0.03	0.03

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 #
0544-AR-17

## APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Minor Source

Revised 03-11-16

Baxter Healthcare Corporation

Permit Number: 0544-AR-18

AFIN: 03-00002

\$/ton factor 25.13  
 Minimum Fee \$ 400  
 Minimum Initial Fee \$ 500

Permit Predominant Air Contaminant  
 Net Predominant Air Contaminant Increase

	Old Permit	New Permit
Permit Predominant Air Contaminant	93.8	97
Net Predominant Air Contaminant Increase	3.2	
Permit Fee \$	<u>400</u>	
Annual Chargeable Emissions (tpy)		<u>97</u>

Check if Administrative Amendment

Permit Fee \$ 400  
 Annual Chargeable Emissions (tpy) 97

Pollutant (tpy)	Old Permit	New Permit	Change
PM	5.2	4.8	-0.4
PM <sub>10</sub>	5.4	6.2	0.8
PM <sub>2.5</sub>	0	0	0
SO <sub>2</sub>	7.4	15.3	7.9
VOC	93.8	35.4	-58.4
CO	76.8	97	20.2
NO <sub>x</sub>	71.3	97	25.7
Total HAPs	24.02	24.28	0.26
Sulfuric Acid	0.5	0	-0.5