

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1085-AOP-R11 AFIN: 32-00036

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

FutureFuel Chemical Company  
2800 Gap Road  
Batesville, Arkansas 72501

3. PERMIT WRITER:

Kailin Schwan

4. NAICS DESCRIPTION AND CODE:

NAICS Description: All Other Basic Organic Chemical Manufacturing  
NAICS Code: 325199

5. SUBMITTALS:

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
8/3/2015	Modification Minor Mod	Addition of 500 cfm natural gas fired thermal oxidizer with quench and scrubber (SN-5N09-03)

6. REVIEWER'S NOTES:

The facility has submitted a modification application to incorporate applicable requirements subject to 40 CFR 63, Subpart DDDDD to the permit. The facility has also requested the approval to install a second 500 cfm natural gas fired thermal oxidizer with quench and scrubber (SN-5N09-03). Total facility wide emission changes are as follows: +0.2 tpy PM/PM<sub>10</sub>, +13.1 tpy SO<sub>2</sub>, +13 tpy VOC, +2.2 tpy CO, +13.1 tpy NO<sub>x</sub>, +4.4 tpy Inorganics, and +12.7 tpy Organic Pollutants.

7. COMPLIANCE STATUS:

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

At the time of this permit, there are no compliance issues.

8. PSD 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? Y

- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

If yes, explain why this permit modification is not PSD.

Modification is not considered significant.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
5N09-01, OCI-FUG	VHAP	40 CFR Part 63 Subpart GGG - National Emission Standards Pharmaceuticals Production
5N09-01, OCI-FUG	VHAP	40 CFR Part 63 Subpart MMM - National Emission Standards for Hazardous Air Pollutants for Pesticide Active Ingredient Production
TF-13 (SN-5N03-43) WB-06 (SN-6M-03-08) WB-07 (SN-6M-03-09) WB-08 (SN-6M-03-10) WB-09 (SN-6M-03-11) Tanks under SN-5M04-01 Tanks under SN-5M04-02 Tanks under SN-5M04-06 Tanks under SN-5M04-08 Tanks under SN-5M14-06 TFS-60 PT-60 PT-68 PT69A	VOC	40 CFR Part 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
PT69B PB-51 PB-52 PM-50A PM-50B TBA-100 4P94-11 SN-5N03-51 SN-5N03-53 T-280 T-265 T-251 T-220 T-211A T-211B T-241 TF-13 PA-50 T-242 T-243 VC-PT-03 VC-PT-01 VC-PT-02		
Utilities Section (coal processing activities)	PM	40 CFR Part 60 Subpart Y- Standards of Performance for Coal Preparation Plants
Organic Sulfonation DIPB Production (Equipment Leaks)	VOC	40 CFR Part 60 Subpart VV - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry
5M01-02	VOC	40 CFR Part 60 Subpart NNN - Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations
DIPB Production (equipment Leaks, benzene)	Benzene	40 CFR Part 61 Subpart J - National Emission Standards

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
		for Equipment Leaks (Fugitive Emission Sources) of Benzene
DIPB Production (equipment leaks, VHAP)	VHAP	40 CFR Part 61 Subpart V - National Emission Standards for Equipment Leaks (Fugitive Emission Sources)
Tank T-210 (benzene vessel)	Benzene	40 CFR Part 61 Subpart Y - National Emission Standards for Benzene Emissions from Benzene Storage Vessels
DIPB Production T9, D9 (benzene waste streams).	Benzene	40 CFR Part 61 Subpart FF - National Emission Standard for Benzene Waste Operations
Facility (waste management/recovery operations).	VHAP	40 CFR Part 63 Subpart DD - National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations
6M03-05 6M01-01	Dioxins Furans Mercury Lead Cadmium Arsenic Beryllium Chromium CO Hydrocarbons HCl Cl <sub>2</sub> PM	40 CFR Part 63 Subpart EEE (Phase I and II) - National Emission Standard for Hazardous Air Pollutants from Hazardous Waste Combustors
Organic Chemical Intermediates Organic Sulfonation Process Solvent Recovery Isopropyl Benzene Production 5N07 Production Facility Aldehyde Processing Facility Storage Tanks and Misc. Sources Anode Production Section	VHAP	40 CFR Part 63 Subpart FFFF - National Emission Standard for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing
6M07-01	NO <sub>x</sub>	40 CFR Part 60 Subpart Db - Standards of Performance for

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
		Industrial-Commercial-Institutional Steam Generating Units
5N01-WA 7M04-HT-G01 7M04-HT-G04 6N02 8M01	VHAP	40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
4P05-01 6M06-01 6M07-01	HAPs	Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

a) Reserved.

b) Non-Criteria Pollutants:

No change in emissions. No evaluation performed.

