STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1681-AOP-R13 AFIN: 70-00473

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Anthony Forest Products Company 1236 Urbana Road El Dorado, Arkansas 71730

3. PERMIT WRITER:

Charles Hurt, P.E.

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Sawmills NAICS Code: 321113

5. SUBMITTALS:

Date of Application	Type of Application	Short Description of Any Changes
	(New, Renewal, Modification,	That Would Be Considered New or
	Deminimis/Minor Mod, or	Modified Emissions
	Administrative Amendment)	
8/7/2015	Minor Mod	Modify roads to allow additional routes

6. REVIEWER'S NOTES:

Anthony Forest Products Company (AFIN: 70-00473) operates a sawmill and ancillary operations in Urbana, Arkansas. AFP submitted an application to modify the haul roads and update the fenceline UTM coordinates in Appendix A, "Facility Fenceline Data". Previous emission estimates were replaced using a refined methodology. As a result of these changes short-term emission limits were increased and annual emissions decreased. Overall, permitted annual emissions decreased by 6.3 tpy PM and 2.5 tpy PM₁₀.

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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 last inspected on July 31, 2014 and was determined to be out of compliance. The inspection report noted the following concerns and inspector comments:

INSPECTION CONCERNS: The facility failed to demonstrate compliance with Specific Conditions 5-6 which states the facility shall not exceed the dried lumber throughput listed, which is = 7,000 BF per hour. The facility is to maintain daily records to demonstrate compliance with this limit. The facility failed to supply records documenting they recorded any throughputs or complied with the limit expressed in Specific Condition 5. The facility also failed to demonstrate compliance with Specific Conditions 45-46 which states the permittee shall conduct monthly opacity observations from SN-21 and keep a record of these observations. Weekly opacity observations from January 2014, specifically the weeks dated Jan. 8, Jan. 16, and Jan. 22, 2014. On the opacity observation forms, the facility failed to document whether the unit was operational or not and did not indicate an opacity value for the source for those weeks. The facility failed to submit the appropriate records in their SAM and TV ACC report which also demonstrates non-compliance with General Provisions 7 & 21.

INSPECTION COMMENT: Facility's current air permit expired 11/02/13; however, the facility submitted a TV permit renewal on 04/29/13 and remains current according to Rhonda Bowler at ADEQ. According to PDS, the facility failed to submit their first SAM of 2014 by the 03/01/2014 deadline. PDS shows a receipt date of 04/16/2014. I have been provided e-mail verification the facility submitted this document on February 28, 2014. According to PDS, the facility failed to submit their 2014 Title V ACC report by the 03/01/2014 deadline. PDS shows a receipt date of 04/16/2014. I have been provided e-mail verification the facility submitted this document on February 28, 2014. The facility has upgraded a stacker and trimmer section at their sawmill since my last inspection. Facility records indicate the upgrades mill modernization project the facility have yet to fully complete. Anthony Urbana notified the Department before making these upgrades through a permit modification application which was approved by the Department.

There is no record of a CAO (pending or executed) or other intended enforcement action related to the concerns noted above.

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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 true and on the list of 28 are single pollutant > 250 true and not on list
- Single pollutant \geq 100 tpy and on the list of 28 or single pollutant \geq 250 tpy and not on list

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

This permit modification did not trigger PSD review because the modification only involved fugitive emissions. Fugitive emissions may trigger PSD only if a facility is one of the listed 28 source categories. This facility is not one of the 28 listed source categories.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Facility	N/A*	40 CFR Part 63, Subpart DDDD

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:

This modification only involved emissions of PM and PM_{10} . Therefore, no re-evaluation of Non-Criteria Pollutant modeling was warranted. The previous, most recent evaluation is provided below for reference. While no re-evaluation was performed some clarifying information has been added.

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.

