STATEMENT OF BASIS

for the issuance of Draft Air Permit # 544-AOP-R4

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
8001 National Drive
Post Office Box 8913
Little Rock, Arkansas 72219-8913

2. APPLICANT:

Baxter Healthcare Corporation
1900 N Hwy. 201
Mountain Home, Arkansas 72653

3. PERMIT WRITER:

Amanda Holloway

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Medical Equipment and Supplies Manufacturing
NAICS Code: 33911

5. SUBMITTALS: December 17, 2003, January 26, May 27, July 12, August 12, and September 21, 2004.

6. REVIEWER'S NOTES:

Baxter Healthcare Corporation (Baxter) operates a facility in Mountain Home, AR, which manufactures items used in the healthcare field. This is Baxter's first Title V renewal. With this renewal the Syntra plus Dialyzer sources (SN-104 and related insignificant activities), the CF repair station (SN-07), the Paint Booth (SN-44), and the pallet treatment process (SN-93 and SN-99) were removed from the permit because the facility has removed these sources from service. In addition several emission limits and conditions were updated based on current emission factors, equipment capacity limitations, historical usage records, and to fit the Department's currently accepted permitting format. Overall annual permitted emissions increased 0.46 tons methylene chloride and less than 0.01 tons for each of the following hazardous air pollutants: cumene, dibutyl phthalate, chromium compounds, nickel compounds and xylene. All other annual permitted emissions decreased with this renewal.

7. COMPLIANCE STATUS: The following summarizes the current compliance status of the facility including active/pending enforcement actions and recent compliance activities and issues**.**

There are no current or pending enforcement actions for this facility.

8. APPLICABLE REGULATIONS:

A. Applicability

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

Has this facility undergone PSD review in the past? (Y/N) N Permit # : N/A

Is this facility categorized as a major source? (Y/N) Y

$ 100 tpy and on the list of 28 (100 tpy)? (Y/N) N

$ 250 tpy all other (Y/N) Y

B. PSD Netting

Was netting performed to avoid PSD review in this permit? (Y/N) N

C. Source and Pollutant Specific Regulatory Applicability

Source(s)	Pollutant	Regulation
11-15, 57, 76-83, 88, 94, 101	EtO	NESHAP 40 CFR Part 63, Subpart O

9. EMISSION CHANGES:

The following table summarizes plantwide emission changes associated with this permitting action.

Plantwide Permitted Emissions (ton/yr)			
Pollutant	**Air Permit 544-AOP-R3**	**Air Permit 544-AOP-R4**	**Change**
PM/PM_{10}	17.4	4.9	-12.5
SO_2	28.9	28	-0.9

Plantwide Permitted Emissions (ton/yr)			
Pollutant	**Air Permit 544-AOP-R3**	**Air Permit 544-AOP-R4**	**Change**
VOC	176.4	110.3	-66.1
CO	14.8	6.5	-8.3
NO_X	56.3	24	-32.3
Oil Mist**	0.1	0.05	-0.05
Freon 113**	2	0	-2
MeCl	1.65	2.11	0.46
HCl	0.44	0.44	0
Cumene*	0	0.01	0.01
HMDI*	0.1	0.0052	-0.0948
Ethylene Oxide*	1.63	1.53	-0.1
DEHP*	5.31	1.27	-4.04
Dibutylphthalate *	0	0.002	0.002
Chromium Compounds***	0.018	0.021	0.003
Manganese Compounds***	0.0018	0.0018	0
Nickel Compounds***	0	0.0018	0.0018
Ethylene Glycol*	0.05	0.05	0
MEK*	2.5	2.5	0
Xylene*	0	0.01	0.01
HAPs (RT<1)	60	0	-60

*HAPs included in the VOC totals.
**Air Contaminants that are not VOCs or HAPs.
***Listed HAPs included in the PM/PM_{10} totals.

10. **MODELING:**

A. Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

B. Non-Criteria Pollutants

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The PAER was deemed by the Department 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?
MEK	590	64.9	5	Pass
MeCl	174	19.14	0.85	Pass
HCl	7	0.77	0.1	Pass
Ethylene Oxide	1.8	0.198	1.24	Fail
Ethylene Glycol	100	11	1	Pass
HMDI	0.034	0.00374	0.0052	Fail
DEHP	5	0.55	0.37	Pass
Maganese	0.2	0.022	0.01	Pass
Chromium	0.5	0.055	0.02	Pass
Nickel	0.1	0.011	0.01	Pass
Cumene	245.8	27.038	0.3	Pass
Dibutylphthalate	5	0.55	0.01	Pass
Xylene	433.8	47.718	0.3	Pass

2nd Tier Screening (PAIL)

ISCST3 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 was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

Pollutant	TLV (mg/m^3)	PAIL ($\mu g/m^3$) =1/100th TLV	Modeled (lb/hr)	Modeled ($\mu g/m^3$)	Pass?
EtO	1.8	18	1.24	0.9	P
HMDI	0.034	0.34	0.001	0.035	P

Pollutant	TLV (mg/m^3)	PAIL ($\mu g/m^3$) =1/100th TLV	Modeled (lb/hr)	Modeled ($\mu g/m^3$)	Pass?
HMDI*	0.034	0.34	0.0052*	0.182	P

*HMDI emission rate actually modeled was 0.001 lb/hr then it was multiplied by 5.2 to predict the modeled concentration for a emission rate of 0.0052 lb/hr.