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: no H<sub>2</sub>S emissions

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H <sub>2</sub> S	20 parts per million (5-minute average*)	N/A	N/A

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
	80 parts per billion (8-hour average) residential area	N/A	N/A
	100 parts per billion (8-hour average) nonresidential area	N/A	N/A

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
5N09-03	AP-42 Table 1.4-1 Table 1.4-2	VOC: 45cfm 19,391 BTU/lbVOC PM/PM <sub>10</sub> : 7.6lb/1,000,000scf NO <sub>x</sub> : 100lb/1,000,000 scf CO: 84lb/1,000,000 scf SO <sub>2</sub> : 0.6 lb/1,000,000 scf	Scrubber	98%	2.5MMBtu/hr  NO <sub>x</sub> , CO, SO <sub>2</sub> : 45 scfm
OCI-FUG	Bagging Study	<u>VOC</u> Pumps/Fans: 0.00417lb/hr/component Valves: 0.000154 lb/hr/component Flanges: 0.000057 lb/hr/component Relief Devices: 0.000168 lb/hr/component Simple Ports: 0.0086 lb/hr/component	-	-	-

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
5N09-03	SO <sub>2</sub> VOC CO NO <sub>x</sub>	Method 26 or 26A, or 320	5 years	To ensure compliance with emission limits

14. 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)
5N09-03	Temperature	Not Specified	Continuous	No

15. 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)
4P05-01 6M06-01 6M07-01	Fuel analyses, compliance mechanisms, performance tests	N/A	-	Y
4P05-01	Tune-up	N/A	Initial, 5 years	N
6M06-01 6M07-01	Tune-up	N/A	Initial, 2 years	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
5N09-01, 5N09-02, and 5N09-03	20%	Previous limit. Department Guidance	Weekly Method 22 Method 9 if any visible emissions detected.

SN	Opacity	Justification for limit	Compliance Mechanism
6M01	5%	§18.501	
6M01-01	20%	§19.503	
6M01-01A	5%	§18.501	
6M06-01	5%	§18.501	
6M07-01	20%	NSPS Db	
6M03-05	20%	§19.503	Method 9
5M11-08 and 5M11-09	5%	§18.501	Weekly Method 22 Method 9 if any visible emissions detected.
5N01-WA	20%	§18.501	Method 9
7M04-HT-G01	20%	§18.501	Method 9
7M04-HT-G04	20%	§18.501	Method 9
6N02	20%	§18.501	Method 9
8M01	20%	§18.501	Method 9
4P05-01	5% except during periods of fuel oil usage, which the permittee is allowed 20%	§18.501	Weekly Method 22 Method 9 if any visible emissions detected.

17. DELETED CONDITIONS:

Former SC	Justification for removal
	N/A



## 18. GROUP A INSIGNIFICANT ACTIVITIES:

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
Vents (Organic Sulfonation Process)	5M11-09	A-13			0			0	0
Unloading Station (Isopropyl Benzene Process)	5N03-46	A-13			0.23			0.23	0.23
Unloading Station (Isopropyl Benzene Process)	5N03-47	A-13			0			0	0
Railcar Loading and Unloading Racks	4Q01-12	A-13			0.0112			0	0
Sawdust pile and handling		A-13	2.0						
5P01-01	Storage Tank (Glycerin)	A-13			0.001				
5P01-02	Storage Tank (Glycerin)	A-13			0.001				
4Q01-12	Storage Tank (Glycerin)	A-13			0.001				
4Q01-13	Storage Tank (Glycerin)	A-13			0.001				
A-13 Totals			2.0		0.25			0.23	0.23
Storage Tank (Organic Sulfonation Process)	5M04-04	A-4							
Storage Tank (Organic Sulfonation Process)	5M04-07	A-4							
Storage Tank (Solvent Recovery Process)	4P94-03	A-4							
Storage Tank (Storage)	5N03-39	A-4							

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
Tank Process)									
Storage Tank (Storage Tank Process)	5N03-40	A-4							
Storage Tank (Chemical Destruction Process)	6M03-15	A-4							
Caustic Tank (CL-01R)	-	A-4							
Storage Tank (Organic Chemical Intermediate Process)	5N01-63	A-3			0.001			0.001	0.001
Storage Tank (Organic Chemical Intermediate Process)	5N01-64	A-3			0.001			0.001	0.001
Storage Tank (Organic Chemical Intermediate Process)	5N03-63	A-3			0.001			0.001	0.001
Storage Tank (Storage Tank Process)	6N01-01	A-3			0.001				
A-3 Totals					0.004			0.003	0.003

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1085-AOP-R10

## APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Major Source

Revised 08-25-14

Facility Name: FutureFuel Chemical Company  
 Permit Number: 1085-AOP-R11  
 AFIN: 32-00036

\$/ton factor	23.89	Annual Chargeable Emissions (tpy)	6581.6
Permit Type	Modification	Permit Fee \$	1000

Minor Modification Fee \$	500
Minimum Modification Fee \$	1000
Renewal with Minor Modification \$	500
Check if Facility Holds an Active Minor Source or Minor Source General Permit	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	30.7
Initial Title V Permit Fee Chargeable Emissions (tpy)	

*HAPs not included in VOC or PM:*

*Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride*

*Air Contaminants:*

*All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensable PM, H2S in TRS, etc.)*

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM		177.1	177.3	0.2		
PM <sub>10</sub>		177.1	177.3	0.2	0.2	177.3
SO <sub>2</sub>		6123.4	6136.5	13.1	0	4000
VOC		465.7	478.7	13	13	478.7
CO		1126	1128.2	2.2		
NO <sub>x</sub>		820.8	833.9	13.1	13.1	833.9
Inorganics	<input checked="" type="checkbox"/>	1087.3	1091.7	4.4	4.4	1091.7
Organic Pollutants	<input type="checkbox"/>	465.7	478.4	12.7		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Lead	<input type="checkbox"/>	3.5	3.5	0		