1st 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

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(mg/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m³)	$PAER (lb/hr) = 0.11 \times TLV$	Proposed lb/hr	Pass?
Acrolein	0.229284254	2.52E-02	0.21	No
Antimony	0.5	5.50E-02	5.73E-04	Pass
Arsenic	0.01	1.10E-03	1.60E-03	No
Beryllium	0.00005	5.50E-06	7.98E-05	No
Cadmium	0.002	2.20E-04	2.98E-04	No
Chromium	0.5	5.50E-02	1.52E-03	Pass
Chromium VI	0.01	1.10E-03	2.54E-04	Pass
Cobalt	0.02	2.20E-03	4.72E-04	Pass
Manganese	0.2	2.20E-02	0.12	No
Mercury	0.01	1.10E-03	2.54E-04	Pass
Methanol	262.1	28.8	3.17	Pass
Nickel	0.1	0.011	2.39E-03	Pass
Pentachlorophenol	0.5	0.055	3.70E-06	Pass
Phosphorus	0.1	0.011	1.96E-03	Pass
Selenium	0.2	0.022	2.03E-04	Pass

^{2&}lt;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 $(\mu g/m^3) = 1/100$ of Threshold Limit Value	Modeled Concentration (μg/m³)	Pass?
Acrolein	2.29	1.82	Y*
Arsenic	0.1	0.021	Y
Beryllium	0.0005	0.00104	N**
Cadmium	0.02	0.0039	Y
Manganese	2.0	1.52	Y

^{*} Exceeds PAIL for 2008. See discussion for Acrolein below.

Acrolein Evaluation

For Acrolein out of the five years that were evaluated only in 2008 was the PAIL exceeded. In order to be consistent with ADEQ's "Non-Criteria Pollutant Control Strategy" and EPA's "Guideline on Air Quality Models", Acrolein was modeled using five discrete model runs covering the years for 2007 through 2011 and the highest,

^{**} Exceeds PAIL for 2007, 2008, 2009, 2010, and 2011

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second high offsite impact (2008) was compared to the PAIL. However, the Air Division has in the past allowed and currently continues to allow evaluation based on the most recent year and the highest offsite impact. Based on this allowance the offsite impact from Acrolein does not warrant any further screening.

Beryllium Evaluation

The PAIL analysis, above, is designed to provide conservative thresholds to determine acceptable off-site impacts of a pollutant. However, there are certain situations where other applications of science suggest that offsite impacts may be acceptable. The applicant provided information show off-site impacts from Beryllium may be considered acceptable.

For non-carcinogenic effects the applicant identified screening thresholds other reviewing agencies such as Texas Commission of Environmental Quality, California EPA, and US EPA use to likely to be without risk of deleterious effects. The applicant identified the screening thresholds and provided air dispersion modeling to show predicted impacts below those screening thresholds.

Effect	Averaging Period	Screening Threshold (mg/m³)	Maximum Modeled Impact (mg/m³)	Below Threshold
	1-hr	2.0E-02	5.47E-03	Yes
Non-carcinogenic	24-hr	2.0E-02	1.09E-03	Yes
	Annual	2.0E-03	1.60E-04	Yes

For carcinogenic effects of a known or suspected carcinogen reviewing agencies such as the US EPA do not set a safe exposure level. There is no safe exposure limit for carcinogenic effects. The applicant identified standards from US EPA and California EPA that exposure to 4.0E-04 mg/m³ ambient concentration, annually over a lifetime of exposure could result in an increased cancer risk of 1 in 1,000,000. The modeling provided by the applicant predict impacts below that standard.

Effect	Averaging Period	Screening Threshold (mg/m³)	Maximum Modeled Impact (mg/m³)	Below Threshold
Carcinogenic	Annual	4.0E04	1.60E-04	Yes

c) H₂S Modeling:

The facility is not a significant source for hydrogen sulfide. Therefore, no odor modeling was performed.