EtO Emissions

SN-94

Modeled emission rate:	0.14	lb/hr	=	0.0176	g/s
Stack/Vent Height:	43	ft	=	13.107	m
Exit Stack Temperature:	176	oF	=	353.15	K
Exit Stack Velocity:	90	ft/s	=	27.432	m/s
Stack Inside Diameter:	2.5	ft	=	0.762	m
Averaging Period:	24	hr			

SN-101

Modeled emission rate:	1.1	lb/hr	=	0.1386	g/s
Stack/Vent Height:	63	ft	=	19.203	m
Exit Stack Temperature:	70	oF	=	294	K
Exit Stack Velocity:	80	ft/s	=	24.384	m/s
Stack Inside Diameter:	5.6	ft	=	1.7069	m

HMDI Emissions

SN-04

Modeled emission rate:	0.001	lb/hr	=	0.00013	g/s
Stack/Vent Height:	17	ft	=	5.18166	m
Exit Stack Temperature:	70	oF	=	294	K
Exit Stack Velocity:	8	ft/s	=	2.4384	m/s
Stack Inside Diameter:	3.5	ft	=	1.06681	m

11. CALCULATIONS:

SN	Emission Factor Source	Emission Factor and units	Control Equipment Type	Control Equipment Efficiency	Comments
04	Records	Dynasolve 180: 1600 lb/yr VOC	N/A	N/A	usage - waste = total emissions
04	Testing	HMDI: 1.85×10^{-6} lb/hr	N/A	N/A	>99.9% prepolymer remains in the product

SN	Emission Factor Source	Emission Factor and units	Control Equipment Type	Control Equipment Efficiency	Comments
09	Testing & Records	60% IPA density 6.63 lb/gal 99% waste	N/A	N/A	usage - waste = total emissions
16&17	AP-42	Per 1000gal #2: 142 lb_{SO2} 2 lb_{SO3} 20 lb_{NOx} 5 lb_{CO} 2 lb_{PM} 0.252 lb_{TOC} Per 10^6 ft^3 NG: 0.6 lb_{SO2} 140 lb_{NOx} 35 lb_{CO} 13.7 lb_{PM} 5.8 lb_{TOC}	N/A	N/A	
21	Testing	Oven stack = 0.5' Velocity= 500ft/m	N/A	N/A	
41	Records	2% of fed is PM grinder cap=8000T	Baghouse	99%	Max equipment capacity
45	Testing	Filter Collection = 171.1g/wk 3 shifts 1540g/wk emitted	Filter	25%	
72	Testing	Area = 0.05 ft^2 Velocity = 250 fpm	N/A	N/A	
85	MSDS	20gal/yr Varn: density= 5.91 lb/gal 15% MeCl 85% VOC 20 gal/yr Solex: density = 7 lb/gal 5% Xylene 4% Cumene 100% VOC	N/A	N/A	
11-15, 57, 78-83, & 101	Testing & Records	Potential: 2% Chamber Exhaust	Scrubber	99.2%	Max sent to scrubber = 340 lb/hr EtO

SN	Emission Factor Source	Emission Factor and units	Control Equipment Type	Control Equipment Efficiency	Comments
76, 77, & 94	Testing & Records	Potential: 20% Aeration Room	Catalytic Oxidizer	99%	
88	TANKS	2 tank turnovers /month 24 t.t./yr 8,000 gal tank	N/A	N/A	Assumed 100% ethylene glycol
89&90	TANKS	Tank ht = 24 ft Tank D= 11.7ft 19304 gal 247 t.t./yr	N/A	N/A	
95	TANKS	Tank ht = 5 ft Tank D= 5ft 734 gal 1280 t.t./yr	N/A	N/A	
95	Mass Balance	Tubing/pelletizing: 11 tubing lines 2 pelletizers 1" D max 7" max distance Film Lines: 42" cool film 64" wide 11 lines	Hood	T/P: 80% Film: 98%	
97	Mass Balance	Max Usage: 100 lb/hr VOC 5 lb/hr MEK	N/A	N/A	assume all MEK evaporates
100	TANKS	15 t.t./yr tank D = 10'6" tank ht. = 39'	N/A	N/A	
102	Mass Balance	2 tpy MeCl 0.45 lb/hr MeCl	N/A	N/A	assume all evaporates
108	Mass Balance	15 gal/yr Ink density = 9 lb/gal 2% Dibutyl phthalate 200 lb/yr MeCl	N/A	N/A	Total usage of MeCl assumed to be emitted. MEK is accounted for at SN-97.

12. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
16 & 17 (while burning No. 2 fuel oil)	CO NOx	10 7E	Annual*	Carry over from previous permit
41	PM/PM_{10}	1-5	initial test only	Carry over from previous permit

* only required to test in years when burning No. 2 Fuel Oil.

13. MONITORING OR CEMS

The following are parameters that must be monitored with CEMs or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Parameter or Pollutant to be Monitored	Method of Monitoring (CEM, Pressure Gauge, etc)	Frequency*	Report (Y/N)**
94	oxidation temperature	temperature monitor	continuously	N
16&17	visible emissions	EPA Reference Method 9	weekly	Y
41	visible emissions	EPA Reference Method 9	weekly	Y

* Indicate frequency of recording required for the parameter (Continuously, hourly, daily, etc.)
** Indicates whether the parameter needs to be included in reports.

14. RECORD KEEPING REQUIREMENTS

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Recorded Item	Limit (as established in permit)	Frequency*	Report (Y/N)**
03	Preventive maintenance	change filters	semi-annual	N

SN	Recorded Item	Limit (as established in permit)	Frequency*	Report (Y/N)**
04	PSN Dialyzers production Dynasolve 180 throughput	6 millon/yr 6,000 lb/yr	monthly	Y
09	Isopropyl alcohol usage, waste collected, and emissions	emission = 6.9 lb/hr	monthly	Y
11-15, 57	EtO usage	300,000 lb/yr	monthly	Y
94	oxidation temperature	minimum of 10^{o}F below baseline temperature	hourly avg. & 3-hr avg.	N
	actions taken during start-up, shut-down, or mal-function	as necessary	as necessary	Y
16 & 17	sulfur content of No. 2 fuel oil	Maximum = 0.5% sulfur (by weight)	with each shipment	N
	natural gas usage	1,012.8 MM ft^3/yr	monthly	Y
	No.2 fuel oil usage	1.211 MM ft^3/yr	monthly	Y
21	needle cover throughput	48 MM covers	monthly	Y
41	amount of waste plastic ground	8,000 tons/yr	monthly	Y
	Preventive maintenance	N/A	every 3 months	N
45	cannula throughput	70 MM/yr	monthly	Y
	Preventive maintenance	N/A	monthly	N
72	amount of steel plates cleaned	21,000 plates/yr	monthly	Y
85	Varn usage Solex Usage	20 gal/yr 20 gal/yr	monthly	Y
89, 90, 95	DEHP throughput	39.2 MM lb/yr (4.75 MM gal/yr)	monthly	Y
95	DEHP throughput	39.2 MM lb/yr	monthly	Y
	MSDS for resins, plasticizers, solvents, and minor ingredients	N/A	N/A	N
	preventive maintenance of HEPA filters	activated carbon must be changed every 18 months	quarterly	N

SN	Recorded Item	Limit (as established in permit)	Frequency*	Report (Y/N)**
97	VOC usage	190,000 lb/yr	monthly	Y
	MEK usage	5,000 lb/yr	monthly	Y
102	MeCl usage	4,000 lb/yr	monthly	Y
108	Ink usage	200 lb/yr MeCl 135 lb/yr Dibutylphthalate 135 lb/yr Cr Compds	monthly	Y

* Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)
** Indicates whether the item needs to be included in reports

15. OPACITY

SN	Opacity %	Justification	Compliance Mechanism
16	5% (Natural Gas) 20 % (No.2 fuel oil)	Carry over from last permit	Burning Natural Gas Method 9, when visible emissions are present
17	5% (Natural Gas) 20 % (No.2 fuel oil)	Carry over from last permit	Burning Natural Gas Method 9, when visible emissions are present
41	5%	Carry over from last permit	Preventative maintenance

16. DELETED CONDITIONS:

The following Specific Conditions were included in the previous permit, but deleted for the current permitting action.

Former SC	Justification for removal
3	Dynasolve CU-6 is not used in the process.
8-15	SN-07 was removed from service.
56	Weekly opacity readings while burning natural gas are not necessary. Sources have a clean history.
67-68	Source is controlled by a baghouse with preventative maintenance requirements and has a clean history.

Former SC	Justification for removal
73-79	SN-44 was removed from service.
96-98	SN-93 and SN-99 were removed from service.
101-102	Emission limits are now based on maximum equipment capacity and not on throughput estimates.
105	Unnecessary condition, already covered by other specific conditions.
119-121	SN-104 was removed from service.

17. VOIDED, SUPERSEDED OR SUBSUMED PERMITS

List all active permits for this facility which are voided/superseded/subsumed by issuance of this permit.

Permit #
544-AOP-R3

18. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:

_____
Lyndon Poole, P.E.