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12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
06		Rough Logs throughput: 600,000 (174.0 MMBF/yr) ton/yr and 192 ton/hr (55,680 BF/hr) (The estimate conversion factor for rough logs to BF for the modernized sawmill is 0.29 MBF/ton logs.) 0.024 lb PM/ton (debarking) 0.00048 lb PM10/ton (debarking) 0.35 lb PM/ton (sawing) 0.007 lb PM10/ton (sawing) torically been estimated for the AFP ion factors for Total Suspended Parti			
	been revoked by E used by facilities a of PM or TSP emis of sawdust and bar memorandum date	PA, no better factors have been ident nd regulatory agencies. PM ₁₀ emissions. Various particle size distribut k which can be classified as PM ₁₀ is a distributed August 22, 2003 from Charles Hurt NR document Titled "Estimating Em	ified and thus tons are conservation evaluations in the range of to Thomas Rhaissions from G	the emission fratively estimates have indicate 0.07% to 1.89 eaume suppo	actors are frequently ated to be equal to 2% ed that the percentage 0%. ADEQ rted this as well as
20	AP-42	660,000 ton logs/yr 13,680 VMT 0.6 mi of road	Wet Suppressio n	50%	
21	Vendor	0.01 gr/scf 42,800 cfm	Cyclone and Baghouse	Cyclone 94% & Baghouse 99.9%	This equipment vents through a cyclone. The outlet of the cyclone vents to baghouse and then to the atmosphere (SN-21). Shavings and sawdust from the baghouse/cyclone are dropped into a woodwaste storage bin (insignificant activity) where it is then loaded onto a truck and shipped off-site. Control efficiency included in emission factor.

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SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
23 (DPK#1) & 14(DPK #2)	Source	(lb/ton, lb/hr, etc.) PM = 0.36 lb/MBF PM ₁₀ = 0.216 lb/MBF VOC as C = 3.830 lb/MBF VOC as VOC (pinene) = 4.340 lb/MBF SO ₂ = 2.50E-02 lb/MMBtu NOx = 2.56E-01 lb/MMBtu NOx = 0.6 lb/MMBtu Methanol = 0.161 lb/MBF Phenol = 0.01 lb/MBF Formaldehyde = 0.047 lb/MBF Acetaldehyde = 0.052 lb/MBF Acrolein = 0.007 lb/MBF Benzene = 4.20E-03 lb/MMBtu Chlorine = 7.90E-04 lb/MMBtu		Equipment	Dried Lumber throughput= 170.0 MMBF/yr Throughput at design capacity Kiln#1: 71,610 MBF/yr 8.175 MBF/hr 25MMBtu/hr Throughput at design capacity DP Kiln#2: 93,500 MBF/yr 11.5 MBF/hr 30 MMBtu/hr DPK #1 = 25 MMBtu/hr DPK #2 = 30 MMBtu/hr sawdust burner; DPK #2 = 30 MMBtu/hr sawdust burner. DPK#1 = 5705 lb of sawdust per hour DPK #2) = 6846 lb of sawdust per hour Pollutant emissions generated during
		Styrene = 1.90E-03lb/MMBtu Acetone = 1.90E-04 lb/MMBtu Arsenic = 2.20E-05 lb/MMBtu Chromium hexavalent = 3.50E-06 lb/MMBtu Lead = 4.80E-05 lb/MMBtu Manganese = 1.60E-03 lb/MMBtu HCl = 1.90E-02 lb/MMBtu			sawdust combustion and lumber drying will be emitted from the kiln's entrance and exit doors (estimated 40% of total emissions equally divided among pseudostacks A and B) and through stacks above each of those doors (estimated 60% of total emissions equally divided among 4 stacks, C, D, E, and F). The gasifers will each be equipped with a by-

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SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	·				pass stack; this stack will only operate during cold startups, kiln shutdowns, and equipment malfunctions.
	(pinene) (NCDENI Wood Kiln Emission emission factors for testing completed a safety factor), Acro safety factor), PM plus a 20% safety f	ENR Wood Kiln Emission Calculator R Wood Kiln Emission Calculator From Calculator From Calculator Factor Sheet for Softwar PCWP MACT) Formaldehyde (Mant a similar unit), Acetaldehyde (Indublein (NCDENR Wood Kiln Emission (Unpublished industry group factor), and PM 10 (PM total factor) (Eller than 10 micron or PM10)	actor Sheet for ood), Phenol (Naximum run plu stry Group factor Calculator Factor previously	Softwood), M NCDENR: Ta s 20% safety for for a full s actor Sheet for used in perm), VOC as VOC Methanol (NCDENR ble 2A to App B factor from stack cale kiln plus 20% or Softwood plus 20% itting similar units
23 (DPK#1) & 14(DPK #2)	VOC (pinene)	4.340 lb/MBF	None	N/A	Emissions for the facility's kilns for continuous lumber drying from direct firing of biomass are estimated using emission factors from various sources. Only HAPs that require inclusion per the PAER evaluation are listed on the HERT.
23 (DPK#1)	VOC (pinene) Methanol Phenol Acrolein	4.340 lb/MBF 0.161 lb/MBF 0.01 lb/MBF 0.007 lb/MBF	None	N/A	NCDER Wood Kiln Emission Control Factor for Softwood
& 14(DPK	Formaldehyde	0.047 lb/MBF	None	N/A	Stack testing from similar facility
#2)	SO_2 NO_X CO	0.025 lb/MMBtu 0.256 lb/MMBtu 0.6 lb/MMBtu	None	N/A	AP42 Table 1.6-2
24 and 25	Startup DPK #1/DPK#2 Combined using Diesel fuel (Abort Stack Emissions)	SO2 = 7.1 lb/1000 gal $NO_X = 20 \text{ lb/}1000 \text{ gal}$ CO = 5 lb/1000 gal PM = 2 lb/1000 gal TOC = 1.1 lb/1000 gal			Lumber Drying Kilns Emission Calculations for startup using Diesel Fuel as Starter Fluid Maximum usage of diesel for startup: 10 gal/hr 240 gal/yr
24 and 25	Startup using sawdust (Abort Stack	PM = 0.33 lb/MMBtu $PM_{10} = 0.29 \text{ lb/MMBtu}$ $SO_2 = 0.025 \text{ lb/MMBtu}$			Ap-42, Table 1.6-1 (9/03) for wet wood AP-42, Table 1.6-2

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SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	Emissions)	$NO_X = 0.22$ lb/MMBtu CO = 0.6 lb/MMBtu VOC = 0.017 lb/MMBtu			(9/03)
24 and 25		Acrolein=4.00E-03 lb/MMBtu Formaldehyde=4.40E-03 lb/MMBtu Benzene=4.20E-03 lb/MMBtu Acetaldehyde=9.10E- 07lb/MMBtu HCl=1.90E-02 lb/MMBtu Manganese=1.60E-03 lb/MMBtu Arsenic=2.20E-05 lb/MMBtu	None	N/A	AP-42, Table 1.6-2 (9/03) AP-42, Table 1.6-3 (9/03) AP-42 Table 1.6-4 (9/03) Sawdust heat value Heat Value = 4382 Btu/lb Throughput (Startup sawdust)=2000 lb/hour Abort Stack Max Operation = 288 hour per year per kiln Maximum burner capacity during startup or idling events = 8.8 maximum MMBtu/hr Maximum duration of startup = 24 hours Maximum 12 startups for each kiln in a year or 288 hr/yr

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
23(DPK#1) 14(DPK#2)	PM_{10}	5	Test only one kiln every five years (alternating schedule)	Dept. Guidance (Test for Emission Verification)

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SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
	СО	10	Test only one kiln every five years (alternating schedule)	

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)
The	facility is not required to	maintain monitoring devices of	or CEMS.	

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)
06	Logs debarked and sawed	600,000 tons	Monthly	Y
20	Wet Suppression Application	As needed to control visible emissions from traffic	As needed but no less than once a month	N
	Logs	660,000 tons/yr	Monthly	Y
21	Lumber Throughput	170.0 MMBF/yr	Monthly	Y
23	Lumber Throughput	71.61 MMBF/yr	Monthly	Y
(DP Kiln#1)	VOC emissions	See Plantwide Condition #15	Annual	Y
14	Lumber Throughput	93.5 MMBF/yr	Monthly	Y
(DP Kiln#2)	VOC emissions	See Plantwide Condition #15	Annual	Y
	Abort stack operating hours	288/yr	Monthly	Y
24	Sawdust throughput limit for	2000 lb of sawdust per hour	Daily when in startup	N

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SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	gasifier/burner			
24 and 25	Diesel fuel usage limit as starter fluid	240 gallons per year for both DPK #1 and #2 combined	Daily when in startup	N
	Abort stack operating hours	288/yr	Monthly	Y
25	Sawdust throughput limit for gasifier/burner	2000 lb of sawdust per hour	Daily when in startup	N

16. OPACITY:

SN	Opacity %	Justification for limit	Compliance Mechanism
06	20	Regulation 19	Weekly observation
20	5	Regulation 18	Weekly observation
21	5	Regulation 18	Monthly observation
23 (DP Kiln#1)	20	Regulation 19	Weekly observation
14 (DP Kiln#2)	20	Regulation 19	Weekly observation

17. DELETED CONDITIONS:

This modification did not require deletion of any condition.

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source	Group A			F	Emissions (t	py)			
Name	Category	PM	PM_{10}	SO_2	VOC	СО	NO_X	НА	
		11,1	11110	202	, 5 0		T, O _X	Single	Total
Bark	A 12	1.0	0.5						
storage pile	A-13	1.0	0.3						
Sawdust	A 12	1.2	0.7						
storage pile	A-13	1.3	0.7						
Boiler ash									
(Biochar)	A-13	1.5	0.8						
storage Pile									
Planer Mill	A 12	0.06	0.01						
Woodwaste	A-13	0.06	0.01						

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Source	Group A]	Emissions (t	py)			
Name	Category	PM	PM ₁₀	SO_2	VOC	СО	NO _X	HA	
				_				Single	Total
storage bin									
Fuel	A-13	0.03	0.02						
Storage Silo	11 13	0.03	0.02						
1,000									
Gasoline	A-13				0.67				
tank									
Parts	A-13				0.01				
Washer	11 13				0.01				
500 gallon	A-3				0.01				
diesel tank	A-3				0.01				
600 gallon	A-3				0.01				
diesel tank	A-3				0.01				
1000 gallon	A-3				0.01				
diesel tank	A-3				0.01				

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #	
1681-AOP-R12	



Facility Name: Anthony Forest Products Company

Permit Number: 1681-AOP-13

AFIN: 70-00473

\$/ton factor	23.93	Annual Chargeable Emissions (tpy)	512.64094
Permit Type	Minor Mod	Permit Fee \$	500
Minor Modification Fee \$	500		
Minimum Modification Fee \$	1000		
Renewal with Minor Modification \$	500		
Check if Facility Holds an Active Minor So	ource or Minor		
Source General Permit			
If Hold Active Permit, Amt of Last Annual Air Permi	t Invoice \$		
Total Permit Fee Chargeable Emissions (tp	y) -6.3		
Initial Title V Permit Fee Chargeable Emis	sions (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 condensible 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		128.8	122.5	-6.3	-6.3	122.5
PM_{10}		32	29.5	-2.5		
SO_2		6.3	6.3	0	0	6.3
VOC		316.5	316.5	0	0	316.5
со		146.2	146.2	0		
NO_X		62.4	62.4	0	0	62.4
Lead		0.0116912	0.0116912	0		
Acrolein		0.6101	0.6101	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Antimony		0.00192494	0.00192494	0		
Arsenic		0.0053556	0.0053556	0		
Beryllium		0.00026778	0.00026778	0		
Cadmium		0.00099834	0.00099834	0		
Chromium		0.005113	0.005113	0		
Chromium VI		0.00085184	0.00085184	0		
Cobalt		0.0015824	0.0015824	0		
Manganese		0.39404	0.39404	0		
Mercury		0.00085184	0.00085184	0		
Methanol		13.29	13.29	0		
Nickel		0.0080332	0.0080332	0		
Pentachlorophenol		1.24088E-05	1.24088E-05	0		
Phosphorus		0.0065782	0.0065782	0		
Selenium		0.00068206	0.00068206	0		
1,1,1-Trichloroethane	~	0.0075382	0.0075382	0	0	0.0075382
Chlorine	~	0.188494	0.188494	0	0	0.188494
Dichloromethane	✓	0.070632	0.070632	0	0	0.070632
HCl	✓	4.628	4.628	0	0	4.628
Acetone	~	0.04628	0.04628	0	0	0.04628